

# Hypertext marks in L<sup>A</sup>T<sub>E</sub>X

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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<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X”

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### 3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19   \typeout{}}%
20   \begingroup
21   \edef\x{\endgroup
22     \noexpand\RequirePackage{\HyC@package}%
23     \ifx\HyC@date\@empty\relax\else\HyC@date\fi%
24   }%
25   \x
26   \typeout{}}%
27   \typeout{%
28     * Package `HyC@package'%
29     \ifx\HyC@date\@empty
30       \else
31         \space\HyC@date
32       \fi
33   }%
34   \@ifundefined{ver@\HyC@package.sty}{%
35     }{%
36     \typeout{%
```

```

37 \space\space Loaded: `\'HyC@package' %
38 \csname ver@\'HyC@package.sty\endcsname
39 }%
40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```



```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

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

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

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

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

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

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

```

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

`\Hy@SetCatcodes`

```

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

```

```

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

```

\Hy@RestoreCatcodes

```

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

```

231 \Hy@SetCatcodes

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

```

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

```

```

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

```

## 4.2 Version check

\Hy@VersionChecked

```

258 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

```

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

```

\Hy@@VersionCheck

```

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

```

### 4.3 Checks with regular expressions

```

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

```

## 4.4 Compatibility with format dumps

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

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

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

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

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

## 4.5 Switches

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

```

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

```

Defaults for the switches are now set.

```

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

```



```

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

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

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

```

### 5.1 Macros for recursions

```

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

```

## 5.2 Babel's protection of shorthand characters

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

```

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

```

## 5.3 Coordinate transformations

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

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

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

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

Example (TeX):

```

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

```

`\hypercalcbp`

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

- They are surrounded by parentheses. The hexadecimal form is not supported.

- Like PostScript language strings they use the same escaping mechanism:
 

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- 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  $\text{\TeX}$ '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  $\text{\TeX}$  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  $\text{\TeX}$  string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

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

`\MakeUppercaseUnsupportedInPdfStrings`  
`\MakeLowercaseUnsupportedInPdfStrings`

```

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

```

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

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

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

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

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

```
492 \begingroup
```

### 6.2.1 Preprocessing

**Octal escape sequences.** To avoid problems with eight bit or non printable characters, the octal escape notation is supported. So most glyphs in the encoding definitions for PD1 and PU produce these octal escape sequences. All three octal digits have to be used:

- Wrong results are avoided, if digits follow that are not part of the octal sequence.
- Macros rely on the fact that the octal sequences always consist of three digits (vtex driver, Unicode support).

The escape sequences start with a backslash. By `\string` it will be printed. Therefore it is ensured that the  $\TeX$  escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard  $\LaTeX$  behaviour.

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

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

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

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

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

```
497 \edef\3{\string\3}%
```

**Setting font encoding.** The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

```
498 \ifHy@unicode
```

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

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

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

```

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

```

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

```

510 \@inmathwarn\pdfstringdef

```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```

511 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

512 \let\add@accent\HyPsd@add@accent

```

**Commands that don't use NFSS directly.** There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here. UF 29.09.2017: added a mapping for `\noboundary`, see issue #37 <https://github.com/latex3/hyperref/issues/37> No test for PU, if some definition for PD1 is added it will work too.

```

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

```

**Newline** `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the

commands are disabled now. The user can redefine them for a result what he want:

**backslash:** `\pdfstringdefDisableCommands{\let\\\textbackslash}`

**new line:** `\pdfstringdefDisableCommands{\let\\\textCR}`

**disabled:** `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

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

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

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

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

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

```

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

```

#### Package pifont.

```

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

```

#### Environments.

```

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

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

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

```

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

```

595 \ifHy@psdextra
596 \ifHy@unicode
597 \csname psdmapshortnames\endcsname
598 \csname psdaliasnames\endcsname
599 \fi
600 \fi

```

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

```

601 \let\foreignlanguage\@secondoftwo
602 \let\textlatin\@firstofone
603 \let\IfUndefined\language@group\@firstofone
604 \let\bbl@info\@gobble
605 \csname HyPsd@babel@\language@group\endcsname
606 }%

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

```

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

```

609 \let\cyr\relax

```

**Package german.**

```

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

```

```

618 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

619 \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.

```

620 \let\hspace\HyPsd@hspace

```

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

```

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

```



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

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

#### Miscellaneous commands.

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

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

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

#### Patch for cjk bookmarks.

```
636 \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  $\text{\TeX}$ '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 by 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`).

```
637 \Hy@pdfstringtrue
638 \pdfstringdefPreHook
```

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

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

#### Package `xspace`.

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

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

```
651 \let\discretionary\@gobbletwo
```

\@ifstar is defined in L<sup>A</sup>T<sub>E</sub>X 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:

```
652 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
```

```
653 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
```

```
654 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
```

```
655 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

### 6.2.2 Expansion

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

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

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

**\edef** This version uses this standard form for expansion. It is stronger than L<sup>A</sup>T<sub>E</sub>X's \protected@edef. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of L<sup>A</sup>T<sub>E</sub>X doesn't work within an \edef, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texorpdfstring). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with \csname. However a PDF reader isn't T<sub>E</sub>X, so these tokens are viewed verbatim. So this

version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

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

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

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

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

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

### 6.2.3 Postprocessing

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

```
674 \ifx#1\@empty
675 \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.

```
676 \HyPsd@ProtectSpaces#1%
677 \let\HyPsd@String\@empty
678 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
679 \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.

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

```
688 \expandafter
689 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
```

```

690 \let\HyPsd@String\@empty
691 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
692 \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.

```

693 \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.

```

694 \iffHy@unicode
695 \expandafter\HyPsd@StringSubst\cename 80\040\endcsname
696 \HyPsd@SPACEOPTI#1%
697 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
698 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
699 {\HyPsd@SPACEOPTI\80\273}#1%
700 \else
701 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
702 \expandafter\HyPsd@Subst\expandafter{%
703 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
704 \string\273}\HyPsd@SPACEOPTI\273}#1%
705 \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.

```

706 \iffHy@unicode
707 \HyPsd@StringSubst{\)}{\80\051}#1%
708 \HyPsd@Subst){\80\051}#1%
709 \let\HyPsd@empty\relax
710 \expandafter\HyPsd@StringSubst\cename 80\051\endcsname
711 {\HyPsd@empty\80\051}#1%
712 \else
713 \HyPsd@StringSubst{\)}{\051}#1%
714 \HyPsd@Subst){\051}#1%
715 \let\HyPsd@empty\relax
716 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
717 \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`.

```

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

```

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

```

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

```

733 \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.

```

734 \ifHy@unicode
735 \HyPsd@StringSubst{\textparenleft#1%
736 \HyPsd@Subst{\textparenleft#1%
737 \else
738 \HyPsd@StringSubst{\{050\}#1%
739 \HyPsd@Subst{\{050\}#1%

```

```

740     \HyPsd@StringSubst{\050}{\string\{ }#1%
741     \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.

```

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

```

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

```

**Try conversion back to PDFDocEncoding.**

```

753     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
754     \ltx@ifundefined{StringEncodingConvertTest}{%
755     }{%
756     \EdefUnescapeString\HyPsd@temp#1%
757     \iftutex
758     \let\HyPsd@UnescapedString\HyPsd@temp
759     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
760     {utf16be}{ascii-print}{%
761     \EdefEscapeString\HyPsd@temp\HyPsd@temp
762     \global\let#1\HyPsd@temp
763     \HyPsd@EscapeTeX#1%
764     \Hy@unicodedefalse
765     }{%
766     \HyPsd@EscapeTeX#1%
767     }%
768     \else
769     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
770     {utf16be}{pdfdoc}{%
771     \EdefEscapeString\HyPsd@temp\HyPsd@temp
772     \global\let#1\HyPsd@temp
773     \HyPsd@EscapeTeX#1%
774     \Hy@unicodedefalse
775     }{%}%
776     \fi
777     }%
778     \fi
779     \fi

```

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

```
780 \pdfstringdefPostHook#1%
781 \endgroup
782 }
```

`\Hy@pdfstringdef`

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

## 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

```
787 \@ifpackageloaded{linguex}{%
788 \let\HyLinguex@OrgB\b
789 \let\HyLinguex@OrgC\c
790 \let\HyLinguex@OrgD\d
791 \def\HyLinguex@Restore{%
792 \let\b\HyLinguex@OrgB
793 \let\c\HyLinguex@OrgC
794 \let\d\HyLinguex@OrgD
795 }%
796 \Hy@AtEndOfPackage{%
797 \pdfstringdefDisableCommands{%
798 \ltx@ifundefined{oldb}{\let\b\oldb}%
799 \ltx@ifundefined{oldc}{\let\c\oldc}%
800 \ltx@ifundefined{oldd}{\let\d\oldd}%
801 }%
802 }%
803 }{%
804 \let\HyLinguex@Restore\relax
805 }%
```

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

`\Hy@SaveCatcodeSettings`

```
806 \def\Hy@SaveCatcodeSettings#1{%
807 \expandafter\edef\csname Hy@cat@#1\endcsname{%
808 \endlinechar=\the\endlinechar\relax
809 \catcode32 \the\catcode32\relax % (space)
810 \catcode34 \the\catcode34\relax % "
811 \catcode35 \the\catcode35\relax % #
812 \catcode37 \the\catcode37\relax % (percent)
813 \catcode40 \the\catcode40\relax % (
814 \catcode41 \the\catcode41\relax % )
815 \catcode42 \the\catcode42\relax % *
```



```

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

```

\Hy@RestoreCatcodeSettings

```

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

```

### 6.3.4 PD1 encoding

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

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

```

854 \@ifundefined{T@PD1}{%
855 \Hy@SaveCatcodeSettings{pd1}%
856 \input{pd1enc.def}%

```

```

857 \Hy@RestoreCatcodeSettings{pd1}%
858 \HyLinguex@Restore
859 }{}
860 \DeclareFontFamily{PD1}{pdf}{}
861 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
862 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.5 PU encoding

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

```

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

```

`\HyPsd@LoadExtra`

```

876 \def\HyPsd@LoadExtra{%
877   \ifHy@psdextra
878     \ltx@iffileloaded{puenc.def}{%
879       \Hy@SaveCatcodeSettings{psdextra}%
880       \input{psdextra.def}%
881       \Hy@RestoreCatcodeSettings{psdextra}%
882       \let\HyPsd@LoadExtra\relax
883     }{}%
884   \fi
885 }

```

## 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 arguments, the first contains the string that will be set and processed by T<sub>E</sub>X's `stomach`, the second contains the replacement for PDF strings.

```

886 \def\texorpdfstring{%
887   \ifHy@pdfstring

```

```

888   \expandafter\@secondoftwo
889   \else
890   \expandafter\@firstoftwo
891   \fi
892 }

```

#### 6.4.2 Hooks for `\pdfstringdef`

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

```

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

```

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

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

```

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

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

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

```

`\HyPsd@DisableCommands`

```

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

```

`\pdfstringdefWarn` The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `\<>`- is added to the token. `\noexpand` protects the probably undefined one during the first expansion step. Then `\HyPsd@CheckCatcodes` can detect the not allowed token, `\HyPsd@CatcodeWarning` prints a warning message, after `\HyPsd@RemovePrefix` has removed the prefix.

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

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

## 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.

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

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

```
922 <*/package>
```

### 6.5.3 CJK patch

```

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

\HyPsd@CJKhook

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

```

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

```

935 \begingroup
936 \catcode"7F=\active
937 \toks@{%
938   \let\CJK@ignorespaces\empty
939   \def\CJK@char#1{\@gobbletwo}%
940   \let\CJK@charx\@gobblefour
941   \let\CJK@punctchar\@gobblefour
942   \def\CJK@punctcharx#1{\@gobblefour}%
943   \catcode"7F=\active
944   \def^^7f#1^^7f#2^^7f{%
945     \string #1\HyPsd@DecimalToOctal{#2}%
946   }%
947   % ... ?
948   \ifHy@unicode
949     \def\Hy@cjku{\80}%
950   \else
951     \let\Hy@cjku\@empty
952   \fi
953   \HyPsd@CJKActiveChars
954 }%
955 \count@=127 %
956 \@whilenum\count@<255 \do{%
957   \advance\count@ by 1 %
958   \lccode`\~=\count@
959   \lowercase{%
960     \toks@\expandafter{\the\toks@ ~}%

```

```

961 }%
962 }%
963 \toks@\expandafter{\the\toks@ !}%
964 \xdef\HyPsd@CJKhook@bookmarks{%
965   \the\toks@
966 }%
967 \endgroup

```

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

```

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

```

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

```

976 \def\HyPsd@DecimalToOctal#1{%
977   \ifcase #1 %
978     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
979     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
980     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
981     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
982     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
983     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
984     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
985     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
986     \or @\or A\or B\or C\or D\or E\or F\or G%
987     \or H\or I\or J\or K\or L\or M\or N\or O%
988     \or P\or Q\or R\or S\or T\or U\or V\or W%
989     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
990     \or \140\or a\or b\or c\or d\or e\or f\or g%
991     \or h\or i\or j\or k\or l\or m\or n\or o%
992     \or p\or q\or r\or s\or t\or u\or v\or w%
993     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
994     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
995     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
996     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
997     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
998     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
999     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1000    \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1001    \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1002    \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1003    \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1004    \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1005    \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1006    \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1007    \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1008    \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1009    \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%

```

```

1010 \fi
1011 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1012 \def\HyPsd@CJKhook@unicode{%
1013 \let\Unicode\HyPsd@CJK@Unicode
1014 \let\CJKnumber\HyPsd@CJKnumber
1015 \let\CJKdigits\HyPsd@CJKdigits
1016 }

```

\HyPsd@CJK@Unicode

```

1017 \def\HyPsd@CJK@Unicode#1#2{%
1018 \ifnum#1<256 %
1019 \HyPsd@DecimalToOctalFirst{#1}%
1020 \HyPsd@DecimalToOctalSecond{#2}%
1021 \else
1022 \933%
1023 \expandafter\expandafter\expandafter\HyPsd@HighA
1024 \intcalcDiv{#1}{4}!%
1025 \933%
1026 \ifcase\intcalcMod{#1}{4} %
1027 4\or 5\or 6\or 7%
1028 \fi
1029 \HyPsd@DecimalToOctalSecond{#2}%
1030 \fi
1031 }

1032 \def\HyPsd@HighA#1!{%
1033 \expandafter\expandafter\expandafter\HyPsd@HighB
1034 \IntCalcDiv#1!64!!%
1035 \expandafter\expandafter\expandafter\HyPsd@HighD
1036 \IntCalcMod#1!64!!%
1037 }
1038 \def\HyPsd@HighB#1!{%
1039 \expandafter\expandafter\expandafter\HyPsd@HighC
1040 \IntCalcDec#1!!%
1041 }
1042 \def\HyPsd@HighC#1!{%
1043 \IntCalcDiv#1!4!%
1044 \@backslashchar
1045 \IntCalcMod#1!4!%
1046 }
1047 \def\HyPsd@HighD#1!{%
1048 \ifcase\IntCalcDiv#1!8! %
1049 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1050 \fi
1051 \ifcase\IntCalcMod#1!8! %
1052 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1053 \fi
1054 }
1055 \def\HyPsd@DecimalToOctalFirst#1{%
1056 \9%

```

```

1057 \ifcase#1 %
1058     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1059     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1060     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1061     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1062     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1063     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1064     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1065     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1066     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1067     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1068     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1069     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1070     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1071     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1072     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1073     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1074     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1075     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1076     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1077     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1078     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1079     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1080     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1081     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1082     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1083     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1084     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1085     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1086     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1087     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1088     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1089     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1090 \fi
1091 }
1092 \def\HyPsd@DecimalToOctalSecond#1{%
1093     \ifcase #1 %
1094         \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1095         \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1096         \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1097         \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1098         \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1099         \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1100         \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1101         \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1102         \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1103         \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1104         \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1105         \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1106         \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1107         \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1108         \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1109         \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1110         \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%

```



```

1111 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1112 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1113 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1114 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1115 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1116 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1117 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1118 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1119 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1120 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1121 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1122 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1123 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1124 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1125 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1126 \fi
1127 }

1128 \def\HyPsd@CJKnumber#1{%
1129 \ifnum#1<\z@
1130 \CJK@minus
1131 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1132 \else
1133 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1134 \fi
1135 }

1136 \def\HyPsd@@CJKnumber#1{%
1137 \ifcase#1 %
1138 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1139 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1140 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1141 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1142 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1143 \CJK@ten\CJK@nine
1144 \else
1145 \ifnum#1<10000 %
1146 \HyPsd@CJKnumberFour#1!\@empty{20}%
1147 \@empty
1148 \else
1149 \ifnum#1<100000000 %
1150 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1151 \IntCalcDiv#1!10000!%
1152 !\{20}%
1153 \CJK@tenthousand
1154 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1155 \IntCalcMod#1!10000!%
1156 !\CJK@zero{10}%
1157 \@empty
1158 \else
1159 \expandafter\HyPsd@CJKnumberLarge
1160 \number\IntCalcDiv#1!100000000!\expandafter!%
1161 \number\IntCalcMod#1!100000000!!%
1162 \fi
1163 \fi
1164 \fi

```

```

1165 }
1166 \def\HyPsd@CJKnumberLarge#1!#2!{%
1167   \HyPsd@CJKnumberFour#1!#{20}%
1168   \CJK@hundredmillion
1169   \ifnum#2=\z@
1170   \else
1171     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1172     \IntCalcDiv#2!10000!%
1173     !\CJK@zero{10}%
1174     \CJK@tenthousand
1175     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1176     \IntCalcMod#2!10000!%
1177     !\CJK@zero{10}%
1178     \@empty
1179   \fi
1180 }
1181 \def\HyPsd@CJKnumberFour#1!#2#3{%
1182   \ifnum#1=\z@
1183     \expandafter\@gobble
1184   \else
1185     \ifnum#1<1000 %
1186       #2%
1187       \HyPsd@CJKnumberThree#1!#{3}%
1188     \else
1189       \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1190       \CJK@thousand
1191       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1192       \IntCalcMod#1!1000!%
1193       !\CJK@zero{10}%
1194     \fi
1195   \fi
1196 }
1197 \def\HyPsd@CJKnumberThree#1!#2#3{%
1198   \ifnum#1=\z@
1199   \else
1200     \ifnum#1<100 %
1201       #2%
1202       \HyPsd@CJKnumberTwo#1!#{3}%
1203     \else
1204       \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1205       \CJK@hundred
1206       \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1207       \IntCalcMod#1!100!%
1208       !\CJK@zero{10}%
1209     \fi
1210   \fi
1211 }
1212 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1213   \ifnum#1=\z@
1214   \else
1215     \ifnum#1<#3 %
1216       #2%
1217       \HyPsd@@@CJKnumber{#1}%
1218     \else

```

```

1219 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1220 \CJK@ten
1221 \ifnum\IntCalcMod#1!10!=\z@
1222 \else
1223 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1224 \fi
1225 \fi
1226 \fi
1227 }

1228 \def\HyPsd@CJKdigits#1{%
1229 \ifx*#1\relax
1230 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1231 \else
1232 \HyPsd@@CJKdigits\CJK@null{#1}%
1233 \fi
1234 }

1235 \def\HyPsd@@CJKdigits#1#2{%
1236 \ifx\#2\%
1237 \else
1238 \HyPsd@@@CJKdigits#1#2\@nil
1239 \fi
1240 }%

1241 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1242 \HyPsd@CJKdigit#1{#2}%
1243 \ifx\#3\%
1244 \expandafter\@gobble
1245 \else
1246 \expandafter\@firstofone
1247 \fi
1248 {%
1249 \HyPsd@@@CJKdigits#1#3\@nil
1250 }%
1251 }

1252 \def\HyPsd@CJKdigit#1#2{%
1253 \ifcase#2 %
1254 #1\or
1255 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1256 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1257 \fi
1258 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

```

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

1259 \def\HyPsd@inmathwarn#1#2{%
1260   \ifx#2\expandafter
1261     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1262       \HyPsd@GLYPHERR
1263       \expandafter\@gobble\string#1%
1264       >%
1265       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1266     \else
1267       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1268     \fi
1269   \else
1270     \expandafter#2%
1271   \fi
1272 }
1273 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1274 \def\HyPsd@EndWithElse#1\else\else{}

\HyPsd@add@accent

1275 \def\HyPsd@add@accent#1#2{%
1276   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1277   #2%
1278 }%

```

### 6.5.7 Unexpandable spaces

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

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

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

```
1279 \def\HyPsd@LetUnexpandableSpace#1{%
1280   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1281 }
```

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

```
1282 \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.

```
1283 \edef\HyPsd@XSPACE{\string#\string X}
1284 \edef\HyPsd@ITALCORR{\string#\string I}
1285 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1286 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1287 \def\HyPsd@@hspace#1*#2\END{%
1288   \ifx\#2\%
1289     \HyPsd@hspacetest{#1}%
1290   \else
1291     \expandafter\HyPsd@hspacetest
1292   \fi
1293 }
```

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

```
1294 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1295 \ltx@ifundefined{tocsection}{%
1296   \let\HyPsd@AMSclassfix\relax
1297 }{%
1298   \def\HyPsd@AMSclassfix{%
```

```

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

```

### 6.5.11 Reference commands

`\HyPsd@href`

```

1312 \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.

```

1313 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1314 \def\HyPsd@@ref#1*#2\END{%
1315 \ifx\#2\%
1316 \HyPsd@@@ref{#1}%
1317 \else
1318 \expandafter\HyPsd@@@ref
1319 \fi
1320 }%

```

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

```

1321 \def\HyPsd@@@ref#1{%
1322 \expandafter\ifx\csname r@#1\endcsname\relax
1323 ??%
1324 \else
1325 \expandafter\expandafter\expandafter
1326 \@car\csname r@#1\endcsname\@nil
1327 \fi
1328 }

```

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

```

1329 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1330 \def\HyPsd@@pageref#1*#2\END{%
1331 \ifx\#2\%
1332 \HyPsd@@@pageref{#1}%
1333 \else
1334 \expandafter\HyPsd@@@pageref
1335 \fi
1336 }

```

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

```

1337 \def\HyPsd@@@pageref#1{%
1338   \expandafter\ifx\csname r@#1\endcsname\relax
1339     ??%
1340   \else
1341     \expandafter\expandafter\expandafter\expandafter
1342     \expandafter\expandafter\expandafter\@car
1343     \expandafter\expandafter\expandafter\@gobble
1344     \csname r@#1\endcsname{}\@nil
1345   \fi
1346 }
```

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

```

1347 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```

1348 \def\HyPsd@@nameref#1*#2\END{%
1349   \ifx\#2\%
1350     \HyPsd@@@nameref{#1}%
1351   \else
1352     \expandafter\HyPsd@@@nameref
1353   \fi
1354 }
```

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

```

1355 \def\HyPsd@@@nameref#1{%
1356   \expandafter\ifx\csname r@#1\endcsname\relax
1357     ??%
1358   \else
1359     \expandafter\expandafter\expandafter\expandafter
1360     \expandafter\expandafter\expandafter\@car
1361     \expandafter\expandafter\expandafter\@gobbletwo
1362     \csname r@#1\endcsname{}\@nil
1363   \fi
1364 }
```

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

```

1365 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1366 \def\HyPsd@@autoref#1*#2\END{%
1367   \ifx\#2\%
1368     \HyPsd@@@autoref{#1}%
1369   \else
1370     \expandafter\HyPsd@@@autoref
1371   \fi
1372 }
```

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

```

1373 \def\HyPsd@@@autoref#1{%
1374   \expandafter\ifx\csname r@#1\endcsname\relax
```

```

1375   ??%
1376   \else
1377     \expandafter\expandafter\expandafter\HyPsd@autorefname
1378       \csname r@#1\endcsname\}\}\}\@nil
1379     \expandafter\expandafter\expandafter
1380     \@car\csname r@#1\endcsname\@nil
1381   \fi
1382 }

```

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

```

1383 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1384   \ifx\#4\%
1385   \else
1386     \HyPsd@@autorefname#4.\@nil
1387   \fi
1388 }

```

`\HyPsd@@autorefname`

```

1389 \def\HyPsd@@autorefname#1.#2\@nil{%
1390   \ltx@ifundefined{#1autorefname}{%
1391     \ltx@ifundefined{#1name}{%
1392       }{%
1393         \csname#1name\endcsname\space
1394       }%
1395     }{%
1396       \csname#1autorefname\endcsname\space
1397     }%
1398 }

```

### 6.5.12 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would causes TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: `\csname` does the job, it defines the command to be `\relax`, if it has no meaning.

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

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

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



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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1399 \begingroup
1400   \def\x#1#2{%
1401     \endgroup
1402     \let#1\def
1403     \def\HyPsd@DefCommand##1##2###{%
1404       #1%
1405       \expandafter\noexpand
1406       \csname\expandafter\@gobble\string##1\@empty\endcsname
1407       \@gobble
1408     }%
1409     \let#2\let
1410     \def\HyPsd@@LetCommand##1{%
1411       \expandafter\ifx\csname##1\expandafter\endcsname
1412         \csname iftrue\endcsname
1413         \pdfstringdefWarn\let
1414         \expandafter\@gobble
1415       \else
1416         \expandafter\ifx\csname##1\expandafter\endcsname
1417           \csname iffalse\endcsname
1418           \pdfstringdefWarn\let
1419           \expandafter\expandafter\expandafter\@gobble
1420         \else
1421           #2%
1422           \expandafter\noexpand
1423           \csname##1\expandafter\expandafter\expandafter\endcsname
1424         \fi
1425       \fi
1426     }%
1427   }%
1428   \expandafter\x\csname <def>-command\expandafter\endcsname
1429     \csname <let>-command\endcsname
1430   \def\HyPsd@LetCommand#1{%
1431     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1432     \expandafter\expandafter\expandafter{%
1433       \expandafter\@gobble\string#1\@empty
1434     }%
1435   }

```

### 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).

```

1436 \def\HyPsd@ifnextchar#1{%
1437   \pdfstringdefWarn#1%
1438   \expandafter\@gobbletwo\@gobble
1439 }

```

### 6.5.14 `\@protected@testopt@ifnextchar`

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

```

1440 \def\HyPsd@protected@testopt#1{%
1441   \pdfstringdefWarn#1%
1442   \@gobbletwo
1443 }

```

## 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:

```

1444 \def\HyPsd@Warning#1{%
1445   \begingroup
1446   \let\space\ltx@space
1447   \Hy@Warning{#1}%
1448   \endgroup
1449 }

```

### 6.6.2 Protecting spaces

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@@ProtectSpacesFi`.

```

1450 \let\HyPsd@fi\fi
1451 \def\HyPsd@ProtectSpaces#1{%
1452   \xdef#1{%
1453     \iftrue
1454       \expandafter\HyPsd@@@ProtectSpacesFi
1455       \expandafter|\expandafter\@empty#1| %
1456       \HyPsd@fi
1457   }%
1458   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1459 }%

```

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

```

1460 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1461   \fi
1462   \unexpanded{#1}%
1463   \ifx\scrollmode#2\scrollmode
1464   \else
1465     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1466   \HyPsd@fi
1467 }%
```

### 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.

```

1468 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1469   \xdef#2{\unexpanded\expandafter{#1}}%
1470 }%
```

### 6.6.3 Remove grouping braces

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

```

1471 \def\HyPsd@RemoveBraces#1{%
1472   \ifx\scrollmode#1\scrollmode
1473   \else
1474     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1475   \fi
1476 }
```

`\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`.

```

1477 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1478   \fi
1479   \def\Hy@temp@A{#1#2}%
1480   \def\Hy@temp@B{#3}%
1481   \ifx\Hy@temp@A\Hy@temp@B
1482     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1483       \HyPsd@String#1%
1484     }%
1485     \ifx\scrollmode#2\scrollmode
1486     \else
1487       \Hy@ReturnAfterFiFiEnd{%
```

```

1488     \HyPsd@RemoveBraces{#2}%
1489   }%
1490   \fi
1491 \else
1492   \def\Hy@temp@A{#1}%
1493   \HyPsd@AppendItalcorr\HyPsd@String
1494   \ifx\Hy@temp@A\@empty
1495     \Hy@ReturnAfterElseFiFiEnd{%
1496       \HyPsd@RemoveBraces{#2}%
1497     }%
1498   \else
1499     \HyPsd@ProtectSpaces\Hy@temp@A
1500     \HyPsd@AppendItalcorr\Hy@temp@A
1501     \Hy@ReturnAfterFiFiEnd{%
1502       \expandafter\HyPsd@RemoveBraces\expandafter
1503         {\Hy@temp@A#2}%
1504     }%
1505   \fi
1506 \fi
1507 \Hy@ReturnEnd
1508 }

```

`\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`.

```

1509 \def\HyPsd@AppendItalcorr#1{%
1510   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1}%
1511 }
1512 \def\HyPsd@@AppendItalcorr#1#2{%
1513   \expandafter\def\expandafter#2\expandafter{#2#1}%
1514 }

```

#### 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>.

```

1515 \ltx@ifundefined{directlua}{%
1516 }{%
1517   \expandafter\ifx\csname\endcsname\relax\fi
1518 }

```

#### 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,  $\sim$  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`.

```

1519 \begingroup
1520 \catcode`\Q=\active
1521 \let Q\ltx@empty
1522 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1523   \global\let\HyPsd@Rest\relax
1524   \ifcat\relax\noexpand#1\relax
1525     \ifx#1\protect
1526     \else
1527       \ifx#1\penalty
1528         \setbox\z@=\hbox{%
1529           \afterassignment\HyPsd@AfterCountRemove
1530           \count@=#2\HyPsd@end
1531         }%
1532       \else
1533         \ifx#1\kern
1534           \setbox\z@=\hbox{%
1535             \afterassignment\HyPsd@AfterDimenRemove
1536             \dimen@=#2\HyPsd@end
1537           }%
1538         \else
1539           \ifx#1\hskip
1540             \setbox\z@=\hbox{%
1541               \afterassignment\HyPsd@AfterSkipRemove
1542               \skip@=#2\HyPsd@end
1543             }%
1544           \else
1545             \HyPsd@CatcodeWarning{#1}%
1546           \fi
1547         \fi
1548       \fi
1549     \fi
1550   \else
1551     \ifcat\noexpand#1\noexpandQ% active character
1552     \expandafter\expandafter\expandafter\def
1553     \expandafter\expandafter\expandafter\HyPsd@String
1554     \expandafter\expandafter\expandafter{%
1555       \expandafter\HyPsd@String\string#1%
1556     }%
1557   \else
1558     \ifcat#1A% letter
1559     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1560       \HyPsd@String#1%
1561     }%
1562   \else
1563     \ifcat#1 % SPACE
1564     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1565       \HyPsd@String\HyPsd@SPACEOPTI
1566     }%
1567   \else
1568     \ifcat$#1%
1569     \HyPsd@CatcodeWarning{math shift}%

```

```

1570         \else
1571         \ifcat&#1%
1572         \HyPsd@CatcodeWarning{alignment tab}%
1573         \else
1574         \ifcat^#1%
1575         \HyPsd@CatcodeWarning{superscript}%
1576         \else
1577         \ifcat_#1%
1578         \HyPsd@CatcodeWarning{subscript}%
1579         \else
1580         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1581         \HyPsd@String#1%
1582         }%
1583         \fi
1584         \fi
1585         \fi
1586         \fi
1587         \fi
1588         \fi
1589         \fi
1590     \fi
1591     \ifx\HyPsd@Rest\relax
1592     \ifx\scrollmode#2\scrollmode
1593     \else
1594     \Hy@ReturnAfterFiFiEnd{%
1595     \HyPsd@CheckCatcodes#2\HyPsd@End
1596     }%
1597     \fi
1598     \else
1599     \ifx\HyPsd@Rest\@empty
1600     \else
1601     \Hy@ReturnAfterFiFiEnd{%
1602     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1603     }%
1604     \fi
1605     \fi
1606     \Hy@ReturnEnd
1607 }%
1608 \endgroup

```

### Remove counts, dimens, skips.

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

```

1609 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1610   \gdef\HyPsd@Rest{#1}%
1611 }

```

`\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.

```

1612 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1613   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %

```

```

1614 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1615 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1616 \else
1617 \ifdim\dimen@=\z@
1618 \else
1619 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1620 \fi
1621 \gdef\HyPsd@Rest{#1}%
1622 \fi
1623 }

```

`\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).

```

1624 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1625 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>lex %
1626 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1627 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1628 \else
1629 \ifdim\skip@=\z@
1630 \else
1631 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1632 \fi
1633 \gdef\HyPsd@Rest{#1}%
1634 \fi
1635 }

```

### Catcode warnings.

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

```

1636 \def\HyPsd@CatcodeWarning#1{%
1637 \HyPsd@Warning{%
1638 Token not allowed in a PDF string (%
1639 \ifHy@unicode
1640 Unicode%
1641 \else
1642 PDFDocEncoding%
1643 \fi
1644 ):%
1645 \MessageBreak removing `\'HyPsd@RemoveCmdPrefix#1'%
1646 }%
1647 }
1648 \begingroup
1649 \catcode`\|=0 %
1650 \catcode`\|=12 %
1651 |gdef|HyPsd@RemoveCmdPrefix#1{%
1652 |expandafter|HyPsd@@RemoveCmdPrefix
1653 |string#1|@empty\<>-|@empty|@empty
1654 }%
1655 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1656 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1657 \def\HyPsd@RemoveSpaceWarning#1{%
1658 \HyPsd@Warning{%

```

```

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

```

\HyPsd@ReplaceSpaceWarning

```

1670 \def\HyPsd@ReplaceSpaceWarning#1{%
1671 \HyPsd@Warning{%
1672 Token not allowed in a PDF string (%)
1673 \ifHy@unicode
1674 Unicode%
1675 \else
1676 PDFDocEncoding%
1677 \fi
1678 ):%
1679 \MessageBreak #1\MessageBreak
1680 replaced by space%
1681 }%
1682 }

```

### 6.6.5 Check for wrong glyphs

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

```

1683 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1684 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1685 \HyPsd@String#1%
1686 }%
1687 \ifx\#2\%
1688 \else
1689 \ltx@ReturnAfterFi{%
1690 \HyPsd@GlyphProcessWarning#2\@empty
1691 }%
1692 \fi
1693 }
1694 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1695 \HyPsd@@@GlyphProcessWarning#1++>%
1696 \HyPsd@GlyphProcess#2\@empty
1697 }
1698 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1699 \ifx\#2\%
1700 \HyPsd@Warning{%
1701 Glyph not defined in %
1702 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1703 removing \@backslashchar#1'%
1704 }%
1705 \else

```



```

1706 \HyPsd@Warning{%
1707   Composite letter ` \@backslashchar#1+#2'\MessageBreak
1708   not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1709   \MessageBreak
1710   removing ` \@backslashchar#1'%
1711 }%
1712 \fi
1713 }

```

### 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`.

```

1714 \def\HyPsd@spaceopti#1{ % first space
1715   \ifx\HyPsd@spaceopti#1%
1716     \040%
1717   \else
1718     #1%
1719   \fi
1720 }%

```

### 6.6.6 Replacing tokens

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

```

#1   Exact the tokens that should be replaced.
#2   The replacement (don't need to be expanded).
#3   Command with the string.
1721 \def\HyPsd@Subst#1#2#3{%
1722   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1723     \fi
1724     ##1%
1725     \ifx\scrollmode##2\scrollmode
1726     \else
1727       #2%
1728       \HyPsd@@ReplaceFi##2\END
1729     \fi
1730   }%
1731   \xdef#3{%
1732     \iftrue
1733       \expandafter\HyPsd@@ReplaceFi#3#1\END
1734     \fi
1735   }%
1736 }

```

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

```

1737 \def\HyPsd@StringSubst#1{%
1738   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1739 }

```

`\HyPsd@EscapeTeX`

```

1740 \begingroup
1741 \lccode`!=`\\%%
1742 \lccode`|=`\\%%
1743 \lccode`\(<`{\%
1744 \lccode`\)=`\}%
1745 \lccode`0=\ltx@zero
1746 \lccode`1=\ltx@zero
1747 \lccode`3=\ltx@zero
1748 \lccode`4=\ltx@zero
1749 \lccode`5=\ltx@zero
1750 \lccode`7=\ltx@zero
1751 \lowercase{\endgroup
1752 \def\HyPsd@EscapeTeX#1{%
1753   \HyPsd@Subst!{|045}#1%
1754   \HyPsd@Subst({|173}#1%
1755   \HyPsd@Subst){|175}#1%
1756 }%
1757 }

```

### 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.

```

1758 \def\HyPsd@doxspace#1{%
1759   \ifx#1\relax\else
1760     \ifx#1.\else
1761       \ifx#1:\else
1762         \ifx#1,\else
1763           \ifx#1;\else
1764             \ifx#1!\else
1765               \ifx#1?\else
1766                 \ifx#1/\else
1767                   \ifx#1-\else
1768                     \ifx#1'\else
1769                       \HyPsd@SPACEOPTI
1770                     \fi
1771                   \fi
1772                 \fi
1773               \fi
1774             \fi
1775           \fi
1776         \fi
1777       \fi
1778     \fi
1779   \fi
1780   #1%
1781 }%

```

### 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.

```
1782 \begingroup
1783 \catcode`\|=0 %
1784 \catcode`\|=12 %
```

\HyPsd@ConvertToUnicode

```
1785 |gdef|HyPsd@ConvertToUnicode#1{%
1786 |xdef#1{%
1787 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1788 }%
1789 |ifx#1|@empty
1790 |else
1791 |xdef#1{%
1792 \376\377%
1793 #1%
1794 }%
1795 |fi
1796 }%
```

\HyPsd@DoConvert

```
1797 |gdef|HyPsd@DoConvert#1{%
1798 |ifx#1|@empty
1799 |else
1800 |ltx@ReturnAfterFi{%
1801 |ifx#1\%%
1802 \%%
1803 |expandafter|HyPsd@DoEscape
1804 |else
1805 |HyPsd@Char{#1}%
1806 |expandafter|HyPsd@DoConvert
1807 |fi
1808 }%
1809 |fi
1810 }%
```

\HyPsd@DoEscape

```
1811 |gdef|HyPsd@DoEscape#1{%
1812 |ifx#19%
1813 |expandafter|HyPsd@GetTwoBytes
1814 |else
1815 |ltx@ReturnAfterFi{%
1816 |ifx#18%
1817 00%
1818 |expandafter|HyPsd@GetTwoBytes
1819 |else
1820 #1%
1821 |expandafter|HyPsd@GetOneByte
1822 |fi
1823 }%
1824 |fi
```

```
1825 }%
```

```
\HyPsd@GetTwoBytes
```

```
1826 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1827   #1\#2#3#4%
1828   |HyPsd@DoConvert
1829 }%
```

```
\HyPsd@GetOneByte
```

```
1830 |gdef|HyPsd@GetOneByte#1#2{%
1831   #1#2%
1832   |HyPsd@DoConvert
1833 }%
1834 |endgroup
```

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

```
1835 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1836   \xdef#4{#4#1#2}%
1837   \HyPsd@@ConvertToUnicode#3\END#4%
1838 }
```

```
\HyPsd@Char
```

```
1839 \begingroup
1840 \catcode0=9 %
1841 \catcode`\^=7 %
1842 \catcode`\^^=12 %
1843 \def\x{^^^0000}%
1844 \expandafter\endgroup
1845 \ifx\x\@empty
1846   \def\HyPsd@Char#1{%
1847     \ifnum`#1<128 %
1848       \@backslashchar 000#1%
1849     \else
1850       \ifnum`#1<65536 %
1851         \expandafter\HyPsd@CharTwoByte\number`#1!%
1852       \else
1853         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1854         \intcalcSub{`#1}{65536}!%
1855       \fi
1856     \fi
1857   }%
1858 \def\HyPsd@CharTwoByte#1!{%
1859   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1860   \IntCalcDiv#1!256!!%
1861   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1862   \IntCalcMod#1!256!!%
1863 }%
1864 \def\HyPsd@CharOctByte#1!{%
1865   \@backslashchar
1866   \IntCalcDiv#1!64!%
1867   \intcalcDiv{\IntCalcMod#1!64!}{8}%
1868   \IntCalcMod#1!8!%
1869 }%
```

```

1870 \def\HyPsd@CharSurrogate#1!{%
1871   \@backslashchar 33%
1872   \IntCalcDiv#1!262144!%
1873   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1874   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1875   \@backslashchar 33%
1876   \expandafter\expandafter\expandafter\IntCalcAdd
1877   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1878   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1879   \IntCalcMod#1!256!!%
1880 }%
1881 \else
1882 \def\HyPsd@Char#1{%
1883   \@backslashchar 000#1%
1884 }%
1885 \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.

```

1886 \ifcsname UTFviii@loop\endcsname
1887 \def\HyPsd@expand@utfvii{%
1888   \count@"C2
1889   \@tempcnta"F5
1890   \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1891   \UTFviii@loop
1892 }
1893 \else
1894 \def\HyPsd@expand@utfvii{}
1895 \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`

```

1896 \begingroup
1897   \lccode`~=`^^f4\relax
1898   \lowercase{\endgroup
1899   \def\HyPsd@UTFviii{%
1900     \HyPsd@expand@utfvii
1901     \let\UTFviii@two@octets\HyPsd@UTFviii@two
1902     \let\UTFviii@three@octets\HyPsd@UTFviii@three
1903     \let\UTFviii@four@octets\HyPsd@UTFviii@four
1904     \ifx~\HyPsd@UTFviii@ccxliv@undef
1905       \let~\HyPsd@UTFviii@ccxliv@def

```

```

1906 \fi
1907 \let\unichar\HyPsd@unichar
1908 }%
1909 }%
1910 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1911 \edef\HyPsd@UTFviii@ccxliv@def{%
1912 \noexpand\UTFviii@four@octets\string ^^f4%
1913 }%

```

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

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

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

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

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

$$(5)$$

```

1914 \def\HyPsd@UTFviii@two#1#2{%
1915 \expandafter\HyPsd@UTFviii@@two
1916 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1917 \number`#1\expandafter|
1918 \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|
1919 \number`#2 \@nil
1920 }%
1921 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1922 \expandafter\8%
1923 \number\numexpr #1-48\expandafter\relax
1924 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1925 \number\numexpr #3-8*%
1926 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1927 \number\numexpr #4-8*#3\relax
1928 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1929 \def\HyPsd@UTFviii@three#1#2#3{%
1930 \expandafter\HyPsd@UTFviii@@three
1931 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1932 \number`#1\expandafter|
1933 \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1934 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|

```

```

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

```

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 = uuuuu - 1
UTF-16: 110110ww wwzzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1948 \def\HyPsd@UTFviii@four#1#2{%
1949 \expandafter\HyPsd@@UTFviii@four\number
1950 \numexpr-1+(`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1951 \expandafter|\number
1952 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
1953 }%
1954 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1955 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1956 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1957 \ifodd#2 %
1958 \number\numexpr(#2-1)/2\relax
1959 \else
1960 \number\numexpr#2/2\relax
1961 \fi
1962 \number\numexpr\ifodd#2 4+\fi
1963 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1964 \933%
1965 \expandafter\HyPsd@@@UTFviii@four\number
1966 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
1967 }%
1968 \def\HyPsd@@@UTFviii@four#1|#2{%
1969 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1970 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1971 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
1972 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1973 }%

```

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

```

1974 \def\HyPsd@unichar#1{%
1975 \ifHy@unicode
1976 \ifnum#1>"10FFFF %
1977 \HyPsd@UnicodeReplacementCharacter % illegal

```

```

1978     \else
1979     \ifnum#1>"FFFF %
High-surrogate code point. ("D800 = 55296, \p@ = 1pt = 65536sp)
1980     \expandafter\HyPsd@unichar\expandafter{%
1981     \number\numexpr 55296+%
1982     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1983     \relax\relax\relax
1984     }%

Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)
1985     \expandafter\HyPsd@unichar\expandafter{%
1986     \number\numexpr#1-9216%
1987     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1988     \relax\relax\relax
1989     }%
1990     \else
1991     \ifnum#1>"7FF %
1992     \9%
1993     \expandafter\HyPsd@unichar@first@byte\expandafter{%
1994     \number
1995     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1996     }%
1997     \else
1998     \8%
1999     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2000     \fi
2001     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2002     \number
2003     \numexpr#1-256*\number
2004     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2005     }%
2006     \fi
2007     \fi
2008     \else
2009     .% unsupported (Unicode -> PDF Doc Encoding)
2010     \fi
2011     }%
2012     \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2013     \def\HyPsd@unichar@first@byte#1{%
2014     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2015     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2016     \number
2017     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2018     \relax\relax\relax
2019     }%
2020     }%
2021     \def\HyPsd@unichar@second@byte#1{%
2022     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2023     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2024     \number
2025     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2026     \relax\relax\relax
2027     }%
2028     }%

```



```

2029 \def\HyPsd@unichar@octtwo#1{%
2030   \number\dimexpr.125\dimexpr#1sp\relax\relax
2031   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2032   \relax\relax\relax
2033 }%

```

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

```

2034 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2035   \ifx\@gobble#1%
2036   \else
2037     [Please insert \textbackslash PrerenderUnicode%
2038     \textbraceleft#1\textbraceright\space
2039     into preamble]%
2040   \fi
2041 }%

```

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

`\HyPsd@DieFace` Die faces are provided by

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

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

```

2042 \def\HyPsd@DieFace#1{%
2043   \ifHy@unicode
2044     \ifnum#1<1 %
2045       \HyPsd@UnicodeReplacementCharacter
2046     \else
2047       \ifnum#1>6 %
2048         \9046\205%
2049         \expandafter\expandafter\expandafter
2050         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2051       \else
2052         \9046\20\intcalcDec{#1}%
2053       \fi
2054     \fi
2055   \else
2056     .% Die faces are not part of PDFDocEncoding
2057   \fi
2058 }

```

`\HyPsd@DieFaceLarge`

```

2059 \def\HyPsd@DieFaceLarge#1!{%
2060   \ifnum#1>6 %
2061     \expandafter\ltx@firstoftwo
2062   \else
2063     \expandafter\ltx@secondoftwo
2064   \fi
2065 }%

```

```

2066 \9046\205%
2067 \expandafter\expandafter\expandafter
2068 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2069 }{%
2070 \9046\20\IntCalcDec#1!%
2071 }%
2072 }

```

### 6.6.11 Support for moon phases of package china2e

```

2073 \def\HyPsd@MoonPha#1{%
2074 \ifcase\intcalcNum{#1} %
2075 \HyPsd@UnicodeReplacementCharacter
2076 \or % 1
2077 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2078 \9330\074\9337\032%
2079 \or % 2
2080 \HyPsd@UnicodeReplacementCharacter
2081 \or % 3
2082 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2083 \9330\074\9337\035%
2084 \or % 4
2085 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2086 \9330\074\9337\034%
2087 \else
2088 \HyPsd@UnicodeReplacementCharacter
2089 \fi
2090 }
2091 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2092 \def\HyPsd@ding#1{%
2093 \ifHy@unicode
2094 \ifnum#1<32 %
2095 \HyPsd@UnicodeReplacementCharacter
2096 \else
2097 \ifnum#1>254 %
2098 \HyPsd@UnicodeReplacementCharacter
2099 \else
2100 \ifnum#1<127 %
2101 \expandafter\expandafter\expandafter
2102 \HyPsd@@ding\intcalcNum{#1}!%
2103 \else
2104 \ifnum#1>160 %
2105 \expandafter\expandafter\expandafter
2106 \HyPsd@@ding\intcalcNum{#1}!%
2107 \else
2108 \HyPsd@UnicodeReplacementCharacter
2109 \fi
2110 \fi
2111 \fi
2112 \fi
2113 \else

```

```

2114 .% Dingbats are not part of PDFDocEncoding
2115 \fi
2116 }

```

\HyPsd@@ding

```

2117 \def\HyPsd@@ding#1!{%
2118 \ltx@ifundefined{HyPsd@ding@#1}{%
2119 \ifnum#1<127 %
2120 \9047%
2121 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2122 \else
2123 \ifnum#1<168 %
2124 \9047\14\IntCalcSub#1!160!%
2125 \else
2126 \ifnum#1>181 %
2127 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2128 \else
2129 % 172..181 -> U+2460..U+2469
2130 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2131 \fi
2132 \fi
2133 \fi
2134 }{%
2135 \csname HyPsd@ding@#1\endcsname
2136 }%
2137 }

```

```

2138 \@namedef{HyPsd@ding@32}{\space}
2139 % U+260E BLACK TELEPHONE
2140 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2141 % U+261B BLACK RIGHT POINTING INDEX
2142 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2143 % U+261E WHITE RIGHT POINTING INDEX
2144 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2145 % U+2605 BLACK STAR
2146 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2147 % U+25CF BLACK CIRCLE
2148 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2149 % U+25A0 BLACK SQUARE
2150 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2151 % U+25B2 BLACK UP-POINTING TRIANGLE
2152 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2153 % U+25BC BLACK DOWN-POINTING TRIANGLE
2154 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2155 % U+25C6 BLACK DIAMOND
2156 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2157 % U+25D7 RIGHT HALF BLACK CIRCLE
2158 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2159 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2160 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2161 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2162 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2163 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2164 \@namedef{HyPsd@ding@214}{\textleftarrow}%

```

```

2165 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2166 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Package subfigure

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

```

2167 \@ifpackageloaded{subfigure}{%
2168   \ltx@ifundefined{sub@label}{%
2169     \Hy@hypertexnamesfalse
2170   }{%
2171     \renewcommand*{\sub@label}[1]{%
2172       \@bsphack
2173       \subfig@oldlabel{#1}%
2174       \if@filesw
2175         \begingroup
2176         \edef\@currentlabstr{%
2177           \expandafter\strip@prefix\meaning\@currentlabelname
2178         }%
2179         \protected@write\@auxout{}{%
2180           \string\newlabel{sub@#1}{%
2181             {\@nameuse{\@thesub\@capttype}}%
2182             {\thepage}%
2183             {%
2184               \expandafter\strip@period\@currentlabstr
2185               \relax.\relax\@@@%
2186             }%
2187             {\@currentHref}%
2188             {}%
2189           }%
2190         }%
2191       \endgroup
2192     \fi
2193     \@esphack
2194   }%
2195 }%
2196 }{}

```

### 7.2 Package xr and xr-hyper

The beta version of `xr` that supports `\XR@addURL` is called `xr-hyper`. If reading external aux files check whether they have a non zero fourth field in `\newlabel` and if so, add the URL as the fifth field. Change 2023-05-14: `xr-hyper` adds the field.

```

2197 \def\Hy@true{true}
2198 \def\Hy@false{false}

```

Providing dummy definitions.

```

2199 \let\literalps@out\@gobble
2200 \newcommand\pdfbookmark[3][]{ }
2201 \def\Acrobatmenu#1#2{\leavevmode#2}
2202 \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

```

2203 \let\HyperRaiseLinkHook\@empty
2204 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2205 \newcount\Hy@SavedSpaceFactor
2206 \def\Hy@SaveSpaceFactor{%
2207   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2208 }
2209 \def\Hy@RestoreSpaceFactor{%
2210   \relax
2211   \ifhmode
2212     \ifnum\Hy@SavedSpaceFactor>\z@
2213       \spacefactor=\Hy@SavedSpaceFactor
2214     \fi
2215   \fi
2216 }
2217 \def\Hy@SaveSavedSpaceFactor{%
2218   \edef\Hy@RestoreSavedSpaceFactor{%
2219     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2220   }%
2221 }
2222 \def\Hy@raisedlink#1{%
2223   \ifvmode
2224     #1%
2225   \else
2226     \Hy@SaveSpaceFactor
2227     \penalty\@M
2228     \smash{%
2229       \begingroup
2230         \let\HyperRaiseLinkLength\@tempdima
2231         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2232         \HyperRaiseLinkHook
2233       \expandafter\endgroup
2234       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2235         \Hy@RestoreSpaceFactor
2236         #1%
2237         \Hy@SaveSpaceFactor
2238       }%
2239     }%
2240   \Hy@RestoreSpaceFactor

```

```

2241 \fi
2242 }

```

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

```

2243 \def\Hy@SaveLastskip{%
2244 \let\Hy@RestoreLastskip\relax
2245 \ifvmode
2246 \ifdim\lastskip=\z@
2247 \ifnum\lastnodetype=1 %
2248 \let\Hy@RestoreLastskip\relax
2249 \else
2250 \let\Hy@RestoreLastskip\nobreak
2251 \fi
2252 \else
2253 \begingroup
2254 \skip@=-\lastskip
2255 \edef\x{%
2256 \endgroup
2257 \def\noexpand\Hy@RestoreLastskip{%
2258 \noexpand\ifvmode
2259 \noexpand\nobreak
2260 \vskip\the\skip@
2261 \vskip\the\lastskip\relax
2262 \noexpand\fi
2263 }%
2264 }%
2265 \x
2266 \fi
2267 \else
2268 \ifhmode
2269 \ifdim\lastskip=\z@
2270 \let\Hy@RestoreLastskip\nobreak
2271 \else
2272 \begingroup
2273 \skip@=-\lastskip
2274 \edef\x{%
2275 \endgroup
2276 \def\noexpand\Hy@RestoreLastskip{%
2277 \noexpand\ifhmode
2278 \noexpand\nobreak
2279 \hskip\the\skip@
2280 \hskip\the\lastskip\relax
2281 \noexpand\fi
2282 }%
2283 }%
2284 \x
2285 \fi
2286 \fi
2287 \fi
2288 }%

```

## 9 Options

```

2289 \SetupKeyvalOptions{%
2290   family=Hyp,%
2291   prefix=HyOpt%
2292 }

```

## 9.1 Help macros

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

```

\AddToDocumentProperties
\GetDocumentProperties
2293 \ExplSyntaxOn
2294 \@ifundefined{AddToDocumentProperties}
2295 {
2296   \prop_new:N \g__hyp_documentproperties_prop
2297   \NewDocumentCommand\AddToDocumentProperties{O{\currname}mm}
2298   {
2299     \exp_args:NNx
2300     \prop_gput:Nnn \g__hyp_documentproperties_prop
2301     {
2302       \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2303     }
2304     { #3}
2305   }
2306   \NewExpandableDocumentCommand\GetDocumentProperties{m}
2307   {
2308     \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2309   }
2310 }{}
2311 \ExplSyntaxOff

\IfHyperBooleanExists

2312 \def\IfHyperBooleanExists#1{%
2313   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2314     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2315   }%
2316 }

2317 \@namedef{KV@Hyp@stoppearly@default}{}

\IfHyperBoolean

2318 \def\IfHyperBoolean#1{%
2319   \IfHyperBooleanExists{#1}{%
2320     \csname ifHy@#1\endcsname
2321     \expandafter\ltx@firstoftwo
2322   \else
2323     \expandafter\ltx@secondoftwo
2324   \fi
2325 } \ltx@secondoftwo
2326 }

\Hy@boolkey

2327 \def\Hy@boolkey#1#2{%

```

```

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

```

\Hy@WarnOptionValue

```

2349 \def\Hy@WarnOptionValue#1#2#3{%
2350   \Hy@Warning{%
2351     Unexpected value `#1'\MessageBreak
2352     of option `#2' instead of\MessageBreak
2353     #3%
2354   }%
2355 }

```

\Hy@DisableOption

```

2356 \def\Hy@DisableOption#1{%
2357   \ltx@ifundefined{KV@Hyp@#1@default}{%
2358     \define@key{Hyp}{#1}%
2359   }{%
2360     \define@key{Hyp}{#1}[]%
2361   }%
2362   {\Hy@WarnOptionDisabled{#1}}%
2363 }
2364

```

\Hy@WarnOptionDisabled

```

2365 \def\Hy@WarnOptionDisabled#1{%
2366   \Hy@Warning{%
2367     Option `#1' has already been used,\MessageBreak
2368     setting the option has no effect%
2369   }%
2370 }

```

\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.



```

2371 \def\Hy@CheckOptionValue#1#2#3{%
2372   \begingroup
2373   \edef\x{#1}%
2374   \@onelevel@sanitize\x
2375   \let\y=y%
2376   \def\do##1##2{%
2377     \def\z{##1}%
2378     \@onelevel@sanitize\z
2379     \ifx\x\z
2380       \let\y=n%
2381       \let\do\@gobbletwo
2382     \fi
2383   }%
2384   #3%
2385   \ifx\y y%
2386     \def\do##1##2{%
2387       * `##1'%
2388       \ifx\##2\\\else\space(##2)\fi
2389       \MessageBreak
2390     }%
2391     \Hy@Warning{%
2392       Values of option `#2':\MessageBreak
2393       #3%
2394       * An empty value disables the option.\MessageBreak
2395       Unknown value `x'%
2396     }%
2397   \fi
2398 \endgroup
2399 }

```

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

```

2400 \def\Hy@DefNameKey#1{%
2401   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2402 }

```

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

```

2403 \def\Hy@@DefNameKey#1#2#3{%
2404   \define@key{Hyp}{#2}{%
2405     \edef#1{##1}%
2406     \ifx#1\@empty
2407       \else
2408         \Hy@CheckOptionValue{##1}{#2}{#3}%
2409       \fi
2410   }%
2411   \let#1\@empty
2412 }

```

\Hy@UseNameKey

```

2413 \def\Hy@UseNameKey#1#2{%

```

```

2414 \ifx#2\@empty
2415 \else
2416   /#1/#2%
2417 \fi
2418 }

```

## 9.2 Defining the options

```

2419 \define@key{Hyp}{implicit}[true]{%
2420   \Hy@boolkey{implicit}{#1}%
2421 }
2422 \define@key{Hyp}{draft}[true]{%
2423   \Hy@boolkey{draft}{#1}%
2424 }
2425 \define@key{Hyp}{final}[true]{%
2426   \Hy@boolkey{final}{#1}%
2427 }
2428 \let\KV@Hyp@nolinks\KV@Hyp@draft
2429 \def\Hy@ObsoletePaperOption#1{%
2430   \Hy@WarningNoLine{%
2431     Option `#1' is no longer used%
2432   }%
2433   \define@key{Hyp}{#1}[true]{}%
2434 }
2435 \def\Hy@temp#1{%
2436   \define@key{Hyp}{#1}[true]{%
2437     \Hy@ObsoletePaperOption{#1}%
2438   }%
2439 }
2440 \Hy@temp{a4paper}
2441 \Hy@temp{a5paper}
2442 \Hy@temp{b5paper}
2443 \Hy@temp{letterpaper}
2444 \Hy@temp{legalpaper}
2445 \Hy@temp{executivepaper}
2446 \define@key{Hyp}{setpagesize}[true]{%
2447   \Hy@boolkey{setpagesize}{#1}%
2448 }
2449 \define@key{Hyp}{debug}[true]{%
2450   \Hy@boolkey{debug}{#1}%
2451 }
2452 \define@key{Hyp}{linktocpage}[true]{%
2453   \Hy@boolkey{linktocpage}{#1}%
2454   \ifHy@linktocpage
2455     \let\Hy@linktoc\Hy@linktoc@page
2456   \else
2457     \let\Hy@linktoc\Hy@linktoc@section
2458   \fi
2459 }
2460 \chardef\Hy@linktoc@none=0 %
2461 \chardef\Hy@linktoc@section=1 %
2462 \chardef\Hy@linktoc@page=2 %
2463 \chardef\Hy@linktoc@all=3 %

```

```

2464 \ifHy@linktocpage
2465   \let\Hy@linktoc\Hy@linktoc@page
2466 \else
2467   \let\Hy@linktoc\Hy@linktoc@section
2468 \fi
2469 \define@key{Hyp}{linktoc}{%
2470   \@ifundefined{Hy@linktoc@#1}{%
2471     \Hy@Warning{%
2472       Unexpected value `#1' of\MessageBreak
2473       option `linktoc' instead of `none',\MessageBreak
2474       `section', `page' or `all'%
2475     }%
2476   }{%
2477     \expandafter\let\expandafter\Hy@linktoc
2478     \csname Hy@linktoc@#1\endcsname
2479   }%
2480 }
2481 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2482 \let\XR@ext\relax
2483 \define@key{Hyp}{verbose}[true]{%
2484   \Hy@boolkey{verbose}{#1}%
2485 }

```

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.

```

2486 \define@key{Hyp}{raiselinks}[true]{%
2487   \Hy@boolkey{raiselinks}{#1}%
2488 }

```

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

```

2489 \def\Hy@setbreaklinks#1{%
2490   \csname breaklinks#1\endcsname
2491 }
2492 \def\Hy@breaklinks@unsupported{%
2493   \ifx\Hy@setbreaklinks\@gobble
2494     \ifHy@breaklinks
2495       \Hy@WarningNoLine{%
2496         You have enabled option `breaklinks'.\MessageBreak
2497         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2498         Expect trouble with the link areas of broken links%
2499       }%
2500     \fi
2501   \fi
2502 }
2503 \define@key{Hyp}{breaklinks}[true]{%
2504   \Hy@boolkey{breaklinks}{#1}%
2505   \let\Hy@setbreaklinks\@gobble
2506 }
2507 \define@key{Hyp}{localanchorname}[true]{%
2508   \Hy@WarningNoLine{%
2509     Option `localanchorname' is deprecated%
2510   }%

```

```

2511 \Hy@boolkey{localanchorname}{#1}%
2512 }

```

Determines whether an automatic anchor is put on each page

```

2513 \define@key{Hyp}{pageanchor}[true]{%
2514 \Hy@boolkey{pageanchor}{#1}%
2515 }

```

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.

```

2516 \define@key{Hyp}{plainpages}[true]{%
2517 \Hy@boolkey{plainpages}{#1}%
2518 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L<sup>A</sup>T<sub>E</sub>X provides?

```

2519 \define@key{Hyp}{naturalnames}[true]{%
2520 \Hy@boolkey{naturalnames}{#1}%
2521 }

```

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

```

2522 \define@key{Hyp}{hypertextnames}[true]{%
2523 \Hy@boolkey{hypertextnames}{#1}%
2524 }

```

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

```

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

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

```

```

2531 \define@key{Hyp}{unicode}[true]{%
2532 \Hy@boolkey{unicode}{#1}%
2533 \ifHy@unicode
2534 \def\HyPsd@pdfencoding{unicode}%
2535 \HyPsd@LoadUnicode
2536 \else
2537 \def\HyPsd@pdfencoding{pdfdoc}%
2538 \fi
2539 }

2540 \Hy@AtBeginDocument{%
2541 \ifx\HyPsd@LoadUnicode\relax
2542 \else
2543 \def\HyPsd@LoadUnicode{%
2544 \Hy@Error{%
2545 Unicode support for bookmarks is not available.\MessageBreak
2546 Activate unicode support by using one of the options\MessageBreak
2547 `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2548 in the preamble%
2549 } \@ehc
2550 \global\let\HyPsd@LoadUnicode\relax
2551 \global\Hy@unicodetrue\Hy@unicodetrue
2552 \global\let\Hy@unicodetrue\Hy@unicodetrue

```

```

2553 }%
2554 \fi
2555 }

2556 \define@key{Hyp}{pdfencoding}{%
2557 \edef\HyPsd@temp{#1}%
2558 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2559 \let\HyPsd@pdfencoding\HyPsd@temp
2560 \Hy@unicodetrue
2561 \else
2562 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2563 \z@
2564 \else
2565 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2566 \z@
2567 \else
2568 \@ne
2569 \fi
2570 \fi
2571 \let\HyPsd@pdfencoding\HyPsd@temp
2572 \hypersetup{unicode}%
2573 \ifHy@unicode
2574 \def\HyPsd@pdfencoding{#1}%
2575 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2576 \HyPsd@LoadStringEnc
2577 \fi
2578 \else
2579 \Hy@Warning{Cannot switch to unicode bookmarks}%
2580 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2581 \fi
2582 \else
2583 \@onelevel@sanitize\HyPsd@temp
2584 \Hy@Warning{%
2585 Values of option `pdfencoding':\MessageBreak
2586 `pdfdoc', `unicode', `auto'.\MessageBreak
2587 Ignoring unknown value ``\HyPsd@temp'%
2588 }%
2589 \fi
2590 \fi
2591 }
2592 \def\HyPsd@pdfencoding@auto{auto}
2593 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2594 \def\HyPsd@pdfencoding@unicode{unicode}

change 2020-08-14, use unicode by default:
2595 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2596 \HyPsd@LoadUnicode
2597 \def\HyPsd@LoadStringEnc{%
2598 \RequirePackage{stringenc}[2009/12/15]%
2599 \let\HyPsd@LoadStringEnc\relax
2600 }
2601 \Hy@AtBeginDocument{%
2602 \@ifpackageloaded{stringenc}{%
2603 \let\HyPsd@LoadStringEnc\relax
2604 }{%

```

```

2605 \def\HyPsd@LoadStringEnc{%
2606 \Hy@WarningNoLine{%
2607 Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2608 in the preamble or load the package there%
2609 }%
2610 }%
2611 }%
2612 }

2613 \define@key{Hyp}{psdextra}[true]{%
2614 \Hy@boolkey{psdextra}{#1}%
2615 \HyPsd@LoadExtra
2616 }

2617 \def\hypersetup{\kvsetkeys{Hyp}}

2618 \newif\ifHy@setpdfversion
2619 \define@key{Hyp}{pdfversion}{%
2620 \@ifundefined{Hy@pdfversion@#1}{%
2621 \PackageWarning{hyperref}{%
2622 Unsupported PDF version `#1'.\MessageBreak
2623 Valid values: 1.2-1.7, 2.0%
2624 }%
2625 }{%
2626 \Hy@setpdfversiontrue
2627 \@nameuse{Hy@pdfversion@#1}%
2628 }%
2629 }

\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or
\pdfvariable majorversion} so introduce new names here.
2630 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
2631 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
2632 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
2633 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2634 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2635 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
2636 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
2637 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}

Legacy name, earlier releases assumed 1.x
2638 \let\Hy@pdfversion\Hy@pdf@minorversion
2639 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
2640 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}

if pdfminorversion is defined, make sure pdfmajorversion is too.
2641 \@ifundefined{pdfminorversion}{}{%
2642 \@ifundefined{pdfmajorversion}{}%
2643 \newcount\pdfmajorversion

```

```

2644 \pdfmajorversion=1
2645 }{}%
2646 }
2647 \ifx\pdfmajorversion\@undefined\else
2648 \def\Hy@pdfmajorversion{\pdfmajorversion}
2649 \fi

```

## 10 Options for different drivers

```

2650 \newif\ifHy@DviMode
2651 \let\Hy@DviErrMsg\ltx@empty
2652 \ifpdf
2653 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2654 \else
2655 \ifxetex
2656 \def\Hy@DviErrMsg{XeTeX is running}%
2657 \else
2658 \ifvtex
2659 \ifnum\OpMode=\z@
2660 \Hy@DviModetrue
2661 \else
2662 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2663 \fi
2664 \else
2665 \Hy@DviModetrue
2666 \fi
2667 \fi
2668 \fi
2669 \def\HyOpt@CheckDvi#1{%
2670 \ifHy@DviMode
2671 \expandafter\ltx@firstofone
2672 \else
2673 \Hy@Error{%
2674 Wrong DVI mode driver option `#1',\MessageBreak
2675 because \Hy@DviErrMsg
2676 }\@ehc
2677 \expandafter\ltx@gobble
2678 \fi
2679 }

2680 \DeclareVoidOption{tex4ht}{%
2681 \Hy@texhttrue
2682 \kvsetkeys{Hyp}{colorlinks=true}%
2683 \def\BeforeTeXIVht{\RequirePackage{color}}%
2684 \def\Hy@driver{htex4ht}%
2685 \def\MaybeStopEarly{%
2686 \Hy@Message{Stopped early}%
2687 \Hy@AtBeginDocument{%
2688 \PDF@FinishDoc
2689 \gdef\PDF@FinishDoc{}%
2690 }%
2691 \endinput
2692 }%
2693 }
2694 \DeclareVoidOption{pdftex}{%

```

```

2695 \ifpdf
2696   \def\Hy@driver{hpdfTeX}%
2697   \PassOptionsToPackage{pdfTeX}{color}%
2698 \else
2699   \Hy@Error{%
2700     Wrong driver option `pdfTeX',\MessageBreak
2701     because pdfTeX in PDF mode is not detected%
2702   }\@ehc
2703 \fi
2704 }
2705 \DeclareVoidOption{luatex}{%
2706   \ifpdf
2707     \ifx\pdfextension\@undefined
2708       \def\Hy@driver{hpdfTeX}%
2709       \PassOptionsToPackage{pdfTeX}{color}%
2710     \else
2711       \def\Hy@driver{hluatex}%
2712       \PassOptionsToPackage{luatex}{color}%
2713     \fi
2714   \else
2715     \Hy@Error{%
2716       Wrong driver option `luatex',\MessageBreak
2717       because luaTeX in PDF mode is not detected%
2718     }\@ehc
2719   \fi
2720 }
2721 \DeclareVoidOption{nativepdf}{%
2722   \HyOpt@CheckDvi{nativepdf}{%
2723     \def\Hy@driver{hdvips}%
2724     \PassOptionsToPackage{dvips}{color}%
2725   }%
2726 }
2727 \DeclareVoidOption{dvipdfm}{%
2728   \HyOpt@CheckDvi{dvipdfm}{%
2729     \def\Hy@driver{hdvipdfm}%
2730   }%
2731 }
2732 \DeclareVoidOption{dvipdfmx}{%
2733   \HyOpt@CheckDvi{dvipdfmx}{%
2734     \def\Hy@driver{hdvipdfm}%
2735     \PassOptionsToPackage{dvipdfmx}{color}%
2736   }%
2737 }
2738 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2739   \expandafter\ifx\csname if#1\expandafter\endcsname
2740     \csname iftrue\endcsname
2741     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2742   \else
2743     \chardef\SpecialDvipdfmxOutlineOpen\z@
2744   \fi
2745 }
2746 \DeclareVoidOption{xetex}{%
2747   \ifxetex
2748     \def\Hy@driver{hxetex}%

```



```

2749 \else
2750   \Hy@Error{%
2751     Wrong driver option `xetex',\MessageBreak
2752     because XeTeX is not detected%
2753   }\@ehc
2754 \fi
2755 }
2756 \DeclareVoidOption{pdfmark}{%
2757   \HyOpt@CheckDvi{pdfmark}{%
2758     \def\Hy@driver{hdvips}%
2759   }%
2760 }
2761 \DeclareVoidOption{dvips}{%
2762   \HyOpt@CheckDvi{dvips}{%
2763     \def\Hy@driver{hdvips}%
2764     \PassOptionsToPackage{dvips}{color}%
2765   }%
2766 }
2767 \DeclareVoidOption{hypertex}{%
2768   \HyOpt@CheckDvi{hypertex}{%
2769     \def\Hy@driver{hypertex}%
2770   }%
2771 }
2772 \let\Hy@MaybeStopNow\relax
2773 \DeclareVoidOption{vtex}{%
2774   \ifvtex
2775     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2776     \def\Hy@driver{hvtex}%
2777   \else
2778     \ifnum\OpMode=10\relax
2779     \def\Hy@driver{hvtexhtm}%
2780     \def\MaybeStopEarly{%
2781       \Hy@Message{Stopped early}%
2782       \Hy@AtBeginDocument{%
2783         \PDF@FinishDoc
2784         \gdef\PDF@FinishDoc{}%
2785       }%
2786       \endinput
2787     }%
2788   \else
2789     \Hy@Error{%
2790       Wrong driver option `vtex',\MessageBreak
2791       because of wrong OpMode (\the\OpMode)%
2792     }\@ehc
2793   \fi
2794 \fi
2795 \else
2796   \Hy@Error{%
2797     Wrong driver option `vtex',\MessageBreak
2798     because VTeX is not running%
2799   }\@ehc
2800 \fi
2801 }
2802 \DeclareVoidOption{vtexpdfmark}{%

```

```

2803 \ifvtex
2804 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2805 \def\Hy@driver{hvtexmrk}%
2806 \else
2807 \Hy@Error{%
2808   Wrong driver option `vtexpdfmark',\MessageBreak
2809   because of wrong OpMode (\the\OpMode)%
2810 } \@ehc
2811 \fi
2812 \else
2813 \Hy@Error{%
2814   Wrong driver option `vtexpdfmark',\MessageBreak
2815   because VTeX is not running%
2816 } \@ehc
2817 \fi
2818 }
2819 \DeclareVoidOption{dviwindo}{%
2820 \HyOpt@CheckDvi{dviwindo}{%
2821 \def\Hy@driver{hdviwind}%
2822 \kvsetkeys{Hyp}{colorlinks}%
2823 \PassOptionsToPackage{dviwindo}{color}%
2824 }%
2825 }
2826 \DeclareVoidOption{dvipsone}{%
2827 \HyOpt@CheckDvi{dvipsone}{%
2828 \def\Hy@driver{hdvipson}%
2829 \PassOptionsToPackage{dvipsone}{color}%
2830 }%
2831 }
2832 \DeclareVoidOption{textures}{%
2833 \HyOpt@CheckDvi{textures}{%
2834 \def\Hy@driver{htexture}%
2835 }%
2836 }
2837 \DeclareVoidOption{latex2html}{%
2838 \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2839   A current html.sty will do all necessary (re)definitions%
2840 }%
2841 }
2842 \DeclareVoidOption{hitex}{%
2843 \ifhint
2844 \IfFileExists{hhitex.def}
2845 {\def\Hy@driver{hhitex}}%
2846 {\Hy@Warning{%
2847   Missing driver file `hhitex.def',\MessageBreak
2848   ignoring hitex driver%
2849 }}%
2850 \else
2851 \Hy@Error{%
2852   Wrong driver option `hitex',\MessageBreak
2853   because HiTeX is not detected%
2854 } \@ehc
2855 \fi
2856 }

```

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

```

2857 \DeclareVoidOption{ps2pdf}{%
2858   \HyOpt@CheckDvi{ps2pdf}{%
2859     \def\Hy@driver{hdvips}%
2860     \PassOptionsToPackage{dvips}{color}%
2861   }%
2862 }

2863 \let\HyOpt@DriverFallback\ltx@empty
2864 \define@key{Hyp}{driverfallback}{%
2865   \ifHy@DviMode
2866     \def\HyOpt@DriverFallback{#1}%
2867     \Hy@Match\HyOpt@DriverFallback{}{%
2868       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2869         latex2html|tex4ht)$%
2870     }{}%
2871     \Hy@Warning{%
2872       Invalid driver `#1' for option\MessageBreak
2873       `driverfallback'%
2874     }%
2875     \let\HyOpt@DriverFallback\ltx@empty
2876   }%
2877 \fi
2878 }

2879 \let\HyOpt@CustomDriver\ltx@empty
2880 \define@key{Hyp}{customdriver}{%
2881   \IfFileExists{#1.def}{%
2882     \def\HyOpt@CustomDriver{#1}%
2883   }{%
2884     \Hy@Warning{%
2885       Missing driver file `#1.def',\MessageBreak
2886       ignoring custom driver%
2887     }%
2888   }%
2889 }

```

## 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.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2893 \define@key{Hyp}{hyperfootnotes}[true]{%
2894   \Hy@boolkey{hyperfootnotes}{#1}%
2895 }

```

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

```

2896 \def\back@none{none}
2897 \def\back@section{section}
2898 \def\back@page{page}
2899 \def\back@slide{slide}
2900 \define@key{Hyp}{backref}[section]{%

```

```

2901 \lowercase{\def\Hy@tempa{#1}}%
2902 \ifx\Hy@tempa\@empty
2903   \let\Hy@tempa\back@section
2904 \fi
2905 \ifx\Hy@tempa\Hy@false
2906   \let\Hy@tempa\back@none
2907 \fi
2908 \ifx\Hy@tempa\back@slide
2909   \let\Hy@tempa\back@section
2910 \fi
2911 \ifx\Hy@tempa\back@page
2912   \PassOptionsToPackage{hyperpageref}{backref}%
2913   \Hy@backreftrue
2914 \else
2915   \ifx\Hy@tempa\back@section
2916     \PassOptionsToPackage{hyperref}{backref}%
2917     \Hy@backreftrue
2918   \else
2919     \ifx\Hy@tempa\back@none
2920       \Hy@backreffalse
2921     \else
2922       \Hy@WarnOptionValue{#1}{backref}{%
2923         `section', `slide', `page', `none',\MessageBreak
2924         or `false'}%
2925     \fi
2926   \fi
2927 \fi
2928 }
2929 \define@key{Hyp}{pagebackref}[true]{%
2930   \edef\Hy@tempa{#1}%
2931   \lowercase\expandafter{%
2932     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2933   }%
2934   \ifx\Hy@tempa\@empty
2935     \let\Hy@tempa\Hy@true
2936   \fi
2937   \ifx\Hy@tempa\Hy@true
2938     \PassOptionsToPackage{hyperpageref}{backref}%
2939     \Hy@backreftrue
2940   \else
2941     \ifx\Hy@tempa\Hy@false
2942       \Hy@backreffalse
2943     \else
2944       \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2945     \fi
2946   \fi
2947 }

```

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

```

2948 \define@key{Hyp}{hyperindex}[true]{%
2949   \Hy@boolkey{hyperindex}{#1}%
2950 }

```

Configuration of encap char.

```

2951 \define@key{Hyp}{encap}{\|}{%
2952 \def\HyInd@EncapChar{#1}%
2953 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2954 \def\HyLang@afrikaans{%
2955 \def\equationautorefname{Vergelyking}%
2956 \def\footnoteautorefname{Voetnota}%
2957 \def\itemautorefname{Item}%
2958 \def\figureautorefname{Figuur}%
2959 \def\tableautorefname{Tabel}%
2960 \def\partautorefname{Deel}%
2961 \def\appendixautorefname{Bylae}%
2962 \def\chapterautorefname{Hoofstuk}%
2963 \def\sectionautorefname{Afdeling}%
2964 \def\subsectionautorefname{Subafdeling}%
2965 \def\subsubsectionautorefname{Subsubafdeling}%
2966 \def\paragraphautorefname{Paragraaf}%
2967 \def\subparagraphautorefname{Subparagraaf}%
2968 \def\FancyVerbLineautorefname{Lyn}%
2969 \def\theoremautorefname{Teorema}%
2970 \def\pageautorefname{Bladsy}%
2971 }
2972 \def\HyLang@english{%
2973 \def\equationautorefname{Equation}%
2974 \def\footnoteautorefname{footnote}%
2975 \def\itemautorefname{item}%
2976 \def\figureautorefname{Figure}%
2977 \def\tableautorefname{Table}%
2978 \def\partautorefname{Part}%
2979 \def\appendixautorefname{Appendix}%
2980 \def\chapterautorefname{chapter}%
2981 \def\sectionautorefname{section}%
2982 \def\subsectionautorefname{subsection}%
2983 \def\subsubsectionautorefname{subsubsection}%
2984 \def\paragraphautorefname{paragraph}%
2985 \def\subparagraphautorefname{subparagraph}%
2986 \def\FancyVerbLineautorefname{line}%
2987 \def\theoremautorefname{Theorem}%
2988 \def\pageautorefname{page}%
2989 }
2990 \def\HyLang@french{%
2991 \def\equationautorefname{'equation}%
2992 \def\footnoteautorefname{note}%
2993 \def\itemautorefname{item}%
2994 \def\figureautorefname{figure}%
2995 \def\tableautorefname{tableau}%
2996 \def\partautorefname{partie}%
2997 \def\appendixautorefname{annexe}%
2998 \def\chapterautorefname{chapitre}%
2999 \def\sectionautorefname{section}%

```

```

3000 \def\subsectionautorefname{sous-section}%
3001 \def\subsubsectionautorefname{sous-sous-section}%
3002 \def\paragraphautorefname{paragraphe}%
3003 \def\subparagraphautorefname{sous-paragraphe}%
3004 \def\FancyVerbLineautorefname{ligne}%
3005 \def\theoremautorefname{th\`eor\`eme}%
3006 \def\pageautorefname{page}%
3007 }
3008 \def\HyLang@german{%
3009 \def\equationautorefname{Gleichung}%
3010 \def\footnoteautorefname{Fu\ss note}%
3011 \def\itemautorefname{Punkt}%
3012 \def\figureautorefname{Abbildung}%
3013 \def\tableautorefname{Tabelle}%
3014 \def\partautorefname{Teil}%
3015 \def\appendixautorefname{Anhang}%
3016 \def\chapterautorefname{Kapitel}%
3017 \def\sectionautorefname{Abschnitt}%
3018 \def\subsectionautorefname{Unterabschnitt}%
3019 \def\subsubsectionautorefname{Unterunterabschnitt}%
3020 \def\paragraphautorefname{Absatz}%
3021 \def\subparagraphautorefname{Unterabsatz}%
3022 \def\FancyVerbLineautorefname{Zeile}%
3023 \def\theoremautorefname{Theorem}%
3024 \def\pageautorefname{Seite}%
3025 }
3026 \def\HyLang@italian{%
3027 \def\equationautorefname{Equazione}%
3028 \def\footnoteautorefname{nota}%
3029 \def\itemautorefname{punto}%
3030 \def\figureautorefname{Figura}%
3031 \def\tableautorefname{Tabella}%
3032 \def\partautorefname{Parte}%
3033 \def\appendixautorefname{Appendice}%
3034 \def\chapterautorefname{Capitolo}%
3035 \def\sectionautorefname{sezione}%
3036 \def\subsectionautorefname{sottosezione}%
3037 \def\subsubsectionautorefname{sottosottosezione}%
3038 \def\paragraphautorefname{paragrafo}%
3039 \def\subparagraphautorefname{sottoparagrafo}%
3040 \def\FancyVerbLineautorefname{linea}%
3041 \def\theoremautorefname{Teorema}%
3042 \def\pageautorefname{Pag.\@}%
3043 }
3044 \def\HyLang@magyar{%
3045 \def\equationautorefname{Egyenlet}%
3046 \def\footnoteautorefname{l\`abjegyzet}%
3047 \def\itemautorefname{Elem}%
3048 \def\figureautorefname{\`Abra}%
3049 \def\tableautorefname{T\`abl\`azat}%
3050 \def\partautorefname{R\`esz}%
3051 \def\appendixautorefname{F\`uggel\`ek}%
3052 \def\chapterautorefname{fejezet}%
3053 \def\sectionautorefname{szakasz}%

```

```

3054 \def\subsectionautorefname{alszakasz}%
3055 \def\subsubsectionautorefname{alalszakasz}%
3056 \def\paragraphautorefname{bekezd'es}%
3057 \def\subparagraphautorefname{albekezd'es}%
3058 \def\FancyVerbLineautorefname{sor}%
3059 \def\theoremautorefname{T'etel}%
3060 \def\pageautorefname{oldal}%
3061 }
3062 \def\HyLang@portuges{%
3063 \def\equationautorefname{Equa\c c\~ao}%
3064 \def\footnoteautorefname{Nota de rodap'e}%
3065 \def\itemautorefname{Item}%
3066 \def\figureautorefname{Figura}%
3067 \def\tableautorefname{Tabela}%
3068 \def\partautorefname{Parte}%
3069 \def\appendixautorefname{Ap\~endice}%
3070 \def\chapterautorefname{Cap\itulo}%
3071 \def\sectionautorefname{Se\c c\~ao}%
3072 \def\subsectionautorefname{Subse\c c\~ao}%
3073 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3074 \def\paragraphautorefname{par\agrafo}%
3075 \def\subparagraphautorefname{subpar\agrafo}%
3076 \def\FancyVerbLineautorefname{linha}%
3077 \def\theoremautorefname{Teorema}%
3078 \def\pageautorefname{P\agina}%
3079 }

```

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`.

```

3080 \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`?

```

3081 \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 `\auto\ref{auto}`” etc. The full name must follow full name of the `\theoremautorefname`.

```

3082 % \def\equationautorefname{%
3083 % \cyr\cyrv\cyrry\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3084 % }%

```

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

```

3085 \def\footnoteautorefname{%
3086 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3087 }%

```

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}”

```
3088 % \def\footnoteautorefname{%
3089 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3090 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3091 % }%
```

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

```
3092 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3093 % \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.

```
3094 \def\itemautorefname{\cyr\cyrp.}%
3095 % \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.

```
3096 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3097 \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.

```
3098 \def\partautorefname{\cyr\cyrch.}%
3099 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3100 \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.

```
3101 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3102 % \def\appendixautorefname{%
3103 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
3104 % }%
```

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.

```
3105 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3106 \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.

```
3107 \def\paragraphautorefname{\cyr\cyrp.}%
3108 \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.

```
3109 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3110 % \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.

```
3111 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3112 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
3113 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3114 % \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 ...

```
3115 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3116 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3117 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3118 \def\pageautorefname{\cyr\cyrs.}%
```

```
3119 }
```

```
3120 \def\HyLang@spanish{%
```

```
3121 \def\equationautorefname{Ecuaci\'on}%
```

```
3122 \def\footnoteautorefname{Nota a pie de p\'agina}%
```

```
3123 \def\itemautorefname{Elemento}%
```

```
3124 \def\figureautorefname{Figura}%
```

```
3125 \def\tableautorefname{Tabla}%
```

```
3126 \def\partautorefname{Parte}%
```

```
3127 \def\appendixautorefname{Ap\'endice}%
```

```
3128 \def\chapterautorefname{Cap\'itulo}%
```

```
3129 \def\sectionautorefname{Secci\'on}%
```

```
3130 \def\subsectionautorefname{Subsecci\'on}%
```

```
3131 \def\subsubsectionautorefname{Subsubsecci\'on}%
```

```
3132 \def\paragraphautorefname{P\'arrafo}%
```

```
3133 \def\subparagraphautorefname{Subp\'arrafo}%
```

```
3134 \def\FancyVerbLineautorefname{L\'inea}%
```

```
3135 \def\theoremautorefname{Teorema}%
```

```
3136 \def\pageautorefname{P\'agina}%
```

```
3137 }
```

```
3138 \def\HyLang@catalan{%
```

```
3139 \def\equationautorefname{Equaci\'o}%
```

```
3140 \def\footnoteautorefname{Nota al peu de p\'agina}%
```

```
3141 \def\itemautorefname{Element}%
```

```
3142 \def\figureautorefname{Figura}%
```

```
3143 \def\tableautorefname{Taula}%
```

```
3144 \def\partautorefname{Part}%
```

```
3145 \def\appendixautorefname{Ap\'endix}%
```

```
3146 \def\chapterautorefname{Cap\'itol}%
```

```

3147 \def\sectionautorefname{Secci\`o}%
3148 \def\subsectionautorefname{Subsecci\`o}%
3149 \def\subsubsectionautorefname{Subsubsecci\`o}%
3150 \def\paragraphautorefname{Par\`agraf}%
3151 \def\subparagraphautorefname{Subpar\`agraf}%
3152 \def\FancyVerbLineautorefname{L\`inia}%
3153 \def\theoremautorefname{Teorema}%
3154 \def\pageautorefname{P\`agina}%
3155 }

3156 \def\HyLang@vietnamese{%
3157   \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3158   \def\footnoteautorefname{Ch\`u th\`ich}%
3159   \def\itemautorefname{m\`d{u}c}%
3160   \def\figureautorefname{H\`inh}%
3161   \def\tableautorefname{B\`h{a}ng}%
3162   \def\partautorefname{Ph\`acircumflex{}n}%
3163   \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3164   \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3165   \def\sectionautorefname{m\`d{u}c}%
3166   \def\subsectionautorefname{m\`d{u}c}%
3167   \def\subsubsectionautorefname{m\`d{u}c}%
3168   \def\paragraphautorefname{d{u}c}%
3169   \def\subparagraphautorefname{d{u}c}%
3170   \def\FancyVerbLineautorefname{d\`ong}%
3171   \def\theoremautorefname{D{J}}\d{i}nh l\`y}%
3172   \def\pageautorefname{Trang}%
3173 }

```

Greek, see github issue 52

```

3174 \def\HyLang@greek{%
3175   \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\text-
3176     tomega\textsigma\textteta}%
3177   \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\text-
3178     teta\textmu\textepsilon\acconos\textiota\textomega\textsigma\textteta}%
3179   \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textep-
3180     silon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3181   \def\figureautorefname{\textSigma\textchi\acconos\textteta\textmu\textal-
3182     pha}%
3183   \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\text-
3184     alpha}%
3185   \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvar-
3186     sigma}%
3187   \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\text-
3188     rho\texttau\textteta\textmu\textalpha}%
3189   \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textal-
3190     pha\textlambda\textalpha\textiota\textomicron}%
3191   \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\text-
3192     teta\texttau\textalpha}%
3193   \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\ac-
3194     conos\textomicron\texttau\textteta\texttau\textalpha}%
3195   \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\text-
3196     rho\textalpha\textphi\textomicron\textvarsigma}%
3197   \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\text-

```

```

        talpha\textrho\acctonos\textalpha\textgamma\textrho\textalpha\textphi\textomi-
        cron\textvarsigma}%
3188 \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\ac-
        ctonos\texteta}%
3189 \def\theoremautorefname{\textTheta\textepsilon\acctonos\textomega\text-
        rho\texteta\textmu\textalpha}%
3190 \def\pageautorefname{\textsigma\textepsilon\textlambda\acctonos\textiota\textdelta\text-
        talpha}%
3191 }

3192 \def\HyLang@dutch{%
3193 \def\equationautorefname{Vergelijking}%
3194 \def\footnoteautorefname{voetnoot}%
3195 \def\itemautorefname{punt}%
3196 \def\figureautorefname{Figuur}%
3197 \def\tableautorefname{Tabel}%
3198 \def\partautorefname{Deel}%
3199 \def\appendixautorefname{Bijlage}%
3200 \def\chapterautorefname{hoofdstuk}%
3201 \def\sectionautorefname{paragraaf}%
3202 \def\subsectionautorefname{deelparagraaf}%
3203 \def\subsubsectionautorefname{deel-deelparagraaf}%
3204 \def\paragraphautorefname{alinea}%
3205 \def\subparagraphautorefname{deelalinea}%
3206 \def\FancyVerbLineautorefname{regel}%
3207 \def\theoremautorefname{Stelling}%
3208 \def\pageautorefname{pagina}%
3209 }

3210 \def\HyLang@norsk{%
3211 \def\equationautorefname{Ligning}%
3212 \def\footnoteautorefname{fotnote}%
3213 \def\itemautorefname{element}%
3214 \def\figureautorefname{Figur}%
3215 \def\tableautorefname{Tabell}%
3216 \def\partautorefname{Del}%
3217 \def\appendixautorefname{Tillegg}%
3218 \def\chapterautorefname{kapittel}%
3219 \def\sectionautorefname{seksjon}%
3220 \def\subsectionautorefname{underseksjon}%
3221 \def\subsubsectionautorefname{under-underseksjon}%
3222 \def\paragraphautorefname{avsnitt}%
3223 \def\subparagraphautorefname{underavsnitt}%
3224 \def\FancyVerbLineautorefname{Linje}%
3225 \def\theoremautorefname{Teorem}%
3226 \def\pageautorefname{side}%
3227 }

3228 \def\HyLang@danish{%
3229 \def\equationautorefname{Ligning}%
3230 \def\footnoteautorefname{fodnote}%
3231 \def\itemautorefname{element}%
3232 \def\figureautorefname{Figur}%
3233 \def\tableautorefname{Tabel}%
3234 \def\partautorefname{Del}%
3235 \def\appendixautorefname{Bilag}%
3236 \def\chapterautorefname{kapitel}%

```

```

3237 \def\sectionautorefname{sektion}%
3238 \def\subsectionautorefname{under-sektion}%
3239 \def\subsubsectionautorefname{under-under-sektion}%
3240 \def\paragraphautorefname{afsnit}%
3241 \def\subparagraphautorefname{underafsnit}%
3242 \def\FancyVerbLineautorefname{linje}%
3243 \def\theoremautorefname{Teorem}%
3244 \def\pageautorefname{side}%
3245 }
3246 \def\HyLang@swedish{%
3247 \def\equationautorefname{Ekvation}%
3248 \def\footnoteautorefname{fotnot}%
3249 \def\itemautorefname{punkt}%
3250 \def\figureautorefname{Figur}%
3251 \def\tableautorefname{Tabell}%
3252 \def\partautorefname{Del}%
3253 \def\appendixautorefname{Bilaga}%
3254 \def\chapterautorefname{kapitel}%
3255 \def\sectionautorefname{avsnitt}%
3256 \def\subsectionautorefname{underavsnitt}%
3257 \def\subsubsectionautorefname{under-underavsnitt}%
3258 \def\paragraphautorefname{paragraf}%
3259 \def\subparagraphautorefname{underparagraf}%
3260 \def\FancyVerbLineautorefname{linje}%
3261 \def\theoremautorefname{Teorem}%
3262 \def\pageautorefname{sida}%
3263 }

```

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

```

3264 \def\HyLang@addto#1#2{%
3265   #2%
3266   \@temptokena{#2}%
3267   \ifx#1\relax
3268     \let#1\@empty
3269   \fi
3270   \ifx#1\@undefined
3271     \edef#1{\the\@temptokena}%
3272   \else
3273     \toks@\expandafter{#1}%
3274     \edef#1{\the\toks@\the\@temptokena}%
3275   \fi
3276   \@temptokena{}\toks@\@temptokena
3277 }
3278 \def\HyLang@DeclareLang#1#2#3{%
3279 \ifpackagewith{babel}{#1}{%
3280   \expandafter\HyLang@addto
3281     \csname extras#1\expandafter\endcsname
3282     \csname HyLang@#2\endcsname
3283   \begingroup
3284     \edef\x{\endgroup
3285       #3%
3286     }%
3287   \x

```

```

3288 \namedef{HyLang@#1@done}{}%
3289 }{}%
3290 \begingroup
3291 \edef\x##1##2{%
3292 \noexpand\ifx##2\relax
3293 \errmessage{No definitions for language #2' found!}%
3294 \noexpand\fi
3295 \endgroup
3296 \noexpand\define@key{Hyp}{#1}[]{}%
3297 \noexpand\@ifundefined{HyLang@#1@done}{%
3298 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3299 ##3%
3300 \noexpand\@namedef{HyLang@#1@done}{}%
3301 }{}%
3302 }%
3303 }%
3304 \expandafter\x\csname extras#1\expandafter\endcsname
3305 \csname HyLang@#2\endcsname
3306 }
3307 \HyLang@DeclareLang{english}{english}{}
3308 \HyLang@DeclareLang{UKenglish}{english}{}
3309 \HyLang@DeclareLang{british}{english}{}
3310 \HyLang@DeclareLang{USenglish}{english}{}
3311 \HyLang@DeclareLang{american}{english}{}
3312 \HyLang@DeclareLang{german}{german}{}
3313 \HyLang@DeclareLang{austrian}{german}{}
3314 \HyLang@DeclareLang{ngerman}{german}{}
3315 \HyLang@DeclareLang{naustrian}{german}{}
3316 \HyLang@DeclareLang{nswissgerman}{german}{}
3317 \HyLang@DeclareLang{swissgerman}{german}{}
3318 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3319 \HyLang@DeclareLang{brazil}{portuges}{}
3320 \HyLang@DeclareLang{brazilian}{portuges}{}
3321 \HyLang@DeclareLang{portuguese}{portuges}{}
3322 \HyLang@DeclareLang{spanish}{spanish}{}
3323 \HyLang@DeclareLang{catalan}{catalan}{}
3324 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3325 \HyLang@DeclareLang{french}{french}{}
3326 \HyLang@DeclareLang{frenchb}{french}{}
3327 \HyLang@DeclareLang{francais}{french}{}
3328 \HyLang@DeclareLang{acadian}{french}{}
3329 \HyLang@DeclareLang{canadien}{french}{}
3330 \HyLang@DeclareLang{italian}{italian}{}
3331 \HyLang@DeclareLang{magyar}{magyar}{}
3332 \HyLang@DeclareLang{hungarian}{magyar}{}
3333 \HyLang@DeclareLang{greek}{greek}{}
3334 \HyLang@DeclareLang{dutch}{dutch}{}
3335 \HyLang@DeclareLang{norsk}{norsk}{}
3336 \HyLang@DeclareLang{norwegian}{norsk}{}
3337 \HyLang@DeclareLang{danish}{danish}{}
3338 \HyLang@DeclareLang{swedish}{swedish}{}

```

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

```

3339 \DeclareVoidOption{vietnamese}{%

```

```

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

```

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

```

3355 \DeclareVoidOption{arabic}{-%
3356   \Hy@AtEndOfPackage{%
3357     \@ifundefined{T@PU}{-}{%
3358       \input{puarenc.def}%
3359     }%
3360   }%
3361 }

```

## 13 Options to change appearance of links

Colouring links at the L<sup>A</sup>T<sub>E</sub>X level is useful for debugging, perhaps.

```

3362 \define@key{Hyp}{colorlinks}[true]{%
3363   \Hy@boolkey{colorlinks}{#1}%
3364 }
3365 \DeclareVoidOption{hidelinks}{-%
3366   \Hy@colorlinksfalse
3367   \Hy@ocgcolorlinksfalse
3368   \Hy@frenchlinksfalse
3369   \def\Hy@colorlink##1{\begingroup}%
3370   \def\Hy@endcolorlink{\endgroup}%
3371   \def\@pdfborder{0 0 0}%
3372   \let\@pdfborderstyle\ltx@empty
3373 }
3374 \define@key{Hyp}{ocgcolorlinks}[true]{%
3375   \Hy@boolkey{ocgcolorlinks}{#1}%
3376 }
3377 \Hy@AtBeginDocument{%
3378   \begingroup
3379   \@ifundefined{OBJ@OCG@view}{%
3380     \ifHy@ocgcolorlinks
3381       \Hy@Warning{%
3382         Driver does not support `ocgcolorlinks',\MessageBreak
3383         using `colorlinks' instead%
3384       }%
3385     \fi
3386   }{}%

```

```

3387 \endgroup
3388 }
3389 \define@key{Hyp}{frenchlinks}[true]{%
3390 \Hy@boolkey{frenchlinks}{#1}%
3391 }

```

## 14 Bookmarking

```

3392 \begingroup\expandafter\expandafter\expandafter\endgroup
3393 \expandafter\ifx\csname chapter\endcsname\relax
3394 \def\toclevel@part{0}%
3395 \else
3396 \def\toclevel@part{-1}%
3397 \fi
3398 \def\toclevel@chapter{0}
3399 \def\toclevel@section{1}
3400 \def\toclevel@subsection{2}
3401 \def\toclevel@subsubsection{3}
3402 \def\toclevel@paragraph{4}
3403 \def\toclevel@subparagraph{5}
3404 \def\toclevel@figure{0}
3405 \def\toclevel@table{0}

3406 \define@key{Hyp}{bookmarks}[true]{%
3407 \Hy@boolkey{bookmarks}{#1}%
3408 }

3409 \define@key{Hyp}{bookmarksopen}[true]{%
3410 \Hy@boolkey{bookmarksopen}{#1}%
3411 }

```

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.

```

3412 \let\Hy@bookmarksdepth\c@tocdepth
3413 \define@key{Hyp}{bookmarksdepth}[]{%
3414 \begingroup
3415 \edef\x{#1}%
3416 \ifx\x\empty
3417 \global\let\Hy@bookmarksdepth\c@tocdepth
3418 \else
3419 \@ifundefined{toclevel@\x}{%
3420 \@onelevel@sanitize\x
3421 \edef\y{\expandafter\@car\x\@nil}%
3422 \ifcase 0\expandafter\ifx\y-1\fi
3423 \expandafter\ifnum\expandafter`\y>47 %
3424 \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax

```

```

3425     \Hy@Warning{Unknown document division name (\x)}%
3426     \else
3427         \setbox\z@=\hbox{%
3428             \count@=\x
3429             \xdef\Hy@bookmarksdepth{\the\count@}%
3430         }%
3431     \fi
3432 }{%
3433     \setbox\z@=\hbox{%
3434         \count@=\csname toplevel@\x\endcsname
3435         \xdef\Hy@bookmarksdepth{\the\count@}%
3436     }%
3437 }%
3438 \fi
3439 \endgroup
3440 }

```

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

```

3441 \define@key{Hyp}{bookmarksopenlevel}{%
3442   \def\@bookmarksopenlevel{#1}%
3443 }
3444 \def\@bookmarksopenlevel{\maxdimen}
3445 % `bookmarkstype' to specify which `toc' file to mimic
3446 \define@key{Hyp}{bookmarkstype}{%
3447   \def\Hy@bookmarkstype{#1}%
3448 }
3449 \def\Hy@bookmarkstype{toc}

```

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

```

3450 \define@key{Hyp}{bookmarksnumbered}[true]{%
3451   \Hy@boolkey{bookmarksnumbered}{#1}%
3452 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3453 \define@key{Hyp}{CJKbookmarks}[true]{%
3454   \Hy@boolkey{CJKbookmarks}{#1}%
3455 }
3456 \def\Hy@temp#1{%
3457   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3458 }
3459 \def\Hy@@temp#1#2#3{%
3460   \define@key{Hyp}{#2color}{%
3461     \HyColor@HyperrefColor{##1}#1%
3462   }%
3463   \def#1{#3}%
3464 }
3465 \Hy@temp{link}{red}
3466 \Hy@temp{anchor}{black}
3467 \Hy@temp{cite}{green}
3468 \Hy@temp{file}{cyan}
3469 \Hy@temp{url}{magenta}
3470 \Hy@temp{menu}{red}
3471 \Hy@temp{run}{\@filecolor}
3472 \define@key{Hyp}{pagecolor}{%

```



```

3473 \Hy@WarningPageColor
3474 }
3475 \def\Hy@WarningPageColor{%
3476 \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3477 \global\let\Hy@WarningPageColor\relax
3478 }
3479 \define@key{Hyp}{allcolors}{%
3480 \HyColor@HyperrefColor{#1}\@linkcolor
3481 \HyColor@HyperrefColor{#1}\@anchorcolor
3482 \HyColor@HyperrefColor{#1}\@citecolor
3483 \HyColor@HyperrefColor{#1}\@filecolor
3484 \HyColor@HyperrefColor{#1}\@urlcolor
3485 \HyColor@HyperrefColor{#1}\@menucolor
3486 \HyColor@HyperrefColor{#1}\@runcolor
3487 }
3488 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3489 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3490 \let\@baseurl\@empty
3491 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3492 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3493 \hyperlinkfileprefix{file:}

```

## 15 PDF-specific options

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

```

3494 \let\@pdfpagetransition\relax
3495 \define@key{Hyp}{pdfpagetransition}{%
3496 \def\@pdfpagetransition{#1}%
3497 }

```

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

```

3498 \let\@pdfpageduration\relax
3499 \define@key{Hyp}{pdfpageduration}{%
3500 \def\@pdfpageduration{#1}%
3501 \Hy@Match\@pdfpageduration}{%
3502 ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3503 }{}{%
3504 \Hy@Warning{%
3505   Invalid value `'\@pdfpageduration'\MessageBreak
3506   of option `pdfpageduration'\MessageBreak
3507   is replaced by an empty value%
3508 }%
3509 \let\@pdfpageduration\ltx@empty
3510 }%
3511 }

```

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).

```

3512 \def\Hy@ColorList{cite,file,link,menu,run,url}
3513 \@for\Hy@temp:=\Hy@ColorList\do{%
3514   \edef\Hy@temp{%
3515     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3516       \noexpand\HyColor@HyperrefBorderColor
3517       {##1}%
3518       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3519       {hyperref}%
3520       {\Hy@temp bordercolor}%
3521     }%
3522   }%
3523   \Hy@temp
3524 }
3525 \define@key{Hyp}{pagebordercolor}{%
3526   \Hy@WarningPageBorderColor
3527 }
3528 \def\Hy@WarningPageBorderColor{%
3529   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3530   \global\let\Hy@WarningPageBorderColor\relax
3531 }
3532 \define@key{Hyp}{allbordercolors}{%
3533   \def\Hy@temp##1##2{%
3534     \HyColor@HyperrefBorderColor{##1}{##1}{hyperref}{##2bordercolor}%
3535   }%
3536   \Hy@temp\@citebordercolor{cite}%
3537   \Hy@temp\@filebordercolor{file}%
3538   \Hy@temp\@linkbordercolor{link}%
3539   \Hy@temp\@menubordercolor{menu}%
3540   \Hy@temp\@runbordercolor{run}%
3541   \Hy@temp\@urlbordercolor{url}%
3542 }
3543 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{##1}}
3544 \Hy@DefNameKey{pdfhighlight}{%
3545   \do{/I}{Invert}%
3546   \do{/N}{None}%
3547   \do{/O}{Outline}%
3548   \do{/P}{Push}%
3549 }
3550 \def\Hy@setpdfhighlight{%
3551   \ifx\@pdfhighlight\@empty
3552     \else
3553       /H\@pdfhighlight
3554     \fi
3555 }
3556 \define@key{Hyp}{pdfborder}{%
3557   \let\Hy@temp\@pdfborder
3558   \def\@pdfborder{##1}%
3559   \Hy@Match\@pdfborder{}{%

```

```

3560  ^\HyPat@NonNegativeReal/ %
3561  \HyPat@NonNegativeReal/ %
3562  \HyPat@NonNegativeReal/%
3563  ( ?\[ \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3564  }{}{%
3565  \Hy@Warning{%
3566      Invalid value ` \@pdfborder'\MessageBreak
3567      for option `pdfborder'.\MessageBreak
3568      Option setting is ignored%
3569  }%
3570  \let\@pdfborder\Hy@temp
3571  }%
3572  }
3573  \define@key{Hyp}{pdfborderstyle}{%
3574  \let\Hy@temp\@pdfborderstyle
3575  \def\@pdfborderstyle{#1}%
3576  \Hy@Match\@pdfborderstyle{}{%
3577      ^%
3578      ( */Type */Border%
3579      | */W +\HyPat@NonNegativeReal/%
3580      | */S */[SDBIU]%
3581      | */D *[ ( \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3582      )* *$%
3583  }{}{%
3584  \Hy@Warning{%
3585      Invalid value ` \@pdfborderstyle'\MessageBreak
3586      for option `pdfborderstyle'.\MessageBreak
3587      Option setting is ignored%
3588  }%
3589  \let\@pdfborderstyle\Hy@temp
3590  }%
3591  }
3592  \def\Hy@setpdfborder{%
3593  \ifx\@pdfborder\@empty
3594  \else
3595      /Border[\@pdfborder]%
3596  \fi
3597  \ifx\@pdfborderstyle\@empty
3598  \else
3599      /BS<<\@pdfborderstyle>>%
3600  \fi
3601  }
3602  \Hy@DefNameKey{pdfpagemode}{%
3603  \do{UseNone}{}%
3604  \do{UseOutlines}{}%
3605  \do{UseThumbs}{}%
3606  \do{FullScreen}{}%
3607  \do{UseOC}{PDF 1.5}%
3608  \do{UseAttachments}{PDF 1.6}%
3609  }
3610  \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3611  \do{UseNone}{}%
3612  \do{UseOutlines}{}%
3613  \do{UseThumbs}{}%

```

```

3614 \do{FullScreen}{}%
3615 \do{UseOC}{PDF 1.5}%
3616 \do{UseAttachments}{PDF 1.6}%
3617 }
3618 \Hy@DefNameKey{pdfdirection}{%
3619 \do{L2R}{Left to right}%
3620 \do{R2L}{Right to left}%
3621 }
3622 \Hy@DefNameKey{pdfviewarea}{%
3623 \do{MediaBox}{}%
3624 \do{CropBox}{}%
3625 \do{BleedBox}{}%
3626 \do{TrimBox}{}%
3627 \do{ArtBox}{}%
3628 }
3629 \Hy@DefNameKey{pdfviewclip}{%
3630 \do{MediaBox}{}%
3631 \do{CropBox}{}%
3632 \do{BleedBox}{}%
3633 \do{TrimBox}{}%
3634 \do{ArtBox}{}%
3635 }
3636 \Hy@DefNameKey{pdfprintarea}{%
3637 \do{MediaBox}{}%
3638 \do{CropBox}{}%
3639 \do{BleedBox}{}%
3640 \do{TrimBox}{}%
3641 \do{ArtBox}{}%
3642 }
3643 \Hy@DefNameKey{pdfprintclip}{%
3644 \do{MediaBox}{}%
3645 \do{CropBox}{}%
3646 \do{BleedBox}{}%
3647 \do{TrimBox}{}%
3648 \do{ArtBox}{}%
3649 }
3650 \Hy@DefNameKey{pdfprintscaling}{%
3651 \do{AppDefault}{}%
3652 \do{None}{}%
3653 }
3654 \Hy@DefNameKey{pdfduplex}{%
3655 \do{Simplex}{}%
3656 \do{DuplexFlipShortEdge}{}%
3657 \do{DuplexFlipLongEdge}{}%
3658 }
3659 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3660 \do{true}{}%
3661 \do{false}{}%
3662 }
3663 \define@key{Hyp}{pdfprintpagerange}{%
3664 \def\@pdfprintpagerange{#1}%
3665 }
3666 \Hy@DefNameKey{pdfnumcopies}{%
3667 \do{2}{two copies}%

```

```

3668 \do{3}{three copies}%
3669 \do{4}{four copies}%
3670 \do{5}{five copies}%
3671 }

3672 \define@key{Hyp}{pdfusetitle}[true]{%
3673   \Hy@boolkey{pdfusetitle}{#1}%
3674 }
3675 \def\HyXeTeX@CheckUnicode{%
3676   \ifxetex
3677     \ifHy@unicode
3678     \else
3679       \Hy@WarningNoLine{%
3680         XeTeX driver only supports unicode.\MessageBreak
3681         Enabling option `unicode'%
3682       }%
3683     \kvsetkeys{Hyp}{unicode}%
3684   \fi
3685 \else
3686   \let\HyXeTeX@CheckUnicode\relax
3687 \fi
3688 }
3689 \def\HyPsd@PrerenderUnicode#1{%
3690   \begingroup
3691     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3692     \else
3693       \sbox0{%
3694         \let\GenericInfo\@gobbletwo
3695         \let\GenericWarning\@gobbletwo
3696         \let\GenericError\@gobblefour
3697         \PrerenderUnicode{#1}%
3698       }%
3699     \fi
3700   \endgroup
3701 }
3702 \define@key{Hyp}{pdftitle}{%
3703   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3704   \HyXeTeX@CheckUnicode
3705   \HyPsd@PrerenderUnicode{#1}%
3706   \pdfstringdef\@pdftitle{#1}%
3707 }
3708 \define@key{Hyp}{pdfauthor}{%
3709   \AddToDocumentProperties[hyperref]{pdfauthor}{#1}%
3710   \HyXeTeX@CheckUnicode
3711   \HyPsd@PrerenderUnicode{#1}%
3712   \pdfstringdef\@pdfauthor{#1}%
3713 }
3714 \define@key{Hyp}{pdfproducer}{%
3715   \AddToDocumentProperties[hyperref]{pdfproducer}{#1}%
3716   \HyXeTeX@CheckUnicode
3717   \HyPsd@PrerenderUnicode{#1}%
3718   \pdfstringdef\@pdfproducer{#1}%
3719 }
3720 \define@key{Hyp}{pdfcreator}{%
3721   \AddToDocumentProperties[hyperref]{pdfcreator}{#1}%

```

```

3722 \HyXeTeX@CheckUnicode
3723 \HyPsd@PrerenderUnicode{#1}%
3724 \pdfstringdef\@pdfcreator{#1}%
3725 }
3726 \define@key{Hyp}{addtopdfcreator}{%
3727 \HyXeTeX@CheckUnicode
3728 \HyPsd@PrerenderUnicode{#1}%
3729 \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3730 }
3731 \define@key{Hyp}{pdfcreationdate}{%
3732 \begingroup
3733 \Hy@unicodetfalse
3734 \pdfstringdef\@pdfcreationdate{#1}%
3735 \endgroup
3736 }
3737 \define@key{Hyp}{pdfmoddate}{%
3738 \begingroup
3739 \Hy@unicodetfalse
3740 \pdfstringdef\@pdfmoddate{#1}%
3741 \endgroup
3742 }
3743 \define@key{Hyp}{pdfsubject}{%
3744 \AddToDocumentProperties[hyperref]{pdfsubject}{#1}%
3745 \HyXeTeX@CheckUnicode
3746 \HyPsd@PrerenderUnicode{#1}%
3747 \pdfstringdef\@pdfsubject{#1}%
3748 }
3749 \define@key{Hyp}{pdfkeywords}{%
3750 \AddToDocumentProperties[hyperref]{pdfkeywords}{#1}%
3751 \HyXeTeX@CheckUnicode
3752 \HyPsd@PrerenderUnicode{#1}%
3753 \pdfstringdef\@pdfkeywords{#1}%
3754 }
3755 \define@key{Hyp}{pdftrapped}{%
3756 \lowercase{\edef\Hy@temp{#1}}%
3757 \ifx\Hy@temp\HyInfo@trapped@true
3758 \def\@pdftrapped{True}%
3759 \else
3760 \ifx\Hy@temp\HyInfo@trapped@false
3761 \def\@pdftrapped{False}%
3762 \else
3763 \ifx\Hy@temp\HyInfo@trapped@unknown
3764 \def\@pdftrapped{Unknown}%
3765 \else
3766 \ifx\Hy@temp\@empty
3767 \else
3768 \Hy@Warning{%
3769   Unsupported value `#1'\MessageBreak
3770   for option `pdftrapped'%
3771 }%
3772 \fi
3773 \def\@pdftrapped{}%
3774 \fi
3775 \fi

```

```

3776 \fi
3777 }
3778 \def\HyInfo@trapped@true{true}
3779 \def\HyInfo@trapped@false{false}
3780 \def\HyInfo@trapped@unknown{unknown}
3781 \def\HyInfo@TrappedUnsupported{%
3782   \ifx\@pdftrapped\@empty
3783   \else
3784     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3785     \gdef\HyInfo@TrappedUnsupported{}%
3786   \fi
3787 }
3788 \define@key{Hyp}{pdfinfo}{%
3789   \kvsetkeys{pdfinfo}{#1}%
3790 }
3791 \def\Hy@temp#1{%
3792   \lowercase{\Hy@temp@A{#1}}{#1}%
3793 }
3794 \def\Hy@temp@A#1#2{%
3795   \define@key{pdfinfo}{#2}{%
3796     \hypersetup{pdf#1={#1}}%
3797   }%
3798 }
3799 \Hy@temp{Title}
3800 \Hy@temp{Author}
3801 \Hy@temp{Keywords}
3802 \Hy@temp{Subject}
3803 \Hy@temp{Creator}
3804 \Hy@temp{Producer}
3805 \Hy@temp{CreationDate}
3806 \Hy@temp{ModDate}
3807 \Hy@temp{Trapped}
3808 \newif\ifHyInfo@AddonUnsupported
3809 \kv@set@family@handler{pdfinfo}{%
3810   \HyInfo@AddonHandler{#1}{#2}%
3811 }
3812 \let\HyInfo@do\relax
3813 \def\HyInfo@AddonHandler#1#2{%
3814   \ifx\kv@value\relax
3815     \Hy@Warning{%
3816       Option 'pdfinfo': ignoring key '\kv@key' without value%
3817     }%
3818   \else
3819     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3820     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3821     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3822     \ifHyInfo@AddonUnsupported
3823       \Hy@Warning{%
3824         This driver does not support additional\MessageBreak
3825         information entries, therefore\MessageBreak
3826         '\kv@key' is ignored%
3827       }%
3828     \else
3829       \def\HyInfo@tmp##1{%

```

```

3830 \kv@define@key{pdfinfo}{###1}{%
3831 \HyXeTeX@CheckUnicode
3832 \HyPsd@PrerenderUnicode{####1}%
3833 \pdfstringdef\HyInfo@Value{####1}%
3834 \global\expandafter
3835 \let\csname HyInfo@Value@##1\endcsname
3836 \HyInfo@Value
3837 }%
3838 }%
3839 \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3840 \global\expandafter
3841 \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3842 \csname KV@pdfinfo@\HyInfo@Key\endcsname
3843 \xdef\HyInfo@AddonList{%
3844 \HyInfo@AddonList
3845 \HyInfo@do{\HyInfo@Key}%
3846 }%
3847 \expandafter\kv@parse@normalized\expandafter{%
3848 \HyInfo@Key={#2}%
3849 }{%
3850 \kv@processor@default{pdfinfo}%
3851 }%
3852 \fi
3853 \else
3854 \expandafter\kv@parse@normalized\expandafter{%
3855 \HyInfo@Key={#2}%
3856 }{%
3857 \kv@processor@default{pdfinfo}%
3858 }%
3859 \fi
3860 \fi
3861 }
3862 \def\HyInfo@GenerateAddons{%
3863 \ifHyInfo@AddonUnsupported
3864 \def\HyInfo@Addons{}%
3865 \else
3866 \begingroup
3867 \toks@{}%
3868 \def\HyInfo@do##1{%
3869 \EdefEscapeName\HyInfo@Key{##1}%
3870 \edef\x{%
3871 \toks@{%
3872 \the\toks@
3873 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3874 }%
3875 }%
3876 \x
3877 }%
3878 \HyInfo@AddonList
3879 \edef\x{\endgroup
3880 \def\noexpand\HyInfo@Addons{\the\toks@}%
3881 }%
3882 \x
3883 \fi

```



```

3884 }
3885 \global\let\HyInfo@AddonList\ltx@empty

3886 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3887 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3888 \let\setpdfinkmargin\@gobble
3889 \def\calculate@pdfview#1 #2\{%
3890   \def\@pdfview{#1}%
3891   \ifx\#2\%
3892     \def\@pdfviewparams{ -32768}%
3893   \else
3894     \def\@pdfviewparams{ #2}%
3895   \fi
3896 }
3897 \def\Hy@number#1{%
3898   \the\numexpr#1\relax
3899 }%
3900 \define@key{Hyp}{pdfstartpage}{%
3901   \ifx\#1\%
3902     \let\@pdfstartpage\ltx@empty
3903   \else
3904     \edef\@pdfstartpage{\Hy@number{#1}}%
3905   \fi
3906 }%
3907 \define@key{Hyp}{pdfstartview}{%
3908   \ifx\#1\%
3909     \let\@pdfstartview\ltx@empty
3910   \else
3911     \def\@pdfstartview{/#1}%
3912   \fi
3913 }
3914 \def\HyPat@NonNegativeReal/{%
3915   \ *([0-9]+\.[0-9]*|([0-9]*\.[0-9]+) *)%
3916 }
3917 \define@key{Hyp}{pdfremotestartview}{%
3918   \ifx\#1\%
3919     \def\@pdfremotestartview{/Fit}%
3920   \else
3921     \edef\@pdfremotestartview{#1}%
3922     \Hy@Match\@pdfremotestartview{%
3923       ^XYZ(%
3924         ()| %
3925         (null|-\HyPat@NonNegativeReal/) %
3926         (null|-\HyPat@NonNegativeReal/) %
3927         (null|\HyPat@NonNegativeReal/)%
3928       )| % end of "XYZ"
3929       Fit(%
3930         ()| %
3931         B| %
3932         (H|V|BH|BV)(%
3933           ()| %
3934           (null|\HyPat@NonNegativeReal/)%
3935         )| %
3936         R %
3937         \HyPat@NonNegativeReal/ %

```

```

3938         \HyPat@NonNegativeReal/ %
3939         \HyPat@NonNegativeReal/ %
3940         \HyPat@NonNegativeReal/%
3941     )% end of "Fit"
3942 )$%
3943 }{}{%
3944 \Hy@Warning{%
3945     Invalid value ` \@pdfremotestartview'\MessageBreak
3946     of `pdfremotestartview'\MessageBreak
3947     is replaced by `Fit'%
3948 }%
3949 \let\@pdfremotestartview\@empty
3950 }%
3951 \ifx\@pdfremotestartview\@empty
3952 \def\@pdfremotestartview{/Fit}%
3953 \else
3954 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3955 \fi
3956 \fi
3957 }
3958 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3959 \define@key{Hyp}{pdftoolbar}[true]{%
3960 \Hy@boolkey{pdftoolbar}{#1}%
3961 }
3962 \define@key{Hyp}{pdfmenubar}[true]{%
3963 \Hy@boolkey{pdfmenubar}{#1}%
3964 }
3965 \define@key{Hyp}{pdfwindowui}[true]{%
3966 \Hy@boolkey{pdfwindowui}{#1}%
3967 }
3968 \define@key{Hyp}{pdffitwindow}[true]{%
3969 \Hy@boolkey{pdffitwindow}{#1}%
3970 }
3971 \define@key{Hyp}{pdfcenterwindow}[true]{%
3972 \Hy@boolkey{pdfcenterwindow}{#1}%
3973 }
3974 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3975 \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3976 }
3977 \define@key{Hyp}{pdfa}[true]{%
3978 \Hy@boolkey{pdfa}{#1}%
3979 }
3980 \define@key{Hyp}{pdfnewwindow}[true]{%
3981 \def\Hy@temp{#1}%
3982 \ifx\Hy@temp\@empty
3983 \Hy@pdfnewwindowsetfalse
3984 \else
3985 \Hy@pdfnewwindowsettrue
3986 \Hy@boolkey{pdfnewwindow}{#1}%
3987 \fi
3988 }
3989 \def\Hy@SetNewWindow{%
3990 \ifHy@pdfnewwindowset
3991 /NewWindow %

```

```

3992 \ifHy@pdfnewwindow true\else false\fi
3993 \fi
3994 }
3995 \Hy@DefNameKey{pdfpagelayout}{%
3996 \do{SinglePage}{}%
3997 \do{OneColumn}{}%
3998 \do{TwoColumnLeft}{}%
3999 \do{TwoColumnRight}{}%
4000 \do{TwoPageLeft}{PDF 1.5}%
4001 \do{TwoPageRight}{PDF 1.5}%
4002 }
4003 \define@key{Hyp}{pdflang}{%
4004 \edef\@pdflang{#1}%
4005 \def\Hy@temp{\relax}%
4006 \ifx\@pdflang\Hy@temp
4007 \let\@pdflang\relax
4008 \fi
4009 \ifx\@pdflang\relax
4010 \else
4011 \ifx\@pdflang\ltx@empty
4012 \else

```

Test according to ABNF of RFC 3066.

```

4013 \Hy@Match\@pdflang{icase}{%
4014 ~%
4015 [a-z]{1,8}%
4016 (-[a-z0-9]{1,8})*%
4017 $%
4018 }{%

```

Test according to ABNF of RFC 5646.

```

4019 \Hy@Match\@pdflang{icase}{%
4020 ~%
4021 (%
4022 % langtag
4023 (% language
4024 [a-z]{2,3}%
4025 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4026 |[a-z]{4}% reserved for future use
4027 |[a-z]{5,8}% registered language subtag
4028 )%
4029 (-[a-z]{4})?% script
4030 (-([a-z]{2}|[0-9]{3}))?% region
4031 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4032 (-[0-9a-wyz](-[a-z0-9]{2,8})+)?% extension
4033 (-x(-[a-z0-9]{1,8})+)?% privateuse
4034 % privateuse
4035 |x(-[a-z0-9]{1,8})+%
4036 % grandfathered/irregular
4037 |en-GB-oed%
4038 |i-(ami|bnn|default|enochian|hak|klinton|lux|
4039 mingo|navajo|pwn|tao|tay|tsu)%
4040 |sgn-(BE-FR|BE-NL|CH-DE)%
4041 % grandfathered/regular
4042 |art-lojban%

```

```

4043         |cel-gaulish%
4044         |no-(bok|nyn)%
4045         |zh-(guoyu|hakka|min|min-nan|xiang)%
4046     )%
4047     $%
4048     }{%

```

Test for unique extensions.

```

4049     \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{}%
4050     \Hy@Match\@pdflang{icase}{~x-}{}%
4051     % remove privateuse
4052     \edef\Hy@temp{-\@pdflang}%
4053     \Hy@Match\Hy@temp{icase}{}%
4054     ~%
4055     (%
4056         (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4057     )%
4058     -x-%
4059     }{%
4060     \edef\Hy@temp{%
4061         \expandafter\strip@prefix\pdfastmatch1%
4062     }%
4063     }{}%
4064     \Hy@Match\Hy@temp{icase}{}%
4065     (-[a-wyz0-9]-).*\ltx@backslashchar1%
4066     }{%
4067     \Hy@Warning{%
4068         Invalid language identifier `#1'\MessageBreak
4069         for option `pdfang', because it violates\MessageBreak
4070         well-formedness defined in RFC 4646\MessageBreak
4071         by duplicate singleton subtags%
4072     }%
4073     \let\@pdfang\relax
4074     }{}%
4075     }%
4076     }{}%

```

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

```

4077     \ifx\@pdfang\relax
4078     \else
4079     \Hy@Match\@pdfang{icase}{%
4080     ~%
4081     [a-zA-Z]{2}-%
4082     (%
4083         aa|AA|%
4084         [qQ][m-zA-Z]|%
4085         [xX][a-zA-Z]|%
4086         zz|ZZ%
4087     )%
4088     (-|$)%
4089     }{%
4090     \Hy@Warning{%
4091         Invalid language identifier `#1'\MessageBreak
4092         for option `pdfang' because of invalid country code%
4093     \MessageBreak

```

```

4094         in second subtag (RFC 3066)%
4095     }%
4096     \let\@pdflang\relax
4097 }{}%
4098 \fi
4099 }{%
4100 \Hy@Warning{%
4101     Invalid language identifier `#1'\MessageBreak
4102     for option `pdflang', because it violates\MessageBreak
4103     well-formedness defined in RFC 5646%
4104 }%
4105 \let\@pdflang\relax
4106 }%
4107 }{%
4108 \Hy@Warning{%
4109     Invalid language identifier `#1'\MessageBreak
4110     for option `pdflang' (RFC 3066)%
4111 }%
4112 \let\@pdflang\relax
4113 }%
4114 \fi
4115 \fi
4116 }
4117 \define@key{Hyp}{pdfpagelabels}[true]{%
4118 \Hy@boolkey{pdfpagelabels}{#1}%
4119 }
4120 \define@key{Hyp}{pdfescapeform}[true]{%
4121 \Hy@boolkey{pdfescapeform}{#1}%
4122 }

```

Default values:

```

4123 \def\@linkbordercolor{1 0 0}
4124 \def\@urlbordercolor{0 1 1}
4125 \def\@menubordercolor{1 0 0}
4126 \def\@filebordercolor{0 .5 .5}
4127 \def\@runbordercolor{0 .7 .7}
4128 \def\@citebordercolor{0 1 0}
4129 \def\@pdfhighlight{/I}
4130 \let\@pdftitle\ltx@empty
4131 \let\@pdfauthor\ltx@empty
4132 \let\@pdfproducer\relax
4133 \def\@pdfcreator{LaTeX with hyperref}
4134 \let\@pdfcreationdate\ltx@empty
4135 \let\@pdfmoddate\ltx@empty
4136 \let\@pdfsubject\ltx@empty
4137 \let\@pdfkeywords\ltx@empty
4138 \let\@pdftrapped\ltx@empty
4139 \let\@pdfpagescrop\ltx@empty
4140 \def\@pdfstartview{/Fit}
4141 \def\@pdfremotestartview{/Fit}
4142 \def\@pdfstartpage{1}
4143 \let\@pdfprintpagerange\ltx@empty
4144 \let\@pdflang\relax
4145 \let\PDF@SetupDoc\@empty
4146 \let\PDF@FinishDoc\@empty

```

```

4147 \let\phantomsection\@empty
4148 \let\special@paper\@empty
4149 \def\HyperDestNameFilter#1{#1}
4150 \Hy@AtBeginDocument{%
4151   \begingroup
4152     \edef\x{\ifdim\stockheight>\z@ \stockheight\else\paperheight\fi}%
4153     \dimen@=\x\relax
4154     \ifdim\dimen@>\z@
4155       \else
4156         \dimen@=11in\relax
4157         \Hy@WarningNoLine{%
4158           Height of page (\expandafter\string\x) %
4159           is invalid (\the\x),\MessageBreak
4160           using 11in%
4161         }%
4162       \fi
4163       \dimen@=0.99626401\dimen@
4164       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4165     \endgroup
4166 }
4167 \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.

```

4168 \let\hyper@normalise\ExecuteOptions
4169 \let\ExecuteOptions\hypersetup
4170 \Hy@RestoreCatcodes
4171 \InputIfFileExists{hyperref.cfg}{-}{-}
4172 \Hy@SetCatcodes
4173 \let\ExecuteOptions\hyper@normalise
4174 \ifx\Hy@MaybeStopNow\relax
4175 \else
4176   \Hy@stoppeearlytrue
4177   \expandafter\Hy@MaybeStopNow
4178 \fi
4179 \Hy@stoppeearlyfalse

```

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.

```

4180 \SetupKeyvalOptions{family=Hyp}
4181 \DeclareLocalOptions{%
4182   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4183 }

```

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

```

4184 \@ifpackagewith{hyperref}{tex4ht}{%
4185 }{%
4186   \@ifpackageloaded{tex4ht}{%
4187     \PassOptionsToPackage{tex4ht}{hyperref}%
4188   }{%
4189     \ltx@ifundefined{HCode}{%
4190     }{%
4191       \begingroup
4192       \def\Hy@pkg{tex4ht}%

```

```

4193 \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4194 \def\Hy@param{#2#3}%
4195 \ifx\Hy@param\ltx@empty
4196 \expandafter\ltx@gobble
4197 \else
4198 \def\Hy@param{#3}%
4199 \ifx\Hy@param\Hy@pkg
4200 \PassOptionsToPackage{#2}{tex4ht}%
4201 \expandafter\expandafter\expandafter\@gobble
4202 \else
4203 \expandafter\expandafter\expandafter\ltx@firstofone
4204 \fi
4205 \fi
4206 {\Hy@temp@A#4\Hy@NIL}%
4207 }%
4208 \expandafter
4209 \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4210 \endgroup
4211 \PassOptionsToPackage{tex4ht}{hyperref}%
4212 }%
4213 }%
4214 }

4215 \let\ReadBookmarks\relax
4216 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4217 \def\Hy@xspace@end{}
4218 \ltx@ifundefined{xspaceaddexceptions}{%
4219 \Hy@AtBeginDocument{%
4220 \ltx@ifundefined{xspaceaddexceptions}{%
4221 }{%
4222 \def\Hy@xspace@end{%
4223 \ltx@gobble{end for xspace}%
4224 }%
4225 \xspaceaddexceptions{%
4226 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4227 }%
4228 }%
4229 }%
4230 }{%
4231 \def\Hy@xspace@end{%
4232 \ltx@gobble{end for xspace}%
4233 }%
4234 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4235 }

```

## 15.2 Option draft

```

4236 \Hy@AtBeginDocument{%
4237 \ifHy@draft
4238 \let\hyper@@anchor\@gobble
4239 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%

```

```

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

```

### 15.3 PDF/A

```

4258 \Hy@DisableOption{pdfa}
4259 \ifHy@pdfa
4260 \ifnum \Hy@pdf@majorminor@version< 104
4261 \kvsetkeys{Hyp}{pdfversion=1.4}%
4262 \fi
4263 \Hy@DisableOption{pdfversion}%
4264 \def\Hy@Acrobatmenu#1#2{%
4265 \leavevmode
4266 \begingroup
4267 \edef\x{#1}%
4268 \@onelevel@sanitize\x
4269 \ifx\x\Hy@NextPage
4270 \let\y=Y%
4271 \else
4272 \ifx\x\Hy@PrevPage
4273 \let\y=Y%
4274 \else
4275 \ifx\x\Hy@FirstPage
4276 \let\y=Y%
4277 \else
4278 \ifx\x\Hy@LastPage
4279 \let\y=Y%
4280 \else
4281 \let\y=N%
4282 \fi
4283 \fi
4284 \fi
4285 \fi
4286 \expandafter\endgroup
4287 \ifx\y Y%
4288 \else
4289 \Hy@Error{%
4290 PDF/A: Named action `#1' is not permitted%
4291 }\@ehc

```



```

4292     {#2}%
4293     \expandafter\@gobble
4294     \fi
4295 }%
4296 \def\Hy@temp#1{%
4297   \expandafter\def\csname Hy@#1\endcsname{#1}%
4298   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4299   }%
4300   \Hy@temp{NextPage}%
4301   \Hy@temp{PrevPage}%
4302   \Hy@temp{FirstPage}%
4303   \Hy@temp{LastPage}%
4304 \else
4305 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4306 \fi

```

## 15.4 Patch for babel's \texttilde

Babel does not define `\texttilde` in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, `\texttilde` is defined in babel manner.

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

```

4307 \def\Hy@wrapper@babel#1#2{%
4308   \begingroup
4309     \Hy@safe@activestrue
4310     \set@display@protect
4311     \edef\x{#2}%
4312     \@onelevel@sanitize\x
4313     \toks@{#1}%
4314     \edef\x{\endgroup\the\toks@{\x}}%
4315     \x
4316 }
4317 \def\Hy@WrapperDef#1{%
4318   \begingroup
4319     \escapechar=\m@ne
4320     \xdef\Hy@gtemp{%
4321       \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4322     }%
4323   \endgroup
4324   \edef#1{%
4325     \noexpand\Hy@wrapper@babel
4326     \expandafter\noexpand\Hy@gtemp
4327   }%
4328   \expandafter\def\Hy@gtemp
4329 }
4330 \ifHy@hyperfigures
4331   \Hy@Info{Hyper figures ON}%
4332 \else
4333   \Hy@Info{Hyper figures OFF}%
4334 \fi
4335 \ifHy@nesting
4336   \Hy@Info{Link nesting ON}%
4337 \else

```

```

4338 \Hy@Info{Link nesting OFF}%
4339 \fi
4340 \ifHy@hyperindex
4341 \Hy@Info{Hyper index ON}%
4342 \else
4343 \Hy@Info{Hyper index OFF}%
4344 \fi
4345 \ifHy@plainpages
4346 \Hy@Info{Plain pages ON}%
4347 \else
4348 \Hy@Info{Plain pages OFF}%
4349 \fi
4350 \ifHy@backref
4351 \Hy@Info{Backreferencing ON}%
4352 \else
4353 \Hy@Info{Backreferencing OFF}%
4354 \fi
4355 \ifHy@implicit
4356 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4357 \else
4358 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4359 \def\MaybeStopEarly{%
4360 \Hy@Message{Stopped early}}%
4361 \Hy@AtBeginDocument{%
4362 \PDF@FinishDoc
4363 \gdef\PDF@FinishDoc{}%
4364 }%
4365 \endinput
4366 }%
4367 \Hy@AtBeginDocument{%
4368 \let\autoref\ref
4369 \let\autopageref\pageref
4370 \ifx\@pdfpagemode\@empty
4371 \gdef\@pdfpagemode{UseNone}%
4372 \fi
4373 \global\Hy@backreffalse
4374 }%
4375 \Hy@AtEndOfPackage{%
4376 \global\let\ReadBookmarks\relax
4377 \global\let\WriteBookmarks\relax
4378 }%
4379 \fi
4380 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

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

```

4381 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4382 \@ifundefined{stockheight}{\newdimen\stockheight}{}

4383 \Hy@AtEndOfPackage{%
4384 \@ifpackageloaded{tex4ht}{%
4385 \def\Hy@driver{htex4ht}%
4386 \Hy@texhttrue

```

4387 }{}%

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.

```

4388 \ifx\Hy@driver\@empty
4389 \else
4390   \ifx\pdfextension\@undefined
4391     \def\Hy@temp{hpdfTeX}%
4392   \else
4393     \def\Hy@temp{hluatex}%
4394   \fi
4395 \ifpdf
4396   \ifx\Hy@driver\Hy@temp
4397   \else
4398     \Hy@WarningNoLine{%
4399       Wrong driver `\'Hy@driver.def';\MessageBreak
4400       pdfTeX is running in PDF mode.\MessageBreak
4401       Forcing driver `\'Hy@temp.def'%
4402     }%
4403   \let\Hy@driver\Hy@temp
4404   \fi
4405 \else
4406   \ifx\Hy@driver\Hy@temp
4407     \Hy@WarningNoLine{%
4408       Wrong driver `\'Hy@driver.def';\MessageBreak
4409       pdfTeX is not running in PDF mode.\MessageBreak
4410       Using default driver%
4411     }%
4412   \let\Hy@driver\@empty
4413   \fi
4414 \fi
4415 \fi
4416 \ifHy@texht
4417 \else
4418   \ifx\Hy@driver\@empty
4419   \else
4420     \def\Hy@temp{hxeTeX}%
4421   \ifxeTeX
4422     \ifx\Hy@driver\Hy@temp
4423     \else
4424       \Hy@WarningNoLine{%
4425         Wrong driver `\'Hy@driver.def';\MessageBreak
4426         XeTeX is running.\MessageBreak
4427         Forcing driver `\'Hy@temp.def' for XeTeX%
4428       }%
4429     \let\Hy@driver\Hy@temp
4430   \fi
4431 \fi
4432 \fi
4433 \fi
4434 \ifx\Hy@driver\@empty
4435 \else
4436   \def\Hy@temp{hhiTeX}%
4437 \ifhiTeX

```

```

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

```

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

```

4473 \let\HyOpt@DriverType\ltx@empty
4474 \ifx\HyOpt@CustomDriver\ltx@empty
4475 \ifx\Hy@driver\@empty
4476 \def\HyOpt@DriverType{ (autodetected)}%
4477 \providecommand*{\Hy@defaultdriver}{hdvips}%
4478 \ifpdf
4479 \ifx\pdfextension\@undefined
4480 \def\Hy@driver{hpdfTeX}%
4481 \else
4482 \def\Hy@driver{hluatex}%
4483 \fi
4484 \else
4485 \ifxetex
4486 \def\Hy@driver{hxetex}%
4487 \else
4488 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4489 \def\Hy@driver{hvtexhtm}%
4490 \def\MaybeStopEarly{%

```

```

4491     \Hy@Message{Stopped early}%
4492     \Hy@AtBeginDocument{%
4493         \PDF@FinishDoc
4494         \gdef\PDF@FinishDoc{}%
4495     }%
4496     \endinput
4497 }%
4498 \else
4499     \ifhint
4500         \def\Hy@driver{hhtex}
4501     \else
4502         \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4503         \def\Hy@driver{hvtex}%
4504     \else
4505         \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4506         \def\Hy@driver{hvtex}%
4507     \else
4508         \ifx\HyOpt@DriverFallback\ltx@empty
4509         \let\Hy@driver\Hy@defaultdriver
4510         \def\HyOpt@DriverType{ (default)}%
4511     \else
4512         \begingroup
4513         \toks@\expandafter{\HyOpt@DriverFallback}%
4514         \edef\x{\endgroup
4515             \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4516         }%
4517         \x
4518         \ifx\Hy@driver\ltx@empty
4519         \let\Hy@driver\Hy@defaultdriver
4520         \def\HyOpt@DriverType{ (default)}%
4521     \else
4522         \def\HyOpt@DriverType{ (fallback)}%
4523     \fi
4524 \fi
4525 \fi
4526 \fi
4527 \fi
4528 \fi
4529 \fi
4530 \fi
4531 \ifx\Hy@driver\Hy@defaultdriver
4532     \def\Hy@temp{hdviwind}%
4533     \ifx\Hy@temp\Hy@driver
4534         \kvsetkeys{Hyp}{colorlinks}%
4535         \PassOptionsToPackage{dviwindo}{color}%
4536     \fi
4537 \fi
4538 \fi
4539 \else
4540     \def\HyOpt@DriverType{ (custom)}%
4541     \let\Hy@driver\HyOpt@CustomDriver
4542 \fi
4543 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4544 \chardef\Hy@VersionChecked=0 %

```

```

4545 \input{\Hy@driver.def}%
4546 \ifcase\Hy@VersionChecked
4547   \Hy@VersionCheck{\Hy@driver.def}%
4548 \fi
4549 \let\@unprocessedoptions\relax
4550 \Hy@RestoreCatcodes
4551 \Hy@DisableOption{tex4ht}%
4552 \Hy@DisableOption{pdftex}%
4553 \Hy@DisableOption{nativepdf}%
4554 \Hy@DisableOption{dvipdfm}%
4555 \Hy@DisableOption{dvipdfmx}%
4556 \Hy@DisableOption{dvipdfmx-outline-open}%
4557 \Hy@DisableOption{pdfmark}%
4558 \Hy@DisableOption{dvips}%
4559 \Hy@DisableOption{hypertex}%
4560 \Hy@DisableOption{vtex}%
4561 \Hy@DisableOption{vtexpdfmark}%
4562 \Hy@DisableOption{dviwindo}%
4563 \Hy@DisableOption{dvipsone}%
4564 \Hy@DisableOption{textures}%
4565 \Hy@DisableOption{latex2html}%
4566 \Hy@DisableOption{ps2pdf}%
4567 \Hy@DisableOption{xetex}%
4568 \Hy@DisableOption{driverfallback}%
4569 \Hy@DisableOption{customdriver}%
4570 \Hy@DisableOption{pdfversion}%
4571 }

```

Support for open outlines is enabled for XeTeX  $\geq 0.9995$ . 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.

```

4572 \newif\ifHy@DvipdfmxOutlineOpen
4573 \ifxetex
4574   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4575   \else
4576     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4577     \Hy@DvipdfmxOutlineOpentru
4578   \fi
4579 \fi
4580 \begingroup\expandafter\expandafter\expandafter\endgroup
4581 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4582 \else
4583   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4584     \Hy@DvipdfmxOutlineOpentru
4585   \fi
4586 \fi

```

### 15.4.2 Bookmarks

```

4587 \def\WriteBookmarks{0}
4588 \def\@bookmarkopenstatus#1{%
4589   \ifHy@bookmarksopen

```

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

```

4590 \ifnum#1<\expandafter\@firstofone\expandafter
4591      {\number\@bookmarksopenlevel} % explicit space
4592 \else
4593     -%
4594 \fi
4595 \else
4596     -%
4597 \fi
4598 }
4599 \ifHy@bookmarks
4600 \Hy@Info{Bookmarks ON}%
4601 \ifx\@pdfpagemode\@empty
4602 \def\@pdfpagemode{UseOutlines}%
4603 \fi
4604 \else
4605 \let\@bookmarkopenstatus\ltx@gobble
4606 \Hy@Info{Bookmarks OFF}%
4607 \Hy@AtEndOfPackage{%
4608 \global\let\ReadBookmarks\relax
4609 \global\let\WriteBookmarks\relax
4610 }%
4611 \ifx\@pdfpagemode\@empty
4612 \def\@pdfpagemode{UseNone}%
4613 \fi
4614 \fi
4615 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
4616 \def\Hy@CatcodeWrapper#1{%
4617 \let\Hy@endWrap\ltx@empty
4618 \def\TMP@EnsureCode##1##2{%
4619 \edef\Hy@endWrap{%
4620 \Hy@endWrap
4621 \catcode##1 \the\catcode##1\relax
4622 }%
4623 \catcode##1 ##2\relax
4624 }%
4625 \TMP@EnsureCode{10}{12}% ^^J
4626 \TMP@EnsureCode{33}{12}% !
4627 \TMP@EnsureCode{34}{12}% "
4628 \TMP@EnsureCode{36}{3}% $ (math)
4629 \TMP@EnsureCode{38}{4}% & (alignment)
4630 \TMP@EnsureCode{39}{12}% '
4631 \TMP@EnsureCode{40}{12}% (
4632 \TMP@EnsureCode{41}{12}% )
4633 \TMP@EnsureCode{42}{12}% *
4634 \TMP@EnsureCode{43}{12}% +
4635 \TMP@EnsureCode{44}{12}% ,
4636 \TMP@EnsureCode{45}{12}% -
4637 \TMP@EnsureCode{46}{12}% .
4638 \TMP@EnsureCode{47}{12}% /
4639 \TMP@EnsureCode{58}{12}% :
4640 \TMP@EnsureCode{59}{12}% ;
4641 \TMP@EnsureCode{60}{12}% <
4642 \TMP@EnsureCode{61}{12}% =

```

```

4643 \TMP@EnsureCode{62}{12}% >
4644 \TMP@EnsureCode{63}{12}% ?
4645 \TMP@EnsureCode{91}{12}% [
4646 \TMP@EnsureCode{93}{12}% ]
4647 \TMP@EnsureCode{94}{7}% ^ (superscript)
4648 \TMP@EnsureCode{95}{8}% _ (subscript)
4649 \TMP@EnsureCode{96}{12}% `
4650 \TMP@EnsureCode{124}{12}% |
4651 \TMP@EnsureCode{126}{13}% ~ (active)
4652 #1\relax
4653 \Hy@EndWrap
4654 }

```

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

```

4655 \Hy@AtBeginDocument{%
4656   \ifHy@ocgcolorlinks
4657     \kvsetkeys{Hyp}{colorlinks}%
4658     \ifHy@pdfa
4659       \Hy@Warning{%
4660         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4661         using `colorlinks' instead of `ocgcolorlinks'%
4662       }%
4663       \Hy@ocgcolorlinksfalse
4664     \fi
4665   \fi
4666   \ifHy@ocgcolorlinks
4667   \else
4668     \Hy@DisableOption{ocgcolorlinks}%
4669   \fi
4670   \ifHy@colorlinks
4671     \def\@pdfborder{0 0 0}%
4672     \let\@pdfborderstyle\@empty
4673     \Hy@CatcodeWrapper{%
4674       \RequirePackage{color}%
4675     }%
4676     \def\Hy@colorlink#1{%
4677       \begingroup
4678       \HyColor@UseColor#1%
4679     }%
4680     \def\Hy@endcolorlink{\endgroup}%
4681     \Hy@Info{Link coloring ON}%
4682   \else
4683     \ifHy@frenchlinks
4684       \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4685       \def\Hy@endcolorlink{\endgroup}%
4686       \Hy@Info{French linking ON}%
4687     \else

```

for grouping consistency:

```

4688     \def\Hy@colorlink#1{\begingroup}%
4689     \def\Hy@endcolorlink{\endgroup}%
4690     \Hy@Info{Link coloring OFF}%
4691   \fi
4692 \fi

```



```

4693 \Hy@DisableOption{colorlinks}%
4694 \Hy@DisableOption{frenchlinks}%
4695 \ifHy@texht
4696 \else

```

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

```

4697 \ifHy@implicit
4698 \let \T@Ref\HyRef@Ref
4699 \def\@refstar#1{%
4700 \NR@ref@showkeys{#1}%
4701 \HyRef@StarSetRef{#1}\@firstoffive
4702 }
4703 \def\@pagerefstar#1{%
4704 \NR@ref@showkeys{#1}%
4705 \HyRef@StarSetRef{#1}\@secondoffive
4706 }
4707 \def\@namerefstar#1{%
4708 \NR@ref@showkeys{#1}%
4709 \HyRef@StarSetRef{#1}\@thirdoffive
4710 }
4711 \def\@Refstar#1{%
4712 \NR@ref@showkeys{#1}%
4713 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4714 }%
4715 \else
4716 \fi
4717 \fi
4718 }
4719 \Hy@AtBeginDocument{%
4720 \ifx\ReadBookmarks\relax
4721 \else
4722 \Hy@CatcodeWrapper\ReadBookmarks
4723 \fi
4724 }
4725 \ifHy@backref
4726 \RequirePackage{backref}%
4727 \else
4728 \let\Hy@backout\@gobble
4729 \fi
4730 \Hy@DisableOption{backref}
4731 \Hy@DisableOption{pagebackref}
4732 \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.

```

4733 \begingroup
4734 \endlinechar=-1 %
4735 \catcode\^^A=14 %
4736 \catcode\^^M\active
4737 \catcode\%\active
4738 \catcode\#\active
4739 \catcode\_ \active
4740 \catcode\$\active
4741 \catcode\&\active
4742 \gdef\hyper@normalise{^^A
4743   \begingroup
4744   \catcode\^^M\active
4745   \def^^M{ }^^A
4746   \catcode\%\active
4747   \let%\@percentchar
4748   \let\%\@percentchar
4749   \catcode\#\active
4750   \def#{\hyper@hash}^^A
4751   \def#{\hyper@hash}^^A
4752   \@makeother\&^^A
4753   \edef&{\string&}^^A
4754   \edef\&{\string&}^^A
4755   \edef\textunderscore{\string_}^^A
4756   \let\_ \textunderscore
4757   \catcode\_ \active
4758   \let\_ \textunderscore
4759   \let~\hyper@tilde
4760   \let~\hyper@tilde
4761   \let\textasciitilde\hyper@tilde
4762   \let\\\@backslashchar
4763   \edef${\string$}^^A
4764   \Hy@safe@activestrue
4765   \hyper@n@rmalise
4766 }^^A
4767 \catcode\#=6 ^^A
4768 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4769 \gdef\hyper@n@rmalise#1#2{^^A
4770   \def\Hy@tempa{#2}^^A
4771   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4772     \ltx@ReturnAfterElseFi{^^A
4773       \hyper@@normalise{#1}^^A
4774     }^^A
4775   \else
4776     \ltx@ReturnAfterFi{^^A
4777       \hyper@@normalise{#1}{#2}^^A
4778     }^^A
4779   \fi
4780 }^^A
4781 \gdef\hyper@@normalise#1#2{^^A
4782   \edef\Hy@tempa{^^A
4783     \endgroup
4784     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4785   }^^A
4786   \Hy@tempa

```

```

4787 }^^A
4788 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4789   #1^^A
4790   \ifx\limits#2\limits
4791   \else
4792     \ltx@ReturnAfterFi{^^A
4793       \Hy@RemovePercentCr #2\@nil
4794     }^^A
4795   \fi
4796 }^^A
4797 \endgroup
4798 \providecommand*\hyper@chars{%
4799   \let\#\hyper@hash
4800   \let\%\@percentchar
4801   \Hy@safe@activestrue
4802 }

4803 \def\hyperlink#1#2{%
4804   \hyper@@link{}\{#1\}\{#2\}%
4805 }

4806 \def\Hy@VerboseLinkStart#1#2{%
4807   \ifHy@verbose
4808     \begingroup
4809       \Hy@safe@activestrue
4810       \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4811       \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4812       \xdef\Hy@VerboseGlobalTemp{%
4813         \Hy@VerboseGlobalTemp, %
4814         line \the\inputlineno
4815       }%
4816     \endgroup
4817     \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4818     \@onelevel@sanitize\Hy@VerboseLinkInfo
4819   \fi
4820 }

4821 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4822 \def\Hy@VerboseLinkStop{%
4823   \ifHy@verbose
4824     \begingroup
4825       \edef\x{\endgroup
4826         \write\m@ne{%
4827           Package `hyperref' Info: %
4828           End of reference \Hy@VerboseLinkInfo.%
4829         }%
4830       }%
4831     \x
4832   \fi
4833 }

4834 \def\Hy@VerboseAnchor#1{%
4835   \ifHy@verbose
4836     \begingroup
4837       \Hy@safe@activestrue
4838       \Hy@Info{Anchor ``\HyperDestNameFilter{#1}''}%
4839     \endgroup

```

```

4840 \fi
4841 }

4842 \def\Hy@AllowHyphens{%
4843 \relax
4844 \ifhmode
4845 \penalty\@M
4846 \hskip\z@skip
4847 \fi
4848 }

4849 \DeclareRobustCommand*{\href}[1][\]{%
4850 \begingroup
4851 \setkeys{href}{#1}%
4852 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4853 }
4854 \def\Hy@href#{%
4855 \hyper@normalise\href@
4856 }
4857 \begingroup
4858 \catcode`\$=6 %
4859 \catcode`\#=12 %
4860 \gdef\href@\$1{\expandafter\href@split$1##\}%
4861 \gdef\href@split$1#\$2#\$3\\$4{%
4862 \hyper@@link{$1}{$2}{$3}{$4}%
4863 \endgroup
4864 }%
4865 \endgroup

```

Option ‘page’.

```

4866 \define@key{href}{page}{%
4867 \def\Hy@href@page{#1}%
4868 }
4869 \let\Hy@href@page\@empty
4870 \newcount\c@Hy@tempcnt
4871 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4872 \def\Hy@MakeRemoteAction{%
4873 \ifx\Hy@href@page\@empty
4874 \def\Hy@href@page{0}%
4875 \else
4876 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4877 \ifnum\c@Hy@tempcnt<\@ne
4878 \Hy@Warning{%
4879 Invalid page number (\theHy@tempcnt)\MessageBreak
4880 for remote PDF file.\MessageBreak
4881 Using page 1%
4882 }%
4883 \def\Hy@href@page{0}%
4884 \else
4885 \global\advance\c@Hy@tempcnt\m@ne
4886 \edef\Hy@href@page{\theHy@tempcnt}%
4887 \fi
4888 \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.

```

4889 \ifx\Hy@href@nextactionraw\@empty
4890 \else
4891 \Hy@pdfnewwindowsettrue
4892 \Hy@pdfnewwindowtrue
4893 \fi
4894 }

```

Option ‘pdfremotestartview’.

```

4895 \define@key{href}{pdfremotestartview}{%
4896 \setkeys{Hyp}{pdfremotestartview={#1}}}%
4897 }

```

Option ‘pdfnewwindow’.

```

4898 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4899 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4900 \newif\ifHy@href@ismap
4901 \define@key{href}{ismap}[true]{%
4902 \ltx@ifundefined{Hy@href@ismap#1}{%
4903 \Hy@Error{%
4904 Invalid value (#1) for key `ismap'.\MessageBreak
4905 Permitted values are `true' or `false'.\MessageBreak
4906 Ignoring `ismap'%
4907 } \@ehc
4908 }{%
4909 \csname Hy@href@ismap#1\endcsname
4910 }%
4911 }

```

Option ‘nextactionraw’.

```

4912 \let\Hy@href@nextactionraw\@empty
4913 \define@key{href}{nextactionraw}{%
4914 \edef\Hy@href@nextactionraw{#1}%
4915 \ifx\Hy@href@nextactionraw\@empty
4916 \else
4917 \Hy@Match\Hy@href@nextactionraw{}{%
4918 ~(\HyPat@ObjRef/|<<./S[ /.+>>|%
4919 \[( ?\HyPat@ObjRef/|<<./S[ /.+>>)+ ?])$%
4920 }{%
4921 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4922 \Hy@href@nextactionraw\MessageBreak
4923 The action is discarded%
4924 }%
4925 }%
4926 \ifx\Hy@href@nextactionraw\@empty
4927 \else
4928 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4929 \fi
4930 \fi
4931 }
4932 \def\HyPat@ObjRef/{.+}

```

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

```

4933 \RequirePackage{url}
4934 \let\HyOrg@url\url

```

```

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

4940 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4941 \providecommand\hyper@image[2]{#2}

4942 \def\hypertarget#1#2{%
4943   \ifHy@nesting
4944     \hyper@@anchor{#1}{#2}%
4945   \else
4946     \hyper@@anchor{#1}{\relax}#2%
4947   \fi
4948 }

```

`\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  $\text{\LaTeX}$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4949 \DeclareRobustCommand*\hyperref{\%
4950   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4951 }
4952 \def\Hy@babelnormalise#1[#2]{%
4953   \begingroup
4954     \Hy@safe@activetrue
4955     \let\protect\@unexpandable@protect
4956     \edef\Hy@tempa{%
4957       \endgroup
4958       \noexpand#1[{#2}]}%
4959   }%
4960   \Hy@tempa
4961 }
4962 \def\@hyperref{\hyper@normalise\@hyperref}
4963 \def\@hyperref#1#2#3{%
4964   \edef\ref@one{\ifx\\#2\\else#2.\fi#3}%
4965   \expandafter\tryhyper@link\ref@one\{#1}%
4966 }
4967 \def\tryhyper@link#1\\#2{%
4968   \hyper@@link{#2}{#1}%
4969 }

4970 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4971 \def\@hyperdef#1#2#3{%, category, name, text
4972   \ifx\\#1\\%
4973     \def\Hy@AnchorName{#2}%
4974   \else
4975     \def\Hy@AnchorName{#1.#2}%
4976   \fi
4977   \ifHy@nesting
4978     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4979   \else

```

```

4980 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4981 \fi
4982 }

```

We also have a need to give a L<sup>A</sup>T<sub>E</sub>X *label* to a hyper reference, to ease the pain of referring to it later. `\hyperrefundefinedlink` may be redefined by a user to add colour or other formatting.

```

4983 \let\hyperrefundefinedlink\@firstofone
4984 \def\label@hyperref[#1]{%
4985 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4986 }%
4987 \def\label@@hyperref#1#2#3{%
4988 \ifx#1\relax
4989 \protect\G@refundefinedtrue
4990 \@latex@warning{%
4991 Hyper reference `#2' on page \thepage \space undefined%
4992 }%
4993 \begingroup
4994 \hyperrefundefinedlink{#3}%
4995 \endgroup
4996 \else
4997 \hyper@@link{\expandafter\@fifthoffive#1}%
4998 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4999 \fi
5000 }
5001 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5002 % anchor text
5003 \@bsphack
5004 \ifx\#2\%
5005 \def\Hy@AnchorName{#3}%
5006 \else
5007 \def\Hy@AnchorName{#2.#3}%
5008 \fi
5009 \if@filesw
5010 \protected@write\@auxout{}{%
5011 \string\newlabel{#1}{\{ }\{ }\{\Hy@AnchorName\} }\}%
5012 }%
5013 \fi
5014 \@esphack
5015 \ifHy@nesting
5016 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5017 \else
5018 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5019 \fi
5020 }

```

`\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`

```
5021 \ExplSyntaxOn
```

```

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

```

## 16.1 Link box support for XeTeX

```

5058 \newdimen\XeTeXLinkMargin
5059 \setlength{\XeTeXLinkMargin}{2pt}
5060 \ifxetex
5061   \font\XeTeXLink@font=pzdr at 1sp\relax
5062   \newcommand*{\XeTeXLink@space}{%
5063     \begingroup
5064       \XeTeXLink@font
5065       \@xxxii
5066     \endgroup
5067   }%
5068   \newcommand{\XeTeXLinkBox}[1]{%
5069     \begingroup
5070       \leavevmode
5071       \sbox\z@{#1}%
5072     \begingroup

```



```

5073 \dimen@=\dp\z@
5074 \advance\dimen@\XeTeXLinkMargin
5075 \setbox\tw@=\llap{%
5076 \hb@xt@\XeTeXLinkMargin{%
5077 \lower\dimen@\hbox{\XeTeXLink@space}%
5078 \hss
5079 }%
5080 }%
5081 \dp\tw@=\dp\z@
5082 \ht\tw@=\ht\z@
5083 \copy\tw@
5084 \endgroup
5085 \copy\z@
5086 \dimen@=\ht\z@
5087 \advance\dimen@\XeTeXLinkMargin
5088 \setbox\tw@=\rlap{%
5089 \hb@xt@\XeTeXLinkMargin{%
5090 \hss
5091 \raise\dimen@\hbox{\XeTeXLink@space}%
5092 }%
5093 }%
5094 \dp\tw@=\dp\z@
5095 \ht\tw@=\ht\z@
5096 \copy\tw@
5097 \endgroup
5098 }%
5099 \else
5100 \newcommand*\XeTeXLinkBox}[1]{%
5101 \begingroup
5102 \leavevmode
5103 \sbox\z@{#1}%
5104 \copy\z@
5105 \endgroup
5106 }%
5107 \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.

```

5108 \def\hyper@link{\let\Hy@reserved@a\relax
5109 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}}%
5110 }
5111 % #1: type
5112 % #2: URL
5113 % #3: destination name
5114 % #4: text
5115 \def\hyper@link@[#1]#2#3#4{%
5116 \ltx@ifempty{#4}{% link text
5117 \Hy@Warning{Suppressing empty link}%
5118 }{%
5119 \begingroup

```

```

5120 \protected@edef\Hy@tempa{#2}%
5121 \edef\Hy@tempb{#3}%
5122 \ifx\Hy@tempa\ltx@empty
5123 \ifx\Hy@tempb\ltx@empty
5124 \Hy@Warning{Suppressing link with empty target}%
5125 \toks@{%
5126 \endgroup
5127 \ltx@secondoftwo
5128 }%
5129 \else
5130 \toks@{%
5131 \endgroup
5132 \hyper@link{#1}%
5133 }%
5134 \fi
5135 \else
5136 \toks@{%
5137 \endgroup
5138 \expandafter\hyper@readexternallink#2\{#1}%
5139 }%
5140 \fi
5141 \Hy@safe@activesfalse
5142 \toks@\expandafter{%
5143 \the\expandafter\toks@
5144 \expandafter{\Hy@tempb}{#4}%
5145 }%
5146 \the\toks@
5147 }%
5148 }

```

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.

```

5149 \def\hyper@readexternallink#1\{#2#3#4{%
5150 \begingroup
5151 \let\\\relax
5152 \expandafter\endgroup
5153 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
5154 }
5155 \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.

```

5156 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5157 }

```

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

```

5158 \def\@pdftempwordfile{file}%
5159 \def\@pdftempwordrun{run}%
5160 \def\@hyper@readexternallink#1#2#3#4:#5:#6\\#7{%

```

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

```

5161 \ifx\\#6\\%
5162 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5163 \else
5164 \ifx\\#4\\%
5165 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5166 \else

```

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

```

5167 \def\@pdftempa{#4}%
5168 \ifx\@pdftempa\@pdftempwordfile
5169 \@hyper@linkfile#7\\{#3}{#2}{#7}%
5170 \else

```

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

```

5171 \ifx\@pdftempa\@pdftempwordrun
5172 \ifHy@pdfa
5173 \Hy@Error{%
5174 PDF/A: Launch action is prohibited%
5175 } \@ehc
5176 \begingroup
5177 \leavevmode
5178 #2%
5179 \endgroup
5180 \else
5181 \@hyper@launch#7\\{#3}{#2}%
5182 \fi
5183 \else

```

otherwise its a URL

```

5184 \hyper@linkurl{#3}{#7\ifx\\#2\\else\hyper@hash#2\fi}%
5185 \fi
5186 \fi
5187 \fi
5188 \fi
5189 }

```

By default, turn run: into file:

```

5190 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5191 \hyper@linkurl{#2}{%
5192 \Hy@linkfileprefix
5193 #1%
5194 \ifx\\#3\\%

```

```

5195 \else
5196 \hyper@hash
5197 #3%
5198 \fi
5199 }%
5200 }

```

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

```

5201 \def\@hyper@linkfile file:#1\|#2#3#4{%
5202 %file url,link string, name, original uri
5203 \filename@parse{#1}%
5204 \ifx\filename@ext\relax
5205 \edef\filename@ext{\XR@ext}%
5206 \fi
5207 \def\use@file{\filename@area\filename@base.\filename@ext}%
5208 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5209 \hyper@linkfile{#2}{\use@file}{#3}%
5210 }{%
5211 \ifx\@baseurl\@empty
5212 \hyper@linkurl{#2}{%
5213 #4\ifx\|#3\|else\hyper@hash#3\fi
5214 }%
5215 \else
5216 \hyper@linkurl{#2}{\use@file\ifx\|#3\|else\hyper@hash#3\fi}%
5217 \fi
5218 }%
5219 }

5220 \def\Hy@IfStringEndsWith#1#2{%
5221 \begingroup
5222 \edef\x{#1}%
5223 \@onelevel@sanitize\x
5224 \edef\x{.\x}%
5225 \edef\y{#2}%
5226 \@onelevel@sanitize\y
5227 \edef\y{.\y}%
5228 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5229 \endgroup
5230 \ifx\relax##2\relax
5231 \expandafter\ltx@secondoftwo
5232 \else
5233 \expandafter\ltx@firstoftwo
5234 \fi
5235 }%
5236 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5237 }

5238 \def\Hy@StringLocalhost{localhost}
5239 \@onelevel@sanitize\Hy@StringLocalhost
5240 \def\Hy@CleanupFile#1{%
5241 \edef#1{#1}%
5242 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5243 }
5244 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5245 \begingroup

```

```

5246 \toks@{\endgroup}%
5247 \def\x{#1}%
5248 \ifx\x\@empty
5249 \def\x{#2}%
5250 \ifx\x\@empty
5251 \toks@{\endgroup\def#5{/#3}}%
5252 \else
5253 \@onelevel@sanitize\x
5254 \ifx\x\Hy@StringLocalhost
5255 \toks@{\endgroup\def#5{/#3}}%
5256 \fi
5257 \fi
5258 \fi
5259 \the\toks@
5260 }

```

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.

```

5261 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5262 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5263 \ifx\#1\%
5264 #2\Hy@Warning{Ignoring empty anchor}%
5265 \else
5266 \def\anchor@spot{#2#3}%
5267 \let\put@me@back\@empty
5268 \ifx\relax#2\relax
5269 \else
5270 \ifHy@nesting
5271 \else
5272 \ifcat a\noexpand#2\relax
5273 \else
5274 \ifcat 0\noexpand#2 \relax
5275 \else
5276 % \typeout{Anchor start is not alphanumeric %
5277 % on input line\the\inputlineno%
5278 % }%
5279 \let\anchor@spot\@empty
5280 \def\put@me@back{#2#3}%
5281 \fi
5282 \fi
5283 \fi
5284 \fi
5285 \ifHy@activeanchor
5286 \anchor@spot
5287 \else
5288 \hyper@anchor{#1}%
5289 \fi
5290 \expandafter\put@me@back
5291 \fi

```

```

5292 \let\anchor@spot\@empty
5293 }
5294 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5295 \ifHy@destlabel

```

\hyper@newdestlabel

```

5296 \def\hyper@newdestlabel#1#2{%
5297   \begingroup
5298   \Hy@safe@activetrue
5299   \edef\x{\endgroup
5300     \noexpand\@newl@bel{HyDL}{#1}{#2}%
5301   }%
5302   \x
5303 }%

```

\hyper@destlabel@hook

```

5304 \providecommand*\hyper@destlabel@hook{}%

```

\Hy@DestRename

```

5305 \newcommand*\Hy@DestRename}[2]{%
5306   \ltx@ifundefined{HyDL!#1}{%
5307     \begingroup
5308     \Hy@safe@activetrue
5309     \edef\dest@name{#1}%
5310     \edef\label@name{#2}%
5311     \hyper@destlabel@hook
5312     \Hy@IsNotEmpty{dest@name}{%
5313       \Hy@IsNotEmpty{label@name}{%
5314         \global\expandafter
5315         \let\csname HyDL!#1\endcsname\ltx@empty
5316         \if@files
5317           \protected@write\@auxout{}{%
5318             \string\hyper@newdestlabel
5319             {#1}%
5320             {\label@name}%
5321           }%
5322         \fi
5323       }%
5324     }%
5325     \endgroup
5326   }{}%
5327 }%

```

\HyperDestRename

```

5328 \newcommand*\HyperDestRename}[2]{%
5329   \AtBeginDocument{%
5330     \Hy@DestRename{#1}{#2}%
5331   }%
5332 }%
5333 \AtBeginDocument{%

```

```

5334 \let\HyperDestRename\Hy@DestRename
5335 }%

\Hy@IsNotEmpty
5336 \def\Hy@IsNotEmpty#1{%
5337 \ltx@ifundefined{#1}\ltx@gobble{%
5338 \expandafter\ifx\csname#1\endcsname\ltx@empty
5339 \expandafter\ltx@gobble
5340 \else
5341 \expandafter\ltx@firstofone
5342 \fi
5343 }%
5344 }%

5345 \ltx@GlobalAppendToMacro\label@hook{%
5346 \HyperDestRename\@currentHref\label@name
5347 }%

\HyperDestLabelReplace
5348 \def\HyperDestLabelReplace#1{%
5349 \ltx@ifundefined{HyDL@#1}{%
5350 #1%
5351 }{%
5352 \csname HyDL@#1\endcsname
5353 }%
5354 }%

\HyperDestNameFilter
5355 \let\HyperDestNameFilter\HyperDestLabelReplace
5356 \else

\hyper@newdestlabel
5357 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5358 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
5359 \let\HyperDestRename\ltx@gobbletwo

5360 \fi
5361 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5362 \AddToHook{include/before}
5363 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}
5364 \AddToHook{begindocument}
5365 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}
```

## 19 Forms creation

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

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

### 19.1 Field flags

The field flags are organized in a bit set.

```
5366 \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

```
5367 \def\HyField@NewFlag#1#2{%
5368   \lowercase{\HyField@NewOption{#2}}%
5369   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5370 }
```

\HyField@NewFlagOnly

```
5371 \def\HyField@NewFlagOnly#1#2{%
5372   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5373 }
```

\HyField@NewOption #1: option name

```
5374 \def\HyField@NewOption#1{%
5375   \expandafter\newif\csname ifFld@#1\endcsname
5376   \define@key{Field}{#1}[true]{%
5377     \lowercase{\Field@boolkey{##1}}{#1}%
5378   }%
5379 }
```

\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

```
5380 \def\HyField@NewBitsetFlag#1#2#3#4{%
5381   \begingroup
5382     \count@=#4\relax
5383     \advance\count@\m@ne
5384     \def\x##1{%
5385       \endgroup
5386       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5387       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
```



```

5388     \expandafter\edef\csname HyField@#3@##1\endcsname{%
5389         (\number#4) #2%
5390     }%
5391     \else
5392     \expandafter\edef\csname HyField@#3@##1\endcsname{%
5393         \csname HyField@#3@##1\endcsname
5394         /#2%
5395     }%
5396     \fi
5397 }%
5398 \expandafter\x\expandafter{\the\count@}%
5399 }

```

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

```

5400 \def\HyField@UseFlag#1#2{%
5401     \lowercase{\HyField@@UseFlag{#2}}{#1}%
5402 }

```

\HyField@@UseFlag

```

5403 \def\HyField@@UseFlag#1#2{%
5404     \bitsetSetValue{HyField@#2}{%
5405         \csname HyField@#2@#1\endcsname
5406     }{%
5407         \csname ifFld@#1\endcsname 1\else 0\fi
5408     }%
5409 }

```

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

```

5410 \def\HyField@SetFlag#1#2{%
5411     \lowercase{\HyField@@SetFlag{#2}}{#1}%
5412 }

```

\HyField@@SetFlag

```

5413 \def\HyField@@SetFlag#1#2{%
5414     \bitsetSetValue{HyField@#2}{%
5415         \csname HyField@#2@#1\endcsname
5416     }{1}%
5417 }

```

\HyField@PrintFlags

```

5418 \def\HyField@PrintFlags#1#2{%
5419     \ifHy@verbose
5420     \begingroup
5421         \let\Hy@temp\@empty
5422         \let\MessageBreak\relax
5423         \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5424         \bitsetGetSetBitList{HyField@#1}\do{%
5425             \edef\Hy@temp{%
5426                 \Hy@temp
5427                 \csname HyField@#1@\x\endcsname\MessageBreak
5428             }%
5429         }%
5430     \edef\x{\endgroup

```

```

5431 \noexpand\Hy@Info{%
5432   Field flags: %
5433   \expandafter\ifx\@car#1\@nil S\else/\fi
5434   #1 %
5435   \bitsetGetDec{HyField@#1} %
5436   (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5437   \Hy@temp
5438   for #2%
5439 }%
5440 }\x
5441 \fi
5442 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5443 \HyField@NewFlag{Ff}{ReadOnly}{1}
5444 \HyField@NewFlag{Ff}{Required}{2}
5445 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5446 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5447 \HyField@NewFlag{Ff}{Radio}{16}
5448 \HyField@NewFlag{Ff}{Pushbutton}{17}
5449 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5450 \HyField@NewFlag{Ff}{Multiline}{13}
5451 \HyField@NewFlag{Ff}{Password}{14}
5452 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5453 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5454 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5455 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5456 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5457 \HyField@NewFlag{Ff}{Combo}{18}
5458 \HyField@NewFlag{Ff}{Edit}{19}
5459 \HyField@NewFlag{Ff}{Sort}{20}
5460 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5461 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5462 \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.

```

5463 \newif\ifFld@popdown
5464 \define@key{Field}{popdown}[true]{%
5465   \lowercase{\Field@boolkey{#1}}{popdown}%
5466 }

```

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.

```

5467 \HyField@NewFlag{F}{Invisible}{1}
5468 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5469 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5470 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5471 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5472 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5473 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5474 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5475 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
5476 \ifHy@pdfa
5477   \def\HyField@PDFAFIWarning#1#2{%
5478     \Hy@Warning{%
5479       PDF/A: Annotation flag `#1' must\MessageBreak
5480       be set to `#2'%
5481     }%
5482   }%
5483   \Fld@invisiblefalse
5484   \def\Fld@invisibletrue{%
5485     \HyField@PDFAFIWarning{invisible}{false}%
5486   }%
5487   \Fld@hiddenfalse
5488   \def\Fld@hiddentrue{%
5489     \HyField@PDFAFIWarning{hidden}{false}%
5490   }%
5491   \Fld@printtrue
5492   \def\Fld@printfalse{%
5493     \HyField@PDFAFIWarning{print}{true}%
5494   }%
5495   \Fld@nozoomtrue
5496   \def\Fld@nozoomfalse{%
5497     \HyField@PDFAFIWarning{nozoom}{true}%
5498   }%
5499   \Fld@norotatetrue
5500   \def\Fld@norotatefalse{%
5501     \HyField@PDFAFIWarning{norotate}{true}%
5502   }%
5503   \Fld@noviewfalse
5504   \def\Fld@noviewtrue{%
5505     \HyField@PDFAFIWarning{noview}{false}%
5506   }%
5507 \fi

```

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

```

5508 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5509 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5510 \HyField@NewFlag{Submit}{GetMethod}{4}
5511 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5512 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5513 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5514 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5515 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}

```

```

5516 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5517 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5518 \HyField@NewFlag{Submit}{ExclFKey}{12}
5519 \HyField@NewFlag{Submit}{EmbedForm}{14}

5520 \define@key{Field}{export}{%
5521   \lowercase{\def\Hy@temp{#1}}%
5522   \@ifundefined{Fld@export@\Hy@temp}{%
5523     \@onelevel@sanitize\Hy@temp
5524     \Hy@Error{%
5525       Unknown export format ``\Hy@temp'.\MessageBreak
5526       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5527     }}\ehc
5528   }{%
5529     \let\Fld@export\Hy@temp
5530   }%
5531 }
5532 \def\Fld@export{fdf}
5533 \@namedef{Fld@export@fdf}{0}%
5534 \@namedef{Fld@export@html}{1}%
5535 \@namedef{Fld@export@xfdf}{2}%
5536 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5537 \def\HyField@FlagsSubmit{%
5538   \bitsetReset{HyField@Submit}%
5539   \ifcase\@nameuse{Fld@export@\Fld@export} %
5540     % FDF
5541     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5542     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5543     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5544     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5545     \HyField@UseFlag{Submit}{CanonicalFormat}%
5546     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5547     \HyField@UseFlag{Submit}{ExclFKey}%
5548     \HyField@UseFlag{Submit}{EmbedForm}%
5549   \or % HTML
5550     \HyField@SetFlag{Submit}{ExportFormat}%
5551     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5552     \HyField@UseFlag{Submit}{GetMethod}%
5553     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5554     \HyField@UseFlag{Submit}{CanonicalFormat}%
5555   \or % XFDF
5556     \HyField@SetFlag{Submit}{XFDF}%
5557     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5558     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5559     \HyField@UseFlag{Submit}{CanonicalFormat}%
5560   \or % PDF
5561     \HyField@SetFlag{Submit}{SubmitPDF}%
5562     \HyField@UseFlag{Submit}{GetMethod}%
5563   \fi
5564   \HyField@PrintFlags{Submit}{submit button field}%

```

```

5565 \bitsetIsEmpty{HyField@Submit}{%
5566 \let\Fld@submitflags\ltx@empty
5567 }{%
5568 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5569 }%
5570 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5571 \def\HyField@FlagsAnnot#1{%
5572 \bitsetReset{HyField@F}%
5573 \HyField@UseFlag{F}{Invisible}%
5574 \HyField@UseFlag{F}{Hidden}%
5575 \HyField@UseFlag{F}{Print}%
5576 \HyField@UseFlag{F}{NoZoom}%
5577 \HyField@UseFlag{F}{NoRotate}%
5578 \HyField@UseFlag{F}{NoView}%
5579 \HyField@UseFlag{F}{Locked}%
5580 \HyField@UseFlag{F}{ToggleNoView}%
5581 \HyField@UseFlag{F}{LockedContents}%
5582 \HyField@PrintFlags{F}{#1}%
5583 \bitsetIsEmpty{HyField@F}{%
5584 \let\Fld@annotflags\ltx@empty
5585 }{%
5586 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5587 }%
5588 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5589 \def\HyField@FlagsPushButton{%
5590 \HyField@FlagsAnnot{push button field}%
5591 \bitsetReset{HyField@Ff}%
5592 \HyField@UseFlag{Ff}{ReadOnly}%
5593 \HyField@UseFlag{Ff}{Required}%
5594 \HyField@UseFlag{Ff}{NoExport}%
5595 \HyField@SetFlag{Ff}{Pushbutton}%
5596 \HyField@PrintFlags{Ff}{push button field}%
5597 \bitsetIsEmpty{HyField@Ff}{%
5598 \let\Fld@flags\ltx@empty
5599 }{%
5600 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5601 }%
5602 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

5603 \def\HyField@FlagsCheckBox{%
5604 \HyField@FlagsAnnot{check box field}%
5605 \bitsetReset{HyField@Ff}%

```

```

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

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5616 \def\HyField@FlagsRadioButton{%
5617   \HyField@FlagsAnnot{radio button field}%
5618   \bitsetReset{HyField@Ff}%
5619   \HyField@UseFlag{Ff}{ReadOnly}%
5620   \HyField@UseFlag{Ff}{Required}%
5621   \HyField@UseFlag{Ff}{NoExport}%
5622   \HyField@UseFlag{Ff}{NoToggleToOff}%
5623   \HyField@SetFlag{Ff}{Radio}%
5624   \HyField@UseFlag{Ff}{RadiosInUnison}%
5625   \HyField@PrintFlags{Ff}{radio button field}%
5626   \bitsetIsEmpty{HyField@Ff}{%
5627     \let\Fld@flags\ltx@empty
5628   }{%
5629     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5630   }%
5631 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

5632 \def\HyField@FlagsText{%
5633   \HyField@FlagsAnnot{text field}%
5634   \bitsetReset{HyField@Ff}%
5635   \HyField@UseFlag{Ff}{ReadOnly}%
5636   \HyField@UseFlag{Ff}{Required}%
5637   \HyField@UseFlag{Ff}{NoExport}%
5638   \HyField@UseFlag{Ff}{Multiline}%
5639   \HyField@UseFlag{Ff}{Password}%
5640   \HyField@UseFlag{Ff}{FileSelect}%
5641   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5642   \HyField@UseFlag{Ff}{DoNotScroll}%
5643   \ifFld@comb
5644     \ifcase0\ifFld@multiline
5645       \else\ifFld@password
5646       \else\ifFld@fileselect
5647       \else 1\fi\fi\fi\relax
5648   \Hy@Error{%
5649     Field option `comb' cannot used together with\MessageBreak
5650     `multiline', `password', or `fileselect'%

```

```

5651     }\@ehc
5652     \else
5653         \HyField@UseFlag{Ff}{Comb}%
5654     \fi
5655 \fi
5656 \HyField@UseFlag{Ff}{RichText}%
5657 \HyField@PrintFlags{Ff}{text field}%
5658 \bitsetIsEmpty{HyField@Ff}{%
5659     \let\Fld@flags\ltx@empty
5660 }{%
5661     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5662 }%
5663 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

5664 \def\HyField@FlagsChoice{%
5665     \HyField@FlagsAnnot{choice field}%
5666     \bitsetReset{HyField@Ff}%
5667     \HyField@UseFlag{Ff}{ReadOnly}%
5668     \HyField@UseFlag{Ff}{Required}%
5669     \HyField@UseFlag{Ff}{NoExport}%
5670     \HyField@UseFlag{Ff}{Combo}%
5671     \ifFld@combo
5672         \HyField@UseFlag{Ff}{Edit}%
5673     \fi
5674     \HyField@UseFlag{Ff}{Sort}%
5675     \HyField@UseFlag{Ff}{MultiSelect}%
5676     \ifFld@combo
5677         \ifFld@edit
5678             \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5679         \fi
5680     \fi
5681     \HyField@UseFlag{Ff}{CommitOnSelChange}%
5682     \HyField@PrintFlags{Ff}{choice field}%
5683     \bitsetIsEmpty{HyField@Ff}{%
5684         \let\Fld@flags\ltx@empty
5685     }{%
5686         \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5687     }%
5688 }

```

## 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.

```

5689 \def\HyField@PDFChoices#1{%
5690     \begingroup
5691         \global\let\Fld@choices\ltx@empty
5692         \let\HyTmp@optlist\ltx@empty

```

```

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

```

\HyField@@PDFChoices

```

5732 \def\HyField@@PDFChoices#1#2{%
5733   \ifx#2\relax
5734   \else
5735     \count@=0 %
5736     \def\HyTmp@optitem##1##2##3{%
5737       \def\HyTmp@key{##2}%
5738       \ifx\HyTmp@key\Hy@gtemp
5739         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5740           \HyTmp@optlist
5741           \HyTmp@optitem{##1}{##2}1%
5742         }%
5743       \let\HyTmp@found=Y%
5744     \else

```



```

5745 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5746 \HyTmp@optlist
5747 \HyTmp@optitem{##1}{##2}##3%
5748 }%
5749 \fi
5750 }%
5751 \expandafter\comma@parse\expandafter{#2}{%
5752 \pdfstringdef\Hy@gtemp\comma@entry
5753 \let\HyTmp@found=N %
5754 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5755 \HyTmp@optlist
5756 \ifx\HyTmp@found Y%
5757 \advance\count@ by 1 %
5758 \else
5759 \@onelevel@sanitize\comma@entry
5760 \PackageWarning{hyperref}{%
5761 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5762 \MessageBreak
5763 it cannot be found in the choices%
5764 }%
5765 \fi
5766 \@gobble
5767 }%
5768 \def\HyTmp@optitem##1##2##3{%
5769 \ifnum##3=1 %
5770 (##2)%
5771 \fi
5772 }%
5773 \ifcase\count@
5774 \or
5775 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5776 \else
5777 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5778 \ifx#1V%
5779 \def\HyTmp@optitem##1##2##3{%
5780 \ifnum##3=1 %
5781 \@firstofone{ ##1}%
5782 \fi
5783 }%
5784 \edef\HyTmp@optlist{\HyTmp@optlist}%
5785 \xdef\Fld@choices{%
5786 \Fld@choices
5787 /I[\expandafter\@firstofone\HyTmp@optlist]%
5788 }%
5789 \fi
5790 \fi
5791 \fi
5792 }

```

### 19.3 Forms

\HyField@SetKeys

```

5793 \def\HyField@SetKeys{%
5794 \kvsetkeys{Field}%

```

```

5795 }

5796 \newif\ifFld@checked
5797 \newif\ifFld@disabled
5798 \Fld@checkedfalse
5799 \Fld@disabledfalse
5800 \newcount\Fld@menulength
5801 \newdimen\Field@Width
5802 \newdimen\Fld@charsize
5803 \Fld@charsize=10\p@
5804 \def\Fld@maxlen{0}
5805 \def\Fld@align{0}
5806 \def\Fld@color{0 0 0 rg}
5807 \def\Fld@bcolor{1 1 1}
5808 \def\Fld@bordercolor{1 0 0}
5809 \def\Fld@bordersep{1\p@}
5810 \def\Fld@borderwidth{1}
5811 \def\Fld@borderstyle{S}
5812 \def\Fld@cbsymbol{4}
5813 \def\Fld@radiosymbol{H}
5814 \def\Fld@rotation{0}
5815 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5816 \def\endForm{\@endForm}
5817 \newif\ifForm@html
5818 \Form@htmlfalse
5819 \def\Form@boolkey#1#2{%
5820   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5821 }
5822 \define@key{Form}{action}{%
5823   \hyper@normalise\Hy@DefFormAction{#1}%
5824 }
5825 \def\Hy@DefFormAction{\def\Form@action}
5826 \def\enc@html{html}
5827 \define@key{Form}{encoding}{%
5828   \def\Hy@tempa{#1}%
5829   \ifx\Hy@tempa\enc@html
5830     \Form@htmltrue
5831     \def\Fld@export{html}%
5832   \else
5833     \Hy@Warning{%
5834       Form `encoding' key with \MessageBreak
5835       unknown value `#1'%
5836     }%
5837     \Form@htmlfalse
5838   \fi
5839 }
5840 \define@key{Form}{method}{%
5841   \lowercase{\def\Hy@temp{#1}}%
5842   \@ifundefined{Form@method@\Hy@temp}{%
5843     \@onelevel@sanitize\Hy@temp
5844     \Hy@Error{%
5845       Unknown method ``\Hy@temp'.\MessageBreak
5846       Known values are `post' and `get'%
5847     }\@ehc

```

```

5848 }{%
5849   \let\Form@method\Hy@temp
5850   \ifcase\@nameuse{Form@method@\Hy@temp} %
5851     \Fld@getmethodfalse
5852   \else
5853     \Fld@getmethodtrue
5854   \fi
5855 }%
5856 }
5857 \def\Form@method{}
5858 \@namedef{Form@method@post}{0}
5859 \@namedef{Form@method@get}{1}

5860 \newif\ifHyField@NeedAppearances
5861 \def\HyField@NeedAppearancesfalse{%
5862   \global\let\ifHyField@NeedAppearances\iffalse
5863 }
5864 \def\HyField@NeedAppearancetrue{%
5865   \global\let\ifHyField@NeedAppearances\iftrue
5866 }
5867 \HyField@NeedAppearancetrue
5868 \define@key{Form}{NeedAppearances}[true]{%
5869   \edef\Hy@tempa{#1}%
5870   \ifx\Hy@tempa\Hy@true
5871     \HyField@NeedAppearancetrue
5872   \else
5873     \ifx\Hy@tempa\Hy@false
5874       \HyField@NeedAppearancesfalse
5875     \else
5876       \Hy@Error{%
5877         Unexpected value ``\Hy@tempa'\MessageBreak
5878         of option `NeedAppearances' instead of\MessageBreak
5879         `true' or `false'%
5880       }\@ehc
5881     \fi
5882   \fi
5883 }
5884 \def\Field@boolkey#1#2{%
5885   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5886 }
5887 \ifHy@texht
5888   \newtoks\Field@toks
5889   \Field@toks={ }%
5890   \def\Field@addtoks#1#2{%
5891     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5892     \@processme
5893   }%
5894 \else
5895   \def\Hy@WarnHTMLFieldOption#1{%
5896     \Hy@Warning{%
5897       HTML field option `#1'\MessageBreak
5898       is ignored%
5899     }%
5900   }%
5901 \fi

```

```

5902 \def\Fld@checkequals#1=#2=#3\{\%
5903 \def\@currDisplay{#1}%
5904 \ifx\#2\%
5905 \def\@currValue{#1}%
5906 \else
5907 \def\@currValue{#2}%
5908 \fi
5909 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5910 }
5911 \define@key{Field}{loc}{\%
5912 \def\Fld@loc{#1}%
5913 }
5914 \define@key{Field}{checked}[true]{\%
5915 \lowercase{\Field@boolkey{#1}}{checked}%
5916 }
5917 \define@key{Field}{disabled}[true]{\%
5918 \lowercase{\Field@boolkey{#1}}{disabled}%
5919 }
5920 \ifHy@texht
5921 \define@key{Field}{accesskey}{\%
5922 \Field@addtoks{accesskey}{#1}%
5923 }%
5924 \define@key{Field}{tabkey}{\%
5925 \Field@addtoks{tabkey}{#1}%
5926 }%
5927 \else
5928 \define@key{Field}{accesskey}{\%
5929 \Hy@WarnHTMLFieldOption{accesskey}%
5930 }%
5931 \define@key{Field}{tabkey}{\%
5932 \Hy@WarnHTMLFieldOption{tabkey}%
5933 }%
5934 \fi
5935 \define@key{Field}{name}{\%
5936 \def\Fld@name{#1}%
5937 }
5938 \let\Fld@altname\relax
5939 \define@key{Field}{altname}{\%
5940 \def\Fld@altname{#1}%
5941 }
5942 \let\Fld@mappingname\relax
5943 \define@key{Field}{mappingname}{\%
5944 \def\Fld@mappingname{#1}%
5945 }
5946 \define@key{Field}{width}{\%
5947 \def\Fld@width{#1}%
5948 \Field@Width#1\setbox0=\hbox{m}%
5949 }
5950 \define@key{Field}{maxlen}{\%
5951 \def\Fld@maxlen{#1}%
5952 }
5953 \define@key{Field}{menulength}{\%
5954 \Fld@menulength=#1\relax
5955 }

```

```

5956 \define@key{Field}{height}{%
5957   \def\Fld@height{#1}%
5958 }
5959 \define@key{Field}{charsize}{%
5960   \setlength{\Fld@charsize}{#1}%
5961 }
5962 \define@key{Field}{borderwidth}{%
5963   \Hy@defaultbp\Fld@borderwidth{#1}%
5964 }
5965 \def\Hy@defaultbp#1#2{%
5966   \begingroup
5967   \afterassignment\Hy@defaultbpAux
5968   \dimen@=#2bp\relax{#1}{#2}%
5969 }
5970 \def\Hy@defaultbpAux#1\relax#2#3{%
5971   \ifx!#1!%
5972     \endgroup
5973     \def#2{#3}%
5974   \else
5975     \edef\x{\endgroup
5976       \def\noexpand#2{%
5977         \strip@pt\dimexpr\dimen@*800/803\relax
5978       }%
5979     }\x
5980   \fi
5981 }%
5982 \define@key{Field}{borderstyle}{%
5983   \let\Hy@temp\Fld@borderstyle
5984   \def\Fld@borderstyle{#1}%
5985   \Hy@Match\Fld@borderstyle{}{%
5986     ~[SDBIU]$%
5987   }{}{%
5988     \Hy@Warning{%
5989       Invalid value `~\pdfborderstyle'\MessageBreak
5990       for option `pdfborderstyle'. Valid values:\MessageBreak
5991       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5992       \space\space I (Inset), U (Underline)\MessageBreak
5993       Option setting is ignored%
5994     }%
5995     \let\Fld@borderstyle\Hy@temp
5996   }%
5997 }
5998 \define@key{Field}{bordersep}{%
5999   \def\Fld@bordersep{#1}%
6000 }
6001 \define@key{Field}{default}{%
6002   \Hy@pdfstringdef\Fld@default{#1}%
6003 }
6004 \define@key{Field}{align}{%
6005   \def\Fld@align{#1}%
6006 }
6007 \define@key{Field}{value}{%
6008   \Hy@pdfstringdef\Fld@value{#1}%
6009 }

```

```

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

6043 \define@key{Field}{rotation}{%
6044   \def\Fld@rotation{#1}%
6045 }

6046 \define@key{Field}{backgroundcolor}{%
6047   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6048 }
6049 \define@key{Field}{bordercolor}{%
6050   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6051 }
6052 \define@key{Field}{color}{%
6053   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6054 }

6055 \let\Fld@onclick@code\ltx@empty
6056 \let\Fld@format@code\ltx@empty
6057 \let\Fld@validate@code\ltx@empty
6058 \let\Fld@calculate@code\ltx@empty
6059 \let\Fld@keystroke@code\ltx@empty
6060 \let\Fld@onfocus@code\ltx@empty
6061 \let\Fld@onblur@code\ltx@empty
6062 \let\Fld@onmousedown@code\ltx@empty

```

```

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

6090 \let\Fld@calculate@sortkey\ltx@empty
6091 \define@key{Field}{calculatesortkey}[1]{%
6092   \def\Fld@calculate@sortkey{#1}%
6093 }

6094 \ifHy@texht
6095   \def\Hy@temp#1{%
6096     \define@key{Field}{#1}{%
6097       \Field@addtoks{#1}{##1}%
6098     }%
6099   }%
6100 \else
6101   \def\Hy@temp#1{%
6102     \define@key{Field}{#1}{%
6103       \Hy@WarnHTMLFieldOption{#1}%
6104     }%
6105   }%
6106 \fi
6107 \Hy@temp{ondblclick}
6108 \Hy@temp{onmousedown}
6109 \Hy@temp{onmouseup}
6110 \Hy@temp{onmouseover}
6111 \Hy@temp{onmousemove}
6112 \Hy@temp{onmouseout}
6113 \Hy@temp{onkeydown}
6114 \Hy@temp{onkeyup}
6115 \Hy@temp{onselect}

```

```

6116 \Hy@temp{onchange}
6117 \Hy@temp{onkeypress}
6118 \ifHy@texht
6119 \define@key{Field}{onclick}{%
6120   \Field@addtoks{onclick}{#1}%
6121 }%
6122 \else
6123 \ifHy@pdfa
6124 \define@key{Field}{onclick}{%
6125   \Hy@Error{%
6126     PDF/A: Action `onclick' is prohibited%
6127   } \@ehc
6128 }%
6129 \else
6130 \define@key{Field}{onclick}{%
6131   \def\Fld@onclick@code{#1}%
6132 }%
6133 \fi
6134 \fi

6135 \DeclareRobustCommand\TextField{%
6136   \@ifnextchar[{\@TextField}{\@TextField[]}%
6137 }
6138 \DeclareRobustCommand\ChoiceMenu{%
6139   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6140 }
6141 \DeclareRobustCommand\CheckBox{%
6142   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6143 }
6144 \DeclareRobustCommand\PushButton{%
6145   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6146 }
6147 \DeclareRobustCommand\Gauge{%
6148   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6149 }
6150 \DeclareRobustCommand\Submit{%
6151   \@ifnextchar[{\@Submit}{\@Submit[]}%
6152 }
6153 \DeclareRobustCommand\Reset{%
6154   \@ifnextchar[{\@Reset}{\@Reset[]}%
6155 }
6156 \def\LayoutTextField#1#2{% label, field
6157   \def\Hy@temp{#1}%
6158   \ifx\Hy@temp\@empty
6159     #2%
6160   \else
6161     #1 #2%
6162   \fi
6163 }
6164 \def\LayoutChoiceField#1#2{% label, field
6165   \def\Hy@temp{#1}%
6166   \ifx\Hy@temp\@empty
6167     #2%
6168   \else
6169     #1 #2%

```



```

6170 \fi
6171 }
6172 \def\LayoutCheckField#1#2{% label, field
6173 \def\Hy@temp{#1}%
6174 \ifx\Hy@temp\@empty
6175 #2%
6176 \else
6177 #1 #2%
6178 \fi
6179 }
6180 \def\LayoutPushButtonField#1{% button
6181 #1%
6182 }
6183 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6184 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6185 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6186 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6187 \def\MakeButtonField#1{%
6188 \sbox0{%
6189 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6190 }%
6191 \@tempdima\ht0 %
6192 \advance\@tempdima by \Fld@borderwidth bp %
6193 \advance\@tempdima by \Fld@borderwidth bp %
6194 \ht0\@tempdima
6195 \@tempdima\dp0 %
6196 \advance\@tempdima by \Fld@borderwidth bp %
6197 \advance\@tempdima by \Fld@borderwidth bp %
6198 \dp0\@tempdima
6199 \box0\relax
6200 }
6201 \def\DefaultHeightofSubmit{14pt}
6202 \def\DefaultWidthofSubmit{2cm}
6203 \def\DefaultHeightofReset{14pt}
6204 \def\DefaultWidthofReset{2cm}
6205 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6206 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6207 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6208 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6209 \def\DefaultHeightofText{\normalbaselineskip}
6210 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6211 \def\DefaultWidthofText{3cm}
6212 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6213 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6214 \def\DefaultOptionsofPushButton{print}
6215 \def\DefaultOptionsofCheckBox{print}
6216 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6217 \def\DefaultOptionsofListBox{print}
6218 \def\DefaultOptionsofComboBox{print,edit,sort}
6219 \def\DefaultOptionsofPopdownBox{print}
6220 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

6221 \ifHy@hyperfigures
6222 \Hy@Info{Hyper figures ON}%
6223 \else
6224 \Hy@Info{Hyper figures OFF}%
6225 \fi
6226 \ifHy@nesting
6227 \Hy@Info{Link nesting ON}%
6228 \else
6229 \Hy@Info{Link nesting OFF}%
6230 \fi
6231 \ifHy@hyperindex
6232 \Hy@Info{Hyper index ON}%
6233 \else
6234 \Hy@Info{Hyper index OFF}%
6235 \fi
6236 \ifHy@backref
6237 \Hy@Info{backreferencing ON}%
6238 \else
6239 \Hy@Info{backreferencing OFF}%
6240 \fi
6241 \ifHy@colorlinks
6242 \Hy@Info{Link coloring ON}%
6243 \else
6244 \Hy@Info{Link coloring OFF}%
6245 \fi
6246 \ifHy@ocgcolorlinks
6247 \Hy@Info{Link coloring with OCG ON}%
6248 \else
6249 \Hy@Info{Link coloring with OCG OFF}%
6250 \fi
6251 \ifHy@pdfa
6252 \Hy@Info{PDF/A mode ON}%
6253 \else
6254 \Hy@Info{PDF/A mode OFF}%
6255 \fi

```

## 21 Low-level utility macros

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

```

6256 \edef\hyper@hash{\string#}
6257 \edef\hyper@tilde{\string~}
6258 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6259 \def\@currentHref{Doc-Start}
6260 \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.

```

6261 \Hy@AtBeginDocument{%
6262 \Hy@pdfstringtrue
6263 \PDF@SetupDoc

```

```

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

```

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

```

6292 \@ifundefined{@kernel@ref}
6293 {\LetLtxMacro\NoHy@OrgRef\ref
6294 \DeclareRobustCommand*{\ref}{%
6295 \ifstar\NoHy@OrgRef\NoHy@OrgRef
6296 }
6297 \LetLtxMacro\NoHy@OrgPageRef\pageref
6298 \DeclareRobustCommand*{\pageref}{%
6299 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6300 }{}

```

## 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.

```

6301 \def\NoHyper{%
6302 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6303 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6304 \global\let\hyper@livelink\hyper@link
6305 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6306 \let\hyper@anchor\ltx@gobble

```

```

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

```

6332 (*nohyperref)
6333 \RequirePackage{letltxmacro}[2008/06/13]
6334 \let\hyper@@anchor\@gobble
6335 \def\hyper@link#1#2#3{#3}%
6336 \let\hyper@anchorstart\@gobble
6337 \let\hyper@anchorend\@empty
6338 \let\hyper@linkstart\@gobbletwo
6339 \let\hyper@linkend\@empty
6340 \def\hyper@linkurl#1#2{#1}%
6341 \def\hyper@linkfile#1#2#3{#1}%
6342 \def\hyper@link@[#1]#2#3{#3}%
6343 \let\PDF@SetupDoc\@empty
6344 \let\PDF@FinishDoc\@empty
6345 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6346 \def\Acrobatmenu#1#2{\leavevmode#2}
6347 \let\pdfstringdefDisableCommands\@gobbletwo
6348 \let\texorpdfstring\@firstoftwo

```

```

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

```

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

```

6363 \if@t@r\fmtversion{2022-06-01}
6364 {}%
6365 {%
6366 \LetLtxMacro\NoHy@OrgRef\ref
6367 \DeclareRobustCommand*\ref{%
6368 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6369 }
6370 \LetLtxMacro\NoHy@OrgPageRef\pageref
6371 \DeclareRobustCommand*\pageref{%
6372 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6373 }%
6374 }
6375 \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}`

```

6376 (*package)
6377 \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.

```

6378 \if@files
6379 \immediate\write\@auxout{%
6380 \string\providecommand\string\HyperFirstAtBeginDocument{%
6381 \string\AtBeginDocument}^^J%
6382 \string\HyperFirstAtBeginDocument{%
6383 \string\ifx\string\hyper\string\@anchor\string\@undefined^^J%
6384 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6385 \string\gdef\string\newlabel\string#1\string#2{%
6386 \string\newlabelxx{\string#1}\string#2}^^J%
6387 \string\gdef\string\newlabelxx%

```

```

6388      \string#1\string#2\string#3\string#4\string#5\string#6{%
6389      \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.

```

6390      \string\AtEndDocument{%
6391      \string\ifx\string\hyper@anchor\string\@undefined^^J%
6392      \string\let\string\newlabel\string\oldnewlabel^^J%
6393      \string\fi%
6394      }^^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.

```

6395      \string\fi%
6396      }^^J%
6397      \string\global\string\let\string\hyper@last\relax^^J%
6398      \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6399      }%
6400      \fi
6401      \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.

```

6402      \ifx\hyper@last\@undefined
6403      \def\newlabel#1#2{\@newl@bel r{#1}{#2}{}}}%
6404      \fi
6405      }

```

## 25 Title strings

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

```

6406 \ifHy@pdfusetitle
6407 \let\HyOrg@title\title
6408 \let\HyOrg@author\author
6409 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6410 \def\Hy@scanopttitle[#1]{%
6411 \gdef\Hy@title{#1}%
6412 \HyOrg@title{#1}%
6413 }%
6414 \def\Hy@scantitle#1{%
6415 \gdef\Hy@title{#1}%
6416 \HyOrg@title{#1}%
6417 }%
6418 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6419 \def\Hy@scanoptauthor[#1]{%
6420 \gdef\Hy@author{#1}%
6421 \HyOrg@author{#1}%
6422 }%
6423 \def\Hy@scanauthor#1{%
6424 \gdef\Hy@author{#1}%

```

```

6425 \HyOrg@author{#1}%
6426 }%

```

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

```

6427 \begingroup
6428 \def\process@me#1\@nil#2{%
6429 \expandafter\let\expandafter\x\csname @#2\endcsname
6430 \edef\y{\expandafter\strip@prefix\meaning\x}%
6431 \def\c##1##2\@nil{%
6432 \ifx\\##1\\%
6433 \else
6434 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6435 \expandafter{\x}%
6436 \fi
6437 }%
6438 \expandafter\c\y\relax#1\@nil
6439 }%
6440 \expandafter\process@me\string\@latex@\@nil{title}%
6441 \expandafter\process@me\string\@latex@\@nil{author}%
6442 \endgroup
6443 \fi
6444 \Hy@DisableOption{pdfusetitle}

```

Macro `\Hy@UseMaketitleInfos` is used in the driver files, before the information entries are used.

The newline macro `\newline` or `\\` is much more complicate. In the title a good replacement can be a space, but can be already a space after `\\` in the title string. So this space is removed by scanning for the next non-empty argument.

In the macro `\author` the newline can perhaps separate the different authors, so the newline expands here to a comma with space.

The possible arguments such as space or the optional argument after the newline macros are not detected.

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

```

6445 \def\Hy@UseMaketitleString#1{%
6446 \ltx@ifundefined{Hy@#1}{-}%
6447 \begingroup
6448 \let\Hy@saved@hook\pdfstringdefPreHook
6449 \pdfstringdefDisableCommands{%
6450 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6451 \let\newline\\%
6452 \def\and{; }%
6453 \let\thanks\@gobble%
6454 }%
6455 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6456 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6457 \csname Hy@#1\endcsname\@empty
6458 }%
6459 \fi
6460 \global\let\pdfstringdefPreHook\Hy@saved@hook
6461 \endgroup
6462 }%
6463 }

```

```

6464 \def\Hy@newline@title#1{ #1}
6465 \def\Hy@newline@author#1{, #1}
6466 \def\Hy@UseMaketitleInfos{%
6467   \Hy@UseMaketitleString{title}%
6468   \Hy@UseMaketitleString{author}%
6469 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

6470 \RequirePackage{atbegshi}[2007/09/09]
6471 \let\Hy@EveryPageHook\ltx@empty
6472 \let\Hy@EveryPageBoxHook\ltx@empty
6473 \let\Hy@FirstPageHook\ltx@empty
6474 \AtBeginShipout{%
6475   \Hy@EveryPageHook
6476   \ifx\Hy@EveryPageBoxHook\ltx@empty
6477     \else
6478       \setbox\AtBeginShipoutBox=\vbox{%
6479         \offinterlineskip
6480         \Hy@EveryPageBoxHook
6481         \box\AtBeginShipoutBox
6482       }%
6483   \fi
6484 }
6485 \ltx@iffileloaded{hpdftex.def}{%
6486   \AtBeginShipout{%
6487     \Hy@FirstPageHook
6488     \global\let\Hy@FirstPageHook\ltx@empty
6489   }%
6490 }{%
6491   \AtBeginShipoutFirst{%
6492     \Hy@FirstPageHook
6493   }%
6494 }
6495 \g@addto@macro\Hy@FirstPageHook{%
6496   \PDF@FinishDoc
6497   \global\let\PDF@FinishDoc\ltx@empty
6498 }

```

### 27.1 PDF /PageLabels

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

```

6499 \ifHy@pdfpagelabels
6500   \begingroup\expandafter\expandafter\expandafter\endgroup
6501   \expandafter\ifx\csname thepage\endcsname\relax
6502     \Hy@pdfpagelabelsfalse
6503     \Hy@WarningNoLine{%
6504       Option `pdfpagelabels' is turned off\MessageBreak

```



```

6505     because \string\thepage\space is undefined%
6506   }%
6507   \csname fi\endcsname
6508   \csname iffalse\expandafter\endcsname
6509   \fi

```

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

```

6510   \def\thispdfpagelabel#1{%
6511     \gdef\HyPL@thisLabel{#1}%
6512   }%
6513   \global\let\HyPL@thisLabel\relax

```

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

```

6514   \let\HyPL@Labels\ltx@empty

```

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

```

6515   \newcount\Hy@abspage
6516   \Hy@abspage=0 %

```

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

```

6517   \def\HyPL@LastType{init}%
6518   \def\HyPL@LastNumber{0}%
6519   \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the L<sup>A</sup>T<sub>E</sub>X pendants.

```

6520   \def\HyPL@arabic{D}%
6521   \def\HyPL@Roman{R}%
6522   \def\HyPL@roman{r}%
6523   \def\HyPL@Alph{A}%
6524   \def\HyPL@alph{a}%

6525   \let\HyPL@SlidesSetPage\ltx@empty
6526   \ltx@ifclassloaded{slides}{%
6527     \def\HyPL@SlidesSetPage{%
6528       \advance\c@page\ltx@one
6529       \ifnum\value{page}>\ltx@one
6530         \protected@edef\HyPL@SlidesOptionalPage{%
6531           \Hy@SlidesFormatOptionalPage{\thepage}%
6532         }%
6533       \else
6534         \let\HyPL@SlidesOptionalPage\ltx@empty
6535       \fi
6536       \advance\c@page-\ltx@one
6537     \def\HyPL@page{%
6538       \csname the\Hy@SlidesPage\endcsname
6539       \HyPL@SlidesOptionalPage
6540     }%
6541   }%
6542   }{}%

```

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

```

6543 \def\HyPL@EveryPage{%
6544 \begingroup
6545 \ifx\HyPL@thisLabel\relax
6546 \let\HyPL@page\thepage
6547 \HyPL@SlidesSetPage
6548 \else
6549 \let\HyPL@page\HyPL@thisLabel
6550 \global\let\HyPL@thisLabel\relax
6551 \fi
6552 \let\HyPL@Type\relax
6553 \ifnum\c@page>0 %
6554 \ifx\HyPL@SlidesSetPage\ltx@empty
6555 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6556 \fi
6557 \fi
6558 \let\Hy@temp Y%
6559 \ifx\HyPL@Type\HyPL@LastType
6560 \else
6561 \let\Hy@temp N%
6562 \fi
6563 \ifx\HyPL@Type\relax
6564 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6565 \else
6566 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6567 \fi
6568 \ifx\HyPL@Prefix\HyPL@LastPrefix
6569 \else
6570 \let\Hy@temp N%
6571 \fi
6572 \if Y\Hy@temp
6573 \advance\c@page by -1 %
6574 \ifnum\HyPL@LastNumber=\the\c@page\relax
6575 \else
6576 \let\Hy@temp N%
6577 \fi
6578 \Hy@StepCount\c@page
6579 \fi
6580 \if N\Hy@temp
6581 \ifx\HyPL@Type\relax
6582 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6583 \else
6584 \HyPL@StorePageLabel{%
6585 \ifx\HyPL@Prefix\@empty
6586 \else
6587 /P(\HyPL@Prefix)%
6588 \fi
6589 /S/\csname HyPL\HyPL@Type\endcsname
6590 \ifnum\the\c@page=1 %
6591 \else
6592 \space/St \the\c@page
6593 \fi
6594 }%
6595 \fi
6596 \fi

```

```

6597 \xdef\HyPL@LastNumber{\the\c@page}%
6598 \global\let\HyPL@LastType\HyPL@Type
6599 \global\let\HyPL@LastPrefix\HyPL@Prefix
6600 \endgroup
6601 \Hy@GlobalStepCount\Hy@abspage
6602 }%

```

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

```

6603 \def\HyPL@CheckThePage#1\@nil{%
6604 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6605 }%

```

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

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

```

6606 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6607 \def\Hy@tempa{#4}%
6608 \def\Hy@tempb{\csname\endcsname\c@page}%
6609 \ifx\Hy@tempa\Hy@tempb
6610 \expandafter\ifx\csname HyPL#3\endcsname\relax
6611 \else
6612 \def\HyPL@Type{#3}%
6613 \def\HyPL@Prefix{#2}%
6614 \fi
6615 \else
6616 \begingroup
6617 \let\Hy@next\endgroup
6618 \let\HyPL@found\@undefined
6619 \def\arabic{\HyPL@Format{arabic}}%
6620 \def\Roman{\HyPL@Format{Roman}}%
6621 \def\roman{\HyPL@Format{roman}}%
6622 \def\Alph{\HyPL@Format{Alph}}%
6623 \def\alph{\HyPL@Format{alph}}%
6624 \protected@edef\Hy@temp{#1}%
6625 \ifx\HyPL@found\relax
6626 \toks@{\expandafter{\Hy@temp}}%
6627 \edef\Hy@next{\endgroup
6628 \noexpand\HyPL@@@CheckThePage\the\toks@
6629 \noexpand\HyPL@found\relax\noexpand\@nil
6630 }%
6631 \fi
6632 \Hy@next
6633 \fi
6634 }%

```

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

```

6635 \def\HyPL@Format#1#2{%
6636 \ifx\HyPL@found\@undefined
6637 \expandafter\ifx\csname c@#2\endcsname\c@page

```

```

6638     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6639     \else
6640     \expandafter\noexpand\csname#1\endcsname{#2}%
6641     \fi
6642     \else
6643     \expandafter\noexpand\csname#1\endcsname{#2}%
6644     \fi
6645 }%

```

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

```

6646 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6647   \def\Hy@tempa{#3}%
6648   \def\Hy@tempb{\HyPL@found\relax}%
6649   \ifx\Hy@tempa\Hy@tempb
6650     \def\HyPL@Type{#2}%
6651     \def\HyPL@Prefix{#1}%
6652   \fi
6653 }%

```

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

```

6654 \providecommand*{\HyPL@StorePageLabel}[1]{}%

```

`\HyPL@Useless` The `/PageLabels` entry does not make sense, if the absolute page numbers and the page labels are the same. Then `\HyPL@Labels` has the meaning of `\HyPL@Useless`.

```

6655 \def\HyPL@Useless{0<</S/D>>}%
6656 \@onelevel@sanitize\HyPL@Useless

```

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

```

6657 \def\HyPL@SetPageLabels{%
6658   \@onelevel@sanitize\HyPL@Labels
6659   \ifx\HyPL@Labels\@empty
6660   \else
6661     \ifx\HyPL@Labels\HyPL@Useless
6662     \else
6663       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6664     \fi
6665   \fi
6666 }%

6667 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6668 \fi

```

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

```

6669 \Hy@DisableOption{pdfpagelabels}
6670 \</package>

```

### 27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```
6671 <*pdftex>
6672 \pdf@ifdraftmode{%
6673   \let\Hy@PutCatalog\ltx@gobble
6674 }{%
6675   \let\Hy@PutCatalog\pdfcatalog
6676 }
6677 </pdftex>
```

The code for VTeX is more complicate, because it does not allow the direct access to the `/Catalog` object. The command scans its argument and looks for a `/PageLabels` entry.

VTeX 6.59g is the first version, that implements `\special{!pdfpagelabels...}`. For this version `\VTeXversion` reports 660.

```
6678 <*vtex>
6679 \providecommand*\XR@ext}{pdf}
6680 \edef\Hy@VTeXversion{%
6681   \ifx\VTeXversion\@undefined
6682     \z@
6683   \else
6684     \ifx\VTeXversion\relax
6685       \z@
6686     \else
6687       \VTeXversion
6688     \fi
6689   \fi
6690 }
6691 \begingroup
6692   \ifnum\Hy@VTeXversion<660 %
6693     \gdef\Hy@PutCatalog#1{%
6694       \Hy@WarningNoLine{%
6695         VTeX 6.59g or above required for pdfpagelabels%
6696       }%
6697     }%
6698   \else
6699     \gdef\Hy@PutCatalog#1{%
6700       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6701     }%
6702     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6703       \ifx\#2\%
6704         \else
6705           \immediate\special{!pdfpagelabels #2}%
6706         \fi
6707       }%
6708     \fi
6709   \endgroup
6710 </vtex>

6711 <*pdftex|vtex>
```

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

```
6712 \ifHy@pdfpagelabels
6713   \def\HyPL@StorePageLabel#1{%
6714     \toks@\expandafter{\HyPL@Labels}%
```

```

6715 \xdef\HyPL@Labels{%
6716 \the\toks@
6717 \the\Hy@abspage<<#1>>%
6718 }%
6719 }%

```

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.

```

6720 \RequirePackage{atveryend}[2009/12/07]%
6721 \AtVeryEndDocument{%
6722 \HyPL@SetPageLabels
6723 }%

6724 \fi
6725 </pdfTeX | vtex>

```

### 27.1.2 xetex

```

6726 < *xetex >
6727 \HyPsd@LoadUnicode
6728 \Hy@unicodetrue
6729 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6730 \else
6731 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6732 \fi
6733 \HyPsd@LoadStringEncoding
6734 \define@key{Hyp}{unicode}[true]{%
6735 \Hy@boolkey{unicode}{#1}%
6736 \ifHy@unicode
6737 \else
6738 \Hy@Warning{%
6739 XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6740 option setting `unicode=false'%
6741 }%
6742 \Hy@unicodetrue
6743 \fi
6744 }
6745 \define@key{Hyp}{pdfencoding}{%
6746 \edef\HyPsd@temp{#1}%
6747 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6748 \let\HyPsd@pdfencoding\HyPsd@temp
6749 \else
6750 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6751 \let\HyPsd@pdfencoding\HyPsd@temp
6752 \else
6753 \Hy@Warning{%
6754 XeTeX driver only supports\MessageBreak
6755 `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6756 setting `pdfencoding=\HyPsd@temp'%
6757 }%
6758 \fi
6759 \fi
6760 }

```

```
6761 \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:

```
6762 \def\setpdfinkmargin#1{%
6763   \begingroup
6764     \setlength{\dimen@}{#1}%
6765     \special{dvipdfmx:config g \strip@pt\dimen@}%
6766   \endgroup}
6767 \xetex
```

set the pdf version

```
6768 \<dvipdfm | xetex>
6769 \special{pdf:majorversion \Hy@pdf@majorversion}
6770 \special{pdf:minorversion \Hy@pdf@minorversion}
6771 \</dvipdfm | xetex>
```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```
6772 \<pdfmarkbase>
6773 \begingroup
6774   \ifundefined{headerps@out}{-}{%
6775     \toks@{\expandafter{\Hy@FirstPageHook}%
6776     \xdef\Hy@FirstPageHook{%
6777       \noexpand\headerps@out{%
6778         systemdict /pdfmark known%
6779         {%
6780           userdict /?pdfmark systemdict /exec get put%
6781         }%
6782         userdict /?pdfmark systemdict /pop get put %
6783         userdict /pdfmark systemdict /cleartomark get put%
6784       }%
6785       ifelse%
6786     }%
6787     \the\toks@
6788   }%
6789 }%
6790 \endgroup
6791 \</pdfmarkbase>
```

\Hy@PutCatalog

```
6792 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
6793 \<pdfmarkbase>
6794 \def\Hy@PutCatalog#1{%
6795   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6796 }
6797 \</pdfmarkbase>

6798 \<pdfmarkbase | dvipdfm | xetex>
6799 \ifHy@pdfpagelabels
```

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

```
6800 \def\HyPL@StorePageLabel#1{%
6801   \if@filesw
6802     \begingroup
6803     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6804     \immediate\write\@mainaux{%
```

```

6805     \string\HyPL@Entry{\Hy@tempa}%
6806   }%
6807   \endgroup
6808   \fi
6809 }%

```

Write a dummy definition of `\HyPL@Entry` for the case, that the next run is done without hyperref. A marker for the rerun warning is set and the `/PageLabels` is written.

```

6810 \Hy@AtBeginDocument{%
6811   \if@filesw
6812     \immediate\write\@mainaux{%
6813       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6814     }%
6815   \fi
6816   \ifx\HyPL@Labels\@empty
6817     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6818   \else
6819     \HyPL@SetPageLabels
6820   \fi
6821   \let\HyPL@Entry\@gobble
6822 }%

```

`\HyPL@Entry`

```

6823 \def\HyPL@Entry#1{%
6824   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6825     \HyPL@Labels
6826     #1%
6827   }%
6828 }%

6829 \fi
6830 </pdfmarkbase | dvipdfm | xetex>

6831 <*\packageEnd>

6832 \ifx\MaybeStopEarly\relax
6833 \else
6834   \Hy@stoppedearlytrue
6835   \expandafter\MaybeStopEarly
6836 \fi
6837 \Hy@stoppedearlyfalse

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>` be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever L<sup>A</sup>T<sub>E</sub>X provides, which may be useable.



But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

6838 \def\Hy@CounterExists#1{%
6839   \begingroup\expandafter\expandafter\expandafter\endgroup
6840   \expandafter\ifx\csname c@#1\endcsname\relax
6841     \expandafter\@gobble
6842   \else
6843     \begingroup\expandafter\expandafter\expandafter\endgroup
6844     \expandafter\ifx\csname the#1\endcsname\relax
6845       \expandafter\expandafter\expandafter\@gobble
6846     \else
6847       \expandafter\expandafter\expandafter\@firstofone
6848     \fi
6849   \fi
6850 }
6851 \Hy@CounterExists{section}{%
6852   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6853 }
6854 \providecommand\theHequation{\arabic{equation}}}%
6855 \Hy@CounterExists{part}{%
6856   \providecommand\theHpart{\arabic{part}}}%
6857 }
6858 \ltx@ifundefined{thechapter}{%
6859   \providecommand\theHsection   {\arabic{section}}}%
6860   \providecommand\theHfigure    {\arabic{figure}}}%
6861   \providecommand\theHtable     {\arabic{table}}}%
6862 }{%
6863   \providecommand\theHchapter   {\arabic{chapter}}}%
6864   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6865   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
6866   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
6867 }
6868 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6869 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6870 \providecommand\theHparagraph  {\theHsubsubsection.\arabic{paragraph}}
6871 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6872 \providecommand\theHtheorem    {\theHsection.\arabic{theorem}}
6873 \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.

```

6874 \let\H@item\item
6875 \newcounter{Item}
6876 \def\theHItem{\arabic{Item}}

```

```

6877 \def\item{%
6878   \@hyper@itemfalse
6879   \if@nmbrlist\@hyper@itemtrue\fi
6880   \H@item
6881 }

6882 \providecommand\theHenumi    {\theHItem}
6883 \providecommand\theHenumii   {\theHItem}
6884 \providecommand\theHenumiii  {\theHItem}
6885 \providecommand\theHenumiv   {\theHItem}
6886 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6887 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6888 \@ifundefined{theHHmpfootnote}{%
6889   \let\theHHmpfootnote\theHHfootnote
6890 }{}

```

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.

```

6891 \let\H@refstepcounter\refstepcounter
6892 \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`

```

6893 \newif\if@hyper@item
6894 \newif\if@skiphyperref
6895 \@hyper@itemfalse
6896 \@skiphyperreffalse
6897 \ExplSyntaxOn
6898 \def\refstepcounter#1{%
6899   \legacy_if:nF {Hy@pdfstring}
6900   {
6901     \H@refstepcounter{#1}%
6902     \bool_lazy_and:nnT
6903       { \l__hyp_target_create_bool }
6904       { ! \legacy_if_p:n{ @skiphyperref } }
6905     {
6906       \legacy_if:nTF { @hyper@item }
6907       {
6908         \stepcounter{Item}%
6909         \hyper@refstepcounter{Item}%
6910         \@hyper@itemfalse
6911       }
6912       {
6913         \hyper@refstepcounter{#1}%
6914       }
6915     }
6916   }
6917 }
6918 \ExplSyntaxOff
6919 \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.

```
6920 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6921 \def\hyper@refstepcounter#1{%
6922   \HyCnt@ProvideTheHCounter{#1}%
6923   \hyper@makecurrent{#1}%
6924   \ifmeasuring@
6925   \else
6926     \Hy@raisedlink{%
6927       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6928     }%
6929   \fi
6930 }
```

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

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

`\Hy@LookForParentCounter`

```
6950 \def\HyCnt@LookForParentCounter#1#2{%
6951   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6952   \ltx@ifundefined{cl@#2}{%
6953   }{%
6954     \ltx@onelevel@sanitize\Hy@temp@A
6955     \edef\Hy@temp@A{%
6956       \noexpand\in@\Hy@temp\Hy@temp@A}%
6957     }\Hy@temp@A
```

```

6958 \ifn@
6959 \ltx@ifundefined{theH#2}{%
6960 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6961 \expandafter{%
6962 \expandafter\@arabic\csname c@#2\endcsname.%
6963 }%
6964 }{%
6965 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6966 \expandafter{%
6967 \csname theH#2\endcsname.%
6968 }%
6969 }%
6970 \fi
6971 }%
6972 }

```

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

The “french” package defines counter `\thechapter` by `\newcounterchapter`, if `\@ifundefinedchapter`.

```

6973 \begingroup\expandafter\expandafter\expandafter\endgroup
6974 \expandafter\ifx\csname chapter\endcsname\relax
6975 \def\Hy@chapterstring{section}%
6976 \else
6977 \def\Hy@chapterstring{chapter}%
6978 \fi
6979 \def\Hy@appendixstring{appendix}
6980 \def\Hy@chapapp{\Hy@chapterstring}
6981 \ltx@ifundefined{appendix}{%
6982 }{%
6983 \let\HyOrg@appendix\appendix
6984 \def\Hy@AlphNoErr#1{%
6985 \ifnum\value{#1}>26 %
6986 Alph\number\value{#1}%
6987 \else
6988 \ifnum\value{#1}<1 %
6989 Alph\number\value{#1}%
6990 \else
6991 \Alph{#1}%
6992 \fi
6993 \fi
6994 }%
6995 \def\appendix{%
6996 \ltx@ifundefined{chapter}{%
6997 \gdef\theHsection{\Hy@AlphNoErr{section}}%
6998 }{%
6999 \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7000 }%
7001 \xdef\Hy@chapapp{\Hy@appendixstring}%
7002 \HyOrg@appendix
7003 }%
7004 }

```

\Hy@Test@alph

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

\Hy@Test@Alph

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

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

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

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

```
7028 \def\hyper@makecurrent#1{%
7029   \begingroup
7030   \Hy@safe@activestrue
7031   \edef\Hy@param{#1}%
7032   \ifx\Hy@param\Hy@chapterstring
7033     \let\Hy@param\Hy@chapapp
7034   \fi
7035   \ifHy@hypertextnames
7036     \let\@number\@firstofone
7037     \def\@fnsymbol##1{fnsymbol\number##1}%
7038     \def\@arabic##1{\number##1}%
7039     \ifx\@alph\Hy@Test@alph
7040     \else
7041       \def\@alph{alph\number}%
7042     \fi
7043     \ifx\@Alph\Hy@Test@Alph
7044     \else
7045       \def\@Alph{Alph\number}%
7046     \fi
7047     \ifHy@naturalnames
7048       \let\textlatin\@firstofone
```

```

7049 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7050 \else
7051 \xdef\HyperGlobalCurrentHref{%
7052 \csname
7053 the%
7054 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7055 #1%
7056 \endcsname
7057 }%
7058 \fi
7059 \xdef\HyperGlobalCurrentHref{%
7060 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7061 }%
7062 \else
7063 \Hy@GlobalStepCount\Hy@linkcounter
7064 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7065 \fi
7066 \endgroup
7067 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7068 \ifHy@localanchorname
7069 \let\@currentHref\HyperLocalCurrentHref
7070 \else
7071 \global\let\@currentHref\HyperGlobalCurrentHref
7072 \fi
7073 \UseHook{__hyp/target/setname}%
7074 }

```

\Hy@MakeCurrentHref

```

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

```

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

```

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

```

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

```

7090 \def\@currentHlabel{\@currentHref}

```

## 29 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

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

## 30 Package titlesec and titletoc support

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

Package titlesec support:

```
7093 \@ifpackageloaded{titlesec}{%
7094   \def\ttl@Hy@steplink#1{%
7095     \Hy@MakeCurrentHrefAuto{#1*}%
7096     \edef\ttl@Hy@saveanchor{%
7097       \noexpand\Hy@raisedlink{%
7098         \noexpand\hyper@anchorstart{\@currentHref}%
7099         \noexpand\hyper@anchorend
7100         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7101         \noexpand\ttl@Hy@PatchSaveWrite
7102       }%
7103     }%
7104   }%
7105   \def\ttl@Hy@PatchSaveWrite{%
7106     \begingroup
7107     \toks@{\expandafter{\ttl@savewrite}}%
7108     \edef\x{\endgroup
7109       \def\noexpand\ttl@savewrite{%
7110         \let\noexpand\@currentHref
7111         \noexpand\ttl@Hy@SavedCurrentHref
7112         \the\toks@
7113       }%
7114     }%
7115     \x
7116   }%
7117   \def\ttl@Hy@refstepcounter#1{%
7118     \let\ttl@b\Hy@raisedlink
7119     \def\Hy@raisedlink##1{%
7120       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7121     }%
7122     \refstepcounter{#1}%
7123     \let\Hy@raisedlink\ttl@b
7124   }%
7125 }
```

## 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.

```

7126 \@if@t@r\fmtversion{2021-11-15}
7127 {}%
7128 {
7129   \AtBeginDocument{%
7130     \def\Hy@varioref@undefined{{??}{??}{}}{}{}
7131     \@ifpackageloaded{varioref}{%
7132       \def\vref@pagenum#1#2{%
7133         \@ifundefined{r@#2}{%
7134           \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7135         }{}%
7136         \edef#1{\getpagerefnumber{#2}}}%
7137       }%
7138     }{}
7139   }
7140 }

```

## 32 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by `hyperref's` `\refstepcounter` and the anchor setting is moved after `\vskip\LTpre`.

Patch of `\LT@array`: replace `\refstepcounter` by the original `\H@refstepcounter` without anchor generation

```

7141 \@ifpackageloaded{longtable}{%
7142   \@ifundefined{hyper@nopatch@longtable}{%
7143     \begingroup
7144     \def\y{\LT@array}%
7145     \@ifundefined{scr@LT@array}{%
7146       \@ifundefined{adl@LT@array}{}{\def\y{adl@LT@array}}%
7147     }{\def\y{scr@LT@array}}%
7148     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7149       \expandafter\endgroup
7150       \expandafter\def\y[##1]##2{%
7151         \H@refstepcounter{#1}%
7152         \hyper@makecurrent{table}%
7153         \let\Hy@LT@currentHref\@currentHref
7154         #2\@sharp###4%
7155       }%
7156     }%
7157     \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7158   \begingroup
7159   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7160     \endgroup
7161     \def\LT@start{%
7162       #1%
7163       \ifvoid\LT@foot#2\fi
7164       \let\@currentHref\Hy@LT@currentHref
7165       \Hy@raisedlink{%
7166         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7167       }%
7168       #3%

```



```

7169 }%
7170 }%
7171 \expandafter\x\LT@start\@nil
7172 }{}
7173 }{}

```

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

```

7174 \let\new@refstepcounter\refstepcounter
7175 \let\H@equation\equation
7176 \let\H@endequation\endequation

7177 \ifundefined{hyper@nopatch@mathenv}{%
7178   \ifpackageloaded{amsmath}{%
7179     \long\def\Hy@temp{%
7180       \incr@eqnum
7181       \mathdisplay@push
7182       \st@rredfalse \global\@eqnswtrue
7183       \mathdisplay{equation}%
7184     }%
7185     \ifx\Hy@temp\equation
7186       \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7187         \csname iftrue\endcsname
7188     \else
7189       \long\def\equation{%
7190         \mathdisplay@push
7191         \st@rredfalse \global\@eqnswtrue
7192         \mathdisplay{equation}%
7193         \incr@eqnum
7194       }%
7195     \fi
7196   \fi
7197 }{%
7198   \def\equation{%
7199     \let\refstepcounter\H@refstepcounter
7200     \H@equation
7201     \hyper@makecurrent{equation}%

```

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

```

7202   \mathopen{%
7203     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7204   }%
7205   \let\refstepcounter\new@refstepcounter
7206 }%
7207 \def\endequation{%
7208   \ifx\Hy@raisedlink\ltx@empty

```

```

7209     \hyper@anchorend
7210   \else
7211     \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7212   \fi
7213   \H@endequation
7214 }%
7215 }
7216 }{}

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```

7217 \newif\if@eqnstar
7218 \@eqnstarfalse
7219 \let\H@eqnarray\eqnarray
7220 \let\H@endeqnarray\endeqnarray
7221 \@ifundefined{hyper@nopatch@mathenv}{%
7222   \def\eqnarray{%
7223     \let\Hy@reserved@a\relax
7224     \def\@currentHref{}%
7225     \H@eqnarray
7226     \if@eqnstar
7227     \else
7228       \ifx\\\@currentHref\\%
7229       \else
7230         \hyper@makecurrent{equation}%
7231         \mathopen{%
7232           \Hy@raisedlink{%
7233             \hyper@anchorstart{\@currentHref}\hyper@anchorend
7234           }%
7235         }%
7236       \fi
7237     \fi
7238   }
7239   \def\endeqnarray{%
7240     \H@endeqnarray
7241   }
7242 }{}

```

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.

```

7243 \@namedef{eqnarray*}{%
7244   \protected\def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7245 }
7246 \@namedef{endeqnarray*}{%
7247   \nonumber\endeqnarray\@eqnstarfalse
7248 }

```

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

```

7249 \ltx@ifundefined{subeqnarray}{-}{%
7250   \let\H@subeqnarray\subeqnarray

```

```

7251 \let\H@endsubeqnarray\endsubeqnarray
7252 \def\subeqnarray{%
7253   \let\Hy@reserved@a\relax
7254   \H@subeqnarray
7255   \hyper@makecurrent{equation}%
7256   \hyper@anchorstart{\@currentHref}\hyper@anchorend
7257 }%
7258 \def\endsubeqnarray{%
7259   \H@endsubeqnarray
7260 }%
7261 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7262 }

```

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

```

7263 \def\make@stripped@name#1{%
7264   \begingroup
7265   \escapechar\m@ne
7266   \global\let\newname\@empty
7267   \protected@edef\Hy@tempa{#1}%
7268   \edef\@tempb{%
7269     \noexpand\@tfor\noexpand\Hy@tempa:=%
7270     \expandafter\strip@prefix\meaning\Hy@tempa
7271   }%
7272   \@tempb\do{%
7273     \if\Hy@tempa\else
7274     \if\Hy@tempa\else
7275       \xdef\newname{\newname\Hy@tempa}%
7276     \fi
7277   \fi
7278   }%
7279   \endgroup
7280 }

```

Support for amsmath's subequations:

```

7281 \ifcsname subequations\endcsname
7282 \let\HyOrg@subequations\subequations
7283 \def\subequations{%
7284   \stepcounter{equation}%
7285   \protected@edef\theHparentequation{\theHequation}%
7286   \addtocounter{equation}{-1}%
7287   \HyOrg@subequations
7288   \def\theHequation{\theHparentequation\alph{equation}}%
7289   \ignorespaces
7290 }%
7291 \fi

```

Support for theorems. We move the target into the para hook to avoid spacing problem. The patch will not apply to `cleveref` but hopefully it does the right thing anyway. `\@currentHref` is updated directly for labels set before the actual start of the paragraph. The target can be behind a target created from a following list, so we restore `\@currentHref` just in case

```

7292 \newcommand\Hy@theorem@refstepcounter[1]
7293 {%
7294   \H@refstepcounter{#1}%

```

```

7295 \hyper@makecurrent{#1}%
7296 \global\let\Hy@dth@currentHref\@currentHref
7297 \AddToHookNext{para/begin}
7298   {\let\Hy@tempa\@currentHref
7299     \MakeLinkTarget*\@currentHref}%
7300   \global\let\@currentHref\Hy@tempa
7301   }%
7302 }
7303 \ifundefined{hyper@nopatch@thm}{%
7304 \AtBeginDocument{%
7305 \ifpackageloaded{cleveref}
7306   {\AddToHook{cmd/@thm/before}{\ifhmode\unskip\fi}}
7307   {%
7308     \ifpatchable\@thm{\refstepcounter}
7309     {\patchcmd\@thm{\refstepcounter}{\Hy@theorem@refstepcounter}{}}{}
7310     }%
7311   }{}

```

## 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 addings links to footnotes is handled elsewhere.

```

7312 \ifundefined{hyper@nopatch@footnote}{%
7313 \ifHy@hyperfootnotes
7314   \newcounter{Hfootnote}%
7315   \let\H@@@footnotetext\@footnotetext
7316   \let\H@@@footnotemark\@footnotemark
7317   \def\@xfootnotenext[#1]{%
7318     \begingroup
7319       \csname c@\@mpfn\endcsname #1\relax
7320       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7321     \endgroup
7322     \ifx\@footnotetext\@mpfootnotetext
7323       \expandafter\H@@mpfootnotetext
7324     \else
7325       \expandafter\H@@footnotetext
7326     \fi
7327   }%
7328   \def\@xfootnotemark[#1]{%
7329     \begingroup
7330       \c@footnote #1\relax
7331       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7332     \endgroup
7333     \H@@@footnotemark
7334   }%
7335   \let\H@@mpfootnotetext\@mpfootnotetext
7336   \long\def\@mpfootnotetext#1{%
7337     \H@@mpfootnotetext{%

```

```

7338 \ifHy@nesting
7339 \expandafter\ltx@firstoftwo
7340 \else
7341 \expandafter\ltx@secondoftwo
7342 \fi
7343 {%
7344 \expandafter\hyper@@anchor\expandafter{%
7345 \Hy@footnote@currentHref
7346 }{\ignorespaces #1}%
7347 }{%
7348 \Hy@raisedlink{%
7349 \expandafter\hyper@@anchor\expandafter{%
7350 \Hy@footnote@currentHref
7351 }{\relax}%
7352 }\ignorespaces #1%
7353 }%
7354 }%
7355 }%
7356 \long\def\@footnotetext#1{%
7357 \H@@@footnotetext{%
7358 \ifHy@nesting
7359 \expandafter\ltx@firstoftwo
7360 \else
7361 \expandafter\ltx@secondoftwo
7362 \fi
7363 {%
7364 \expandafter\hyper@@anchor\expandafter{%
7365 \Hy@footnote@currentHref
7366 }{\ignorespaces #1}%
7367 }{%
7368 \Hy@raisedlink{%
7369 \expandafter\hyper@@anchor\expandafter{%
7370 \Hy@footnote@currentHref
7371 }{\relax}%
7372 }%
7373 \let\@currentHref\Hy@footnote@currentHref
7374 \let\@currentlabelname\@empty
7375 \ignorespaces #1%
7376 }%
7377 }%
7378 }%

```

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.

```

7379 \def\@footnotemark{%
7380 \leavevmode
7381 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7382 \stepcounter{Hfootnote}%
7383 \global\let\Hy@saved@currentHref\@currentHref
7384 \hyper@makecurrent{Hfootnote}%
7385 \global\let\Hy@footnote@currentHref\@currentHref

```

```

7386 \global\let\@currentHref\Hy@saved@currentHref
7387 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7388 \@makefnmark
7389 \hyper@linkend
7390 \ifhmode\spacefactor\@x@sf\fi
7391 \relax
7392 }%

```

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

```

7393 \@ifpackageloaded{tabularx}{%
7394 \let\HyOrg@TX@endtabularx\TX@endtabularx
7395 \def\Hy@tabularx@hook{%
7396 \let\@footnotetext\H@@footnotetext
7397 \let\@footnotemark\H@@footnotemark
7398 \let\@mpfootnotetext\H@@mpfootnotetext
7399 }%
7400 \begingroup
7401 \toks@\expandafter{\TX@endtabularx}%
7402 \xdef\Hy@gtemp{%
7403 \noexpand\Hy@tabularx@hook
7404 \the\toks@
7405 }%
7406 \endgroup
7407 \let\TX@endtabularx\Hy@gtemp
7408 }{}%

```

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

```

7409 \@ifpackageloaded{longtable}{%
7410 \CheckCommand{\LT@p@ftntext}[1]{%
7411 \edef\@tempa{%
7412 \the\LT@p@ftn
7413 \noexpand\footnotetext[\the\c@footnote]%
7414 }%
7415 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7416 }%
7417 \long\def\LT@p@ftntext#1{%
7418 \edef\@tempa{%
7419 \the\LT@p@ftn
7420 \begingroup
7421 \noexpand\c@footnote=\the\c@footnote\relax
7422 \noexpand\protected\xdef\noexpand\@thefnmark{%
7423 \noexpand\thempfn
7424 }%
7425 \noexpand\Hy@LT@footnotetext{%
7426 \Hy@footnote@currentHref
7427 }%
7428 }%
7429 \global\LT@p@ftn\expandafter{%
7430 \@tempa{#1}%
7431 \endgroup
7432 }%

```

```

7433 }%
7434 \long\def\Hy@LT@footnotetext#1#2{%
7435   \H@@footnotetext{%
7436     \ifHy@nesting
7437       \hyper@@anchor{#1}{#2}%
7438     \else
7439       \Hy@raisedlink{%
7440         \hyper@@anchor{#1}{\relax}%
7441       }%
7442     \def\@currentHref{#1}%
7443     \let\@currentlabelname\@empty
7444     #2%
7445   \fi
7446 }%
7447 }%
7448 }{}%

```

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

```

7449 \@ifpackageloaded{fancyvrb}{%
7450   \def\V@@footnotetext{%
7451     \insert\footins\bgroup
7452     \csname reset@font\endcsname
7453     \footnotesize
7454     \interlinepenalty\interfootnotelinepenalty
7455     \splittopskip\footnotesep
7456     \splitmaxdepth\dp\strutbox
7457     \floatingpenalty \@MM
7458     \hsize\columnwidth
7459     \@parboxrestore
7460     \def\@currentcounter{footnote}%
7461     \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7462     \@makefntext{%
7463       \rule{\z@}{\footnotesep}%
7464       \bgroup
7465       \aftergroup\V@@@footnotetext
7466       \Hy@raisedlink{%
7467         \expandafter\hyper@@anchor\expandafter{%
7468           \Hy@footnote@currentHref
7469         }\relax}%
7470       }%
7471       \let\@currentHref\Hy@footnote@currentHref
7472       \let\@currentlabelname\@empty
7473       \ignorespaces
7474     }%
7475   }{}%

```

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

```

7476 \def\Hy@temp#1{%
7477   \begingroup
7478   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7479   \endgroup
7480   \@footnotemark
7481 }%

```

```

7482 \ifx\Hy@temp\footref
7483 \def\footref#1{%
7484 \begingroup
7485 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7486 \endgroup
7487 \H@@footnotemark
7488 }%
7489 \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.

```

7490 \let\HyOrg@maketitle\maketitle
7491 \def\maketitle{%
7492 \let\Hy@saved@footnotemark\@footnotemark
7493 \let\Hy@saved@footnotetext\@footnotetext
7494 \let\@footnotemark\H@@footnotemark
7495 \let\@footnotetext\H@@footnotetext
7496 \@ifnextchar\Hy@maketitle@optarg{%
7497 \HyOrg@maketitle
7498 \Hy@maketitle@end
7499 }%
7500 }%
7501 \def\Hy@maketitle@optarg[#1]{%
7502 \HyOrg@maketitle[#1]}%
7503 \Hy@maketitle@end
7504 }%
7505 \def\Hy@maketitle@end{%
7506 \ifx\@footnotemark\H@@footnotemark
7507 \let\@footnotemark\Hy@saved@footnotemark
7508 \fi
7509 \ifx\@footnotetext\H@@footnotetext
7510 \let\@footnotetext\Hy@saved@footnotetext
7511 \fi
7512 }%

```

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

```

7513 \def\realfootnote{%
7514 \@ifnextchar\@xfootnote%
7515 {\stepcounter{\@mpfn}%
7516 \protected@xdef\@thefnmark{\thempfn}%
7517 \H@@@footnotemark\H@@@footnotetext
7518 }%
7519 }%

7520 \fi
7521 }{}
7522 \Hy@DisableOption{hyperfootnotes}

7523 \</packageEnd>
7524 \< *check>
7525 \checklatex
7526 \checkcommand\def\@xfootnotenext[#1]{%
7527 \begingroup
7528 \csname c@\@mpfn\endcsname #1\relax

```



```

7529 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7530 \endgroup
7531 \@footnotetext
7532 }
7533 \checkcommand\def\@xfootnotemark[#1]{%
7534 \begingroup
7535 \c@footnote #1\relax
7536 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7537 \endgroup
7538 \@footnotemark
7539 }
7540 \checkcommand\def\@footnotemark{%
7541 \leavevmode
7542 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7543 \@makefnmark
7544 \ifhmode\spacefactor\@x@sf\fi
7545 \relax
7546 }
7547 \end{check}
7548 \end{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.

```

7549 \@ifundefined{hyper@nopatch@caption}{%
7550 \def\caption{%
7551 \ifx\@cuptype\@undefined
7552 \@latex@error{\noexpand\caption outside float}\@ehd
7553 \expandafter\@gobble
7554 \else
7555 \H@refstepcounter\@cuptype
7556 \let\Hy@tempa\@caption
7557 \@ifundefined{float@caption}{%
7558 }{%
7559 \expandafter\ifx\csname @float@c@\@cuptype\endcsname
7560 \float@caption
7561 \let\Hy@tempa\Hy@float@caption
7562 \fi
7563 }%
7564 \expandafter\@firstofone
7565 \fi
7566 {\@dblarg{\Hy@tempa\@cuptype}}}%
7567 }
7568 \long\def\caption#1[#2]#3{%
7569 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7570 \csname iftrue\endcsname
7571 \global\let\@currentHref\hc@currentHref
7572 \else
7573 \hyper@makecurrent{\@cuptype}%
7574 \fi
7575 \@ifundefined{NR@getttitle}{%
7576 \def\@currentlabelname{#2}%

```

```

7577 }{%
7578   \NR@getttitle{#2}%
7579 }%
7580 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7581   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7582 }%
7583 \begingroup
7584   \@parboxrestore
7585   \if@minipage
7586     \setminipage
7587   \fi
7588   \normalsize
7589   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7590     \csname iftrue\endcsname
7591     \global\@capstartfalse
7592     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7593   \else
7594     \@makecaption{\csname fnum@#1\endcsname}{%
7595       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7596   \ifHy@nesting
7597     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7598   \else
7599     \Hy@raisedlink{%
7600       \expandafter\hyper@@anchor\expandafter{%
7601         \@currentHref
7602       }\relax}%
7603   }%
7604   #3%
7605 \fi
7606 }%
7607 \fi
7608 \par
7609 \endgroup
7610 }}{}%end no patch

```

Compatibility with float.sty: anchor setting at the top of the float, if the float is controlled by float.sty. Several `\caption` commands inside one float are not supported.

`\HyNew@float@makebox` is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

```

7611 \let\Hy@float@caption\@caption
7612 \newcommand{\HyNew@float@makebox}[1]{%
7613   \HyOrg@float@makebox{%
7614     #1\relax
7615     \ifx\Hy@float@currentHref\@undefined
7616     \else
7617       \expandafter\hyper@@anchor\expandafter{%
7618         \Hy@float@currentHref
7619       }\relax}%
7620     \global\let\Hy@float@currentHref\@undefined
7621   \fi
7622 }%
7623 }%

```

```

7624 \ifpackageloaded{float}{%
7625   \def\Hy@float@caption{%
7626     \ifx\Hy@float@currentHref\@undefined
7627       \hyper@makecurrent{\@captive}%
7628       \global\let\Hy@float@currentHref\@currentHref
7629     \else
7630       \let\@currentHref\Hy@float@currentHref
7631     \fi
7632   \float@caption
7633 }%
7634 \let\HyOrg@float@makebox\float@makebox
7635 \let\float@makebox\HyNew@float@makebox
7636 }{}

7637 \</packageEnd>
7638 \< *check>
7639 \checklatex[1999/06/01 - 2000/06/01]
7640 \checkcommand\def\caption{%
7641   \ifx\@captive\@undefined
7642     \@latex@error{\noexpand\caption outside float}\@ehd
7643     \expandafter\@gobble
7644   \else
7645     \refstepcounter\@captive
7646     \expandafter\@firstofone
7647   \fi
7648   {\@dblarg{\@caption\@captive}}}%
7649 }

7650 \checkcommand\long\def\@caption#1[#2]#3{%
7651   \par
7652   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7653     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7654   }%
7655   \begingroup
7656     \@parboxrestore
7657     \if@minipage
7658       \@setminipage
7659     \fi
7660     \normalsize
7661     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7662   \endgroup
7663 }
7664 \</check>
7665 \< *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](mailto:daly@linmpi.mpg.de)) has provided hooks for

us, so all we need to do is activate them.

```

7666 \def\hyper@natlinkstart#1{%
7667   \Hy@backout{#1}%
7668   \hyper@linkstart{cite}{cite.#1}%
7669   \def\hyper@nat@current{#1}%
7670 }
7671 \def\hyper@natlinkend{%
7672   \hyper@linkend
7673 }
7674 \def\hyper@natlinkbreak#1#2{%
7675   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7676 }
7677 \def\hyper@natanchorstart#1{%
7678   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7679 }
7680 \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.

```

7681 \@ifundefined{hyper@nopatch@bib}
7682 {%
7683   \ltx@ifundefined{NAT@parse}{%
7684     \providecommand*\@extra@binfo{}%
7685     \providecommand*\@extra@b@citeb{}%
7686     \def\bibcite#1#2{%
7687       \@newl@bel{b}{#1\@extra@binfo}{%
7688         \hyper@@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7689       }%
7690     }%
7691     \gdef\@extra@binfo{}%

```

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

```

7692   \let\Hy@bibcite\bibcite
7693   \begingroup
7694     \@ifundefined{bbl@cite@choice}{}{%
7695       \g@addto@macro\bbl@cite@choice{%
7696         \let\bibcite\Hy@bibcite
7697       }%
7698     }%
7699   \endgroup

```

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

```

7700   \providecommand*\@BIBLABEL{\@biblabel}%
7701   \def\@lbibitem[#1]#2{%
7702     \@skiphyperreftrue
7703     \H@item{%
7704       \ifx\Hy@raisedlink\@empty
7705         \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7706         \@BIBLABEL{#1}%
7707       \hyper@anchorend
7708     \else
7709       \Hy@raisedlink{%

```

```

7710      \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7711      }%
7712      \@BIBLABEL{#1}%
7713      \fi
7714      \hfill
7715      ]%
7716      \@skiphyperreffalse
7717      \if@filesw
7718      \begingroup
7719      \let\protect\noexpand
7720      \immediate\write\@auxout{%
7721      \string\bibcite{#2}{#1}%
7722      }%
7723      \endgroup
7724      \fi
7725      \ignorespaces
7726      }%

```

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

```

7727      \def\@bibitem#1{%
7728      \@skiphyperreftrue\H@item\@skiphyperreffalse
7729      \Hy@raisedlink{%
7730      \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7731      }%
7732      \if@filesw
7733      \begingroup
7734      \let\protect\noexpand
7735      \immediate\write\@auxout{%
7736      \string\bibcite{#1}{\the\value{\@listctr}}}%
7737      }%
7738      \endgroup
7739      \fi
7740      \ignorespaces
7741      }%
7742      }{}%
7743      }{}
7744      \</packageEnd>
7745      \<*check>
7746      \checklatex
7747      \checkcommand\def\@lbibitem[#1]#2{%
7748      \item[\@biblabel{#1}\hfill]%
7749      \if@filesw
7750      {%
7751      \let\protect\noexpand
7752      \immediate\write\@auxout{%
7753      \string\bibcite{#2}{#1}%
7754      }%
7755      }%
7756      \fi
7757      \ignorespaces
7758      }
7759      \checkcommand\def\@bibitem#1{%
7760      \item

```

```

7761 \if@filesw
7762 \immediate\write\@auxout{%
7763 \string\bibcite{#1}{\the\value{\@listctr}}}%
7764 }%
7765 \fi
7766 \ignorespaces
7767 }
7768 \</check>
7769 \*packageEnd>

```

### 36.1 Package harvard

Override Peter Williams' Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to `\begin{document}`, because if `harvard.sty` is loaded and `html.sty` is present and detects pdf<sub>TEX</sub>, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7770 \@ifpackageloaded{harvard}{%
7771 \Hy@AtBeginDocument{%
7772 \Hy@Info{*** compatibility with harvard **** }%
7773 \Hy@raiselinksfalse
7774 \def\harvardcite#1#2#3#4{%
7775 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
7776 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
7777 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
7778 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7779 }%
7780 \def\HAR@citetoaux#1{%
7781 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7782 \ifHy@backref
7783 \ifx\@empty\@currentlabel
7784 \else
7785 \@bsphack
7786 \if@filesw
7787 \protected@write\@auxout{}{%
7788 \string\@writefile{brf}{%
7789 \string\backcite{#1}{%
7790 {\thepage}{\@currentlabel}{\@currentHref}%
7791 }%
7792 }%
7793 }%
7794 \fi
7795 \@esphack
7796 \fi
7797 \fi
7798 }%
7799 \def\harvarditem{%
7800 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7801 }%
7802 \def\@harvarditem[#1]#2#3#4#5\par{%
7803 \item[]%

```

```

7804 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7805 \if@filesw
7806 \begingroup
7807 \def\protect##1{\string ##1\space}%
7808 \ifthenelse\equal{#1}{\null}}%
7809 {\def\next{{#4}{#2}{#2}{#3}}}%
7810 {\def\next{{#4}{#2}{#1}{#3}}}%
7811 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7812 \endgroup
7813 \fi
7814 \protect\hspace*{-\labelwidth}%
7815 \protect\hspace*{-\labelsep}%
7816 \ignorespaces
7817 #5%
7818 \ifHy@backref
7819 \newblock
7820 \backref{\csname br@#4\endcsname}%
7821 \fi
7822 \par
7823 }%

```

\HAR@checkcitations Package hyperref has added \hyper@@link, so the original test \HAR@checkcitations will fail every time and always will appear the “Changed labels” warning. So we have to redefine \Har@checkcitations:

```

7824 \long\def\HAR@checkcitations#1#2#3#4{%
7825 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7826 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7827 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7828 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7829 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7830 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7831 \else
7832 \@tempswatruetrue
7833 \fi
7834 \else
7835 \@tempswatruetrue
7836 \fi
7837 \else
7838 \@tempswatruetrue
7839 \fi
7840 }%
7841 }%
7842 }{}

```

## 36.2 Package chicago

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

```

7843 \@ifpackageloaded{chicago}{%

```

\citeN

```

7844 \def\citeN{%
7845 \def\@citeseppen{-1000}%

```

```

7846 \def\@cite##1##2{##1}%
7847 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
7848 \@citedata@opt
7849 }%

\shortciteN
7850 \def\shortciteN{%
7851 \def\@citesep{-1000}%
7852 \def\@cite##1##2{##1}%
7853 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
7854 \@citedata@opt
7855 }%

\@citedata@opt
7856 \def\@citedata@opt{%
7857 \let\@cite@opt\@empty
7858 \@ifnextchar [{%
7859 \@tempswatrue
7860 \@citedatax@opt
7861 }{%
7862 \@tempswafalse
7863 \@citedatax[]%
7864 }%
7865 }%

\@citedatax@opt
7866 \def\@citedatax@opt[#1]{%
7867 \def\@cite@opt{, #1}%
7868 \@citedatax[{#1}]%
7869 }%

7870 }{}

```

## 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 `\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.

```

7871 \ltx@ifclassloaded{slides}{%
7872 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7873 \def\Hy@PageAnchorSlidesPlain{%
7874 \advance\c@page\ltx@one
7875 \edef\Hy@TempPageAnchor{%
7876 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7936      \Hy@unicodedefalse
7937      \Hy@PageAnchorSlide
7938      \pdfstringdef\@the@H@page{\thepage}%
7939      \endgroup
7940      \EdefUnescapeString\@the@H@page{\@the@H@page}%
7941      \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7942      \fi
7943      \else
7944      \Hy@GlobalStepCount\Hy@pagecounter
7945      \def\Hy@TempPageAnchor{%
7946      \hyper@@anchor{page.\the\Hy@pagecounter}%
7947      }%
7948      \fi
7949      \vbox to 0pt{%
7950      \kern\voffset
7951      \kern\topmargin
7952      \kern-1bp\relax
7953      \hbox to 0pt{%
7954      \kern\hoffset
7955      \kern\ifodd\value{page}%
7956      \oddsidemargin
7957      \else
7958      \evensidemargin
7959      \fi
7960      \kern-1bp\relax
7961      \Hy@TempPageAnchor\relax
7962      \hss
7963      }%
7964      \vss
7965      }%
7966      \fi
7967      }
7968      \g@addto@macro\Hy@EveryPageBoxHook{%
7969      \Hy@EveryPageAnchor
7970      }

```

## 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<sup>A</sup>T<sub>E</sub>X releases this is defined to put a % at the end of the line in the tocfile.

```

7971 \providecommand\protected@file@percent{}
7972 \@ifundefined{hyper@nopatch@toc}{%
7973 \def\addcontentsline#1#2#3{% toc extension, type, tag
7974 \begingroup
7975 \let\label\@gobble
7976 \ifx\@currentHref\@empty
7977 \Hy@Warning{%
7978 No destination for bookmark of \string\addcontentsline,%
7979 \MessageBreak destination is added%

```

```

7980 }%
7981 \phantomsection
7982 \fi
7983 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7984 \begingroup
7985 \def\Hy@tempa{#1}%
7986 \ifx\Hy@tempa\Hy@bookmarkstype
7987 \Hy@WarningNoLine{%
7988 bookmark level for unknown #2 defaults to 0%
7989 }%
7990 \else
7991 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7992 \fi
7993 \endgroup
7994 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7995 \fi
7996 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7997 \Hy@writebookmark{\csname the#2\endcsname}%
7998 {#3}%
7999 {\@currentHref}%
8000 {\Hy@toclevel}%
8001 {#1}%
8002 \ifHy@verbose
8003 \begingroup
8004 \def\Hy@tempa{#3}%
8005 \@onelevel@sanitize\Hy@tempa
8006 \let\temp@online\on@line
8007 \let\on@line\@empty
8008 \Hy@Info{%
8009 bookmark\temp@online:\MessageBreak
8010 thecounter {\csname the#2\endcsname}\MessageBreak
8011 text {\Hy@tempa}\MessageBreak
8012 reference {\@currentHref}\MessageBreak
8013 toplevel {\Hy@toclevel}\MessageBreak
8014 type {#1}%
8015 }%
8016 \endgroup
8017 \fi
8018 \addtocontents{#1}{%
8019 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8020 }%
8021 \endgroup
8022 }
8023 }{}

```

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

change 2022-11-13: To avoid problems if `MakeUppercase` is used around the entry we use special protected commands:

```

8024 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8025 \protected\def\Hy@toclinkend{\hyper@linkend}
8026
8027 \@ifundefined{hyper@nopatch@toc}{%

```

```

8028 \def\contentsline#1#2#3#4{%
8029   \begingroup
8030     \Hy@safe@activetrue
8031   \edef\x{\endgroup
8032     \def\noexpand\Hy@tocdestname{#4}%
8033   }\x
8034   \ifx\Hy@tocdestname\ltx@empty
8035     \csname l@#1\endcsname{#2}{#3}%
8036   \else
8037     \ifcase\Hy@linktoc % none
8038       \csname l@#1\endcsname{#2}{#3}%
8039     \or % section
8040       \csname l@#1\endcsname{%
8041         \Hy@toclinkstart{#2}\Hy@toclinkend
8042       }{#3}%
8043     \or % page
8044       \def\Hy@temp{#3}%
8045       \ifx\Hy@temp\ltx@empty
8046         \csname l@#1\endcsname{#2}{#3}%
8047       \else
8048         \csname l@#1\endcsname{{#2}}{%
8049           \Hy@toclinkstart{#3}\Hy@toclinkend
8050         }%
8051       \fi
8052     \else % all
8053       \def\Hy@temp{#3}%
8054       \ifx\Hy@temp\ltx@empty
8055         \csname l@#1\endcsname{%
8056           \Hy@toclinkstart{#2}\Hy@toclinkend
8057         }{}%
8058       \else
8059         \csname l@#1\endcsname{%
8060           \Hy@toclinkstart{#2}\Hy@toclinkend
8061         }{%
8062           \Hy@toclinkstart{#3}\Hy@toclinkend
8063         }%
8064       \fi
8065     \fi
8066   \fi
8067 }
8068 }{}

8069 \</packageEnd>
8070 \<*check>
8071 \checklatex
8072 \checkcommand\def\addcontentsline#1#2#3{%
8073   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8074 }
8075 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8076 \</check>
8077 \<*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.

```

8078 \@ifundefined{hyper@nopatch@counter}
8079 {
8080   \let\H@definecounter\@definecounter
8081   \def\@definecounter#1{%
8082     \H@definecounter{#1}%
8083     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8084   }
8085 }{}

```

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.

```

8086 \@ifundefined{hyper@nopatch@counter}
8087 {
8088   \let\H@newctr\@newctr
8089   \def\@newctr#1[#2]{%
8090     \H@newctr#1[{#2}]%
8091     \expandafter\gdef\csname theH#1\endcsname{%
8092       \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8093     }%
8094   }
8095 }{}

```

## 40 AMS $\LaTeX$ compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

If `\hyper@nopatch@amsmath@tag` is defined we don't patch but assume that kernel code adds anchors to equations.

```

8096 \@ifundefined{hyper@nopatch@amsmath@tag}
8097 {%
8098   \@ifpackageloaded{amsmath}{%
8099     \def\Hy@make@anchor{%
8100       \Hy@MakeCurrentHrefAuto{AMS}%
8101       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8102     }%
8103     \def\Hy@make@df@tag@@#1{%
8104       \gdef\df@tag{%
8105         \maketag@@@{\Hy@make@anchor#1}%
8106         \def\@currentlabel{#1}%
8107       }%
8108     }%
8109     \def\Hy@make@df@tag@@@#1{%
8110       \gdef\df@tag{%
8111         \tagform@{\Hy@make@anchor#1}%

```

```

8112      \toks@{\xp{\p@equation{#1}}}%
8113      \edef\@currentlabel{\the\toks@}%
8114      }%
8115      }%
8116      \let\HyOrg@make@df@tag@@\make@df@tag@@
8117      \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8118      \let\make@df@tag@@\Hy@make@df@tag@@
8119      \let\make@df@tag@@@\Hy@make@df@tag@@@
8120      }{}
8121      }{}

```

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.

```

8122 \@ifundefined{hyper@nopatch@counter}
8123 {
8124   \let\HyOrg@addtoreset\@addtoreset
8125   \def\@addtoreset#1#2{%
8126     \HyOrg@addtoreset{#1}{#2}%
8127     \expandafter\xdef\csname theH#1\endcsname{%
8128       \expandafter\noexpand
8129       \csname the\@ifundefined{theH#2}{H#2\endcsname
8130       .\noexpand\the\noexpand\value{#1}}%
8131     }%
8132   }
8133 }{}

```

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

```

8134 \</packageEnd>
8135 \*check>
8136 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8137 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8138   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8139     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8140       \@addtoreset{#2}{#3}%
8141       \xp\xdef\csname the#2\endcsname{%
8142         \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8143       }%
8144     }%
8145   }%

```

```

8146 }%
8147 </check>
8148 <*packageEnd>
8149 \@ifundefined{hyper@nopatch@counter}
8150 {
8151   \@ifpackageloaded{amsmath}{%
8152     \renewcommand*{\numberwithin}{3}[\arabic]{%
8153       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8154         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8155           \HyOrg@addtoreset{#2}{#3}%
8156           \@xp\xdef\csname the#2\endcsname{%
8157             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8158           }%
8159           \@xp\xdef\csname theH#2\endcsname{%
8160             \@xp\@nx
8161             \csname the\@ifundefined{theH#3}{H#3\endcsname
8162             .\@nx#1{#2}%
8163           }%
8164         }%
8165       }%
8166     }%
8167   }{}
8168 }{}

```

## 41 Included figures

Simply intercept the low level graphics package macro.

```

8169 \ifHy@hyperfigures
8170   \let\Hy@Gin@setfile\Gin@setfile
8171   \def\Gin@setfile#1#2#3{%
8172     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8173   }%
8174 \fi
8175 \Hy@DisableOption{hyperfigures}

```

## 42 hyperindex entries

Internal command names are prefixed with `\HyInd@`.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the `|` feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the `|` specifier for something like boldening entries. That would make `Makeindex` fail (cannot have two `|` specifiers). The solution is for the author to use generic coding, and put in the requisite `\hyperpage` in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

8176 \ifHy@hyperindex
8177   \def\HyInd@ParenLeft{({}%
8178   \def\HyInd@ParenRight{)}}%
8179   \def\hyperindexformat#1#2{%
8180     \let\HyOrg@hyperpage\hyperpage

```

```

8181 \let\hyperpage\@firstofone
8182 #1{\HyOrg@hyperpage{#2}}%
8183 \let\hyperpage\HyOrg@hyperpage
8184 }%
8185 \Hy@nextfalse
8186 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8187 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8188 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8189 \begingroup
8190 \lccode`|=\expandafter`\HyInd@EncapChar\relax
8191 \lccode`/=\relax
8192 \lowercase{\endgroup
8193 \ifHy@next
8194 \let\HyInd@org@wrindex\@wrindex
8195 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8196 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8197 \ifx\|#3\%
8198 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8199 \else
8200 \HyInd@@@wrindex{#1}{#2}#3\%
8201 \fi
8202 }%
8203 \def\HyInd@@@wrindex#1#2#3#4\{\%
8204 \def\Hy@temp@A{#3}%
8205 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8206 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8207 \relax
8208 \HyInd@org@wrindex{#1}{%
8209 #2|hyperindexformat{/#3#4}%
8210 }%
8211 \else
8212 \ifx\|#4\%
8213 \ifx\Hy@temp@A\HyInd@ParenRight
8214 \HyInd@org@wrindex{#1}{#2|#3}%
8215 \else
8216 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8217 \fi
8218 \else
8219 \HyInd@org@wrindex{#1}{%
8220 #2|#3hyperindexformat{/#4}%
8221 }%
8222 \fi
8223 \fi
8224 }%
8225 \else
8226 \def\@wrindex#1{\@@wrindex#1||\}%
8227 \def\@@wrindex#1|#2|#3\{\%
8228 \if@filesw
8229 \ifx\|#2\%
8230 \protected@write\@indexfile{}\%
8231 \string\indexentry{#1|hyperpage}{\thepage}%
8232 }%
8233 \else
8234 \HyInd@@@wrindex{#1}#2\%

```



```

8235     \fi
8236     \fi
8237     \endgroup
8238     \@esphack
8239 }%
8240 \def\HyInd@@@wrindex#1#2#3\{%
8241     \def\Hy@temp@A{#2}%
8242     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8243         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8244         \relax
8245     \protected@write\@indexfile{}\{%
8246         \string\indexentry{%
8247             #1|hyperindexformat{/#2#3}%
8248         }\the page}%
8249     }%
8250 \else
8251     \ifx\#3\%
8252         \ifx\Hy@temp@A\HyInd@ParenRight
8253             \HyInd@DefKey{#1}%
8254             \ltx@ifundefined{HyInd@(\HyInd@key)}{\%
8255                 \let\Hy@temp\ltx@empty
8256             }\%
8257             \expandafter\let\expandafter\Hy@temp
8258                 \csname HyInd@(\HyInd@key)\endcsname
8259             }%
8260             \protected@write\@indexfile{}\{%
8261                 \string\indexentry{#1|#2\Hy@temp}\the page}%
8262             }%
8263         \else
8264             \protected@write\@indexfile{}\{%
8265                 \string\indexentry{#1|#2hyperpage}\the page}%
8266             }%
8267             \HyInd@DefKey{#1}%
8268             \expandafter
8269             \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8270                 hyperpage%
8271             }%
8272         \fi
8273     \else
8274         \protected@write\@indexfile{}\{%
8275             \string\indexentry{%
8276                 #1|#2hyperindexformat{/#3}%
8277             }\the page}%
8278         }%
8279         \ifx\Hy@temp@A\HyInd@ParenLeft
8280             \HyInd@DefKey{#1}%
8281             \expandafter
8282             \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8283                 hyperindexformat{/#3}%
8284             }%
8285         \fi
8286     \fi
8287 \fi
8288 }%

```

```

8289 \def\HyInd@DefKey#1{%
8290 \begingroup
8291 \let\protect\@unexpandable@protect
8292 \edef\Hy@temp{#1}%
8293 \ltx@onelevel@sanitize\Hy@temp
8294 \global\let\HyInd@key\Hy@temp
8295 \endgroup
8296 }%
8297 \fi
8298 }%
8299 \fi
8300 \Hy@DisableOption{hyperindex}
8301 \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.

```

8302 \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.

```

8303 \def\hyperpage#1{%
8304 \HyInd@hyperpage#1\nohyperpage{}\@nil
8305 }
8306 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8307 \HyInd@@hyperpage{#1}%
8308 #2%
8309 \def\Hy@temp{#3}%
8310 \ifx\Hy@temp\@empty
8311 \else
8312 \ltx@ReturnAfterFi{%
8313 \HyInd@hyperpage#3\@nil
8314 }%
8315 \fi
8316 }
8317 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8318 \def\@hyperpage#1--#2--#3\{\%
8319 \ifx\#2\%
8320 \@commahyperpage{#1}%
8321 \else
8322 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8323 \fi
8324 }
8325 \def\@commahyperpage#1{\@commahyperpage#1, \}
8326 \def\@commahyperpage#1, #2,#3\{\%
8327 \ifx\#2\%
8328 \HyInd@pagelink{#1}%
8329 \else
8330 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8331 \fi
8332 }

```

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

```

8333 \def\HyInd@pagelink#1{%

```

```

8334 \begingroup
8335 \toks@={}%
8336 \HyInd@removespaces#1 \@nil
8337 \endgroup
8338 }
8339 \def\HyInd@removespaces#1 #2\@nil{%
8340 \toks@=\expandafter{\the\toks@#1}%
8341 \ifx\#2\%
8342 \edef\x{\the\toks@}%
8343 \ifx\x\@empty
8344 \else
8345 \hyperlink{page.\the\toks@}{\the\toks@}%
8346 \fi
8347 \else
8348 \ltx@ReturnAfterFi{%
8349 \HyInd@removespaces#2\@nil
8350 }%
8351 \fi
8352 }

```

This breaks TeX4ht, so leave it to last. Emend `\@setref` to put out a hypertext link as well as its normal text (which is used as an anchor). (`\endinput` have to be on the same line like `\fi`, or you have to use `\expandafter` before.)

change 2022-11-13: added an `\@empty` for issue#261.

```

8353 \ifHy@texht
8354 \expandafter\endinput
8355 \fi
8356 \let\real@setref\@setref
8357 \def\@setref#1#2#3{% csname, extract group, refname
8358 \ifx#1\relax
8359 \protect\G@refundefinedtrue
8360 \nfss@text{\reset@font\bfseries ??}%
8361 \@latex@warning{%
8362 Reference `#3' on page \thepage \space undefined%
8363 }%
8364 \else
8365 \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8366 \fi
8367 }

```

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

```

8368 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8369 \begingroup
8370 \toks0={\hyper@link{#5}{#4}}%
8371 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8372 \edef\x{\endgroup
8373 \the\toks0 {\the\toks1 }%
8374 }%
8375 \x
8376 }
8377 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8378 \ifx#1\relax
8379 \protect\G@refundefinedtrue
8380 \nfss@text{\reset@font\bfseries ??}%

```

```

8381 \latex@warning{%
8382   Reference `#3' on page \thepage \space undefined%
8383 }%
8384 \else
8385 \protect\hyper@@link
8386   {\expandafter\@fifthoffive#1}%
8387   {page.\expandafter\@secondoffive#1}%
8388   {\expandafter\@secondoffive#1}%
8389 \fi
8390 }

8391 \endpackage
8392 \ifcheck
8393 \checklatex
8394 \checkcommand\def\@setref#1#2#3{%
8395   \ifx#1\relax
8396     \protect\G@refundefinedtrue
8397     \nfss@text{\reset@font\bfseries ??}%
8398     \latex@warning{%
8399       Reference `#3' on page \thepage\space undefined%
8400     }%
8401   \else
8402     \expandafter#2#1\relax
8403   \fi
8404 }
8405 \endcheck
8406 \endpackage

```

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

```

8407 \def\HyRef@StarSetRef#1{%
8408   \begingroup
8409   \Hy@safe@activetrue
8410   \let\protect\@unexpandable@protect
8411   \edef\x{#1}%
8412   \@onelevel@sanitize\x
8413   \edef\x{\endgroup
8414     \noexpand\HyRef@@StarSetRef
8415     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8416   }%
8417   \x
8418 }
8419 \def\HyRef@@StarSetRef#1#2#3{%
8420   \ifx#1\@undefined
8421     \let#1\relax
8422   \fi
8423   \real@setref#1#3{#2}%
8424 }
8425 \def\@refstar#1{%
8426   \HyRef@StarSetRef{#1}\@firstoffive
8427 }
8428 \def\@pagerefstar#1{%
8429   \HyRef@StarSetRef{#1}\@secondoffive
8430 }
8431 \def\@namerefstar#1{%

```

```

8432 \HyRef@StarSetRef{#1}\@thirdoffive
8433 }
8434 \def\@Refstar#1{%
8435 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8436 }%
8437 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8438 \MakeUppercase#1%
8439 }%
8440 \def\HyRef@Ref#1{%
8441 \hyperref[{#1}]{\Ref*{#1}}%
8442 }%
8443 \Hy@AtBeginDocument{%
8444 \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.

```

8445 \ifundefined{hyper@nopatch@varioref}
8446 {
8447 \renewcommand\Vref@star[2][]{%
8448 \begingroup
8449 \let\T@pageref\@pagerefstar
8450 \Ref*{#2}
8451 \vpageref[#1]{#2}%
8452 \endgroup
8453 }%
8454 \renewcommand\Vr@f[2][]{%
8455 \begingroup
8456 \let\T@pageref\@pagerefstar
8457 \hyperref[{#2}]{%
8458 \Ref*{#2}
8459 \vpageref[#1]{#2}%
8460 }%
8461 \endgroup
8462 }%
8463 \renewcommand\vr@f[2][]{%
8464 \begingroup
8465 \let\T@pageref\@pagerefstar
8466 \hyperref[{#2}]{%
8467 \ref*{#2}
8468 \vpageref[#1]{#2}%
8469 }%
8470 \endgroup
8471 }%
8472 \renewcommand\vref@star[2][]{%
8473 \begingroup
8474 \let\T@pageref\@pagerefstar
8475 \ref*{#2}
8476 \vpageref[#1]{#2}%
8477 \endgroup
8478 }%
8479 }{}%
8480 }{}%
8481 }

```

```

8482 \DeclareRobustCommand*\autopageref}{%
8483   \@ifstar{%
8484     \HyRef@autopagerefname\pageref*%
8485   }\HyRef@autopageref
8486 }
8487 \def\HyRef@autopageref#1{%
8488   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8489 }
8490 \def\HyRef@autopagerefname{%
8491   \ltx@ifundefined{pageautorefname}{%
8492     \ltx@ifundefined{pagename}{%
8493       \Hy@Warning{No autoref name for `page'}%
8494     }{%
8495       \pagename\nobreakspace
8496     }%
8497   }{%
8498     \pageautorefname\nobreakspace
8499   }%
8500 }

```

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

```

8501 \NewDocumentCommand\autoref{s}
8502   {\leavevmode
8503     \IfBooleanTF{#1}{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}}
8504 \def\HyRef@autoref#1#2{%
8505   \begingroup
8506     \Hy@safe@activetrue
8507     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8508   \endgroup
8509 }
8510 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8511   \HyRef@ShowKeysRef{#2}%
8512   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8513     \edef\HyRef@thisref{%
8514       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8515     }%
8516     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8517     \Hy@safe@activesfalse
8518     #3{%
8519       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8520     }{%
8521       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8522     }{%
8523       \HyRef@currentHtag
8524       \expandafter\@firstoffive#1\@empty\@empty\@empty
8525       \null
8526     }%
8527   \else
8528     \protect\G@refundefinedtrue
8529     \nfss@text{\reset@font\bfseries ??}%
8530     \@latex@warning{%
8531       Reference `#2' on page \thepage\space undefined%
8532     }%

```

```

8533 \fi
8534 }
8535 \def\HyRef@testreftype#1.#2\{%
8536 \ltx@ifundefined{#1autorefname}{%
8537 \ltx@ifundefined{#1name}{%
8538 \HyRef@StripStar#1\*\@nil{#1}%
8539 \ltx@ifundefined{\HyRef@name autorefname}{%
8540 \ltx@ifundefined{\HyRef@name name}{%
8541 \def\HyRef@currentHtag{%
8542 \Hy@Warning{No autoref name for `#1'}%
8543 }{%
8544 \edef\HyRef@currentHtag{%
8545 \expandafter\noexpand\csname\HyRef@name name\endcsname
8546 \noexpand~%
8547 }%
8548 }%
8549 }{%
8550 \edef\HyRef@currentHtag{%
8551 \expandafter\noexpand
8552 \csname\HyRef@name autorefname\endcsname
8553 \noexpand~%
8554 }%
8555 }%
8556 }{%
8557 \edef\HyRef@currentHtag{%
8558 \expandafter\noexpand\csname#1name\endcsname
8559 \noexpand~%
8560 }%
8561 }%
8562 }{%
8563 \edef\HyRef@currentHtag{%
8564 \expandafter\noexpand\csname#1autorefname\endcsname
8565 \noexpand~%
8566 }%
8567 }%
8568 }
8569 \def\HyRef@StripStar#1*\@nil#3{%
8570 \def\HyRef@name{#2}%
8571 \ifx\HyRef@name\HyRef@CaseStar
8572 \def\HyRef@name{#1}%
8573 \else
8574 \def\HyRef@name{#3}%
8575 \fi
8576 }
8577 \def\HyRef@CaseStar{*}
8578 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8579 \let\HyRef@ShowKeysRef\@gobble
8580 \def\HyRef@ShowKeysInit{%
8581 \ifcsname SK@@label\endcsname
8582 \ifx\SK@ref\@empty
8583 \else

```

```

8584 \def\HyRef@ShowKeysRef{%
8585 \SK@\SK@@ref
8586 }%
8587 \fi
8588 \fi
8589 }
8590 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8591 \providecommand*{\AMSautorefname}{\equationautorefname}
8592 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
8593 \providecommand*{\Itemautorefname}{\itemautorefname}
8594 \providecommand*{\itemautorefname}{item}
8595 \providecommand*{\equationautorefname}{Equation}
8596 \providecommand*{\footnoteautorefname}{footnote}
8597 \providecommand*{\itemautorefname}{item}
8598 \providecommand*{\figureautorefname}{Figure}
8599 \providecommand*{\tableautorefname}{Table}
8600 \providecommand*{\partautorefname}{Part}
8601 \providecommand*{\appendixautorefname}{Appendix}
8602 \providecommand*{\chapterautorefname}{chapter}
8603 \providecommand*{\sectionautorefname}{section}
8604 \providecommand*{\subsectionautorefname}{subsection}
8605 \providecommand*{\subsubsectionautorefname}{subsubsection}
8606 \providecommand*{\paragraphautorefname}{paragraph}
8607 \providecommand*{\subparagraphautorefname}{subparagraph}
8608 \providecommand*{\FancyVerbLineautorefname}{line}
8609 \providecommand*{\theoremautorefname}{Theorem}
8610 \providecommand*{\pageautorefname}{page}
8611 \</packageEnd>

```

## 43 Configuration files

### 43.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf<sub>T</sub>E<sub>X</sub> offers `\pdfescapestring`.

```

8612 <*pdfTex | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8613 \begingroup\expandafter\expandafter\expandafter\endgroup
8614 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8615 \begingroup
8616 \catcode`\|=0 %
8617 \@makeother\|%
8618 |@firstofone{|endgroup
8619 |def|Hy@pstringdef#1#2{%
8620 |begingroup
8621 |edef~{|string~}%

```



```

8622     |xdef\Hy@gtemp{#2}%
8623   |endgroup
8624   |let#1\Hy@gtemp
8625   |@onelevel@sanitize#1%
8626   |edef#1{|expandafter\Hy@ExchangeBackslash#1|\@nil}%
8627   |edef#1{|expandafter\Hy@ExchangeLeftParenthesis#1(|@nil}%
8628   |edef#1{|expandafter\Hy@ExchangeRightParenthesis#1)|@nil}%
8629 }%
8630 |def\Hy@ExchangeBackslash#1\#2|\@nil{%
8631   #1%
8632   |ifx\#2\%%
8633   |else
8634     \\\%
8635     |ltx@ReturnAfterFi{%
8636       |Hy@ExchangeBackslash#2|\@nil
8637     }%
8638   |fi
8639 }%
8640}%
8641\def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8642  #1%
8643  \ifx\#2\%%
8644  \else
8645    \@backslashchar(%
8646    \ltx@ReturnAfterFi{%
8647      \Hy@ExchangeLeftParenthesis#2\@nil
8648    }%
8649  \fi
8650}%
8651\def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8652  #1%
8653  \ifx\#2\%%
8654  \else
8655    \@backslashchar)%
8656    \ltx@ReturnAfterFi{%
8657      \Hy@ExchangeRightParenthesis#2\@nil
8658    }%
8659  \fi
8660}%
8661\else
8662\def\Hy@pstringdef#1#2{%
8663  \begingroup
8664    \edef~{\string~}%
8665    \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8666  \endgroup
8667  \let#1\Hy@gtemp
8668 }%
8669 \fi
8670 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 43.2 pdfTeX

```

8671 <pdfTeX>
8672 \providecommand*\XR@ext}{pdf}

```

```

8673 \Hy@setbreaklinks{true}
8674 \def\HyPat@ObjRef{%
8675   [0-9]*[1-9][0-9]* 0 R%
8676 }

```

This driver is for Han The Thanh's T<sub>E</sub>X variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option pdfversion.

- pdfT<sub>E</sub>X 1.10a, 2003-01-16: \pdfoptionpdfminorversion
- pdfT<sub>E</sub>X 1.30, 2005-08-081: \pdfminorversion

```

8677 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8678 \def\Hy@pdfminorversion{\pdfminorversion}%
8679 \ifHy@ocgcolorlinks
8680   \ifnum\Hy@pdfmajorminor@version<105 %
8681     \kvsetkeys{Hyp}{pdfversion=1.5}%
8682   \fi
8683 \fi
8684 \ifHy@setpdfversion
8685   \ifnum\Hy@pdf@majorminor@version<105 %
8686     \ltx@ifundefined{pdfobjcompresslevel}{%
8687       {%
8688         \ifHy@verbose
8689           \Hy@InfoNoLine{%
8690             PDF object streams are disabled, because they are%
8691             \MessageBreak
8692             not supported in requested PDF version %
8693             \Hy@pdf@majorversion.\Hy@pdf@minorversion
8694           }%
8695         \fi
8696         \pdfobjcompresslevel=\ltx@zero
8697       }%
8698     \fi
8699   \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8700   \else
8701     \let\Hy@temp\ltx@empty
8702     \def\Hy@temp@A#1#2{%
8703       \ifnum#1>\ltx@zero
8704         \edef\Hy@temp{%
8705           \Hy@temp
8706           \space\space
8707           \the#1\space #2%
8708           \ifnum#1=\ltx@one\else s\fi
8709           \MessageBreak
8710         }%
8711       \fi
8712     }%
8713     \Hy@temp@A\pdflastobj{PDF object}%
8714     \Hy@temp@A\pdflastxform{form XObject}%
8715     \Hy@temp@A\pdflastximage{image XObject}%
8716     \Hy@temp@A\pdflastannot{annotation}%
8717     \ltx@ifundefined{pdflastlink}{%
8718       {%

```

```

8719 \Hy@temp@A\pdfastlink{link}%
8720 }%
8721 \ifx\Hy@temp\ltx@empty
8722 \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8723 \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8724 \else
8725 \let\Hy@temp@A\ltx@empty
8726 \ifnum\Hy@pdf@majorminor@version=104 %
8727 \IfFileExists{pdf14.sty}{%
8728 \def\Hy@temp@A{%
8729 \MessageBreak
8730 Or \string\RequirePackage{pdf14} can be used%
8731 \MessageBreak
8732 before \string\documentclass\space as shortcut%
8733 }%
8734 }{}%
8735 \fi
8736 \Hy@WarningNoLine{%
8737 The PDF version number could not be set,\MessageBreak
8738 because some PDF objects are already written:%
8739 \MessageBreak
8740 \Hy@temp
8741 The version should be set as early as possible:%
8742 \MessageBreak
8743 \space\space
8744 \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8745 \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8746 \string\relax
8747 \ifnum\Hy@pdf@majorminor@version<105 %
8748 \ltx@ifundefined{pdfobjcompresslevel}{%
8749 }{%
8750 \MessageBreak
8751 \space\space
8752 \string\pdfobjcompresslevel=0\string\relax
8753 }%
8754 \fi
8755 \Hy@temp@A
8756 }%
8757 \fi
8758 \fi
8759 \PackageInfo{hyperref}{%
8760 \expandafter\string\Hy@pdfmajorversion.%
8761 \expandafter\string\Hy@pdfminorversion
8762 :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8763 }%
8764 \fi
8765 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8766 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8767 \Hy@DisableOption{pdfversion}%
8768 \ifHy@ocgcolorlinks
8769 \pdf@ifdraftmode{}{%
8770 \immediate\pdfobj{%
8771 <<%
8772 /Type/OCG%

```

```

8773     /Name(View)%
8774     /Usage<<%
8775         /Print<<%
8776             /PrintState/OFF%
8777         >>%
8778     /View<<%
8779         /ViewState/ON%
8780     >>%
8781 >>%
8782 >>%
8783 }%
8784 \edef\OBJ@OCG@view{\the\pdffastobj\space 0 R}%
8785 \immediate\pdfobj{%
8786     <<%
8787         /Type/OCG%
8788         /Name(Print)%
8789         /Usage<<%
8790             /Print<<%
8791                 /PrintState/ON%
8792             >>%
8793         /View<<%
8794             /ViewState/OFF%
8795         >>%
8796     >>%
8797 >>%
8798 }%
8799 \edef\OBJ@OCG@print{\the\pdffastobj\space 0 R}%
8800 \immediate\pdfobj{%
8801     [%
8802         \OBJ@OCG@view\space\OBJ@OCG@print
8803     ]%
8804 }%
8805 \edef\OBJ@OCGs{\the\pdffastobj\space 0 R}%
8806 \pdfcatalog{%
8807     /OCProperties<<%
8808         /OCGs \OBJ@OCGs
8809         /D<<%
8810             /OFF[\OBJ@OCG@print]%
8811             /AS[%
8812                 <<%
8813                     /Event/View%
8814                     /OCGs \OBJ@OCGs
8815                     /Category[/View]%
8816                 >>%
8817                 <<%
8818                     /Event/Print%
8819                     /OCGs \OBJ@OCGs
8820                     /Category[/Print]%
8821                 >>%
8822                 <<%
8823                     /Event/Export%
8824                     /OCGs \OBJ@OCGs
8825                     /Category[/Print]%
8826                 >>%

```

```

8827     ]%
8828     >>%
8829     >>%
8830 }%
8831 \begingroup
8832 \edef\x{\endgroup
8833 \pdfpageresources{%
8834 \the\pdfpageresources
8835 /Properties<<%
8836 /OCView \OBJ@OCG@view
8837 /OCPrint \OBJ@OCG@print
8838 >>%
8839 }%
8840 }%
8841 \x
8842 }%
8843 \Hy@AtBeginDocument{%
8844 \def\Hy@colorlink#1{%
8845 \begingroup
8846 \ifHy@ocgcolorlinks
8847 \def\Hy@ocgcolor{#1}%
8848 \setbox0=\hbox\bgroup\color@begingroup
8849 \else
8850 \HyColor@UseColor#1%
8851 \fi
8852 }%
8853 \def\Hy@endcolorlink{%
8854 \ifHy@ocgcolorlinks
8855 \color@endgroup\egroup
8856 \mbox{%
8857 \pdfliteral page{/OC/OCPrint BDC}%
8858 \rlap{\copy0}%
8859 \pdfliteral page{EMC/OC/OCView BDC}%
8860 \begingroup
8861 \expandafter\HyColor@UseColor\Hy@ocgcolor
8862 \box0 %
8863 \endgroup
8864 \pdfliteral page{EMC}%
8865 }%
8866 \fi
8867 \endgroup
8868 }%
8869 }%
8870 \else
8871 \Hy@DisableOption{ocgcolorlinks}%
8872 \fi

```

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

```

8873 \def\setpdfinkmargin#1{%
8874 \begingroup
8875 \setlength{\dimen@}{#1}%
8876 \expandafter\endgroup
8877 \expandafter\pdfinkmargin\the\dimen@\relax
8878 }

```

```

8879 \pdfinkmargin1pt %
First set up the default linking
8880 \providecommand*\@pdfview{XYZ}
First define the anchors:
8881 \Hy@WrapperDef\new@pdfink#1{%
8882   \ifhmode
8883     \@savsf\spacefactor
8884   \fi
8885   \Hy@SaveLastskip
8886   \Hy@VerboseAnchor{#1}%
8887   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8888   \Hy@DestName\Hy@pstringDest\@pdfview
8889   \Hy@RestoreLastskip
8890   \ifhmode
8891     \spacefactor\@savsf
8892   \fi
8893 }
8894 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest name` in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

8895 \def\Hy@DestName#1#2{%
8896   \pdfdest name{#1}#2\relax
8897 }

```

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.

```

8898 \providecommand*\@pdfborder{0 0 1}
8899 \providecommand*\@pdfborderstyle{}
8900 \def\Hy@undefinedname{UNDEFINED}
8901 \def\find@pdfink#1#2{%
8902   \leavevmode
8903   \protected@edef\Hy@testname{#2}%
8904   \ifx\Hy@testname\@empty
8905     \Hy@Warning{%
8906       Empty destination name,\MessageBreak
8907       using `\'Hy@undefinedname'%
8908     }%
8909     \let\Hy@testname\Hy@undefinedname
8910   \else
8911     \Hy@pstringdef\Hy@testname{%
8912       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8913     }%
8914   \fi
8915   \Hy@StartlinkName{%
8916     \ifHy@pdfa /F 4\fi
8917     \Hy@setpdfborder
8918     \Hy@setpdfhighlight
8919     \ifx\CurrentBorderColor\relax
8920     \else

```

```

8921      /C[\CurrentBorderColor]%
8922      \fi
8923    }\Hy@testname
8924    \expandafter\Hy@colorlink\csname @#1color\endcsname
8925  }
8926  \def\Hy@StartlinkName#1#2{%
8927    \pdfstartlink attr{#1}goto name{#2}\relax
8928  }
8929  \def\close@pdfink{%
8930    \Hy@endcolorlink
8931    \Hy@VerboseLinkStop
8932    \pdfendlink
8933  }
8934  \def\hyper@anchor#1{%
8935    \new@pdfink{#1}\anchor@spot\pdf@endanchor
8936  }
8937  \def\hyper@anchorstart#1{%
8938    \new@pdfink{#1}%
8939    \Hy@activeanchortrue
8940  }
8941  \def\hyper@anchorend{%
8942    \pdf@endanchor
8943    \Hy@activeanchorfalse
8944  }
8945  \def\hyper@linkstart#1#2{%
8946    \Hy@VerboseLinkStart{#1}{#2}%
8947    \ltx@ifundefined{#1bordercolor}{%
8948      \let\CurrentBorderColor\relax
8949    }{%
8950      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8951    }%
8952    \find@pdfink{#1}{#2}%
8953  }
8954  \def\hyper@linkend{\close@pdfink}
8955  \def\hyper@link#1#2#3{%
8956    \Hy@VerboseLinkStart{#1}{#2}%
8957    \ltx@ifundefined{#1bordercolor}{%
8958      \let\CurrentBorderColor\relax
8959    }{%
8960      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8961    }%
8962    \find@pdfink{#1}{#2}#3\Hy@xspace@end
8963    \close@pdfink
8964  }
8965  \let\CurrentBorderColor\@linkbordercolor
8966  \def\hyper@linkurl#1#2{%
8967    \begingroup
8968      \Hy@pstringdef\Hy@pstringURI{#2}%
8969      \hyper@chars
8970      \leavevmode
8971      \pdfstartlink
8972        attr{%
8973          \Hy@setpdfborder
8974          \Hy@setpdfhighlight

```

```

8975     \ifx\@urlbordercolor\relax
8976     \else
8977         /C[\@urlbordercolor]%
8978     \fi
8979 }%
8980 user{%
8981     /Subtype/Link%
8982     \ifHy@pdfa /F 4\fi
8983     /A<<%
8984         /Type/Action%
8985         /S/URI%
8986         /URI(\Hy@pstringURI)%
8987         \ifHy@href@ismap
8988             /IsMap true%
8989         \fi
8990         \Hy@href@nextactionraw
8991     >>%
8992 }%
8993 \relax
8994 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8995 \close@pdflink
8996 \endgroup
8997 }
8998 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8999     \begingroup
9000     \def\Hy@pstringF{#2}%
9001     \Hy@CleanupFile\Hy@pstringF
9002     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9003     \Hy@pstringdef\Hy@pstringD{#3}%
9004     \Hy@MakeRemoteAction
9005     \leavevmode
9006     \pdfstartlink
9007     attr{%
9008         \Hy@setpdfborder
9009         \Hy@setpdfhighlight
9010         \ifx\@filebordercolor\relax
9011             \else
9012                 /C[\@filebordercolor]%
9013             \fi
9014     }%
9015     user {%
9016         /Subtype/Link%
9017         \ifHy@pdfa /F 4\fi
9018         /A<<%
9019             /F(\Hy@pstringF)%
9020             /S/GoToR%
9021         \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}

9022      \ifx\\#3\\%
9023      /D[\Hy@href@page\@pdfremotestartview]%
9024      \else
9025      /D(\Hy@pstringD)%
9026      \fi
9027      \Hy@href@nextactionraw
9028      >>%
9029      }%
9030      \relax
9031      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9032      \close@pdflink
9033      \endgroup
9034      }
9035      \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
9036      \begingroup
9037      \Hy@pstringdef\Hy@pstringF{#1}%
9038      \Hy@pstringdef\Hy@pstringP{#3}%
9039      \leavevmode
9040      \pdfstartlink
9041      attr{%
9042      \Hy@setpdfborder
9043      \Hy@setpdfhighlight
9044      \ifx\@runbordercolor\relax
9045      \else
9046      /C[\@runbordercolor]%
9047      \fi
9048      }%
9049      user {%
9050      /Subtype/Link%
9051      \ifHy@pdfa /F 4\fi
9052      /A<<%
9053      /F(\Hy@pstringF)%
9054      /S/Launch%
9055      \Hy@SetNewWindow
9056      \ifx\\#3\\%
9057      \else
9058      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9059      \fi
9060      \Hy@href@nextactionraw
9061      >>%
9062      }%
9063      \relax
9064      \Hy@colorlink\@runcolor#2\Hy@xspace@end
9065      \close@pdflink
9066      \endgroup
9067      }

```

\PDF@SetupDox

```

9068 \def\PDF@SetupDoc{%
9069 \ifx\@pdfpagescrop\@empty
9070 \else
9071 \edef\process@me{%
9072 \pdfpagesattr={%
9073 /CropBox[\@pdfpagescrop]%
9074 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9075 \else
9076 ^^J\the\pdfpagesattr
9077 \fi
9078 }%
9079 }%
9080 \process@me
9081 \fi
9082 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9083 \pdfcatalog{%
9084 /PageMode/\@pdfpagemode
9085 \ifx\@baseurl\@empty
9086 \else
9087 /URI<</Base(\Hy@pstringB)>>%
9088 \fi
9089 }%
9090 \ifx\@pdfstartpage\@empty
9091 \else
9092 \ifx\@pdfstartview\@empty
9093 \else
9094 openaction goto page\@pdfstartpage{\@pdfstartview}%
9095 \fi
9096 \fi
9097 \edef\Hy@temp{%
9098 \ifHy@pdftoolbar\else /HideToolbar true\fi
9099 \ifHy@pdfmenubar\else /HideMenubar true\fi
9100 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9101 \ifHy@pdffitwindow /FitWindow true\fi
9102 \ifHy@pdfcenterwindow /CenterWindow true\fi
9103 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9104 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9105 \Hy@UseNameKey{Direction}\@pdfdirection
9106 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9107 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9108 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9109 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9110 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9111 \Hy@UseNameKey{Duplex}\@pdfduplex
9112 \ifx\@pdfpicktraybypdfsize\@empty
9113 \else
9114 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9115 \fi
9116 \ifx\@pdfprintpagerange\@empty
9117 \else
9118 /PrintPageRange[\@pdfprintpagerange]%
9119 \fi
9120 \ifx\@pdfnumcopies\@empty
9121 \else

```

```

9122     /NumCopies \@pdfnumcopies
9123     \fi
9124 }%
9125 \pdfcatalog{%
9126     \ifx\Hy@temp\@empty
9127     \else
9128         /ViewerPreferences<<\Hy@temp>>%
9129     \fi
9130     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9131     \ifx\@pdflang\relax
9132     \else
9133         /Lang(\@pdflang)%
9134     \fi
9135 }%
9136 }

```

\PDF@FinishDoc

```

9137 \def\PDF@FinishDoc{%
9138     \pdf@ifdraftmode{}{%
9139         \Hy@UseMaketitleInfos
9140         \HyInfo@GenerateAddons
9141         \pdfinfo{%
9142             /Author(\@pdfauthor)%
9143             /Title(\@pdftitle)%
9144             /Subject(\@pdfsubject)%
9145             /Creator(\@pdfcreator)%
9146             \ifx\@pdfcreationdate\@empty
9147             \else
9148                 /CreationDate(\@pdfcreationdate)%
9149             \fi
9150             \ifx\@pdfmoddate\@empty
9151             \else
9152                 /ModDate(\@pdfmoddate)%
9153             \fi
9154             \ifx\@pdfproducer\relax
9155             \else
9156                 /Producer(\@pdfproducer)%
9157             \fi
9158             /Keywords(\@pdfkeywords)%
9159             \ifx\@pdftrapped\@empty
9160             \else
9161                 /Trapped/\@pdftrapped
9162             \fi
9163             \HyInfo@Addons
9164         }%
9165     }%
9166     \Hy@DisableOption{pdfauthor}%
9167     \Hy@DisableOption{pdftitle}%
9168     \Hy@DisableOption{pdfsubject}%
9169     \Hy@DisableOption{pdfcreator}%
9170     \Hy@DisableOption{addtopdfcreator}%
9171     \Hy@DisableOption{pdfcreationdate}%
9172     \Hy@DisableOption{pdfmoddate}%
9173     \Hy@DisableOption{pdfproducer}%

```

```

9174 \Hy@DisableOption{pdfkeywords}%
9175 \Hy@DisableOption{pdftrapped}%
9176 \Hy@DisableOption{pdfinfo}%
9177 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

9178 \def\hyper@pagetransition{%
9179 \ifx\@pdfpagetransition\relax
9180 \else
9181 \expandafter\Hy@RemoveTransPageAttr
9182 \the\pdfpageattr^^J/Trans{}>>\END
9183 \ifx\@pdfpagetransition\@empty
9184 \else
9185 \edef\@processme{%
9186 \global\pdfpageattr{%
9187 \the\pdfpageattr
9188 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9189 }%
9190 }%
9191 \@processme
9192 \fi
9193 \fi
9194 }

```

`\Hy@RemoveTransPageAttr` Macro `\Hy@RemoveTransPageAttr` removes a `/Trans` entry from `\pdfpageattr`. It is called with the end marker `^^J/Trans{}>>\END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Trans` object or the end marker.

```

9195 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9196 \ifx\#2\%
9197 \global\pdfpageattr{#1}%
9198 \else
9199 \Hy@RemoveTransPageAttr#1#4\END
9200 \fi
9201 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\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 `\pdfpageattr`.

```

9202 \def\hyper@pageduration{%
9203 \ifx\@pdfpageduration\relax
9204 \else
9205 \expandafter
9206 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9207 \ifx\@pdfpageduration\@empty
9208 \else
9209 \edef\@processme{%
9210 \global\pdfpageattr{%
9211 \the\pdfpageattr
9212 ^^J/Dur \@pdfpageduration\space

```

```

9213     }%
9214     }%
9215     \@processme
9216   \fi
9217 \fi
9218 }

```

`\Hy@RemoveDurPageAttr` Macro `\Hy@RemoveDurPageAttr` removes a `/Dur` entry from `\pdfpageattr`. It is called with the end marker `^^J/Dur{ } \END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Dur` object or the end marker.

```

9219 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9220   \ifx\#2\%
9221     \global\pdfpageattr{#1}%
9222   \else
9223     \Hy@RemoveDurPageAttr#1#4\END
9224   \fi
9225 }

9226 \pdf@ifdraftmode{}{%
9227   \g@addto@macro\Hy@EveryPageHook{%
9228     \hyper@pagetransition
9229     \hyper@pageduration
9230   }%
9231 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9232 </pdfTeX>
9233 <*pdfTeX | xetex>
9234 \Hy@AtBeginDocument{%
9235   \ifHy@setpagesize
9236     \expandafter\@firstofone
9237   \else
9238     \expandafter\@gobble
9239   \fi
9240   {%
9241     \@ifclassloaded{seminar}{%
9242 <*pdfTeX>
9243       \setlength{\pdfhorigin}{1truein}%
9244       \setlength{\pdfvorigin}{1truein}%
9245 </pdfTeX>
9246       \ifportrait
9247         \ifdim\paperwidth=\z@
9248         \else
9249           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9250         \fi
9251         \ifdim\paperheight=\z@
9252         \else
9253           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9254         \fi
9255       \else
9256         \ifdim\paperheight=\z@
9257         \else

```

```

9258     \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9259     \fi
9260     \ifdim\paperwidth=\z@
9261     \else
9262     \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9263     \fi
9264     \fi
9265   }{%
9266     \ifnum\mag=\@m
9267     \ifdim\stockwidth>\z@
9268     \ifdim\stockheight>\z@
9269     \setlength{\pdfpagewidth}{\stockwidth}%
9270     \setlength{\pdfpageheight}{\stockheight}%
9271     \else
9272     \ifdim\paperwidth>\z@
9273     \ifdim\paperheight>\z@
9274     \setlength{\pdfpagewidth}{\paperwidth}%
9275     \setlength{\pdfpageheight}{\paperheight}%
9276     \fi
9277     \fi
9278     \fi
9279     \else
9280     \ifdim\stockwidth=\z@
9281     \ifdim\paperwidth>\z@
9282     \ifdim\paperheight>\z@
9283     \setlength{\pdfpagewidth}{\paperwidth}%
9284     \setlength{\pdfpageheight}{\paperheight}%
9285     \fi
9286     \fi
9287     \fi
9288     \fi
9289     \fi
9290   }%
9291 }%
9292 \Hy@DisableOption{setpagesize}%
9293 }
9294 </pdfTeX | xetex>
9295 <*pdfTeX>
9296 \def\Acrobatmenu#1#2{%
9297 \Hy@Acrobatmenu{#1}{#2}{%
9298 \leavevmode
9299 \EdefEscapeName\Hy@temp@menu{#1}%
9300 \pdfstartlink
9301 attr{%
9302 \Hy@setpdfborder
9303 \Hy@setpdfhighlight
9304 \ifx\@menubordercolor\relax
9305 \else
9306 /C[\@menubordercolor]%
9307 \fi
9308 }%
9309 user{%
9310 /Subtype/Link%
9311 \ifHy@pdfa /F 4\fi

```

```

9312      /A<<%
9313      /S/Named%
9314      /N/\Hy@temp@menu
9315      \Hy@href@nextactionraw
9316      >>%
9317    }%
9318    \relax
9319    \Hy@colorlink\@menucolor#2%
9320    \close@pdflink
9321  }%
9322 }

```

#### 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.

```

9323 </pdfTeX>

```

### 43.3 hypertext

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with

a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name\_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that “'” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9324 <*hypertext>
9325 \providecommand*\XR@ext}{dvi}
9326 \let\PDF@FinishDoc\ltx@empty
9327 \def\PDF@SetupDoc{%
9328   \ifx\@baseurl\@empty
9329   \else
9330     \special{html:<base href="\@baseurl">}%
9331   \fi
9332 }
9333 \Hy@WrapperDef\hyper@anchor#1{%
9334   \Hy@SaveLastskip
9335   \Hy@VerboseAnchor{#1}%
9336   \begingroup
9337     \let\protect=\string
9338     \hyper@chars
9339     \special{html:<a name=%
9340       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9341   \endgroup
9342   \Hy@activeanchortrue
9343   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9344   \special{html:</a>}%
9345   \Hy@activeanchorfalse
9346   \Hy@RestoreLastskip
9347 }
9348 \Hy@WrapperDef\hyper@anchorstart#1{%
9349   \Hy@SaveLastskip
9350   \Hy@VerboseAnchor{#1}%
9351   \begingroup
9352     \hyper@chars
9353     \special{html:<a name=%
9354       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9355   \endgroup
9356   \Hy@activeanchortrue
9357 }
9358 \def\hyper@anchorend{%
9359   \special{html:</a>}%
9360   \Hy@activeanchorfalse
9361   \Hy@RestoreLastskip
9362 }
9363 \def\@urltype{url}
9364 \def\hyper@linkstart#1#2{%
9365   \Hy@VerboseLinkStart{#1}{#2}%
9366   \expandafter\Hy@colorlink\csname @#1color\endcsname
9367   \def\Hy@tempa{#1}%
9368   \ifx\Hy@tempa\@urltype
9369     \special{html:<a href=\hyper@quote#2\hyper@quote>}%

```



```

9370 \else
9371 \begingroup
9372 \hyper@chars
9373 \special{html:<a href=%
9374 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9375 \endgroup
9376 \fi
9377 }
9378 \def\hyper@linkend{%
9379 \special{html:</a>}}%
9380 \Hy@endcolorlink
9381 }
9382 \def\hyper@linkfile#1#2#3{%
9383 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9384 }
9385 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why  $\text{\LaTeX}$  constructs make this totally foul up, and make us revert to basic  $\text{\TeX}$ . I do not know.

```

9386 \leavevmode
9387 \ifHy@raiselinks
9388 \Hy@SaveSpaceFactor
9389 \Hy@SaveSavedSpaceFactor
9390 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9391 \Hy@RestoreSavedSpaceFactor
9392 \@linkdim\dp\@tempboxa
9393 \lower\@linkdim\hbox{%
9394 \hyper@chars
9395 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9396 }%
9397 \Hy@colorlink\@urlcolor
9398 \Hy@RestoreSpaceFactor
9399 #1%
9400 \Hy@SaveSpaceFactor
9401 \@linkdim\ht\@tempboxa

```

Because of the interaction with the `dvi` 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).

```

9402 \advance\@linkdim by -6.5\p@
9403 \raise\@linkdim\hbox{\special{html:</a>}}%
9404 \Hy@endcolorlink
9405 \Hy@RestoreSpaceFactor
9406 \else
9407 \begingroup
9408 \hyper@chars
9409 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9410 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9411 \special{html:</a>}}%
9412 \Hy@endcolorlink
9413 \endgroup
9414 \fi
9415 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

9416 \def\hyper@link#1#2#3{%
9417   \Hy@VerboseLinkStart{#1}{#2}%
9418   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
9419 }

9420 \def\hyper@image#1#2{%
9421   \begingroup
9422     \hyper@chars
9423     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9424   \endgroup
9425 }
9426 </hypertex>
9427 <*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`,  $\text{\LaTeX}$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

9428 \providecommand*\XR@ext}{dvi}
9429 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9430 \Hy@WrapperDef\hyper@anchor#1{%
9431   \Hy@SaveLastskip
9432   \Hy@VerboseAnchor{#1}%
9433   \begingroup
9434     \let\protect=\string
9435     \special{mark: #1}%
9436   \endgroup
9437   \Hy@activeanchortrue
9438   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9439   \Hy@activeanchorfalse
9440   \Hy@RestoreLastskip
9441 }
9442 \Hy@WrapperDef\hyper@anchorstart#1{%
9443   \Hy@SaveLastskip
9444   \Hy@VerboseAnchor{#1}%
9445   \special{mark: #1}%
9446   \Hy@activeanchortrue
9447 }
9448 \def\hyper@anchorend{%
9449   \Hy@activeanchorfalse
9450   \Hy@RestoreLastskip
9451 }
9452 \def\hyper@linkstart#1#2{%

```

```

9453 \Hy@VerboseLinkStart{#1}{#2}%
9454 \expandafter\Hy@colorlink\csname @#1color\endcsname
9455 \special{button: %
9456 10000000 %
9457 \number\baselineskip\space
9458 #2%
9459 }%
9460 }
9461 \def\hyper@linkend{%
9462 \Hy@endcolorlink
9463 }
9464 \def\hyper@link#1#2#3{%
9465 \Hy@VerboseLinkStart{#1}{#2}%
9466 \leavevmode
9467 \ifHy@raiselinks
9468 \Hy@SaveSpaceFactor
9469 \Hy@SaveSavedSpaceFactor
9470 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9471 \Hy@RestoreSavedSpaceFactor
9472 \@linkdim\dp\@tempboxa
9473 \lower\@linkdim\hbox{%
9474 \special{button: %
9475 \number\wd\@tempboxa\space
9476 \number\ht\@tempboxa\space
9477 #2%
9478 }%
9479 \expandafter\Hy@colorlink\csname @#1color\endcsname
9480 \Hy@RestoreSpaceFactor
9481 #3\Hy@xspace@end
9482 \Hy@SaveSpaceFactor
9483 \Hy@endcolorlink
9484 }%
9485 \@linkdim\ht\@tempboxa
9486 \advance\@linkdim by -6.5\p@
9487 \raise\@linkdim\hbox{}%
9488 \Hy@RestoreSpaceFactor
9489 \else
9490 \special{button: %
9491 \number\wd\@tempboxa\space
9492 \number\ht\@tempboxa\space
9493 #2%
9494 }%
9495 \expandafter\Hy@colorlink\csname @#1color\endcsname
9496 #3\Hy@xspace@end
9497 \Hy@endcolorlink
9498 \fi
9499 }
9500 \def\hyper@linkurl#1#2{%
9501 \begingroup
9502 \hyper@chars
9503 \leavevmode
9504 \ifHy@raiselinks
9505 \Hy@SaveSpaceFactor
9506 \Hy@SaveSavedSpaceFactor

```

```

9507 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9508 \Hy@RestoreSavedSpaceFactor
9509 \@linkdim\dp\@tempboxa
9510 \lower\@linkdim\hbox{%
9511 \special{button: %
9512 \number\wd\@tempboxa\space
9513 \number\ht\@tempboxa\space
9514 launch: \wwwbrowser\space
9515 #2%
9516 }%
9517 \Hy@colorlink\@urlcolor
9518 \Hy@RestoreSpaceFactor
9519 #1\Hy@xspace@end
9520 \Hy@SaveSpaceFactor
9521 \Hy@endcolorlink
9522 }%
9523 \@linkdim\ht\@tempboxa
9524 \advance\@linkdim by -6.5\p@
9525 \raise\@linkdim\hbox{}%
9526 \Hy@RestoreSpaceFactor
9527 \else
9528 \special{button: %
9529 \number\wd\@tempboxa\space
9530 \number\ht\@tempboxa\space
9531 launch: \wwwbrowser\space
9532 #2%
9533 }%
9534 \Hy@colorlink\@urlcolor
9535 #1\Hy@xspace@end
9536 \Hy@endcolorlink
9537 \fi
9538 \endgroup
9539 }
9540 \def\hyper@linkfile#1#2#3{%
9541 \begingroup
9542 \hyper@chars
9543 \leavevmode
9544 \ifHy@raiselinks
9545 \Hy@SaveSpaceFactor
9546 \Hy@SaveSavedSpaceFactor
9547 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9548 \Hy@RestoreSavedSpaceFactor
9549 \@linkdim\dp\@tempboxa
9550 \lower\@linkdim\hbox{%
9551 \special{button: %
9552 \number\wd\@tempboxa\space
9553 \number\ht\@tempboxa\space
9554 #3,%
9555 file: #2%
9556 }%
9557 \Hy@colorlink\@filecolor
9558 \Hy@RestoreSpaceFactor
9559 #1\Hy@xspace@end
9560 \Hy@SaveSpaceFactor

```

```

9561 \Hy@endcolorlink
9562 }%
9563 \@linkdim\ht\@tempboxa
9564 \advance\@linkdim by -6.5\p@
9565 \raise\@linkdim\hbox{}%
9566 \Hy@RestoreSpaceFactor
9567 \else
9568 \special{button: %
9569 \number\wd\@tempboxa\space
9570 \number\ht\@tempboxa\space
9571 #3,%
9572 file: #2%
9573 }%
9574 \Hy@colorlink\@filecolor
9575 #1\Hy@xspace@end
9576 \Hy@endcolorlink
9577 \fi
9578 \endgroup
9579 }
9580 \HyInfo@AddonUnsupportedtrue
9581 \def\PDF@FinishDoc{%
9582 \Hy@UseMaketitleInfos
9583 \HyInfo@TrappedUnsupported
9584 \special{PDF: Keywords \@pdfkeywords}%
9585 \special{PDF: Title \@pdftitle}%
9586 \special{PDF: Creator \@pdfcreator}%
9587 \ifx\@pdfcreationdate\@empty
9588 \else
9589 \special{PDF: CreationDate \@pdfcreationdate}%
9590 \fi
9591 \ifx\@pdfmoddate\@empty
9592 \else
9593 \special{PDF: ModDate \@pdfmoddate}%
9594 \fi
9595 \special{PDF: Author \@pdfauthor}%
9596 \ifx\@pdfproducer\relax
9597 \else
9598 \special{PDF: Producer \@pdfproducer}%
9599 \fi
9600 \special{PDF: Subject \@pdfsubject}%
9601 \Hy@DisableOption{pdfauthor}%
9602 \Hy@DisableOption{pdftitle}%
9603 \Hy@DisableOption{pdfsubject}%
9604 \Hy@DisableOption{pdfcreator}%
9605 \Hy@DisableOption{addtopdfcreator}%
9606 \Hy@DisableOption{pdfcreationdate}%
9607 \Hy@DisableOption{pdfcreationdate}%
9608 \Hy@DisableOption{pdfmoddate}%
9609 \Hy@DisableOption{pdfproducer}%
9610 \Hy@DisableOption{pdfkeywords}%
9611 \Hy@DisableOption{pdftrapped}%
9612 \Hy@DisableOption{pdfinfo}%
9613 }
9614 \def\PDF@SetupDoc{%

```

```

9615 \ifx\@baseurl\@empty
9616 \else
9617 \special{PDF: Base \@baseurl}%
9618 \fi
9619 \ifx\@pdfpagescrop\@empty\else
9620 \special{PDF: BBox \@pdfpagescrop}%
9621 \fi
9622 \def\Hy@temp{}%
9623 \ifx\@pdfstartpage\@empty
9624 \else
9625 \ifx\@pdfstartview\@empty
9626 \else
9627 \edef\Hy@temp{%
9628 ,Page=\@pdfstartpage
9629 ,View=\@pdfstartview
9630 }%
9631 \fi
9632 \fi
9633 \edef\Hy@temp{%
9634 \noexpand\pdfmark{%
9635 pdfmark=/DOCVIEW,%
9636 PageMode=/\@pdfpagemode
9637 \Hy@temp
9638 }%
9639 }%
9640 \Hy@temp
9641 \ifx\@pdfpagescrop\@empty
9642 \else
9643 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9644 \fi
9645 \edef\Hy@temp{%
9646 \ifHy@pdftoolbar\else /HideToolbar true\fi
9647 \ifHy@pdfmenubar\else /HideMenubar true\fi
9648 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9649 \ifHy@pdfwindow /FitWindow true\fi
9650 \ifHy@pdfcenterwindow /CenterWindow true\fi
9651 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9652 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9653 \Hy@UseNameKey{Direction}\@pdfdirection
9654 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9655 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9656 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9657 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9658 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9659 \Hy@UseNameKey{Duplex}\@pdfduplex
9660 \ifx\@pdfpicktraybypdfsize\@empty
9661 \else
9662 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9663 \fi
9664 \ifx\@pdfprintpagerange\@empty
9665 \else
9666 /PrintPageRange[\@pdfprintpagerange]%
9667 \fi
9668 \ifx\@pdfnumcopies\@empty

```

```

9669 \else
9670 /NumCopies \@pdfnumcopies
9671 \fi
9672 }%
9673 \pdfmark{pdfmark=/PUT,%
9674 Raw={%
9675 \string{Catalog\string}<<%
9676 \ifx\Hy@temp\@empty
9677 \else
9678 /ViewerPreferences<<\Hy@temp>>%
9679 \fi
9680 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9681 \ifx\@pdflang\relax
9682 \else
9683 /Lang(\@pdflang)%
9684 \fi
9685 >>%
9686 }%
9687 }%
9688 }
9689 </dviwindo>
9690 <*dvipdfm | xetex>

```

### 43.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

(x)dvipdfmx replaces destination names by numbers. This makes it impossible to link from an external document with xr-hyper, so from version 7.00j on this is suppressed with a config special.

```

9691 \special{dvipdfmx:config C 0x0010}
9692 \providecommand*{\XR@ext}{pdf}
9693 \Hy@setbreaklinks{true}
9694 \def\HyPat@ObjRef{%
9695 @[\^ ]+}%
9696 }
9697 \newsavebox{\pdfm@box}
9698 \def\@pdfm@mark#1{\special{pdf:#1}}
9699 \Hy@WrapperDef\@pdfm@dest#1{%
9700 \Hy@SaveLastskip
9701 \Hy@VerboseAnchor{#1}%
9702 \begingroup
9703 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9704 \def\x{XYZ}%
9705 \ifx\x\@pdfview
9706 \def\x{XYZ @xpos @ypos null}%
9707 \else
9708 \def\x{FitH}%
9709 \ifx\x\@pdfview
9710 \def\x{FitH @ypos}%
9711 \else
9712 \def\x{FitBH}%
9713 \ifx\x\@pdfview
9714 \def\x{FitBH @ypos}%

```

```

9715 \else
9716 \def\x{FitV}%
9717 \ifx\x\@pdfview
9718 \def\x{FitV @xpos}%
9719 \else
9720 \def\x{FitBV}%
9721 \ifx\x\@pdfview
9722 \def\x{FitBV @xpos}%
9723 \else
9724 \def\x{Fit}%
9725 \ifx\x\@pdfview
9726 \let\x\@pdfview
9727 \else
9728 \def\x{FitB}%
9729 \ifx\x\@pdfview
9730 \let\x\@pdfview
9731 \else
9732 \def\x{FitR}%
9733 \ifx\x\@pdfview
9734 \Hy@Warning{'pdfview=FitR' is not supported}%
9735 \def\x{XYZ @xpos @ypos null}%
9736 \else
9737 \@onelevel@sanitize\@pdfview
9738 \Hy@Warning{%
9739 Unknown value '\@pdfview' for pdfview%
9740 }%
9741 \def\x{XYZ @xpos @ypos null}%
9742 \fi
9743 \fi
9744 \fi
9745 \fi
9746 \fi
9747 \fi
9748 \fi
9749 \fi
9750 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9751 \endgroup
9752 \Hy@RestoreLastskip
9753 }
9754 \providecommand*\@pdfview{XYZ}
9755 \providecommand*\@pdfborder{0 0 1}
9756 \providecommand*\@pdfborderstyle{}
9757 \def\hyper@anchor#1{%
9758 \@pdfm@dest{#1}%
9759 }
9760 \def\hyper@anchorstart#1{%
9761 \Hy@activeanchortrue
9762 \@pdfm@dest{#1}%
9763 }
9764 \def\hyper@anchorend{%
9765 \Hy@activeanchorfalse
9766 }
9767 \newcounter{Hy@AnnotLevel}

```



```

9768 \ifHy@ocgcolorlinks
9769 \def\OBJ@OCG@view{@OCG@view}%
9770 \@pdfm@mark{%
9771   obj \OBJ@OCG@view <<%
9772     /Type/OCG%
9773     /Name(View)%
9774     /Usage<<%
9775     /Print<<%
9776     /PrintState/OFF%
9777     >>%
9778     /View<<%
9779     /ViewState/ON%
9780     >>%
9781     >>%
9782     >>%
9783 }%
9784 \@pdfm@mark{close \OBJ@OCG@view}%
9785 \def\OBJ@OCG@print{@OCG@print}%
9786 \@pdfm@mark{%
9787   obj \OBJ@OCG@print <<%
9788     /Type/OCG%
9789     /Name(Print)%
9790     /Usage<<%
9791     /Print<<%
9792     /PrintState/ON%
9793     >>%
9794     /View<<%
9795     /ViewState/OFF%
9796     >>%
9797     >>%
9798     >>%
9799 }%
9800 \@pdfm@mark{close \OBJ@OCG@print}%
9801 \def\OBJ@OCGs{@OCGs}%
9802 \@pdfm@mark{%
9803   obj \OBJ@OCGs [%
9804     \OBJ@OCG@view\space\OBJ@OCG@print
9805   ]%
9806 }%
9807 \@pdfm@mark{close \OBJ@OCGs}%
9808 \@pdfm@mark{%
9809   put @catalog <<%
9810     /OCProperties<<%
9811     /OCGs \OBJ@OCGs
9812     /D<<%
9813     /OFF[\OBJ@OCG@print]%
9814     /AS[%
9815       <<%
9816         /Event/View%
9817         /OCGs \OBJ@OCGs
9818         /Category[/View]%
9819       >>%
9820       <<%
9821         /Event/Print%

```

```

9822         /OCGs \OBJ@OCGs
9823         /Category[/Print]%
9824     >>%
9825     <<%
9826         /Event/Export%
9827         /OCGs \OBJ@OCGs
9828         /Category[/Print]%
9829     >>%
9830 ]%
9831 >>%
9832 >>%
9833 >>%
9834 }%
9835 \AtBeginShipout{%
9836     \setbox\AtBeginShipoutBox=\hbox{%
9837         \copy\AtBeginShipoutBox
9838         \@pdfm@mark{%
9839             put @resources <<%
9840             /Properties<<%
9841             /OCView \OBJ@OCG@view
9842             /OCPrint \OBJ@OCG@print
9843         >>%
9844         >>%
9845     }%
9846 }%
9847 }%
9848 \Hy@AtBeginDocument{%
9849     \def\Hy@colorlink#1{%
9850         \begingroup
9851         \ifHy@ocgcolorlinks
9852             \def\Hy@ocgcolor{#1}%
9853             \setbox0=\hbox\bgroup\color@begingroup
9854         \else
9855             \HyColor@UseColor#1%
9856         \fi
9857     }%
9858     \def\Hy@endcolorlink{%
9859         \ifHy@ocgcolorlinks
9860             \color@endgroup\egroup
9861             \mbox{%
9862                 \@pdfm@mark{content /OC/OCPrint BDC}%
9863                 \rlap{\copy0}%
9864                 \@pdfm@mark{content EMC/OC/OCView BDC}%
9865             \begingroup
9866                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9867                 \box0 %
9868             \endgroup
9869             \@pdfm@mark{content EMC}%
9870         }%
9871     \fi
9872     \endgroup
9873 }%
9874 }%
9875 \else

```

```

9876 \Hy@DisableOption{ocgcolorlinks}%
9877 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9878 \def\Hy@BeginAnnot#1{%
9879   \global\advance\c@Hy@AnnotLevel\@ne
9880   \ifnum\c@Hy@AnnotLevel=\@ne
9881     #1%
9882   \fi
9883 }
9884 \def\Hy@endAnnot{%
9885   \ifnum\value{Hy@AnnotLevel}=\@ne
9886     \Hy@endcolorlink
9887     \@pdfm@mark{eann}%
9888   \fi
9889   \global\advance\c@Hy@AnnotLevel\m@ne
9890 }

9891 \def\Hy@undefinedname{UNDEFINED}
9892 \def\hyper@linkstart#1#2{%
9893   \Hy@VerboseLinkStart{#1}{#2}%
9894   \leavevmode
9895   \Hy@BeginAnnot{%
9896     \protected@edef\Hy@testname{#2}%
9897     \ifx\Hy@testname\@empty
9898       \Hy@Warning{%
9899         Empty destination name,\MessageBreak
9900         using '\Hy@undefinedname'%
9901       }%
9902     \let\Hy@testname\Hy@undefinedname
9903   \else
9904     \Hy@pstringdef\Hy@testname{%
9905       \expandafter\HyperDestNameFilter\expandafter{%
9906         \Hy@testname
9907       }%
9908     }%
9909   \fi
9910   \@pdfm@mark{%
9911     bann<<%
9912     /Type/Annot%
9913     /Subtype/Link%
9914     \ifHy@pdfa /F 4\fi
9915     \Hy@setpdfborder
9916     \Hy@setpdfhighlight
9917     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9918     \else
9919       /C[\csname @#1bordercolor\endcsname]%
9920     \fi
9921     /A<<%
9922     /S/GoTo%
9923     /D(\Hy@testname)%
9924     \Hy@href@nextactionraw
9925     >>%
9926     >>%

```

```

9927 }%
9928 \expandafter\Hy@colorlink\csname @#1color\endcsname
9929 }%
9930 }
9931 \def\hyper@linkend{\Hy@EndAnnot}%
9932 \def\hyper@link#1#2#3{%
9933 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9934 }
9935 \def\hyper@linkfile#1#2#3{%
9936 \leavevmode
9937 \Hy@BeginAnnot{%
9938 \def\Hy@pstringF{#2}%
9939 \Hy@CleanupFile\Hy@pstringF
9940 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9941 \Hy@pstringdef\Hy@pstringD{#3}%
9942 \Hy@MakeRemoteAction
9943 \@pdfm@mark{%
9944 bann<<%
9945 /Type/Annot%
9946 /Subtype/Link%
9947 \ifHy@pdfa /F 4\fi
9948 \Hy@setpdfborder
9949 \Hy@setpdfhighlight
9950 \ifx\@filebordercolor\relax
9951 \else
9952 /C[\@filebordercolor]%
9953 \fi
9954 /A<<%
9955 /S/GoToR%
9956 /F(\Hy@pstringF)%
9957 /D%
9958 \ifx\#3\%
9959 [\Hy@href@page\@pdfremotestartview]%
9960 \else
9961 (\Hy@pstringD)%
9962 \fi
9963 \Hy@SetNewWindow
9964 \Hy@href@nextactionraw
9965 >>%
9966 >>%
9967 }%
9968 \Hy@colorlink\@filecolor
9969 }%
9970 #1\Hy@xspace@end
9971 \Hy@EndAnnot
9972 }
9973 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9974 \leavevmode
9975 \Hy@BeginAnnot{%
9976 \Hy@pstringdef\Hy@pstringF{#1}%
9977 \Hy@pstringdef\Hy@pstringP{#3}%
9978 \@pdfm@mark{%
9979 bann<<%
9980 /Type/Annot%

```

```

9981      /Subtype/Link%
9982      \ifHy@pdfa /F 4\fi
9983      \Hy@setpdfborder
9984      \Hy@setpdfhighlight
9985      \ifx\@runbordercolor\relax
9986      \else
9987      /C[\@runbordercolor]%
9988      \fi
9989      /A<<%
9990      /F(\Hy@pstringF)%
9991      /S/Launch%
9992      \Hy@SetNewWindow
9993      \ifx\#3\%
9994      \else
9995      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9996      \fi
9997      \Hy@href@nextactionraw
9998      >>%
9999      >>%
10000  }%
10001  \Hy@colorlink\@runcolor
10002  }%
10003  #2\Hy@xspace@end
10004  \Hy@EndAnnot
10005  }
10006  \def\hyper@linkurl#1#2{%
10007  \leavevmode
10008  \Hy@BeginAnnot{%
10009  \Hy@pstringdef\Hy@pstringURI{#2}%
10010  \@pdfm@mark{%
10011  bann<<%
10012  /Type/Annot%
10013  /Subtype/Link%
10014  \ifHy@pdfa /F 4\fi
10015  \Hy@setpdfborder
10016  \Hy@setpdfhighlight
10017  \ifx\@urlbordercolor\relax
10018  \else
10019  /C[\@urlbordercolor]%
10020  \fi
10021  /A<<%
10022  /S/URI%
10023  /URI(\Hy@pstringURI)%
10024  \ifHy@href@ismap
10025  /IsMap true%
10026  \fi
10027  \Hy@href@nextactionraw
10028  >>%
10029  >>%
10030  }%
10031  \Hy@colorlink\@urlcolor
10032  }%
10033  #1\Hy@xspace@end
10034  \Hy@EndAnnot

```

```

10035 }
10036 \def\Acrobatmenu#1#2{%
10037   \Hy@Acrobatmenu{#1}{#2}{%
10038     \Hy@BeginAnnot{%
10039       \EdefEscapeName\Hy@temp@menu{#1}%
10040       \@pdfm@mark{%
10041         bann<<%
10042         /Type/Annot%
10043         /Subtype/Link%
10044         \ifHy@pdfa /F 4\fi
10045         \Hy@setpdfborder
10046         \Hy@setpdfhighlight
10047         \ifx\@menubordercolor\relax
10048           \else
10049             /C[\@menubordercolor]%
10050           \fi
10051         /A<<%
10052         /S/Named%
10053         /N/\Hy@temp@menu
10054         \Hy@href@nextactionraw
10055         >>%
10056         >>%
10057       }%
10058       \Hy@colorlink\@menucolor
10059     }%
10060     #2\Hy@xspace@end
10061   \Hy@EndAnnot
10062 }%
10063 }
10064
10065 \def\PDF@FinishDoc{%
10066   \Hy@UseMaketitleInfos
10067   \Hy@Info@GenerateAddons
10068   \@pdfm@mark{%
10069     docinfo<<%
10070     /Title(\@pdftitle)%
10071     /Subject(\@pdfsubject)%
10072     /Creator(\@pdfcreator)%
10073     \ifx\@pdfcreationdate\@empty
10074       \else
10075         /CreationDate(\@pdfcreationdate)%
10076       \fi
10077     \ifx\@pdfmoddate\@empty
10078       \else
10079         /ModDate(\@pdfmoddate)%
10080       \fi
10081     /Author(\@pdfauthor)%
10082     \ifx\@pdfproducer\relax
10083       \else
10084         /Producer(\@pdfproducer)%
10085       \fi
10086     /Keywords(\@pdfkeywords)%
10087     \ifx\@pdftrapped\@empty
10088       \else

```

```

10089     /Trapped/\@pdftrapped
10090     \fi
10091     \HyInfo@Addons
10092     >>%
10093 }%
10094 \Hy@DisableOption{pdfauthor}%
10095 \Hy@DisableOption{pdftitle}%
10096 \Hy@DisableOption{pdfsubject}%
10097 \Hy@DisableOption{pdfcreator}%
10098 \Hy@DisableOption{addtopdfcreator}%
10099 \Hy@DisableOption{pdfcreationdate}%
10100 \Hy@DisableOption{pdfcreationdate}%
10101 \Hy@DisableOption{pdfmoddate}%
10102 \Hy@DisableOption{pdfproducer}%
10103 \Hy@DisableOption{pdfkeywords}%
10104 \Hy@DisableOption{pdftrapped}%
10105 \Hy@DisableOption{pdfinfo}%
10106 }

10107 \def\PDF@SetupDoc{%
10108   \edef\Hy@temp{%
10109     \ifHy@pdftoolbar\else /HideToolbar true\fi
10110     \ifHy@pdfmenubar\else /HideMenubar true\fi
10111     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10112     \ifHy@pdfwindow /FitWindow true\fi
10113     \ifHy@pdfcenterwindow /CenterWindow true\fi
10114     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10115     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10116     \Hy@UseNameKey{Direction}\@pdfdirection
10117     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10118     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10119     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10120     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10121     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10122     \Hy@UseNameKey{Duplex}\@pdfduplex
10123     \ifx\@pdfpicktraybypdfsize\@empty
10124       \else
10125         /PickTrayByPDFSize \@pdfpicktraybypdfsize
10126       \fi
10127     \ifx\@pdfprintpagerange\@empty
10128       \else
10129         /PrintPageRange[\@pdfprintpagerange]%
10130       \fi
10131     \ifx\@pdfnumcopies\@empty
10132       \else
10133         /NumCopies \@pdfnumcopies
10134       \fi
10135     }%
10136   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10137   \@pdfm@mark{%
10138     docview<<%
10139     \ifx\@pdfstartpage\@empty
10140       \else
10141         \ifx\@pdfstartview\@empty
10142           \else

```

```

10143      /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10144      \fi
10145    \fi
10146    \ifx\@baseurl\@empty
10147    \else
10148      /URI<</Base(\Hy@pstringB)>>%
10149    \fi
10150    /PageMode/\@pdfpagemode
10151    \ifx\Hy@temp\@empty
10152    \else
10153      /ViewerPreferences<<\Hy@temp>>%
10154    \fi
10155    \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10156    \ifx\@pdflang\relax
10157    \else
10158      /Lang(\@pdflang)%
10159    \fi
10160    >>%
10161  }%
10162  \ifx\@pdfpagescrop\@empty
10163  \else
10164    \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10165  \fi
10166 }
10167 </dvipdfm | xetex>
10168 <*dvipdfm | xetex>

```

\hyper@pagetransition

```

10169 \def\hyper@pagetransition{%
10170   \ifx\@pdfpagetransition\relax
10171   \else
10172     \ifx\@pdfpagetransition\@empty
10173     \else
10174       \special{pdf:put @thispage %
10175         <</Trans<</S/\@pdfpagetransition>>>>%
10176       }%
10177     \fi
10178   \fi
10179 }

```

\hyper@pageduration

```

10180 \def\hyper@pageduration{%
10181   \ifx\@pdfpageduration\relax
10182   \else
10183     \ifx\@pdfpageduration\@empty
10184     \else
10185       \special{pdf:put @thispage %
10186         <</Dur \@pdfpageduration>>%
10187       }%
10188     \fi
10189   \fi
10190 }

10191 \g@addto@macro\Hy@EveryPageBoxHook{%

```



```

10192 \hyper@pagetransition
10193 \hyper@pageduration
10194 }
10195 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10196 <*dvipdfm>
10197 \AtBeginShipoutFirst{%
10198   \ifHy@setpagesize
10199     \begingroup
10200     \ifnum\mag=\@m
10201       \ifdim\stockwidth>\z@
10202         \ifdim\stockheight>\z@
10203           \special{papersize=\the\stockwidth,\the\stockheight}%
10204         \else
10205           \ifdim\paperwidth>\z@
10206             \ifdim\paperheight>\z@
10207               \special{papersize=\the\paperwidth,\the\paperheight}%
10208             \fi
10209           \fi
10210         \fi
10211       \else
10212         \ifdim\stockwidth=\z@
10213           \ifdim\paperwidth>\z@
10214             \ifdim\paperheight>\z@
10215               \special{papersize=\the\paperwidth,\the\paperheight}%
10216             \fi
10217           \fi
10218         \fi
10219       \fi
10220     \fi
10221   \endgroup
10222 \fi
10223 \Hy@DisableOption{setpagesize}%
10224 }
10225 </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.

```

10226 <*vtexhtml>
10227 \providecommand*\XR@ext>{htm}
10228 \RequirePackage{vtexhtml}
10229 \newif\if@Localurl
10230 \let\PDF@FinishDoc\ltx@empty
10231 \def\PDF@SetupDoc{%
10232   \ifx\@baseurl\@empty
10233     \else
10234       \special{!direct <base href="\@baseurl">}%
10235     \fi
10236 }

```

```

10237 \def\@urltype{url}
10238 \def\hyper@link#1#2#3{%
10239   \Hy@VerboseLinkStart{#1}{#2}%
10240   \leavevmode
10241   \special{!direct <a href=%
10242     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10243   #3\Hy@xspace@end
10244   \special{!direct </a>}%
10245 }
10246 \def\hyper@linkurl#1#2{%
10247   \begingroup
10248   \hyper@chars
10249   \leavevmode
10250   \MathBSuppress=1\relax
10251   \special{!direct <a href=%
10252     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10253   #1\Hy@xspace@end
10254   \MathBSuppress=0\relax
10255   \special{!direct </a>}%
10256   \endgroup
10257 }
10258 \def\hyper@linkfile#1#2#3{%
10259   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10260 }
10261 \def\hyper@linkstart#1#2{%
10262   \Hy@VerboseLinkStart{#1}{#2}%
10263   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10264     \@Localurltrue
10265     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10266   \else
10267     \@Localurlfalse
10268     \begingroup
10269     \hyper@chars
10270     \special{!aref \HyperDestNameFilter{#2}}%
10271     \endgroup
10272   \fi
10273 }
10274 \def\hyper@linkend{%
10275   \if@Localurl
10276     \special{!endaref}%
10277   \else
10278     \special{!direct </a>}%
10279   \fi
10280 }
10281 \Hy@WrapperDef\hyper@anchorstart#1{%
10282   \Hy@SaveLastskip
10283   \Hy@VerboseAnchor{#1}%
10284   \begingroup
10285   \hyper@chars
10286   \special{!aname #1}%
10287   \special{!direct <a name=%
10288     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10289   \endgroup
10290   \Hy@activeanchortrue

```

```

10291 }
10292 \def\hyper@anchorend{%
10293 \special{!direct </a>}%
10294 \Hy@activeanchorfalse
10295 \Hy@RestoreLastskip
10296 }
10297 \Hy@WrapperDef\hyper@anchor#1{%
10298 \Hy@SaveLastskip
10299 \Hy@VerboseAnchor{#1}%
10300 \begingroup
10301 \let\protect=\string
10302 \hyper@chars
10303 \leavevmode
10304 \special{!aname #1}%
10305 \special{!direct <a name=%
10306 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10307 \endgroup
10308 \Hy@activeanchortrue
10309 \bgroup\anchor@spot\egroup
10310 \special{!direct </a>}%
10311 \Hy@activeanchorfalse
10312 \Hy@RestoreLastskip
10313 }
10314 \def\@Form[#1]{%
10315 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10316 }
10317 \let\@endForm\ltx@empty
10318 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10319 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10320 }
10321 \def\@TextField[#1]#2{% parameters, label
10322 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10323 }
10324 \def\@CheckBox[#1]#2{% parameters, label
10325 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10326 }
10327 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10328 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10329 }
10330 \def\@PushButton[#1]#2{% parameters, label
10331 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10332 }
10333 \def\@Reset[#1]#2{%
10334 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10335 }
10336 \def\@Submit[#1]#2{%
10337 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10338 }
10339 </vtexhtml>
10340 <*vtex>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

10341 \ifcsname mediaheight\endcsname
10342 \ifHy@setpagesize
10343   \providecommand*\VTeXInitMediaSize{%
10344     \ifnum\mag=\@m
10345       \ifdim\stockwidth>\z@
10346         \ifdim\stockheight>\z@
10347           \setlength\mediaheight\stockheight
10348           \setlength\mediawidth\stockwidth
10349         \else
10350           \ifdim\paperwidth>\z@
10351             \ifdim\paperheight>\z@
10352               \setlength\mediaheight\paperheight
10353               \setlength\mediawidth\paperwidth
10354             \fi
10355           \fi
10356         \fi
10357       \else
10358         \ifdim\stockwidth=\z@
10359           \ifdim\paperwidth>\z@
10360             \ifdim\paperheight>\z@
10361               \setlength\mediaheight\paperheight
10362               \setlength\mediawidth\paperwidth
10363             \fi
10364           \fi
10365         \fi
10366       \fi
10367     \fi
10368   }%
10369   \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10370 \fi
10371 \Hy@DisableOption{setpagesize}%
10372 \fi

```

Older versions of VTeX require xyz in lower case.

```

10373 \providecommand*\@pdfview{xyz}
10374 \providecommand*\@pdfborder{0 0 1}
10375 \providecommand*\@pdfborderstyle{}
10376 \let\CurrentBorderColor\@linkbordercolor
10377 \Hy@WrapperDef\hyper@anchor#1{%
10378   \Hy@SaveLastskip
10379   \Hy@VerboseAnchor{#1}%
10380   \begingroup
10381     \let\protect=\string
10382     \hyper@chars
10383     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10384   \endgroup
10385   \Hy@activeanchortrue
10386   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10387   \Hy@activeanchorfalse
10388   \Hy@RestoreLastskip
10389 }
10390 \Hy@WrapperDef\hyper@anchorstart#1{%
10391   \Hy@SaveLastskip
10392   \Hy@VerboseAnchor{#1}%
10393   \begingroup

```

```

10394 \hyper@chars
10395 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10396 \endgroup
10397 \Hy@activeanchortrue
10398 }
10399 \def\hyper@anchorend{%
10400 \Hy@activeanchorfalse
10401 \Hy@RestoreLastskip
10402 }
10403 \def\@urltype{url}
10404 \def\Hy@undefinedname{UNDEFINED}
10405 \def\hyper@linkstart#1#2{%
10406 \Hy@VerboseLinkStart{#1}{#2}%
10407 \Hy@pstringdef\Hy@pstringURI{#2}%
10408 \expandafter\Hy@colorlink\csname @#1color\endcsname
10409 \ltx@ifundefined{@#1bordercolor}{%
10410 \let\CurrentBorderColor\relax
10411 }{%
10412 \edef\CurrentBorderColor{%
10413 \csname @#1bordercolor\endcsname
10414 }%
10415 }%
10416 \def\Hy@tempa{#1}%
10417 \ifx\Hy@tempa\@urltype
10418 \special{!%
10419 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10420 \ifHy@href@ismap
10421 /IsMap true%
10422 \fi
10423 \Hy@href@nextactionraw
10424 >;%
10425 a=<%
10426 \ifHy@pdfa /F 4\fi
10427 \Hy@setpdfborder
10428 \ifx\CurrentBorderColor\relax
10429 \else
10430 /C [\CurrentBorderColor]%
10431 \fi
10432 >%
10433 }%
10434 \else
10435 \protected@edef\Hy@testname{#2}%
10436 \ifx\Hy@testname\@empty
10437 \Hy@Warning{%
10438 Empty destination name,\MessageBreak
10439 using '\Hy@undefinedname'%
10440 }%
10441 \let\Hy@testname\Hy@undefinedname
10442 \fi
10443 \special{!%
10444 aref \expandafter\HyperDestNameFilter
10445 \expandafter{\Hy@testname};%
10446 a=<%
10447 \ifHy@pdfa /F 4\fi

```

```

10448 \Hy@setpdfborder
10449 \ifx\CurrentBorderColor\relax
10450 \else
10451 /C [\CurrentBorderColor]%
10452 \fi
10453 >%
10454 }%
10455 \fi
10456 }
10457 \def\hyper@linkend{%
10458 \special{!endaref}%
10459 \Hy@endcolorlink
10460 }
10461 \def\hyper@linkfile#1#2#3{%
10462 \leavevmode
10463 \def\Hy@pstringF{#2}%
10464 \Hy@CleanupFile\Hy@pstringF
10465 \special{!%
10466 aref <%
10467 \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10468 f=\Hy@pstringF>#3;%
10469 a=<%
10470 \ifHy@pdfa /F 4\fi
10471 \Hy@setpdfborder
10472 \ifx\@filebordercolor\relax
10473 \else
10474 /C [\@filebordercolor]%
10475 \fi
10476 >%
10477 }%
10478 \Hy@colorlink\@filecolor
10479 #1\Hy@xspace@end
10480 \Hy@endcolorlink
10481 \special{!endaref}%
10482 }
10483 \def\hyper@linkurl#1#2{%
10484 \begingroup
10485 \Hy@pstringdef\Hy@pstringURI{#2}%
10486 \hyper@chars
10487 \leavevmode
10488 \special{!%
10489 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10490 \ifHy@href@ismap
10491 /IsMap true%
10492 \fi
10493 \Hy@href@nextactionraw
10494 >;%
10495 a=<%
10496 \ifHy@pdfa /F 4\fi
10497 \Hy@setpdfborder
10498 \ifx\@urlbordercolor\relax
10499 \else
10500 /C [\@urlbordercolor]%
10501 \fi

```

```

10502     >%
10503   }%
10504   \Hy@colorlink\@urlcolor
10505     #1\Hy@xspace@end
10506   \Hy@endcolorlink
10507   \special{!endaref}%
10508 \endgroup
10509 }
10510 \def\hyper@link#1#2#3{%
10511   \Hy@VerboseLinkStart{#1}{#2}%
10512   \ltx@ifundefined{#@#1bordercolor}{%
10513     \let\CurrentBorderColor\relax
10514   }{%
10515     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10516   }%
10517   \leavevmode
10518   \protected@edef\Hy@testname{#2}%
10519   \ifx\Hy@testname\@empty
10520     \Hy@Warning{%
10521       Empty destination name,\MessageBreak
10522       using '\Hy@undefinedname'%
10523     }%
10524     \let\Hy@testname\Hy@undefinedname
10525   \fi
10526   \special{!%
10527     aref \expandafter\HyperDestNameFilter
10528       \expandafter{\Hy@testname};%
10529     a=<%
10530       \ifHy@pdfa /F 4\fi
10531       \Hy@setpdfborder
10532       \ifx\CurrentBorderColor\relax
10533         \else
10534           /C [\CurrentBorderColor]%
10535         \fi
10536       >%
10537     }%
10538   \expandafter
10539   \Hy@colorlink\csname @#1color\endcsname
10540     #3\Hy@xspace@end
10541   \Hy@endcolorlink
10542   \special{!endaref}%
10543 }
10544 \def\hyper@image#1#2{%
10545   \hyper@linkurl{#2}{#1}%
10546 }
10547 \def\@hyper@launch run:#1\#2#3{%
10548   \Hy@pstringdef\Hy@pstringF{#1}%
10549   \Hy@pstringdef\Hy@pstringP{#3}%
10550   \leavevmode
10551   \special{!aref %
10552     <u=%
10553       /Type/Action%
10554       /S/Launch%
10555       /F(\Hy@pstringF)%

```

```

10556 \Hy@SetNewWindow
10557 \ifx\|#3\|
10558 \else
10559 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10560 \fi
10561 \Hy@href@nextactionraw
10562 >,%
10563 a=<%
10564 \ifHy@pdfa /F 4\fi
10565 \Hy@setpdfborder
10566 \ifx\@runbordercolor\relax
10567 \else
10568 /C[\@runbordercolor]%
10569 \fi
10570 >%
10571 }%
10572 \Hy@colorlink\@runcolor
10573 #2\Hy@xspace@end
10574 \Hy@endcolorlink
10575 \special{!endaref}%
10576 }
10577 \def\Acrobatmenu#1#2{%
10578 \EdefEscapeName\Hy@temp@menu{#1}%
10579 \Hy@Acrobatmenu{#1}{#2}{%
10580 \special{!%
10581 aref <u=/S /Named /N /\Hy@temp@menu>;%
10582 a=<%
10583 \ifHy@pdfa /F 4\fi
10584 \Hy@setpdfborder
10585 \ifx\@menubordercolor\relax
10586 \else
10587 /C[\@menubordercolor]%
10588 \fi
10589 >%
10590 }%
10591 \Hy@colorlink\@menucolor
10592 #2\Hy@xspace@end
10593 \Hy@endcolorlink
10594 \special{!endaref}%
10595 }%
10596 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

10597 \ifnum\Hy@VTeXversion<702 %
10598 \else
10599 \def\hyper@pagetransition{%
10600 \ifx\@pdfpagetransition\relax
10601 \else
10602 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10603 \else

```



```

10604     \hvtex@parse@trans\@pdfpagetransition
10605     \fi
10606     \fi
10607 }%

```

I have to write an “honest” parser to convert raw PDF code into V<sub>T</sub>E<sub>X</sub> \special.  
(AVK)

Syntax of V<sub>T</sub>E<sub>X</sub> \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:

```

10608 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10609 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10610 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10611 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10612 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10613 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10614 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10615 \def\hvtex@par@dimension{/Dm}%
10616 \def\hvtex@par@direction{/Di}%
10617 \def\hvtex@par@duration{/D}%
10618 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10619 \def\hvtex@gettoken{%
10620   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10621 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10622 \def\hvtex@gettoken@#1 #2\@nil{%
10623   \edef\hvtex@token{#1}%
10624   \edef\hvtex@buffer{#2}%
10625 }%
10626 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10627 \let\hvtex@trans@code\@empty
10628 \let\hvtex@param@dimension\@empty
10629 \let\hvtex@param@direction\@empty

```

```

10630 \let\hvtex@param@duration\@empty
10631 \let\hvtex@param@motion\@empty
10632 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10633 \hvtex@gettoken
10634 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10635 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10636 \else
10637 \hvtex@gettoken
10638 \fi
10639 \fi
10640 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10641 \hvtex@trans@params
10642 }%

```

Reentrant macro to parse optional parameters.

```

10643 \def\hvtex@trans@params{%
10644 \ifx\hvtex@buffer\@empty
10645 \else
10646 \hvtex@gettoken
10647 \let\hvtex@trans@par\hvtex@token
10648 \ifx\hvtex@buffer\@empty
10649 \else
10650 \hvtex@gettoken
10651 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub>E<sub>X</sub> special takes it in milliseconds.

```

10652 \let\hvtex@param@duration\hvtex@token
10653 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10654 \expandafter\edef\expandafter\hvtex@param@motion
10655 \expandafter{\expandafter\@gobble\hvtex@token}%
10656 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

10657 \expandafter\edef\expandafter\hvtex@param@dimension
10658 \expandafter{\expandafter\@gobble\hvtex@token}%
10659 \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).

```

10660 \let\hvtex@param@direction\hvtex@token
10661 \fi\fi\fi\fi
10662 \fi
10663 \fi
10664 \ifx\hvtex@buffer\@empty
10665 \let\next\hvtex@produce@trans
10666 \else
10667 \let\next\hvtex@trans@params
10668 \fi

```

```

10669 \next
10670 }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10671 \def\hvtex@produce@trans{%
10672 \let\vtex@trans@special\@empty
10673 \if S\hvtex@trans@code
10674 \edef\vtex@trans@special{\hvtex@trans@code
10675 \hvtex@param@dimension\hvtex@param@motion}%
10676 \else\if B\hvtex@trans@code
10677 \edef\vtex@trans@special{%
10678 \hvtex@trans@code\hvtex@param@dimension
10679 }%
10680 \else\if X\hvtex@trans@code
10681 \edef\vtex@trans@special{%
10682 \hvtex@trans@code\hvtex@param@motion
10683 }%
10684 \else\if W\hvtex@trans@code
10685 \edef\vtex@trans@special{%
10686 \hvtex@trans@code\hvtex@param@direction
10687 }%
10688 \else\if D\hvtex@trans@code
10689 \let\vtex@trans@special\hvtex@trans@code
10690 \else\if R\hvtex@trans@code
10691 \let\vtex@trans@special\hvtex@trans@code
10692 \else\if G\hvtex@trans@code
10693 \edef\vtex@trans@special{%
10694 \hvtex@trans@code\hvtex@param@direction
10695 }%
10696 \fi\fi\fi\fi\fi\fi
10697 \ifx\vtex@trans@special\@empty
10698 \else
10699 \ifx\hvtex@param@duration\@empty
10700 \else
10701 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10702 \multiply\dimen@\@m
10703 \edef\vtex@trans@special{%
10704 \vtex@trans@special,\strip@pt\dimen@
10705 }%
10706 \fi

```

And all the mess is just for this.

```

10707 \special{!trans \vtex@trans@special}%
10708 \fi
10709 }%

10710 \def\hyper@pageduration{%
10711 \ifx\@pdfpageduration\relax
10712 \else
10713 \ifx\@pdfpageduration\@empty
10714 \special{!duration-}%
10715 \else
10716 \special{!duration \@pdfpageduration}%

```

```

10717 \fi
10718 \fi
10719 }%
10720 \g@addto@macro\Hy@EveryPageBoxHook{%
10721 \hyper@pagetransition
10722 \hyper@pageduration
10723 }%
10724 \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

```

10725 \ifx\@pdfproducer\relax
10726 \def\@pdfproducer{VTeX}%
10727 \ifnum\Hy@VTeXversion>\z@
10728 \count@\VTeXversion
10729 \divide\count@ 100 %
10730 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10731 \multiply\count@ -100 %
10732 \advance\count@\VTeXversion
10733 \edef\@pdfproducer{%
10734 \@pdfproducer
10735 .\ifnum\count@<10 0\fi\the\count@
10736 \ifx\VTeXOS\undefined\else
10737 \ifnum\VTeXOS>0 %
10738 \ifnum\VTeXOS<6 %
10739 \space(%
10740 \ifcase\VTeXOS
10741 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10742 \fi
10743 )%
10744 \fi
10745 \fi
10746 \fi
10747 ,\space
10748 \ifnum\OpMode=\@one PDF\else PS\fi
10749 \space backend%
10750 \ifx\gexmode\undefined\else
10751 \ifnum\gexmode>\z@\space with GeX\fi
10752 \fi
10753 }%
10754 \fi
10755 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>Author</b>	String
<b>b</b>	<b>CropBox</b>	String
<b>c</b>	<b>Creator</b>	String
<b>k</b>	<b>Keywords</b>	String
<b>l</b>	<b>PageLayout</b>	PS
<b>p</b>	<b>PageMode</b>	PS
<b>r</b>	<b>Producer</b>	String
<b>s</b>	<b>Subject</b>	String
<b>t</b>	<b>Title</b>	String
<b>u</b>	<b>URI</b>	PS
<b>v</b>	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<<.>>> (yuck; no choice).

```

10756 \def\PDF@SetupDoc{%
10757   \ifx\@pdfpagescrop\@empty
10758   \else
10759     \special{!pdfinfo b=<\@pdfpagescrop>}%
10760   \fi
10761   \ifx\@pdfstartpage\@empty
10762   \else
10763     \ifx\@pdfstartview\@empty
10764     \else
10765       \special{!onopen Page\@pdfstartpage}%
10766     \fi
10767   \fi
10768   \special{!pdfinfo p=</\@pdfpagemode>}%
10769   \ifx\@baseurl\@empty
10770   \else
10771     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10772   \fi
10773   \special{!pdfinfo v=<<<%
10774     \ifHy@pdftoolbar\else /HideToolbar true\fi
10775     \ifHy@pdfmenubar\else /HideMenubar true\fi
10776     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10777     \ifHy@pdfwindow /FitWindow true\fi
10778     \ifHy@pdfcenterwindow /CenterWindow true\fi
10779     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10780     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10781     \Hy@UseNameKey{Direction}\@pdfdirection
10782     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10783     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10784     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10785     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10786     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10787     \Hy@UseNameKey{Duplex}\@pdfduplex
10788     \ifx\@pdfpicktraybypdfsize\@empty
10789     \else
10790       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10791     \fi
10792     \ifx\@pdfprintpagerange\@empty
10793     \else
10794       /PrintPageRange[\@pdfprintpagerange]%
10795     \fi

```

```

10796 \ifx\@pdfnumcopies\@empty
10797 \else
10798 /NumCopies \@pdfnumcopies
10799 \fi
10800 >>>}%
10801 \ifx\@pdfpagelayout\@empty
10802 \else
10803 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10804 \fi
10805 }%
10806 \HyInfo@AddonUnsupportedtrue
10807 \define@key{Hyp}{pdfcreationdate}{%
10808 \Hy@Warning{%
10809 VTeX does not support pdfcreationdate.\MessageBreak
10810 Therefore its setting is ignored%
10811 }%
10812 }
10813 \define@key{Hyp}{pdfmoddate}{%
10814 \Hy@Warning{%
10815 VTeX does not support pdfmoddate.\MessageBreak
10816 Therefore its setting is ignored%
10817 }%
10818 }
10819 \def\PDF@FinishDoc{%
10820 \Hy@UseMaketitleInfos
10821 \HyInfo@TrappedUnsupported
10822 \special{!pdfinfo a=<\@pdfauthor>}%
10823 \special{!pdfinfo t=<\@pdftitle>}%
10824 \special{!pdfinfo s=<\@pdfsubject>}%
10825 \special{!pdfinfo c=<\@pdfcreator>}%
10826 \ifx\@pdfproducer\relax
10827 \else
10828 \special{!pdfinfo r=<\@pdfproducer>}%
10829 \fi
10830 \special{!pdfinfo k=<\@pdfkeywords>}%
10831 \Hy@DisableOption{pdfauthor}%
10832 \Hy@DisableOption{pdftitle}%
10833 \Hy@DisableOption{pdfsubject}%
10834 \Hy@DisableOption{pdfcreator}%
10835 \Hy@DisableOption{addtopdfcreator}%
10836 \Hy@DisableOption{pdfcreationdate}%
10837 \Hy@DisableOption{pdfcreationdate}%
10838 \Hy@DisableOption{pdfmoddate}%
10839 \Hy@DisableOption{pdfproducer}%
10840 \Hy@DisableOption{pdfkeywords}%
10841 \Hy@DisableOption{pdftrapped}%
10842 \Hy@DisableOption{pdfinfo}%
10843 }
10844 </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.

```
10845 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
10846 <packageEnd>\providecommand*\Hy@DistillerDestFix{}  
10847 <*pdfmark | dviwindo>  
10848 \def\Hy@DistillerDestFix{%  
10849   \begingroup  
10850   \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
10851   \ifnum \@ifundefined{OpMode}{0}{%  
10852     \@ifundefined{gexmode}{0}{%  
10853       \ifnum\gexmode>0 \OpMode\else 0\fi  
10854     }>1 %  
10855   \def\x##1{%  
10856     \immediate\special{!=##1}%  
10857   }%  
10858   \fi  
10859   \x{%  
10860     /product where{%  
10861       pop %  
10862       product(Distiller)search{%  
10863         pop pop pop %  
10864         version(.)search{%  
10865           exch pop exch pop%  
10866           (3011)eq{%  
10867             gsave %  
10868             newpath 0 0 moveto closepath clip%  
10869             /Courier findfont 10 scalefont setfont %  
10870             72 72 moveto(.)show %  
10871             grestore%  
10872           }if%  
10873         }{pop}ifelse%  
10874       }{pop}ifelse%  
10875     }if%  
10876   }%  
10877   \endgroup  
10878 }  
10879 </pdfmark | dviwindo>
```

### 43.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

<code>\@pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

<code>H.S</code>	start of anchor, link or rect
<code>#1 H.A</code>	end of anchor, argument=baselineskip in pt
<code>#1 H.L</code>	end of link, argument=baselineskip in pt
<code>H.R</code>	end of rect
<code>H.B</code>	raw rect code

```

10880 (*pdfmark)
10881 \Hy@breaklinks@unsupported
10882 \def\HyPat@ObjRef{%
10883   \[~{}]+\}%
10884 }
10885 \Hy@WrapperDef\hyper@anchor#1{%
10886   \Hy@SaveLastskip
10887   \Hy@VerboseAnchor{#1}%
10888   \begingroup
10889     \pdfmark[\anchor@spot]{%
10890       pdfmark=/DEST,%
10891       linktype=anchor,%
10892       View=/\@pdfview \@pdfviewparams,%
10893       DestAnchor={#1}%
10894     }%
10895   \endgroup
10896   \Hy@RestoreLastskip
10897 }
10898 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10899 \Hy@WrapperDef\hyper@anchorstart#1{%
10900   \Hy@SaveLastskip
10901   \Hy@VerboseAnchor{#1}%
10902   \literalps@out{H.S}%
10903   \Hy@AllowHyphens
10904   \xdef\hyper@currentanchor{#1}%
10905   \Hy@activeanchortrue
10906 }
10907 \def\hyper@anchorend{%
10908   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10909   \pdfmark{%
10910     pdfmark=/DEST,%
10911     linktype=anchor,%
10912     View=/\@pdfview \@pdfviewparams,%
10913     DestAnchor=\hyper@currentanchor,%
10914   }%
10915   \Hy@activeanchorfalse
10916   \Hy@RestoreLastskip
10917 }
10918 \def\hyper@linkstart#1#2{%
10919   \Hy@VerboseLinkStart{#1}{#2}%
10920   \ifHy@breaklinks
10921     \else
10922     \leavevmode

```



```

10923 \ifmmode
10924   \def\Hy@LinkMath{$}%
10925 \else
10926   \let\Hy@LinkMath\ltx@empty
10927 \fi
10928 \Hy@SaveSpaceFactor
10929 \hbox\bgroup
10930 \Hy@RestoreSpaceFactor
10931 \Hy@LinkMath
10932 \fi
10933 \expandafter\Hy@colorlink\csname @#1color\endcsname
10934 \literalps@out{H.S}%
10935 \Hy@AllowHyphens
10936 \xdef\hyper@currentanchor{#2}%
10937 \gdef\hyper@currentlinktype{#1}%
10938 }
10939 \def\hyper@linkend{%
10940   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10941   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10942     \let\Hy@tempcolor\relax
10943   }{%
10944     \edef\Hy@tempcolor{%
10945       \csname @\hyper@currentlinktype bordercolor\endcsname
10946     }%
10947   }%
10948   \pdfmark{%
10949     pdfmark=/ANN,%
10950     linktype=link,%
10951     Subtype=/Link,%
10952     PDFAFlags=4,%
10953     Dest=\hyper@currentanchor,%
10954     AcroHighlight=\@pdfhighlight,%
10955     Border=\@pdfborder,%
10956     BorderStyle=\@pdfborderstyle,%
10957     Color=\Hy@tempcolor,%
10958     Raw=H.B%
10959   }%
10960   \Hy@endcolorlink
10961   \ifHy@breaklinks
10962   \else
10963     \Hy@LinkMath
10964     \Hy@SaveSpaceFactor
10965     \egroup
10966     \Hy@RestoreSpaceFactor
10967   \fi
10968 }

```

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.

```

10969 \begingroup
10970   \catcode`P=12 %
10971   \catcode`T=12 %
10972   \lowercase{\endgroup

```

```

10973 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10974 }
10975 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

10976 \def\hyper@pagetransition{%
10977 \ifx\@pdfpagetransition\relax
10978 \else
10979 \ifx\@pdfpagetransition\@empty
10980 % 1. Does an old entry have to be deleted?
10981 % 2. If 1=yes, how to delete?
10982 \else
10983 \pdfmark{%
10984 pdfmark=/PUT,%
10985 Raw={%
10986 \string{ThisPage\string}%
10987 <</Trans << /S /\@pdfpagetransition\space >> >>%
10988 }%
10989 }%
10990 \fi
10991 \fi
10992 }

```

\hyper@pageduration

```

10993 \def\hyper@pageduration{%
10994 \ifx\@pdfpageduration\relax
10995 \else
10996 \ifx\@pdfpageduration\@empty
10997 % 1. Does an old entry have to be deleted?
10998 % 2. If 1=yes, how to delete?
10999 \else
11000 \pdfmark{%
11001 pdfmark=/PUT,%
11002 Raw={%
11003 \string{ThisPage\string}%
11004 <</Dur \@pdfpageduration>>%
11005 }%
11006 }%
11007 \fi
11008 \fi
11009 }

11010 \g@addto@macro\Hy@EveryPageBoxHook{%
11011 \hyper@pagetransition
11012 \hyper@pageduration
11013 }

11014 \def\hyper@image#1#2{%
11015 \hyper@linkurl{#2}{#1}%
11016 }

11017 \def\Hy@undefinedname{UNDEFINED}
11018 \def\hyper@link#1#2#3{%
11019 \Hy@VerboseLinkStart{#1}{#2}%
11020 \ltx@ifundefined{@#1bordercolor}{%
11021 \let\Hy@tempcolor\relax

```

```

11022 }{%
11023   \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11024 }%
11025 \begingroup
11026   \protected@edef\Hy@testname{#2}%
11027   \ifx\Hy@testname\@empty
11028     \Hy@Warning{%
11029       Empty destination name,\MessageBreak
11030       using ``\Hy@undefinedname'%
11031     }%
11032     \let\Hy@testname\Hy@undefinedname
11033   \fi
11034   \pdfmark[{#3}]{%
11035     Color=\Hy@tempcolor,%
11036     linktype={#1},%
11037     AcroHighlight=\@pdfhighlight,%
11038     Border=\@pdfborder,%
11039     BorderStyle=\@pdfborderstyle,%
11040     pdfmark=/ANN,%
11041     Subtype=/Link,%
11042     PDFAFlags=4,%
11043     Dest=\Hy@testname
11044   }%
11045 \endgroup
11046 }
11047 \newtoks\pdf@docset
11048 \def\PDF@FinishDoc{%
11049   \Hy@UseMaketitleInfos
11050   \Hy@Info@GenerateAddons
11051   \let\Hy@temp\@empty
11052   \ifx\@pdfcreationdate\@empty
11053     \else
11054       \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11055     \fi
11056   \ifx\@pdfmoddate\@empty
11057     \else
11058       \expandafter\def\expandafter\Hy@temp\expandafter{%
11059         \Hy@temp
11060         ModDate=\@pdfmoddate,%
11061       }%
11062     \fi
11063   \ifx\@pdfproducer\relax
11064     \else
11065       \expandafter\def\expandafter\Hy@temp\expandafter{%
11066         \Hy@temp
11067         Producer=\@pdfproducer,%
11068       }%
11069     \fi
11070   \expandafter
11071   \pdfmark\expandafter{%
11072     \Hy@temp
11073     pdfmark=/DOCINFO,%
11074     Title=\@pdftitle,%
11075     Subject=\@pdfsubject,%

```

```

11076   Creator=\@pdfcreator,%
11077   Author=\@pdfauthor,%
11078   Keywords=\@pdfkeywords,%
11079   Trapped=\@pdftrapped
11080 }%
11081 \ifx\HyInfo@Addons\@empty
11082 \else
11083   \pdfmark{%
11084     pdfmark=/DOCINFO,%
11085     Raw={\HyInfo@Addons}%
11086   }%
11087 \fi
11088 \Hy@DisableOption{pdfauthor}%
11089 \Hy@DisableOption{pdftitle}%
11090 \Hy@DisableOption{pdfsubject}%
11091 \Hy@DisableOption{pdfcreator}%
11092 \Hy@DisableOption{addtopdfcreator}%
11093 \Hy@DisableOption{pdfcreationdate}%
11094 \Hy@DisableOption{pdfcreationdate}%
11095 \Hy@DisableOption{pdfmoddate}%
11096 \Hy@DisableOption{pdfproducer}%
11097 \Hy@DisableOption{pdfkeywords}%
11098 \Hy@DisableOption{pdftrapped}%
11099 \Hy@DisableOption{pdfinfo}%
11100 }
11101 \def\PDF@SetupDoc{%
11102   \def\Hy@temp{}%
11103   \ifx\@pdfstartpage\@empty
11104   \else
11105     \ifx\@pdfstartview\@empty
11106     \else
11107       \edef\Hy@temp{%
11108         ,Page=\@pdfstartpage
11109         ,View=\@pdfstartview
11110       }%
11111     \fi
11112   \fi
11113   \edef\Hy@temp{%
11114     \noexpand\pdfmark{%
11115       pdfmark=/DOCVIEW,%
11116       PageMode=/\@pdfpagemode
11117     }\Hy@temp
11118   }%
11119 }%
11120 \Hy@temp
11121 \ifx\@pdfpagescrop\@empty
11122 \else
11123   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11124 \fi
11125 \edef\Hy@temp{%
11126   \ifHy@pdftoolbar\else /HideToolbar true\fi
11127   \ifHy@pdfmenubar\else /HideMenubar true\fi
11128   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11129   \ifHy@pdfwindow /FitWindow true\fi

```

```

11130 \ifHy@pdfcenterwindow /CenterWindow true\fi
11131 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11132 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11133 \Hy@UseNameKey{Direction}\@pdfdirection
11134 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11135 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11136 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11137 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11138 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11139 \Hy@UseNameKey{Duplex}\@pdfduplex
11140 \ifx\@pdfpicktraybypdfsize\@empty
11141 \else
11142 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11143 \fi
11144 \ifx\@pdfprintpagerange\@empty
11145 \else
11146 /PrintPageRange[\@pdfprintpagerange]%
11147 \fi
11148 \ifx\@pdfnumcopies\@empty
11149 \else
11150 /NumCopies \@pdfnumcopies
11151 \fi
11152 }%
11153 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11154 \pdfmark{%
11155 pdfmark=/PUT,%
11156 Raw={%
11157 \string{Catalog\string}<<%
11158 \ifx\Hy@temp\@empty
11159 \else
11160 /ViewerPreferences<<\Hy@temp>>%
11161 \fi
11162 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11163 \ifx\@pdflang\relax
11164 \else
11165 /Lang(\@pdflang)%
11166 \fi
11167 \ifx\@baseurl\@empty
11168 \else
11169 /URI<</Base(\Hy@pstringB)>>%
11170 \fi
11171 >>%
11172 }%
11173 }%
11174 }
11175 </pdfmark>
11176 <*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.

```

11177 \newif\ifHy@pdfmarkerror
11178 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11179 \def\pdfmark@[#1]#2{%
11180   \Hy@pdfmarkerrorfalse
11181   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11182   \@processme
11183   \let\pdf@type\relax
11184   \let\pdf@objdef\ltx@empty
11185   \kvsetkeys{PDF}{#2}%
11186   \ifHy@pdfmarkerror
11187   \else
11188     \ifx\pdf@type\relax
11189       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11190       \ifx\#1\%
11191         \else
11192           \pdf@rect{#1}%
11193         \fi
11194       \else
11195         \ifx\#1\%
11196           \literalps@out{%
11197             [%
11198             \ifx\pdf@objdef\ltx@empty
11199             \else
11200               /_objdef\string{\pdf@objdef\string}%
11201             \fi
11202             \the\pdf@toks\space\pdf@type\space pdfmark%
11203             ]%
11204           \else
11205             \ltx@ifundefined{@\pdf@linktype color}{%
11206               \Hy@colorlink\@linkcolor
11207             }{%
11208               \expandafter\Hy@colorlink
11209               \csname @\pdf@linktype color\endcsname
11210             }%
11211             \pdf@rect{#1}%
11212             \literalps@out{%
11213               [%
11214               \ifx\pdf@objdef\ltx@empty
11215               \else
11216                 /_objdef\string{\pdf@objdef\string}%
11217               \fi
11218               \the\pdf@toks\space\pdf@type\space pdfmark%
11219               ]%
11220               \Hy@endcolorlink
11221             \fi
11222           \fi
11223         \fi
11224       }

```

The complicated bit is working out the right enclosing rectangle of some piece of  $\text{\TeX}$  text, needed by the `/Rect` key. This solution originates with Toby Thain ([toby@netspace.net.au](mailto: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}
```

```
11225 \newsavebox{\pdf@box}
11226 \providecommand*{\Hy@setouterhbox}{\sbox}
11227 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11228 \def\Hy@DEST{/DEST}
11229 \def\pdf@rect#1{%
11230   \begingroup
11231   \chardef\x=1 %
11232   \def\Hy@temp{#1}%
11233   \ifx\Hy@temp\ltx@empty
11234     \chardef\x=0 %
11235   \else
11236     \def\y{\anchor@spot}%
11237     \ifx\Hy@temp\y
11238       \def\y{\relax}%
11239     \ifx\anchor@spot\y
11240       \chardef\x=0 %
11241     \fi
11242   \fi
11243 \fi
11244 \expandafter\endgroup
11245 \ifcase\x
11246   \literalps@out{H.S}%
11247   \literalps@out{H.R}%
11248 \else
11249   \leavevmode
11250   \Hy@SaveSpaceFactor
11251   \ifmmode
11252     \def\Hy@LinkMath{$}%
11253   \else
11254     \let\Hy@LinkMath\ltx@empty
11255   \fi
11256   \ifHy@breaklinks
11257     \Hy@setouterhbox\pdf@box{%
11258       \Hy@RestoreSpaceFactor
11259       \Hy@LinkMath
11260       \Hy@AllowHyphens#1\Hy@xspace@end
11261       \Hy@LinkMath
11262       \Hy@SaveSpaceFactor
11263     }%
11264   \else
11265     \sbox\pdf@box{%
11266       \Hy@RestoreSpaceFactor
11267       \Hy@LinkMath
11268       #1\Hy@xspace@end
11269       \Hy@LinkMath
11270       \Hy@SaveSpaceFactor
```

```

11271 }%
11272 \fi
11273 \dimen@ht\pdf@box
11274 \ifdim\dp\pdf@box=\z@
11275 \literalps@out{H.S}%
11276 \else
11277 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11278 \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...).

```

11279 \ifHy@breaklinks
11280 \ifhmode
11281 \Hy@breaklinksunhbox\pdf@box
11282 \else
11283 \box\pdf@box
11284 \fi
11285 \else
11286 \expandafter\box\pdf@box
11287 \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

11288 \ifdim\dimen@=\z@
11289 \literalps@out{H.R}%
11290 \else
11291 \raise\dimen@\hbox{\literalps@out{H.R}}%
11292 \fi
11293 \Hy@RestoreSpaceFactor
11294 \fi
11295 \ifx\pdf@type\Hy@DEST
11296 \else
11297 \pdf@addtoksx{H.B}%
11298 \fi
11299 }

```

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.

```

11300 \newtoks\pdf@toks
11301 \newtoks\pdf@defaulttoks
11302 \pdf@defaulttoks={}%
11303 \def\pdf@addtoks#1#2{%
11304 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11305 \@processme
11306 }
11307 \def\pdf@addtoksx#1{%
11308 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11309 \@processme
11310 }
11311 \def\PDFdefaults#1{%

```



```

11312 \pdf@defaulttoks={#1}%
11313 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11314 % what is the type of pdfmark?
11315 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11316 % what is the link type?
11317 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11318 \def\pdf@linktype{link}
11319 % named object?
11320 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11321 \let\pdf@objdef\ltx@empty
11322 % parameter is a stream of PDF
11323 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11324 % parameter is a name
11325 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11326 % parameter is a array
11327 \define@key{PDF}{Border}{%
11328   \edef\Hy@temp{#1}%
11329   \ifx\Hy@temp\@empty
11330     \else
11331       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11332     \fi
11333 }
11334 \let\Hy@BorderArrayPatch\@empty
11335 % parameter is a dictionary
11336 \define@key{PDF}{BorderStyle}{%
11337   \edef\Hy@temp{#1}%
11338   \ifx\Hy@temp\@empty
11339     \else
11340       \pdf@addtoks{<<#1>>}{BS}%
11341     \fi
11342 }
11343 % parameter is a array
11344 \define@key{PDF}{Color}{%
11345   \ifx\relax#1\relax
11346     \else
11347       \pdf@addtoks{[#1]}{Color}% hash-ok
11348     \fi
11349 }
11350 % parameter is a string
11351 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11352 % parameter is a integer
11353 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11354 % parameter is a array
11355 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11356 % parameter is a string
11357 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11358 % parameter is a string or file
11359 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11360 % parameter is a destination
11361 \define@key{PDF}{Dest}{%
11362   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11363   \ifx\Hy@pstringDest\@empty
11364     \Hy@pdfmarkerrortrue

```

```

11365 \Hy@Warning{Destination with empty name ignored}%
11366 \else
11367 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11368 \fi
11369 }
11370 \define@key{PDF}{DestAnchor}{%
11371 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11372 \ifx\Hy@pstringDest\@empty
11373 \Hy@pdfmarkerrortrue
11374 \Hy@Warning{Destination with empty name ignored}%
11375 \else
11376 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11377 \fi
11378 }
11379 % parameter is a string
11380 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11381 % parameter is a string
11382 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11383 % parameter is a int
11384 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11385 \define@key{PDF}{PDFAFlags}{%
11386 \ifHy@pdfa
11387 \pdf@addtoks{#1}{F}%
11388 \fi
11389 }
11390 % parameter is a name
11391 \define@key{PDF}{AcroHighlight}{%
11392 \begingroup
11393 \edef\x{#1}%
11394 \expandafter\endgroup\ifx\x\@empty
11395 \else
11396 \pdf@addtoks{#1}{H}%
11397 \fi
11398 }
11399 % parameter is a string
11400 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11401 % parameter is a string
11402 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11403 % parameter is a string
11404 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11405 % parameter is a string
11406 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11407 % parameter is a Boolean
11408 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11409 % parameter is a integer or name
11410 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11411 % parameter is a name
11412 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11413 % parameter is a string
11414 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11415 % parameter is a array
11416 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11417 % parameter is a integer
11418 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}

```

```

11419 % parameter is a name
11420 \define@key{PDF}{Subtype}{\pdf@addtoks{(#1)}{Subtype}}
11421 % parameter is a string
11422 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11423 % parameter is a string
11424 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11425 % parameter is a string
11426 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11427 % parameter is an array
11428 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11429 % parameter is a string
11430 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11431 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11432 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11433 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11434 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11435 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11436 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11437 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11438 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11439 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11440 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11441 \define@key{PDF}{Trapped}{%
11442   \edef\Hy@temp{#1}%
11443   \ifx\Hy@temp\@empty
11444     \else
11445       \pdf@addtoks{/#1}{Trapped}%
11446   \fi
11447 }
11448
11449 </pdfmarkbase>
11450 <*pdfmark>
11451 \def\Acrobatmenu#1#2{%
11452   \EdefEscapeName\Hy@temp@menu{#1}%
11453   \Hy@Acrobatmenu{#1}{#2}{%
11454     \pdfmark[{#2}]{%
11455       linktype=menu,%
11456       pdfmark=/ANN,%
11457       AcroHighlight=\@pdfhighlight,%
11458       Border=\@pdfborder,%
11459       BorderStyle=\@pdfborderstyle,%
11460       Color=\@menubordercolor,%
11461       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11462       Subtype=/Link,%
11463       PDFAFlags=4%
11464     }%
11465   }%
11466 }

```

And now for some useful examples:

```

11467 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11468 \def\PDFNextPage@[#1]#2{%
11469   \pdfmark[{#2}]{%

```

```

11470   #1,%
11471   Border=\@pdfborder,%
11472   BorderStyle=\@pdfborderstyle,%
11473   Color=.2 .1 .5,%
11474   pdfmark=/ANN,%
11475   Subtype=/Link,%
11476   PDFAFlags=4,%
11477   Page=/Next%
11478 }%
11479 }
11480 \def\PDFPreviousPage{%
11481   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11482 }
11483 \def\PDFPreviousPage@[#1]#2{%
11484   \pdfmark[#{#2}]{%
11485     #1,%
11486     Border=\@pdfborder,%
11487     BorderStyle=\@pdfborderstyle,%
11488     Color=.4 .4 .1,%
11489     pdfmark=/ANN,%
11490     Subtype=/Link,%
11491     PDFAFlags=4,%
11492     Page=/Prev%
11493   }%
11494 }
11495 \def\PDFOpen#1{%
11496   \pdfmark{#1,pdfmark=/DOCVIEW}%
11497 }

```

This will only work if you use Distiller 2.1 or higher.

```

11498 \def\hyper@linkurl#1#2{%
11499   \begingroup
11500   \Hy@pstringdef\Hy@pstringURI{#2}%
11501   \hyper@chars
11502   \leavevmode
11503   \pdfmark[#{#1}]{%
11504     pdfmark=/ANN,%
11505     linktype=url,%
11506     AcroHighlight=\@pdfhighlight,%
11507     Border=\@pdfborder,%
11508     BorderStyle=\@pdfborderstyle,%
11509     Color=\@urlbordercolor,%
11510     Action={<<%
11511       /Subtype/URI%
11512       /URI(\Hy@pstringURI)%
11513       \ifHy@href@ismap
11514         /IsMap true%
11515       \fi
11516     >>},%
11517     Subtype=/Link,%
11518     PDFAFlags=4%
11519   }%
11520 \endgroup
11521 }
11522 \def\hyper@linkfile#1#2#3{%

```

```

11523 \begingroup
11524 \def\Hy@pstringF{#2}%
11525 \Hy@CleanupFile\Hy@pstringF
11526 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11527 \Hy@pstringdef\Hy@pstringD{#3}%
11528 \Hy@MakeRemoteAction
11529 \leavevmode
11530 \pdfmark[{#1}]{%
11531   pdfmark=/ANN,%
11532   Subtype=/Link,%
11533   PDFAFlags=4,%
11534   AcroHighlight=\@pdfhighlight,%
11535   Border=\@pdfborder,%
11536   BorderStyle=\@pdfborderstyle,%
11537   linktype=file,%
11538   Color=\@filebordercolor,%
11539   Action={%
11540     <<%
11541     /S/GoToR%
11542     \Hy@SetNewWindow
11543     /F(\Hy@pstringF)%
11544     /D%
11545     \ifx\#3\%
11546       [\Hy@href@page\@pdfremotestartview]%
11547     \else
11548       (\Hy@pstringD)cvn%
11549     \fi
11550     \Hy@href@nextactionraw
11551     >>%
11552   }%
11553 }%
11554 \endgroup
11555 }
11556 \def\@hyper@launch run:#1\#2#3{%
11557 \begingroup
11558 \Hy@pstringdef\Hy@pstringF{#1}%
11559 \Hy@pstringdef\Hy@pstringP{#3}%
11560 \leavevmode
11561 \pdfmark[{#2}]{%
11562   pdfmark=/ANN,%
11563   Subtype=/Link,%
11564   PDFAFlags=4,%
11565   AcroHighlight=\@pdfhighlight,%
11566   Border=\@pdfborder,%
11567   BorderStyle=\@pdfborderstyle,%
11568   linktype=run,%
11569   Color=\@runbordercolor,%
11570   Action={%
11571     <<%
11572     /S/Launch%
11573     \Hy@SetNewWindow
11574     /F(\Hy@pstringF)%
11575     \ifx\#3\%
11576     \else

```

```

11577      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11578      \fi
11579      \Hy@href@nextactionraw
11580      >>%
11581      }%
11582      }%
11583      \endgroup
11584      }
11585      \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.

```

11586 (*dvips)
11587 \providecommand*\XR@ext\pdf
11588 \let\Hy@raisedlink\ltx@empty
11589 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11590 \def\headerps@out#1{\special{! #1}}%
11591 \input{pdfmark.def}%
11592 \ifx\@pdfproducer\relax
11593   \def\@pdfproducer{dvips + Distiller}%
11594 \fi
11595 \providecommand*\@pdfborder{0 0 1}
11596 \providecommand*\@pdfborderstyle{}
11597 \providecommand*\@pdfview{XYZ}
11598 \providecommand*\@pdfviewparams{ H.V}
11599 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11600 \g@addto@macro\Hy@FirstPageHook{%
11601   \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.

```

11602 /DvipsToPDF{72.27 mul Resolution div} def%
11603 /PDFToDvips{72.27 div Resolution mul} def%
11604 /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.

```

11605   product (Ghostscript) search {pop pop pop revision 927 gt}%
11606   {pop false} ifelse%
11607   {%
11608     /BorderArrayPatch{} def%
11609   }%
11610   {%
11611     /BorderArrayPatch{%
11612       [exch{%
11613         dup dup type/integertype eq exch type/realtype eq or%
11614         {BPToDvips}if%
11615       }forall]%
11616     }def%
11617   } 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.

```

11618   /HyperBorder {1 PDFToDvips} def%
11619   /H.V {pdf@hoff pdf@voff null} def%
11620   /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

```

11621   /H.S {%
11622     currentpoint %
11623     HyperBorder add /pdf@lly exch def %
11624     dup DvipsToPDF 72 add /pdf@hoff exch def %
11625     HyperBorder sub /pdf@llx exch def%
11626   } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , 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

```

11627   /H.L {%
11628     2 sub dup%
11629     /HyperBasePt exch def %
11630     PDFToDvips /HyperBaseDvips exch def %
11631     currentpoint %
11632     HyperBaseDvips sub /pdf@ury exch def%
11633     /pdf@urx exch def%
11634   } def%
11635   /H.A {%
11636     H.L %
11637   % | /pdf@voff| = the distance from the top of the page to a point

```

```

11638 % |\baselineskip| above the current point in PDF coordinates
11639     currentpoint exch pop %
11640     vsize 72 sub exch DvipsToPDF %
11641     HyperBasePt sub % baseline skip
11642     sub /pdf@voff exch def%
11643 } def%
11644 /H.R {%
11645     currentpoint %
11646     HyperBorder sub /pdf@ury exch def %
11647     HyperBorder add /pdf@urx exch def %
11648 % |/pdf@voff| = the distance from the top of the page to the current point, in
11649 % PDF coordinates
11650     currentpoint exch pop vsize 72 sub %
11651     exch DvipsToPDF sub /pdf@voff exch def%
11652 } def%
11653 }%
11654 }
11655 \AtBeginShipoutFirst{%
11656 \ifHy@setpagesize
11657 \begingroup
11658 \ifnum\mag=\@m
11659 \ifdim\stockwidth>\z@
11660 \ifdim\stockheight>\z@
11661 \special{papersize=\the\stockwidth,\the\stockheight}%
11662 \else
11663 \ifdim\paperwidth>\z@
11664 \ifdim\paperheight>\z@
11665 \special{papersize=\the\paperwidth,\the\paperheight}%
11666 \fi
11667 \fi
11668 \fi
11669 \else
11670 \ifdim\stockwidth=\z@
11671 \ifdim\paperwidth>\z@
11672 \ifdim\paperheight>\z@
11673 \special{papersize=\the\paperwidth,\the\paperheight}%
11674 \fi
11675 \fi
11676 \fi
11677 \fi
11678 \fi
11679 \endgroup
11680 \fi
11681 \Hy@DisableOption{setpagesize}%
11682 }
11683 \def\setpdfinkmargin#1{%
11684 \begingroup
11685 \setlength{\dimen@}{#1}%
11686 \literalps@out{%
11687 /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11688 }%
11689 \endgroup
11690 }

```



```
11691 </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.

```
11692 <*vtexpdfmark>
11693 \providecommand*\XR@ext}{pdf}
11694 \let\Hy@raisedlink\ltx@empty
11695 \def\literals@out#1{\special{pS:#1}}%
11696 \def\headerps@out#1{\immediate\special{pS:#1}}%
11697 \input{pdfmark.def}%
11698 \ifx\@pdfproducer\relax
11699   \ifnum\OpMode=\@ne
11700     \def\@pdfproducer{VTeX}%
11701   \else
11702     \def\@pdfproducer{VTeX + Distiller}%
11703   \fi
11704 \fi
11705 \providecommand*\@pdfborder{0 0 1}
11706 \providecommand*\@pdfborderstyle{}
11707 \providecommand*\@pdfview{XYZ}
11708 \providecommand*\@pdfviewparams{ H.V}
11709 \g@addto@macro\Hy@FirstPageHook{%
11710   \headerps@out{%
11711     /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.

```
11712   /HyperBorder {1} def%
11713   /H.V {pdf@hoff pdf@voff null} def%
11714   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```
11715   /H.S {%
11716     currentpoint %
11717     HyperBorder sub%
11718     /pdf@lly exch def %
11719     dup 72 add /pdf@hoff exch def %
11720     HyperBorder sub%
11721     /pdf@llx exch def%
11722   } def%
```

The  $x$  and  $y$  coordinates of the current point, minus the  $\backslash\text{baselineskip}$ :  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```
11723   /H.L {%
11724     2 sub%
11725     /HyperBasePt exch def %
11726     currentpoint %
```

```

11727   HyperBasePt add HyperBorder add%
11728   /pdf@ury exch def %
11729   HyperBorder add%
11730   /pdf@urx exch def%
11731   } def%
11732   /H.A {%
11733   H.L %
11734   currentpoint exch pop %
11735   vsize 72 sub exch %
11736   HyperBasePt add add%
11737   /pdf@voff exch def%
11738   } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11739   /H.R {%
11740   currentpoint %
11741   HyperBorder add%
11742   /pdf@ury exch def %
11743   HyperBorder add%
11744   /pdf@urx exch def %
11745   currentpoint exch pop vsize 72 sub add%
11746   /pdf@voff exch def%
11747   } def%
11748   }%
11749   }

11750 \def\setpdfinkmargin#1{%
11751   \begingroup
11752   \setlength{\dimen@}{#1}%
11753   \literalps@out{%
11754     /HyperBorder{\strip@pt\dimen@}def%
11755   }%
11756   \endgroup
11757   }

11758 \</vtxpdfmark>

```

### 43.11 Textures

```

11759 <*textures>
11760 \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.

```

11761 \begingroup
11762   \obeylines %
11763   \gdef\Hy@ps@CR{\noexpand
11764   }%
11765   \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`.

```
11766 \def\literalps@out#1{%
11767   \special{postscript 0 0 transform}%
11768   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11769 }%
11770 %
```

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.

```
11771 \def\headerps@out#1{%
11772   \special{%
11773     prepostscript TeXdict begin\Hy@ps@CR
11774     #1\Hy@ps@CR
11775     end%
11776   }%
11777 }%
11778 %
```

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.

```
11779 \g@addto@macro\Hy@FirstPageHook{%
11780   \headerps@out{%
11781     /betterpdfmark {%
11782       systemdict begin %
11783       dup /BP eq%
11784       {cleartomark gsave nulldevice []}%
11785       {dup /EP eq%
11786        {cleartomark cleartomark grestore}%
11787        {cleartomark}%
11788        ifelse%
11789       }ifelse %
11790     end%
11791   }def\Hy@ps@CR
11792   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11793 }% end of \headerps@out
11794 }% end of \AtBeginShipoutFirst
11795 %
11796 \input{pdfmark.def}%
11797 %
11798 \ifx\@pdfproducer\relax
11799   \def\@pdfproducer{Textures + Distiller}%
11800 \fi
```

```

11801 \providecommand*\@pdfborder{0 0 1}
11802 \providecommand*\@pdfborderstyle{}
11803 \providecommand*\@pdfview{XYZ}
11804 \providecommand*\@pdfviewparams{ H.V}
11805 %

```

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  $\text{\TeX}$ .

```

11806 \Hy@AtBeginDocument{%
11807   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11808   /vsize {\Hy@pageheight} def%
11809   /DvipsToPDF {} def%
11810   /PDFToDvips {} def%
11811   /BPToDvips {} def%
11812   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11813   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11814   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11815   /H.S {%
11816     currentpoint %
11817     HyperBorder add /pdf@lly exch def %
11818     dup DvipsToPDF 72 add /pdf@hoff exch def %
11819     HyperBorder sub /pdf@llx exch def%
11820   } def\Hy@ps@CR
11821   /H.L {%
11822     2 sub %
11823     PDFToDvips /HyperBase exch def %
11824     currentpoint %
11825     HyperBase sub /pdf@ury exch def%
11826     /pdf@urx exch def%
11827   } def\Hy@ps@CR
11828   /H.A {%
11829     H.L %
11830     currentpoint exch pop %
11831     vsize 72 sub exch DvipsToPDF %
11832     HyperBase sub % baseline skip
11833     sub /pdf@voff exch def%
11834   } def\Hy@ps@CR
11835   /H.R {%
11836     currentpoint %
11837     HyperBorder sub /pdf@ury exch def %
11838     HyperBorder add /pdf@urx exch def %
11839     currentpoint exch pop vsize 72 sub %
11840     exch DvipsToPDF sub /pdf@voff exch def%
11841   } def\Hy@ps@CR
11842 }%
11843 }
11844 \def\setpdfinkmargin#1{%
11845   \begingroup

```

```

11846 \setlength{\dimen@}{#1}%
11847 \literalps@out{%
11848   /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11849 }%
11850 \endgroup
11851 }

11852 \Hy@AtBeginDocument{%
11853   \ifHy@colorlinks
11854     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11855   \fi
11856 }

```

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.

```

11857 \expandafter\let\expandafter\keepPDF@SetupDoc
11858 \csname PDF@SetupDoc\endcsname
11859 \def\PDF@SetupDoc{%
11860   \ifx\@baseurl\@empty
11861     \else
11862       \special{html:<base href="\@baseurl">}%
11863     \fi
11864   \keepPDF@SetupDoc
11865 }

11866 \Hy@WrapperDef\hyper@anchor#1{%
11867   \Hy@SaveLastskip
11868   \Hy@VerboseAnchor{#1}%
11869   \begingroup
11870     \let\protect=\string
11871     \special{html:<a name=%
11872       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11873   \endgroup
11874   \Hy@activeanchortrue
11875   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11876   \special{html:</a>}%
11877   \Hy@activeanchorfalse
11878   \Hy@RestoreLastskip
11879 }

11880 \Hy@WrapperDef\hyper@anchorstart#1{%
11881   \Hy@SaveLastskip
11882   \Hy@VerboseAnchor{#1}%
11883   \begingroup
11884     \hyper@chars
11885     \special{html:<a name=%
11886       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11887   \endgroup
11888   \Hy@activeanchortrue
11889 }

11890 \def\hyper@anchorend{%
11891   \special{html:</a>}%
11892   \Hy@activeanchorfalse
11893   \Hy@RestoreLastskip
11894 }

11895 \def\@urltype{url}

```

```

11896 \def\hyper@linkstart#1#2{%
11897   \Hy@VerboseLinkStart{#1}{#2}%
11898   \expandafter\Hy@colorlink\csname @#1color\endcsname
11899   \def\Hy@tempa{#1}%
11900   \ifx\Hy@tempa \@urltype
11901     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11902   \else
11903     \begingroup
11904       \hyper@chars
11905       \special{%
11906         html:<a href=%
11907         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
11908       }%
11909     \endgroup
11910   \fi
11911 }
11912 \def\hyper@linkend{%
11913   \special{html:</a>}%
11914   \Hy@endcolorlink
11915 }
11916 \def\hyper@linkfile#1#2#3{%
11917   \hyper@linkurl{#1}{%
11918     \Hy@linkfileprefix#2\ifx\#3\\ \else\#3\fi
11919   }%
11920 }
11921 \def\hyper@linkurl#1#2{%
11922   \leavevmode
11923   \ifHy@raiselinks
11924     \Hy@SaveSpaceFactor
11925     \Hy@SaveSavedSpaceFactor
11926     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11927     \Hy@RestoreSavedSpaceFactor
11928     \@linkdim\dp\@tempboxa
11929     \lower\@linkdim\hbox{%
11930       \hyper@chars
11931       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11932     }%
11933     \Hy@colorlink\@urlcolor
11934     \Hy@RestoreSpaceFactor
11935     #1\Hy@xspace@end
11936     \Hy@SaveSpaceFactor
11937     \@linkdim\ht\@tempboxa
11938     \advance\@linkdim by -6.5\p@
11939     \raise\@linkdim\hbox{\special{html:</a>}}%
11940     \Hy@endcolorlink
11941     \Hy@RestoreSpaceFactor
11942   \else
11943     \begingroup
11944       \hyper@chars
11945       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11946       \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11947       \special{html:</a>}%
11948       \Hy@endcolorlink
11949     \endgroup

```

```

11950 \fi
11951 }
Very poor implementation of \hyper@link without considering #1.
11952 \def\hyper@link#1#2#3{%
11953   \Hy@VerboseLinkStart{#1}{#2}%
11954   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
11955 }
11956 \def\hyper@image#1#2{%
11957   \begingroup
11958     \hyper@chars
11959     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11960   \endgroup
11961 }
11962 </textures>

```

### 43.12 dvipsone

```

11963 % \subsection{dvipsone driver}
11964 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11965 % |\special| commands.
11966 (*dvipsone)
11967 \providecommand*\XR@ext}{pdf}
11968 \let\Hy@raisedlink\ltx@empty
11969 \providecommand*\@pdfborder{0 0 1}
11970 \providecommand*\@pdfborderstyle{}
11971 \def\literalps@out#1{\special{ps:#1}}%
11972 \def\headerps@out#1{\special{headertext=#1}}%
11973 \input{pdfmark.def}%
11974 \HyInfo@AddonUnsupportedtrue
11975 \def\PDF@FinishDoc{%
11976   \Hy@UseMaketitleInfos
11977   \HyInfo@TrappedUnsupported
11978   \special{PDF: Keywords \@pdfkeywords}%
11979   \special{PDF: Title \@pdftitle}%
11980   \special{PDF: Creator \@pdfcreator}%
11981   \ifx\@pdfcreationdate\@empty
11982   \else
11983     \special{PDF: CreationDate \@pdfcreationdate}%
11984   \fi
11985   \ifx\@pdfmoddate\@empty
11986   \else
11987     \special{PDF: ModDate \@pdfmoddate}%
11988   \fi
11989   \special{PDF: Author \@pdfauthor}%
11990   \ifx\@pdfproducer\relax
11991   \else
11992     \special{PDF: Producer \@pdfproducer}%
11993   \fi
11994   \special{PDF: Subject \@pdfsubject}%
11995   \Hy@DisableOption{pdfauthor}%
11996   \Hy@DisableOption{pdftitle}%
11997   \Hy@DisableOption{pdfsubject}%
11998   \Hy@DisableOption{pdfcreator}%

```

```

11999 \Hy@DisableOption{addtopdfcreator}%
12000 \Hy@DisableOption{pdfcreationdate}%
12001 \Hy@DisableOption{pdfcreationdate}%
12002 \Hy@DisableOption{pdfmoddate}%
12003 \Hy@DisableOption{pdfproducer}%
12004 \Hy@DisableOption{pdfkeywords}%
12005 \Hy@DisableOption{pdftrapped}%
12006 \Hy@DisableOption{pdfinfo}%
12007 }
12008 \def\PDF@SetupDoc{%
12009 \def\Hy@temp{}%
12010 \ifx\@pdfstartpage\@empty
12011 \else
12012 \ifx\@pdfstartview\@empty
12013 \else
12014 \edef\Hy@temp{%
12015 ,Page=\@pdfstartpage
12016 ,View=\@pdfstartview
12017 }%
12018 \fi
12019 \fi
12020 \edef\Hy@temp{%
12021 \noexpand\pdfmark{%
12022 pdfmark=/DOCVIEW,%
12023 PageMode=/\@pdfpagemode
12024 \Hy@temp
12025 }%
12026 }%
12027 \Hy@temp
12028 \ifx\@pdfpagescrop\@empty
12029 \else
12030 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12031 \fi
12032 \edef\Hy@temp{%
12033 \ifHy@pdftoolbar\else /HideToolbar true\fi
12034 \ifHy@pdfmenubar\else /HideMenubar true\fi
12035 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12036 \ifHy@pdfwindow /FitWindow true\fi
12037 \ifHy@pdfcenterwindow /CenterWindow true\fi
12038 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12039 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12040 \Hy@UseNameKey{Direction}\@pdfdirection
12041 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12042 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12043 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12044 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12045 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12046 \Hy@UseNameKey{Duplex}\@pdfduplex
12047 \ifx\@pdfpicktraybypdfsize\@empty
12048 \else
12049 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12050 \fi
12051 \ifx\@pdfprintpagerange\@empty
12052 \else

```



```

12053 /PrintPageRange[\@pdfprintpagerange]%
12054 \fi
12055 \ifx\@pdfnumcopies\@empty
12056 \else
12057 /NumCopies \@pdfnumcopies
12058 \fi
12059 }%
12060 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12061 \pdfmark{%
12062 pdfmark=/PUT,%
12063 Raw={%
12064 \string{Catalog\string}<<%
12065 \ifx\Hy@temp\@empty
12066 \else
12067 /ViewerPreferences<<\Hy@temp>>%
12068 \fi
12069 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12070 \ifx\@pdflang\relax
12071 \else
12072 /Lang(\@pdflang)%
12073 \fi
12074 \ifx\@baseurl\@empty
12075 \else
12076 /URI<</Base(\Hy@pstringB)>>%
12077 \fi
12078 >>%
12079 }%
12080 }%
12081 }
12082 \providecommand*\@pdfview{XYZ}
12083 \providecommand*\@pdfviewparams{ %
12084 gsave revscl currentpoint grestore %
12085 72 add exch pop null exch null%
12086 }
12087 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The `Rect` pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

12088 \g@addto@macro\Hy@FirstPageHook{%
12089 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12090 /DvipsToPDF { 65781 div } def%
12091 /PDFToDvips { 65781 mul } def%
12092 /BPToDvips{65781 mul}def%
12093 /HyperBorder { 1 PDFToDvips } def%
12094 /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.

```

12095 /BorderArrayPatch{%

```

```

12096 [exch{%
12097   dup dup type/integertype eq exch type/realttype eq or%
12098   {BPToDvips}if%
12099   }forall]%
12100 }def%
12101 /H.S {%
12102   currentpoint %
12103   HyperBorder add /pdf@lly exch def %
12104   dup DvipsToPDF 72 add /pdf@hoff exch def %
12105   HyperBorder sub /pdf@llx exch def%
12106 } def%
12107 /H.L {%
12108   2 sub %
12109   PDFToDvips /HyperBase exch def %
12110   currentpoint %
12111   HyperBase sub /pdf@ury exch def%
12112   /pdf@urx exch def%
12113 } def%
12114 /H.A {%
12115   H.L %
12116   currentpoint exch pop %
12117   HyperBase sub % baseline skip
12118   DvipsToPDF /pdf@voff exch def%
12119 } def%
12120 /H.R {%
12121   currentpoint %
12122   HyperBorder sub /pdf@ury exch def %
12123   HyperBorder add /pdf@urx exch def %
12124   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12125 } def%
12126 }%
12127 }

12128 \def\setpdfinkmargin#1{%
12129   \begingroup
12130     \setlength{\dimen@}{#1}%
12131     \literalps@out{%
12132       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12133     }%
12134   \endgroup
12135 }

12136 </dvipsone>

```

### 43.13 TeX4ht

```

12137 <*tex4ht>
12138 \providecommand*\XR@ext{\html}
12139 \let\Hy@raisedlink\ltx@empty
12140 \@ifpackageloaded{tex4ht}{%
12141   \Hy@InfoNoLine{tex4ht is already loaded}%
12142 }{%
12143   \RequirePackage[hTeX4ht]{tex4ht}%
12144 }
12145 \hyperlinkfileprefix{}
12146 \let\PDF@FinishDoc\ltx@empty

```

```

12147 \def\PDF@SetupDoc{%
12148   \ifx\@baseurl\@empty
12149   \else
12150     \special{t4ht=<base href="\@baseurl">}%
12151   \fi
12152 }
12153 \Hy@WrapperDef\hyper@anchor#1{%
12154   \Hy@SaveLastskip
12155   \Hy@VerboseAnchor{#1}%
12156   \begingroup
12157     \let\protect=\string
12158     \special{t4ht=<a name=%
12159       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12160   \endgroup
12161   \Hy@Activeanchortrue
12162   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12163   \special{t4ht=</a>}%
12164   \Hy@Activeanchorfalse
12165   \Hy@RestoreLastskip
12166 }
12167 \Hy@WrapperDef\hyper@anchorstart#1{%
12168   \Hy@SaveLastskip
12169   \Hy@VerboseAnchor{#1}%
12170   \begingroup
12171     \hyper@chars\special{t4ht=<a name=%
12172       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12173   \endgroup
12174   \Hy@Activeanchortrue
12175 }
12176 \def\hyper@anchorend{%
12177   \special{t4ht=</a>}%
12178   \Hy@Activeanchorfalse
12179   \Hy@RestoreLastskip
12180 }
12181 \def\@urltype{url}
12182 \def\hyper@linkstart#1#2{%
12183   \Hy@VerboseLinkStart{#1}{#2}%
12184   \expandafter\Hy@colorlink\csname @#1color\endcsname
12185   \def\Hy@tempa{#1}%
12186   \ifx\Hy@tempa\@urltype
12187     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12188   \else
12189     \begingroup
12190       \hyper@chars
12191       \special{t4ht=<a href=%
12192         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12193     \endgroup
12194   \fi
12195 }
12196 \def\hyper@linkend{%
12197   \special{t4ht=</a>}%
12198   \Hy@endcolorlink
12199 }
12200 \def\hyper@linkfile#1#2#3{%

```

```

12201 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12202 }
12203 \def\hyper@linkurl#1#2{%
12204 \leavevmode
12205 \ifHy@raiselinks
12206 \Hy@SaveSpaceFactor
12207 \Hy@SaveSavedSpaceFactor
12208 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12209 \Hy@RestoreSavedSpaceFactor
12210 \@linkdim\dp\@tempboxa
12211 \lower\@linkdim\hbox{%
12212 \begingroup
12213 \hyper@chars
12214 \special{%
12215 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12216 }%
12217 \endgroup
12218 }%
12219 \Hy@colorlink\@urlcolor
12220 \Hy@RestoreSpaceFactor
12221 #1\Hy@xspace@end
12222 \Hy@SaveSpaceFactor
12223 \Hy@endcolorlink
12224 \@linkdim\ht\@tempboxa
12225 \advance\@linkdim by -6.5\p@
12226 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12227 \Hy@RestoreSpaceFactor
12228 \else
12229 \begingroup
12230 \hyper@chars
12231 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12232 \Hy@colorlink\@urlcolor
12233 #1\Hy@xspace@end
12234 \Hy@endcolorlink
12235 \special{t4ht=</a>}%
12236 \endgroup
12237 \fi
12238 }

```

Poor implementation of \hyper@link without considering #1.

```

12239 \def\hyper@link#1#2#3{%
12240 \Hy@VerboseLinkStart{#1}{#2}%
12241 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12242 }
12243 \def\hyper@image#1#2{%
12244 \begingroup
12245 \hyper@chars
12246 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12247 \endgroup
12248 }
12249 \let\autoref\ref
12250 \ifx \rEfLiNK \UnDef
12251 \def\rEfLiNK #1#2{#2}%
12252 \fi
12253 \let\backref\ltx@gobble

```

Fix for tex4ht.

```
12254 \AtBeginDocument{%
12255   \expandafter
12256   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12257   \expandafter\def\csname Make:Label\endcsname#1#2{%
12258     \ifhmode
12259       \Hy@SaveSpaceFactor
12260     \else
12261       \global\Hy@SavedSpaceFactor=1000 %
12262     \fi
12263     \Hy@OrgMakeLabel{#1}{%
12264       \Hy@RestoreSpaceFactor
12265       #2\Hy@xspace@end%
12266       \Hy@SaveSpaceFactor
12267     }%
12268     \Hy@RestoreSpaceFactor
12269   }%
12270 }
12271 </tex4ht>
12272 <*tex4htcfg>
12273 \IfFileExists{\jobname.cfg}{\endinput}{}
12274 \Preamble{html}
12275   \begin{document}%
12276 \EndPreamble
12277 \def\TeX{\TeX}
12278 \def\OMEGA{\Omega}
12279 \def\LaTeX{\LaTeX}
12280 \def\LaTeXe{\LaTeX2e}
12281 \def\eTeX{e-TeX}
12282 \def\MF{Metafont}
12283 \def\MP{MetaPost}
12284 </tex4htcfg>
```

## 44 Driver-specific form support

### 44.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```
12285 <*pdfmark>
12286 \long\def\@Form[#1]{%
12287 \g@addto@macro\Hy@FirstPageHook{%
12288   \headerps@out{%
12289 [%
12290   /__objdef{pdfDocEncoding}%
12291   /type/dict%
12292 /OBJ pdfmark%
12293 [%
12294   {pdfDocEncoding}%
12295   <<%
12296     /Type/Encoding%
12297     /Differences[%
12298       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12299       /tilde %
12300       39/quotesingle %
```

12301 96/grave %  
12302 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12303 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
12304 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12305 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12306 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12307 160/Euro %  
12308 164/currency %  
12309 166/brokenbar %  
12310 168/dieresis/copyright/ordfeminine %  
12311 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12312 /twosuperior/threesuperior/acute/mu %  
12313 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12314 188/onequarter/onehalf/threequarters %  
12315 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12316 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12317 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12318 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12319 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12320 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12321 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12322 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
12323 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12324 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12325 ]%  
12326 >>%  
12327 /PUT pdfmark%  
12328 [%  
12329 /\_objdef{ZaDb}%  
12330 /type/dict%  
12331 /OBJ pdfmark%  
12332 [%  
12333 {ZaDb}%  
12334 <<%  
12335 /Type/Font%  
12336 /Subtype/Type1%  
12337 /Name/ZaDb%  
12338 /BaseFont/ZapfDingbats%  
12339 >>%  
12340 /PUT pdfmark%  
12341 [%  
12342 /\_objdef{Helv}%  
12343 /type/dict%  
12344 /OBJ pdfmark%  
12345 [%  
12346 {Helv}%  
12347 <<%  
12348 /Type/Font%  
12349 /Subtype/Type1%  
12350 /Name/Helv%  
12351 /BaseFont/Helvetica%  
12352 /Encoding{pdfDocEncoding}%  
12353 >>%  
12354 /PUT pdfmark%

```

12355 [%
12356  /__objdef{aform}%
12357  /type/dict%
12358 /OBJ pdfmark%
12359 [%
12360  /__objdef{afields}%
12361  /type/array%
12362 /OBJ pdfmark%
12363 [%
12364  /__objdef{corder}%
12365  /type/array%
12366 /OBJ pdfmark%
12367 {%
12368  [%
12369    /BBox[0 0 100 100]%
12370    /__objdef{Check}%
12371    /BP pdfmark %
12372    1 0 0 setrgbcolor%
12373    /ZapfDingbats 80 selectfont %
12374    20 20 moveto%
12375    (4)show%
12376    [/EP pdfmark%
12377    [%
12378      /BBox[0 0 100 100]%
12379      /__objdef{Cross}%
12380      /BP pdfmark %
12381      1 0 0 setrgbcolor%
12382      /ZapfDingbats 80 selectfont %
12383      20 20 moveto%
12384      (8)show%
12385      [/EP pdfmark%
12386      [%
12387        /BBox[0 0 250 100]%
12388        /__objdef{Submit}%
12389        /BP pdfmark %
12390        0.6 setgray %
12391        0 0 250 100 rectfill %
12392        1 setgray %
12393        2 2 moveto %
12394        2 98 lineto %
12395        248 98 lineto %
12396        246 96 lineto %
12397        4 96 lineto %
12398        4 4 lineto %
12399        fill %
12400        0.34 setgray %
12401        248 98 moveto %
12402        248 2 lineto %
12403        2 2 lineto %
12404        4 4 lineto %
12405        246 4 lineto %
12406        246 96 lineto %
12407        fill%
12408        /Helvetica 76 selectfont %

```

```

12409 0 setgray %
12410 8 22.5 moveto%
12411 (Submit)show%
12412 [/EP pdfmark%
12413 [%
12414 /BBox[0 0 250 100]%
12415 /_objdef{SubmitP}%
12416 /BP pdfmark %
12417 0.6 setgray %
12418 0 0 250 100 rectfill %
12419 0.34 setgray %
12420 2 2 moveto %
12421 2 98 lineto %
12422 248 98 lineto %
12423 246 96 lineto %
12424 4 96 lineto %
12425 4 4 lineto %
12426 fill %
12427 1 setgray %
12428 248 98 moveto %
12429 248 2 lineto %
12430 2 2 lineto %
12431 4 4 lineto %
12432 246 4 lineto %
12433 246 96 lineto %
12434 fill%
12435 /Helvetica 76 selectfont %
12436 0 setgray %
12437 10 20.5 moveto%
12438 (Submit)show%
12439 [/EP pdfmark%
12440 } ?pdfmark%
12441 [%
12442 {aform}%
12443 <<%
12444 /Fields{afields}%
12445 /DR<<%
12446 /Font<<%
12447 /ZaDb{ZaDb}%
12448 /Helv{Helv}%
12449 >>%
12450 >>%
12451 /DA(/Helv 10 Tf 0 g)%
12452 /CO{corder}%
12453 \ifHy@pdfa
12454 \else
12455 \ifHyField@NeedAppearances
12456 /NeedAppearances true%
12457 \fi
12458 \fi
12459 >>%
12460 /PUT pdfmark%
12461 [%
12462 {Catalog}%

```



```

12463 <<%
12464   /AcroForm{aform}%
12465 >>%
12466 /PUT pdfmark%
12467 }}%
12468 \kvsetkeys{Form}{#1}%
12469 }
12470 \let\@endForm\ltx@empty
12471 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12472   \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12473 }

12474 \newcount\HyField@AnnotCount
12475 \HyField@AnnotCount=\z@
12476 \def\HyField@AdvanceAnnotCount{%
12477   \global\advance\HyField@AnnotCount\@ne
12478 }
12479 \def\HyField@TheAnnotCount{%
12480   \the\HyField@AnnotCount
12481 }

12482 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12483 \def\HyField@AddToFields#1{%
12484   \pdfmark{%
12485     pdfmark=/APPEND,%
12486     Raw={%
12487       \string{afields\string}%
12488       \string{#1\HyField@TheAnnotCount\string}%
12489     }%
12490   }%
12491   \ifx\Fld@calculate@code\ltx@empty
12492   \else
12493     \pdfmark{%
12494       pdfmark=/APPEND,%
12495       Raw={%
12496         \string{corder\string}%
12497         \string{#1\HyField@TheAnnotCount\string}%
12498       }%
12499     }%
12500   \fi
12501 }

12502 \def\@TextField[#1]#2{% parameters, label
12503   \def\Fld@name{#2}%
12504   \let\Fld@default\ltx@empty
12505   \let\Fld@value\@empty
12506   \def\Fld@width{\DefaultWidthofText}%
12507   \def\Fld@height{%
12508     \ifFld@multiline
12509       \DefaultHeightofTextMultiline
12510     \else
12511       \DefaultHeightofText
12512     \fi
12513   }%
12514   \begingroup
12515     \expandafter\HyField@SetKeys\expandafter{%

```

```

12516 \DefaultOptionsofText,#1%
12517 }%
12518 \HyField@FlagsText
12519 \ifFld@hidden\def\Fld@width{1sp}\fi
12520 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12521 \HyField@AdvanceAnnotCount
12522 \LayoutTextField{#2}{%
12523 \leavevmode
12524 \Hy@escapeform\PDFForm@Text
12525 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12526 pdfmark=/ANN,%
12527 objdef=text\HyField@TheAnnotCount,%
12528 Raw={\PDFForm@Text}%
12529 }%
12530 }%
12531 \HyField@AddToFields{text}%
12532 \endgroup
12533 }
12534 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12535 \def\Fld@name{#2}%
12536 \let\Fld@default\relax
12537 \let\Fld@value\relax
12538 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12539 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12540 \begingroup
12541 \Fld@menulength=0 %
12542 \@tempdima\z@
12543 \@for\@curropt:=#3\do{%
12544 \expandafter\Fld@checkequals\@curropt==\%
12545 \Hy@StepCount\Fld@menulength
12546 \settowidth{\@tempdimb}{\@currDisplay}%
12547 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12548 }%
12549 \advance\@tempdima by 15\p@
12550 \begingroup
12551 \HyField@SetKeys{#1}%
12552 \edef\x{\endgroup
12553 \noexpand\expandafter
12554 \noexpand\HyField@SetKeys
12555 \noexpand\expandafter{%
12556 \expandafter\noexpand\cname DefaultOptionsof%
12557 \ifFld@radio
12558 Radio%
12559 \else
12560 \ifFld@combo
12561 \ifFld@popdown
12562 PopdownBox%
12563 \else
12564 ComboBox%
12565 \fi
12566 \else
12567 ListBox%
12568 \fi
12569 \fi

```

```

12570     \endcsname
12571   }%
12572 } \x
12573 \HyField@SetKeys{#1}%
12574 \ifFld@hidden\def\Fld@width{1sp}\fi
12575 \ifx\Fld@value\relax
12576   \let\Fld@value\Fld@default
12577 \fi
12578 \LayoutChoiceField{#2}{%
12579   \ifFld@radio
12580     \HyField@FlagsRadioButton
12581     \@@Radio{#3}%
12582   \else
12583     \begingroup
12584     \HyField@FlagsChoice
12585     \ifdim\Fld@width<\@tempdima
12586       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12587       \edef\Fld@width{\the\@tempdima}%
12588     \fi
12589     \ifFld@combo
12590     \else
12591       \@tempdima=\the\Fld@menulength\Fld@charsize
12592       \advance\@tempdima by \Fld@borderwidth bp %
12593       \advance\@tempdima by \Fld@borderwidth bp %
12594       \edef\Fld@height{\the\@tempdima}%
12595     \fi
12596     \@@ListBox{#3}%
12597   \endgroup
12598 \fi
12599 }%
12600 \endgroup
12601 }
12602 \def\@@Radio#1{%
12603   \Fld@listcount=0 %
12604   \EdefEscapeName\Fld@default{\Fld@default}%
12605   \@for\@curropt:=#1\do{%
12606     \expandafter\Fld@checkequals\@curropt==\%
12607     \EdefEscapeName\@currValue{\@currValue}%
12608     \Hy@StepCount\Fld@listcount
12609     \@currDisplay\space
12610     \Hy@escapeform\PDFForm@Radio
12611     \ifnum\Fld@listcount=1 %
12612       \HyField@AdvanceAnnotCount
12613     \fi
12614     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12615       pdfmark=/ANN,%
12616       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12617       Raw={%
12618         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12619       }%
12620   } % deliberate space between radio buttons
12621   \ifnum\Fld@listcount=1 %
12622     \HyField@AddToFields{radio}%
12623   \fi

```

```

12624 }%
12625 }
12626 \newcount\Fld@listcount
12627 \def\@@ListBox#1{%
12628   \HyField@PDFChoices{#1}%
12629   \Hy@escapeform\PDFForm@List
12630   \HyField@AdvanceAnnotCount
12631   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12632     pdfmark=/ANN,%
12633     objdef=list\HyField@TheAnnotCount,%
12634     Raw={\PDFForm@List}%
12635   }%
12636   \HyField@AddToFields{list}%
12637 }
12638 \def\@PushButton[#1]#2{% parameters, label
12639   \def\Fld@name{#2}%
12640   \begingroup
12641     \expandafter\HyField@SetKeys\expandafter{%
12642       \DefaultOptionsofPushButton,#1%
12643     }%
12644     \ifHy@pdfa
12645       \Hy@Error{%
12646         PDF/A: Push button with JavaScript is prohibited%
12647       }\@ehc
12648       \LayoutPushButtonField{%
12649         \leavevmode
12650         \MakeButtonField{#2}%
12651       }%
12652     \else
12653       \HyField@FlagsPushButton
12654       \iffld@hidden\def\Fld@width{1sp}\fi
12655       \HyField@AdvanceAnnotCount
12656       \LayoutPushButtonField{%
12657         \leavevmode
12658         \Hy@escapeform\PDFForm@Push
12659         \pdfmark[\MakeButtonField{#2}]{%
12660           pdfmark=/ANN,%
12661           objdef=push\HyField@TheAnnotCount,%
12662           Raw={\PDFForm@Push}%
12663         }%
12664       }%
12665       \HyField@AddToFields{push}%
12666     \fi
12667   \endgroup
12668 }
12669 \def\@Submit[#1]#2{%
12670   \def\Fld@width{\DefaultWidthofSubmit}%
12671   \def\Fld@height{\DefaultHeightofSubmit}%
12672   \begingroup
12673     \expandafter\HyField@SetKeys\expandafter{%
12674       \DefaultOptionsofSubmit,#1%
12675     }%
12676     \HyField@FlagsPushButton
12677     \HyField@FlagsSubmit

```

```

12678 \ifFld@hidden\def\Fld@width{1sp}\fi
12679 \Hy@escapeform\PDFForm@Submit
12680 \HyField@AdvanceAnnotCount
12681 \pdfmark[\MakeButtonField{#2}]{%
12682   pdfmark=/ANN,%
12683   objdef=submit\HyField@TheAnnotCount,%
12684   Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12685 }%
12686 \HyField@AddToFields{submit}%
12687 \endgroup
12688 }
12689 \def\@Reset[#1]#2{%
12690   \def\Fld@width{\DefaultWidthofReset}%
12691   \def\Fld@height{\DefaultHeightofReset}%
12692   \begingroup
12693     \expandafter\HyField@SetKeys\expandafter{%
12694       \DefaultOptionsofReset,#1%
12695     }%
12696     \leavevmode
12697     \ifHy@pdfa
12698       \Hy@Error{%
12699         PDF/A: Reset action is prohibited%
12700       }\@ehc
12701       \MakeButtonField{#2}%
12702     \else
12703       \HyField@FlagsPushButton
12704       \ifFld@hidden\def\Fld@width{1sp}\fi
12705       \Hy@escapeform\PDFForm@Reset
12706       \HyField@AdvanceAnnotCount
12707       \pdfmark[\MakeButtonField{#2}]{%
12708         pdfmark=/ANN,%
12709         objdef=reset\HyField@TheAnnotCount,%
12710         Raw={\PDFForm@Reset}%
12711       }%
12712       \HyField@AddToFields{reset}%
12713     \fi
12714   \endgroup
12715 }%
12716 \def\@CheckBox[#1]#2{% parameters, label
12717   \def\Fld@name{#2}%
12718   \def\Fld@default{0}%
12719   \begingroup
12720     \def\Fld@width{\DefaultWidthofCheckBox}%
12721     \def\Fld@height{\DefaultHeightofCheckBox}%
12722     \expandafter\HyField@SetKeys\expandafter{%
12723       \DefaultOptionsofCheckBox,#1%
12724     }%
12725     \HyField@FlagsCheckBox
12726     \ifFld@hidden\def\Fld@width{1sp}\fi
12727     \HyField@AdvanceAnnotCount
12728     \LayoutCheckField{#2}{%
12729       \leavevmode
12730       \Hy@escapeform\PDFForm@Check
12731       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%

```

```

12732 pdfmark=/ANN,%
12733 objdef=check\HyField@TheAnnotCount,%
12734 Raw={\PDFForm@Check}%
12735 }%
12736 }%
12737 \HyField@AddToFields{check}%
12738 \endgroup
12739 }
12740 </pdfmark>

```

## 44.2 HyperTeX

```

12741 <*hypertex>
12742 \def\@Form[#1]{%
12743 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12744 }
12745 \let\@endForm\ltx@empty
12746 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12747 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12748 }
12749 \def\@TextField[#1]#2{% parameters, label
12750 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12751 }
12752 \def\@CheckBox[#1]#2{% parameters, label
12753 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12754 }
12755 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12756 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12757 }
12758 \def\@PushButton[#1]#2{% parameters, label
12759 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12760 }
12761 \def\@Reset[#1]#2{%
12762 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12763 }
12764 \def\@Submit[#1]#2{%
12765 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12766 }
12767 </hypertex>

```

## 44.3 TeX4ht

```

12768 <*tex4ht>
12769 \def\@Form[#1]{%
12770 \kvsetkeys{Form}{#1}%
12771 \HCode{<form action="\Form@action" method="\Form@method">}%
12772 }
12773 \def\@endForm{\HCode{</form>}}
12774 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12775 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12776 }
12777 \def\@TextField[#1]#2{% parameters, label
12778 \let\Hy@reserved@a\@empty
12779 \def\Fld@name{#2}%
12780 \let\Fld@default\ltx@empty

```

```

12781 \bgroup
12782 \Field@toks={ }%
12783 \kvsetkeys{Field}{#1}%
12784 \HCode{<label for="\Fld@name">#2</label>}%
12785 \ifFld@password
12786 \@@PasswordField
12787 \else
12788 \@@TextField
12789 \fi
12790 \egroup
12791 }
12792 \def\@@PasswordField{%
12793 \HCode{%
12794 <input type="password" %
12795 id="\Fld@name" %
12796 name="\Fld@name" %
12797 \ifFld@hidden type="hidden" \fi
12798 value="\Fld@default" %
12799 \the\Field@toks
12800 >%
12801 }%
12802 }
12803 \def\@@TextField{%
12804 \ifFld@multiline
12805 \HCode{<textarea %
12806 \ifFld@readonly readonly \fi
12807 id="\Fld@name" %
12808 name="\Fld@name" %
12809 \ifFld@hidden type="hidden" \fi
12810 \the\Field@toks>%
12811 }%
12812 \Fld@default
12813 \HCode{</textarea>}%
12814 \else
12815 \HCode{<input type="text" %
12816 \ifFld@readonly readonly \fi
12817 id="\Fld@name" %
12818 name="\Fld@name" %
12819 \ifFld@hidden type="hidden" \fi
12820 value="\Fld@default" %
12821 \the\Field@toks>%
12822 }%
12823 \fi
12824 }
12825 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12826 \def\Fld@name{#2}%
12827 \let\Fld@default\tx@empty
12828 \let\Hy@reserved@a\relax
12829 \begingroup
12830 \expandafter\Fld@findlength#3\\%
12831 \Field@toks={ }%
12832 \kvsetkeys{Field}{#1}%
12833 #2%
12834 \ifFld@radio

```

```

12835     \expandafter\@@Radio#3\\%
12836     \else
12837     \expandafter\@@Menu#3\\%
12838     \fi
12839 \endgroup
12840 }
12841 \def\Fld@findlength#1\\{%
12842   \Fld@menulength=0 %
12843   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12844 }
12845 \def\@@Menu#1\\{%
12846   \HCode{<select size="\the\Fld@menulength" %
12847     name="\Fld@name" %
12848     \the\Field@toks>%
12849   }%
12850   \@for\@curropt:=#1\do{%
12851     \expandafter\Fld@checkequals\@curropt==\\%
12852     \HCode{<option %
12853       \ifx\@curropt\Fld@default selected \fi
12854       value="\@currValue">\@currDisplay</option>%
12855     }%
12856   }%
12857   \HCode{</select>}%
12858 }
12859 \def\@@Radio#1\\{%
12860   \@for\@curropt:=#1\do{%
12861     \expandafter\Fld@checkequals\@curropt==\\%
12862     \HCode{<input type="radio" %
12863       \ifx\@curropt\Fld@default checked \fi
12864       name="\Fld@name" %
12865       value="\@currValue" %
12866       \the\Field@toks>%
12867     }%
12868     \@currDisplay
12869   }%
12870 }
12871 \def\@PushButton[#1]#2{% parameters, label
12872   \def\Fld@name{#2}%
12873   \bgroup
12874     \Field@toks={ }%
12875     \kvsetkeys{Field}{#1}%
12876     \HCode{<input type="button" %
12877       name="\Fld@name" %
12878       value="#2" %
12879       \the\Field@toks>%
12880     }%
12881     \HCode{</button>}%
12882   \egroup
12883 }
12884 \def\@Submit[#1]#2{%
12885   \HCode{<button type="submit">#2</button>}%
12886 }
12887 \def\@Reset[#1]#2{%
12888   \HCode{<button type="reset">#2</button>}%

```



```

12889 }
12890 \def\@CheckBox[#1]#2{% parameters, label
12891   \let\Hy@reserved@a\@empty
12892   \def\Fld@name{#2}%
12893   \def\Fld@default{0}%
12894   \bgroup
12895     \Field@toks={ }%
12896     \kvsetkeys{Field}{#1}%
12897     \HCode{<input type="checkbox" %
12898       \ifFld@checked checked \fi
12899       \ifFld@disabled disabled \fi
12900       \ifFld@readonly readonly \fi
12901       name="\Fld@name" %
12902       \ifFld@hidden type="hidden" \fi
12903       value="\Fld@default" %
12904       \the\Field@toks>%
12905     #2%
12906   }%
12907 \egroup
12908 }
12909 </tex4ht>

```

## 44.4 pdfTeX

```

12910 <*pdfTeX>
12911 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12912   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12913 }
12914 \def\MakeFieldObject#1#2{\sbox0{#1}%
12915   \immediate\pdfxform0 %
12916   \expandafter\edef\csname #2Object\endcsname{%
12917     \the\pdfflastxform\space 0 R%
12918   }%
12919 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfflastxform}}}%
12920 }%
12921 \let\HyField@afields\ltx@empty
12922 \let\HyField@cofields\ltx@empty
12923 \@ifundefined{pdffastlink}
12924 {%
12925   \let\HyField@AddToFields\relax
12926   \PackageInfo{hyperref}{%
12927     You need pdfTeX 1.40.0 for setting the /Fields entry.%
12928     \MessageBreak
12929     Adobe Reader/Acrobat accepts an empty /Field array,%
12930     \MessageBreak
12931     but other PDF viewers might complain%
12932   }}%
12933 {%
12934   \let\HyField@AuxAddToFields\ltx@gobble
12935   \let\HyField@AuxAddToCoFields\ltx@gobbletwo
12936   \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.

```

12937 \def\HyField@ABD@AuxAddToCoFields#1#2{%

```

```

12938 \begingroup
12939 \Hy@safe@activetrue
12940 \let\ltx@secondoftwo\relax
12941 \ifx\HyField@cofields\ltx@empty
12942 \xdef\HyField@cofields{%
12943 \ltx@secondoftwo{#1}{ #2 0 R}%
12944 }%
12945 \else
12946 \let\ltx@secondoftwo\relax
12947 \def\HyField@AddCoField##1##2##3{%
12948 \ifx##1\ltx@empty
12949 \ltx@secondoftwo{#1}{ #2 0 R}%
12950 \expandafter\ltx@gobble
12951 \else
12952 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
12953 \ltx@secondoftwo{#1}{ #2 0 R}%
12954 \ltx@secondoftwo{##2}{##3}%
12955 \expandafter\expandafter\expandafter\ltx@gobble
12956 \else
12957 \ltx@secondoftwo{##2}{##3}%
12958 \fi
12959 \fi
12960 \HyField@AddCoField
12961 }%
12962 \xdef\HyField@cofields{%
12963 \expandafter\HyField@AddCoField
12964 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
12965 }%
12966 \fi
12967 \endgroup
12968 }%
12969 \Hy@AtBeginDocument{%
12970 \if@filesw
12971 \immediate\write\@mainaux{%
12972 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12973 }%
12974 \immediate\write\@mainaux{%
12975 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
12976 }%
12977 \fi
12978 \let\HyField@AfterAuxOpen\@firstofone
12979 \def\HyField@AuxAddToFields#1{%
12980 \xdef\HyField@afields{%
12981 \ifx\HyField@afields\@empty
12982 \else
12983 \HyField@afields
12984 \space
12985 \fi
12986 #1 0 R%
12987 }%
12988 }%
12989 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
12990 }%
12991 \def\HyField@AddToFields{%

```

```

12992 \expandafter\HyField@@AddToFields\expandafter{%
12993 \the\pdfastlink
12994 }%
12995 \ifx\Fld@calculate@code\ltx@empty
12996 \else
12997 \begingroup
12998 \Hy@safe@activetrue
12999 \edef\Hy@temp{%
13000 \endgroup
13001 \if@filesw
13002 \write\@mainaux{%
13003 \string\HyField@AuxAddToCoFields{%
13004 \Fld@calculate@sortkey
13005 }{%
13006 \the\pdfastlink
13007 }%
13008 }%
13009 \fi
13010 }%
13011 \Hy@temp
13012 \fi
13013 }%
13014 \def\HyField@@AddToFields#1{%
13015 \HyField@AfterAuxOpen{%
13016 \if@filesw
13017 \write\@mainaux{%
13018 \string\HyField@AuxAddToFields{#1}%
13019 }%
13020 \fi
13021 }%
13022 }%
13023 }
13024 \def\@Form[#1]{%
13025 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13026 \kvsetkeys{Form}{#1}%
13027 \pdf@ifdraftmode{}{%
13028 \Hy@FormObjects
13029 \ifnum\pdfTeXversion>13 %
13030 \pdfrefobj\OBJ@pdfdocencoding
13031 \pdfrefobj\OBJ@ZaDb
13032 \pdfrefobj\OBJ@Helv
13033 \fi
13034 \AtVeryEndDocument{%
13035 \immediate\pdfobj{%
13036 <<%
13037 /Fields[\HyField@afields]%
13038 \ifx\HyField@cofields\ltx@empty
13039 \else
13040 /CO[\romannumeral-`\Q\HyField@cofields]%
13041 \fi
13042 /DR<<%
13043 /Font<<%
13044 /ZaDb \OBJ@ZaDb\space 0 R%
13045 /Helv \OBJ@Helv\space 0 R%

```

```

13046      >>%
13047      >>%
13048      /DA(/Helv 10 Tf 0 g)%
13049      \ifHy@pdfa
13050      \else
13051      \ifHyField@NeedAppearances
13052      /NeedAppearances true%
13053      \fi
13054      \fi
13055      >>%
13056      }%
13057      \edef\OBJ@acroform{\the\pdflastobj}%
13058      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13059      }%
13060      }%
13061      \MakeFieldObject{%
Same as \ding{123} of package pifont.
13062      \begingroup
13063      \fontfamily{pzd}%
13064      \fontencoding{U}%
13065      \fontseries{m}%
13066      \fontshape{n}%
13067      \selectfont
13068      \char123 %
13069      \endgroup
13070      }{Ding}%
13071      \MakeFieldObject{%
13072      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13073      }{Submit}%
13074      \MakeFieldObject{%
13075      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13076      }{SubmitP}%
13077      }
13078      \let\@endForm\ltx@empty
13079      \let\HyAnn@AbsPageLabel\ltx@empty
13080      \let\Fld@pageobjref\ltx@empty
13081      \ltx@ifundefined{pdfpageref}{%
13082      }{%
13083      \ltx@ifpackageloaded{zref-abspage}{%
13084      \newcount\HyAnn@Count
13085      \HyAnn@Count=\ltx@zero
13086      \def\HyAnn@AbsPageLabel{%
13087      \global\advance\HyAnn@Count by\ltx@one
13088      \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13089      \zref@refused{HyAnn@\the\HyAnn@Count}%
13090      }%
13091      \def\Fld@pageobjref{%
13092      \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13093      }{%
13094      \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13095      /P \pdfpageref
13096      \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13097      \space 0 R%
13098      }{%

```

```

13099     }%
13100     }%
13101     }%
13102   }{%
13103   }%
13104 }

13105 \def\@TextField[#1]#2{% parameters, label
13106   \def\Fld@name{#2}%
13107   \let\Fld@default\ltx@empty
13108   \let\Fld@value\@empty
13109   \def\Fld@width{\DefaultWidthofText}%
13110   \def\Fld@height{%
13111     \ifFld@multiline
13112       \DefaultHeightofTextMultiline
13113     \else
13114       \DefaultHeightofText
13115     \fi
13116   }%
13117   \begingroup
13118     \expandafter\HyField@SetKeys\expandafter{%
13119       \DefaultOptionsofText,#1%
13120     }%
13121     \PDFForm@Name
13122     \HyField@FlagsText
13123     \ifFld@hidden\def\Fld@width{1sp}\fi
13124     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13125     \LayoutTextField{#2}{%
13126       \leavevmode
13127       \HyAnn@AbsPageLabel
13128       \Hy@escapeform\PDFForm@Text
13129       \pdfstartlink user {\PDFForm@Text}\relax
13130       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13131       \HyField@AddToFields
13132     }%
13133   \endgroup
13134 }

13135 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13136   \def\Fld@name{#2}%
13137   \let\Fld@default\relax
13138   \let\Fld@value\relax
13139   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13140   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13141   \begingroup
13142     \Fld@menulength=0 %
13143     \@tempdima\z@
13144     \@for\@curropt:=#3\do{%
13145       \expandafter\Fld@checkequals\@curropt==\%
13146       \Hy@StepCount\Fld@menulength
13147       \settowidth{\@tempdimb}{\@currDisplay}%
13148       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13149     }%
13150     \advance\@tempdima by 15\p@
13151     \begingroup
13152       \HyField@SetKeys{#1}%

```

```

13153 \edef\x{\endgroup
13154 \noexpand\expandafter
13155 \noexpand\HyField@SetKeys
13156 \noexpand\expandafter{%
13157 \expandafter\noexpand\csname DefaultOptionsof%
13158 \ifFld@radio
13159 Radio%
13160 \else
13161 \ifFld@combo
13162 \ifFld@popdown
13163 PopdownBox%
13164 \else
13165 ComboBox%
13166 \fi
13167 \else
13168 ListBox%
13169 \fi
13170 \fi
13171 \endcsname
13172 }%
13173 }\x
13174 \HyField@SetKeys{#1}%
13175 \PDFForm@Name
13176 \ifFld@hidden\def\Fld@width{1sp}\fi
13177 \ifx\Fld@value\relax
13178 \let\Fld@value\Fld@default
13179 \fi
13180 \LayoutChoiceField{#2}{%
13181 \ifFld@radio
13182 \HyField@FlagsRadioButton
13183 \@@Radio{#3}%
13184 \else
13185 \begingroup
13186 \HyField@FlagsChoice
13187 \ifdim\Fld@width<\@tempdima
13188 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13189 \edef\Fld@width{\the\@tempdima}%
13190 \fi
13191 \ifFld@combo
13192 \else
13193 \@tempdima=\the\Fld@menulength\Fld@charsize
13194 \advance\@tempdima by \Fld@borderwidth bp %
13195 \advance\@tempdima by \Fld@borderwidth bp %
13196 \edef\Fld@height{\the\@tempdima}%
13197 \fi
13198 \@@ListBox{#3}%
13199 \endgroup
13200 \fi
13201 }%
13202 \endgroup
13203 }
13204 \def\@@Radio#1{%
13205 \Fld@listcount=0 %
13206 \EdefEscapeName\Fld@default{\Fld@default}%

```

```

13207 \@for\@curropt:=#1\do{%
13208   \expandafter\Fld@checkequals\@curropt==\\%
13209   \EdefEscapeName\@currValue{\@currValue}%
13210   \Hy@StepCount\Fld@listcount
13211   \@currDisplay\space
13212   \leavevmode
13213   \HyAnn@AbsPageLabel
13214   \Hy@escapeform\PDFForm@Radio
13215   \pdfstartlink user {%
13216     \PDFForm@Radio
13217     /AP<<%
13218     /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.

```

13219     /\@currValue\space \DingObject
13220     >>%
13221     >>%
13222   }%
13223   \relax
13224   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13225   \ifnum\Fld@listcount=1 %
13226     \HyField@AddToFields
13227   \fi
13228   \space % deliberate space between radio buttons
13229 }%
13230 }
13231 \newcount\Fld@listcount
13232 \def\@@Listbox#1{%
13233   \HyField@PDFChoices{#1}%
13234   \leavevmode
13235   \HyAnn@AbsPageLabel
13236   \Hy@escapeform\PDFForm@List
13237   \pdfstartlink user {\PDFForm@List}\relax
13238   \MakeChoiceField{\Fld@width}{\Fld@height}%
13239   \pdfendlink
13240   \HyField@AddToFields
13241 }
13242 \def\@PushButton[#1]#2{% parameters, label
13243   \def\Fld@name{#2}%
13244   \begingroup
13245     \expandafter\HyField@SetKeys\expandafter{%
13246       \DefaultOptionsofPushButton,#1%
13247     }%
13248     \PDFForm@Name
13249     \ifHy@pdfa
13250       \Hy@Error{%
13251         PDF/A: Push button with JavaScript is prohibited%
13252       }\@ehc
13253     \LayoutPushButtonField{%
13254       \leavevmode
13255       \MakeButtonField{#2}%
13256     }%

```

```

13257 \else
13258 \HyField@FlagsPushButton
13259 \ifFld@hidden\def\Fld@width{1sp}\fi
13260 \LayoutPushButtonField{%
13261 \leavevmode
13262 \HyAnn@AbsPageLabel
13263 \Hy@escapeform\PDFForm@Push
13264 \pdfstartlink user {\PDFForm@Push}\relax
13265 \MakeButtonField{#2}%
13266 \pdfendlink
13267 \HyField@AddToFields
13268 }%
13269 \fi
13270 \endgroup
13271 }
13272 \def\@Submit[#1]#2{%
13273 \def\Fld@width{\DefaultWidthofSubmit}%
13274 \def\Fld@height{\DefaultHeightofSubmit}%
13275 \begingroup
13276 \expandafter\HyField@SetKeys\expandafter{%
13277 \DefaultOptionsofSubmit,#1%
13278 }%
13279 \HyField@FlagsPushButton
13280 \HyField@FlagsSubmit
13281 \ifFld@hidden\def\Fld@width{1sp}\fi
13282 \leavevmode
13283 \HyAnn@AbsPageLabel
13284 \Hy@escapeform\PDFForm@Submit
13285 \pdfstartlink user {%
13286 \PDFForm@Submit
13287 /AP<</N \SubmitObject/D \SubmitPObject>>%
13288 }%
13289 \relax
13290 \MakeButtonField{#2}%
13291 \pdfendlink
13292 \HyField@AddToFields
13293 \endgroup
13294 }
13295 \def\@Reset[#1]#2{%
13296 \def\Fld@width{\DefaultWidthofReset}%
13297 \def\Fld@height{\DefaultHeightofReset}%
13298 \begingroup
13299 \expandafter\HyField@SetKeys\expandafter{%
13300 \DefaultOptionsofReset,#1%
13301 }%
13302 \leavevmode
13303 \ifHy@pdfa
13304 \Hy@Error{%
13305 PDF/A: Reset action is prohibited%
13306 }\@ehc
13307 \MakeButtonField{#2}%
13308 \else
13309 \HyField@FlagsPushButton
13310 \ifFld@hidden\def\Fld@width{1sp}\fi

```



```

13311 \HyAnn@AbsPageLabel
13312 \Hy@escapeform\PDFForm@Reset
13313 \pdfstartlink user {\PDFForm@Reset}\relax
13314 \MakeButtonField{#2}%
13315 \pdfendlink
13316 \HyField@AddToFields
13317 \fi
13318 \endgroup
13319 }
13320 \def\@CheckBox[#1]#2{% parameters, label
13321 \def\Fld@name{#2}%
13322 \def\Fld@default{0}%
13323 \begingroup
13324 \def\Fld@width{\DefaultWidthofCheckBox}%
13325 \def\Fld@height{\DefaultHeightofCheckBox}%
13326 \expandafter\HyField@SetKeys\expandafter{%
13327 \DefaultOptionsofCheckBox,#1%
13328 }%
13329 \PDFForm@Name
13330 \HyField@FlagsCheckBox
13331 \ifFld@hidden\def\Fld@width{1sp}\fi
13332 \LayoutCheckField{#2}{%
13333 \leavevmode
13334 \HyAnn@AbsPageLabel
13335 \Hy@escapeform\PDFForm@Check
13336 \pdfstartlink user {\PDFForm@Check}\relax
13337 \MakeCheckField{\Fld@width}{\Fld@height}%
13338 \pdfendlink
13339 \HyField@AddToFields
13340 }%
13341 \endgroup
13342 }
13343 \def\Hy@FormObjects{%
13344 \pdfobj {%
13345 <<%
13346 /Type/Encoding%
13347 /Differences[%
13348 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13349 /ring/tilde %
13350 39/quotesingle %
13351 96/grave %
13352 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13353 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13354 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13355 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13356 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13357 160/Euro %
13358 164/currency %
13359 166/brokenbar %
13360 168/dieresis/copyright/ordfeminine %
13361 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13362 /twosuperior/threesuperior/acute/mu %
13363 183/periodcentered/cedilla/onesuperior/ordmasculine %
13364 188/onequarter/onehalf/threequarters %

```

```

13365      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13366      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13367      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13368      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13369      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13370      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13371      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13372      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13373      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13374      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13375      ]%
13376      >>%
13377      }%
13378      \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13379      \pdfobj{%
13380      <<%
13381      /Type/Font%
13382      /Subtype/Type1%
13383      /Name/ZaDb%
13384      /BaseFont/ZapfDingbats%
13385      >>%
13386      }%
13387      \xdef\OBJ@ZaDb{\the\pdfastobj}%
13388      \pdfobj{%
13389      <<%
13390      /Type/Font%
13391      /Subtype/Type1%
13392      /Name/Helv%
13393      /BaseFont/Helvetica%
13394      /Encoding \OBJ@pdfdocencoding\space 0 R%
13395      >>%
13396      }%
13397      \xdef\OBJ@Helv{\the\pdfastobj}%
13398      \global\let\Hy@FormObjects\relax
13399      }
13400      </pdfTeX>

```

## 44.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

13401 <*dvipdfm | xetex>

```

\@Gauge

```

13402 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13403   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13404 }

```

\@Form

```

13405 \def\@Form[#1]{%
13406   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13407   \kvsetkeys{Form}{#1}%
13408   \Hy@FormObjects
13409   \@pdfm@mark{obj @afields []}%

```

```

13410 \@pdfm@mark{obj @corder []}%
13411 \@pdfm@mark{%
13412   obj @aform <<%
13413   /Fields @afields%
13414   /DR<<%
13415   /Font<<%
13416   /ZaDb @OBJZaDb%
13417   /Helv @OBJHelv%
13418   >>%
13419   >>%
13420   /DA(/Helv 10 Tf 0 g)%
13421   /CO @corder%
13422   \ifHy@pdfa
13423   \else
13424     \ifHyField@NeedAppearances
13425       /NeedAppearances true%
13426     \fi
13427   \fi
13428   >>%
13429   }%
13430 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13431 }

\@endForm

13432 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13433 \def\dvipdfm@setdim{%
13434   height \the\ht\pdfm@box\space
13435   width \the\wd\pdfm@box\space
13436   depth \the\dp\pdfm@box\space
13437 }

\HyField@AnnotCount
13438 \newcount\HyField@AnnotCount
13439 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13440 \def\HyField@AdvanceAnnotCount{%
13441   \global\advance\HyField@AnnotCount\@ne
13442 }

\HyField@TheAnnotCount
13443 \def\HyField@TheAnnotCount{%
13444   \the\HyField@AnnotCount
13445 }

\Fld@pageobjref
13446 \def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFields
13447 \def\HyField@AddToFields#1{%
13448   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%

```

```

13449 \ifx\Fld@calculate@code\ltx@empty
13450 \else
13451 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13452 \fi
13453 }

```

#### \@TextField

```

13454 \def\@TextField[#1]#2{% parameters, label
13455 \def\Fld@name{#2}%
13456 \let\Fld@default\ltx@empty
13457 \let\Fld@value\@empty
13458 \def\Fld@width{\DefaultWidthofText}%
13459 \def\Fld@height{%
13460 \ifFld@multiline
13461 \DefaultHeightofTextMultiline
13462 \else
13463 \DefaultHeightofText
13464 \fi
13465 }%
13466 \begingroup
13467 \expandafter\HyField@SetKeys\expandafter{%
13468 \DefaultOptionsofText,#1%
13469 }%
13470 \PDFForm@Name
13471 \HyField@FlagsText
13472 \ifFld@hidden\def\Fld@width{1sp}\fi
13473 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13474 \setbox\pdfm@box=\hbox{%
13475 \MakeTextField{\Fld@width}{\Fld@height}%
13476 }%
13477 \HyField@AdvanceAnnotCount
13478 \LayoutTextField{#2}{%
13479 \leavevmode
13480 \Hy@escapeform\PDFForm@Text
13481 \@pdfm@mark{%
13482 ann @text\HyField@TheAnnotCount\space
13483 \dvipdfm@setdim << \PDFForm@Text >>%
13484 }%
13485 }%
13486 \unhbox\pdfm@box
13487 \HyField@AddToFields{text}%
13488 % record in @afields array
13489 \endgroup
13490 }

```

#### \@ChoiceMenu

```

13491 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13492 \def\Fld@name{#2}%
13493 \let\Fld@default\relax
13494 \let\Fld@value\relax
13495 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13496 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13497 \begingroup
13498 \Fld@menulength=0 %

```

```

13499 \@tempdima\z@
13500 \@for\@curropt:=#3\do{%
13501   \expandafter\Fld@checkequals\@curropt==\\%
13502   \Hy@StepCount\Fld@menulength
13503   \settowidth{\@tempdimb}{\@currDisplay}%
13504   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13505 }%
13506 \advance\@tempdima by 15\p@
13507 \begingroup
13508   \HyField@SetKeys{#1}%
13509 \edef\x{\endgroup
13510   \noexpand\expandafter
13511   \noexpand\HyField@SetKeys
13512   \noexpand\expandafter{%
13513     \expandafter\noexpand\csname DefaultOptionsof%
13514       \ifFld@radio
13515         Radio%
13516       \else
13517         \ifFld@combo
13518         \ifFld@popdown
13519         PopdownBox%
13520       \else
13521         ComboBox%
13522       \fi
13523     \else
13524     ListBox%
13525     \fi
13526   \fi
13527   \endcsname
13528 }%
13529 }\x
13530 \HyField@SetKeys{#1}%
13531 \PDFForm@Name
13532 \ifFld@hidden\def\Fld@width{1sp}\fi
13533 \ifx\Fld@value\relax
13534   \let\Fld@value\Fld@default
13535 \fi
13536 \LayoutChoiceField{#2}{%
13537   \ifFld@radio
13538     \HyField@FlagsRadioButton
13539     \@@Radio{#3}%
13540   \else
13541     \begingroup
13542     \HyField@FlagsChoice
13543     \ifdim\Fld@width<\@tempdima
13544       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13545       \edef\Fld@width{\the\@tempdima}%
13546     \fi
13547     \ifFld@combo
13548     \else
13549       \@tempdima=\the\Fld@menulength\Fld@charsize
13550       \advance\@tempdima by \Fld@borderwidth bp %
13551       \advance\@tempdima by \Fld@borderwidth bp %
13552       \edef\Fld@height{\the\@tempdima}%

```

```

13553         \fi
13554         \@@Listbox{#3}%
13555     \endgroup
13556     \fi
13557 }%
13558 \endgroup
13559 }

\@@Radio
13560 \def\@@Radio#1{%
13561     \Fld@listcount=0 %
13562     \EdefEscapeName\Fld@default{\Fld@default}%
13563     \setbox\pdfm@box=\hbox{%
13564         \MakeRadioField{\Fld@width}{\Fld@height}%
13565     }%
13566     \@for\@curropt:=#1\do{%
13567         \expandafter\Fld@checkequals\@curropt==\%
13568         \EdefEscapeName\@currValue{\@currValue}%
13569         \Hy@StepCount\Fld@listcount
13570         \@currDisplay\space
13571         \leavevmode
13572         \Hy@escapeform\PDFForm@Radio
13573         \ifnum\Fld@listcount=1 %
13574             \HyField@AdvanceAnnotCount
13575         \fi
13576         \@pdfm@mark{%
13577             ann %
13578             \ifnum\Fld@listcount=1 %
13579                 @radio\HyField@TheAnnotCount%
13580             \space
13581         \fi
13582         \dvi pdfm@setdim
13583         <<%
13584         \PDFForm@Radio
13585         /AP<</N<</\@currValue /null>>>>%
13586         >>%
13587     }%
13588     \unhcopy\pdfm@box\space% deliberate space between radio buttons
13589     \ifnum\Fld@listcount=1 %
13590         \HyField@AddToFields{radio}%
13591     \fi
13592 }%
13593 }

\Fld@listcount
13594 \newcount\Fld@listcount

\@@Listbox
13595 \def\@@Listbox#1{%
13596     \HyField@PDFChoices{#1}%
13597     \setbox\pdfm@box=\hbox{%
13598         \MakeChoiceField{\Fld@width}{\Fld@height}%
13599     }%
13600     \leavevmode

```

```

13601 \Hy@escapeform\PDFForm@List
13602 \HyField@AdvanceAnnotCount
13603 \@pdfm@mark{%
13604   ann @list\HyField@TheAnnotCount\space
13605   \dvipdfm@setdim
13606   <<\PDFForm@List>>%
13607 }%
13608 \unhbox\pdfm@box
13609 \HyField@AddToFields{list}%
13610 }

```

#### \@PushButton

```

13611 \def\@PushButton[#1]#2{% parameters, label
13612 \def\Fld@name{#2}%
13613 \begingroup
13614 \expandafter\HyField@SetKeys\expandafter{%
13615   \DefaultOptionsofPushButton,#1%
13616 }%
13617 \PDFForm@Name
13618 \ifHy@pdfa
13619 \Hy@Error{%
13620   PDF/A: Push button with JavaScript is prohibited%
13621 } \@ehc
13622 \LayoutPushButtonField{%
13623   \leavevmode
13624   \MakeButtonField{#2}%
13625 }%
13626 \else
13627 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13628 \HyField@FlagsPushButton
13629 \ifFld@hidden\def\Fld@width{1sp}\fi
13630 \HyField@AdvanceAnnotCount
13631 \LayoutPushButtonField{%
13632   \leavevmode
13633   \Hy@escapeform\PDFForm@Push
13634   \@pdfm@mark{%
13635     ann @push\HyField@TheAnnotCount\space
13636     \dvipdfm@setdim
13637     <<\PDFForm@Push>>%
13638   }%
13639 }%
13640 \unhbox\pdfm@box
13641 \HyField@AddToFields{push}%
13642 \fi
13643 \endgroup
13644 }

```

#### \@Submit

```

13645 \def\@Submit[#1]#2{%
13646 \def\Fld@width{\DefaultWidthofSubmit}%
13647 \def\Fld@height{\DefaultHeightofSubmit}%
13648 \begingroup
13649 \expandafter\HyField@SetKeys\expandafter{%
13650   \DefaultOptionsofSubmit,#1%

```

```

13651 }%
13652 \HyField@FlagsPushButton
13653 \HyField@FlagsSubmit
13654 \ifFld@hidden\def\Fld@width{1sp}\fi
13655 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13656 \leavevmode
13657 \Hy@escapeform\PDFForm@Submit
13658 \HyField@AdvanceAnnotCount
13659 \@pdfm@mark{%
13660   ann @submit\HyField@TheAnnotCount\space
13661   \dvipdfm@setdim
13662   <<\PDFForm@Submit>>%
13663 }%
13664 \unhbox\pdfm@box%
13665 \HyField@AddToFields{submit}%
13666 \endgroup
13667 }

```

#### \@Reset

```

13668 \def\@Reset[#1]#2{%
13669   \def\Fld@width{\DefaultWidthofReset}%
13670   \def\Fld@height{\DefaultHeightofReset}%
13671   \begingroup
13672     \expandafter\HyField@SetKeys\expandafter{%
13673       \DefaultOptionsofReset,#1%
13674     }%
13675     \leavevmode
13676     \ifHy@pdfa
13677       \Hy@Error{%
13678         PDF/A: Reset action is prohibited%
13679       }\@ehc
13680       \MakeButtonField{#2}%
13681     \else
13682       \HyField@FlagsPushButton
13683       \ifFld@hidden\def\Fld@width{1sp}\fi
13684       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13685       \Hy@escapeform\PDFForm@Reset
13686       \HyField@AdvanceAnnotCount
13687       \@pdfm@mark{%
13688         ann @reset\HyField@TheAnnotCount\space
13689         \dvipdfm@setdim
13690         <<\PDFForm@Reset>>%
13691       }%
13692       \unhbox\pdfm@box
13693       \HyField@AddToFields{reset}%
13694     \fi
13695   \endgroup
13696 }

```

#### \@CheckBox

```

13697 \def\@CheckBox[#1]#2{% parameters, label
13698   \def\Fld@name{#2}%
13699   \def\Fld@default{0}%
13700   \begingroup

```



```

13701 \def\Fld@width{\DefaultWidthofCheckBox}%
13702 \def\Fld@height{\DefaultHeightofCheckBox}%
13703 \expandafter\HyField@SetKeys\expandafter{%
13704   \DefaultOptionsofCheckBox,#1%
13705 }%
13706 \PDFForm@Name
13707 \HyField@FlagsCheckBox
13708 \ifFld@hidden\def\Fld@width{1sp}\fi
13709 \setbox\pdfm@box=\hbox{%
13710   \MakeCheckField{\Fld@width}{\Fld@height}%
13711 }%
13712 \HyField@AdvanceAnnotCount
13713 \LayoutCheckField{#2}{%
13714   \leavevmode
13715   \Hy@escapeform\PDFForm@Check
13716   \@pdfm@mark{%
13717     ann @check\HyField@TheAnnotCount\space
13718     \dvi pdfm@setdim
13719     <<\PDFForm@Check>>%
13720   }%
13721   \unhbox\pdfm@box
13722   \HyField@AddToFields{check}%
13723 }%
13724 \endgroup
13725 }

13726 \def\Hy@FormObjects{%
13727   \@pdfm@mark{obj @OBJpdfdocencoding%
13728     <<%
13729     /Type/Encoding%
13730     /Differences[%
13731       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13732       39/quotesingle %
13733       96/grave %
13734       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13735       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13736       /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13737       /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13738       /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13739       160/Euro %
13740       164/currency %
13741       166/brokenbar %
13742       168/dieresis/copyright/ordfeminine %
13743       172/logicalnot/.notdef/registered/macron/degree/plusminus%
13744       /twosuperior/threesuperior/acute/mu %
13745       183/periodcentered/cedilla/onesuperior/ordmasculine %
13746       188/onequarter/onehalf/threequarters %
13747       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13748       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13749       /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13750       /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13751       /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13752       /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13753       /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%

```

```

13754      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13755      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13756      /thorn/ydieresis%
13757      ]%
13758      >>%
13759      }%
13760      \@pdfm@mark{obj @OBJZaDb%
13761      <<%
13762      /Type/Font%
13763      /Subtype/Type1%
13764      /Name/ZaDb%
13765      /BaseFont/ZapfDingbats%
13766      >>%
13767      }%
13768      \@pdfm@mark{obj @OBJHelv%
13769      <<%
13770      /Type/Font%
13771      /Subtype/Type1%
13772      /Name/Helv%
13773      /BaseFont/Helvetica%
13774      /Encoding @OBJpdfdocencoding%
13775      >>%
13776      }%
13777      \global\let\Hy@FormObjects\relax
13778      }
13779      </dvipdfm | xetex>

```

## 44.6 Common forms part

```

13780 (*pdfform)

\Fld@pageobjref

13781 \providecommand*{\Fld@pageobjref}{%

\Hy@escapestring

13782 \@ifundefined{pdf@escapestring}
13783 {%
13784   \let\Hy@escapestring\@firstofone
13785   \def\Hy@escapeform#1{%
13786     \ifHy@pdfescapeform
13787       \def\Hy@escapestring##1{%
13788         \noexpand\Hy@escapestring{\noexpand##1}%
13789       }%
13790       \edef\Hy@temp{#1}%
13791       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13792       \def\Hy@escapestring##1{%
13793         \@ifundefined{Hy@esc@\string##1}{%
13794           ##1%
13795           \ThisShouldNotHappen
13796         }{%
13797           \csname Hy@esc@\string##1\endcsname
13798         }%
13799       }%
13800     \else

```

```

13801     \let\Hy@escapestring\@firstofone
13802     \fi
13803 }%
13804 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13805     \ifx\|#3\|
13806     \else
13807     \expandafter
13808     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13809     \ltx@ReturnAfterFi{%
13810     \Hy@@escapeform#3\@nil
13811     }%
13812     \fi
13813 }%
13814 }{%
13815 \def\Hy@escapeform#1{%
13816     \ifHy@pdfescapeform
13817     \let\Hy@escapestring\pdfescapestring
13818     \else
13819     \let\Hy@escapestring\@firstofone
13820     \fi
13821 }%
13822 \Hy@escapeform{}%
13823 }

```

#### \PDFForm@Name

```

13824 \def\PDFForm@Name{%
13825     \PDFForm@@Name\Fld@name
13826     \ifx\Fld@altname\relax
13827     \else
13828     \PDFForm@@Name\Fld@altname
13829     \fi
13830     \ifx\Fld@mappingname\relax
13831     \else
13832     \PDFForm@@Name\Fld@mappingname
13833     \fi
13834 }

```

#### \PDFForm@@Name

```

13835 \def\PDFForm@@Name#1{%
13836     \begingroup
13837     \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13838     \ifHy@unicode
13839     \Hy@unicodetfalse
13840     \fi
13841     \fi
13842     \pdfstringdef\Hy@gtemp#1%
13843     \endgroup
13844     \let#1\Hy@gtemp
13845 }

```

#### \Fld@additionalactions

```

13846 \def\Fld@@additionalactions{%
    K input (keystroke) format

```

```

13847 \ifx\Fld@keystroke@code\@empty
13848 \else
13849 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13850 \fi

F display format
13851 \ifx\Fld@format@code\@empty
13852 \else
13853 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13854 \fi

V validation
13855 \ifx\Fld@validate@code\@empty
13856 \else
13857 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13858 \fi

C calculation
13859 \ifx\Fld@calculate@code\@empty
13860 \else
13861 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13862 \fi

Fo receiving the input focus
13863 \ifx\Fld@onfocus@code\@empty
13864 \else
13865 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13866 \fi

Bl loosing the input focus (blurred)
13867 \ifx\Fld@onblur@code\@empty
13868 \else
13869 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13870 \fi

D pressing the mouse button (down)
13871 \ifx\Fld@onmousedown@code\@empty
13872 \else
13873 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13874 \fi

U releasing the mouse button (up)
13875 \ifx\Fld@onmouseup@code\@empty
13876 \else
13877 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13878 \fi

E cursor enters the annotation's active area.
13879 \ifx\Fld@onenter@code\@empty
13880 \else
13881 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13882 \fi

X cursor exits the annotation's active area.
13883 \ifx\Fld@onexit@code\@empty
13884 \else
13885 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13886 \fi

```

```

13887 }
13888 \def\Fld@additionalactions{%
13889 \if-\Fld@@additionalactions-%
13890 \else
13891 \ifHy@pdfa
13892 \else
13893 /AA<<\Fld@@additionalactions>>%
13894 \fi
13895 \fi
13896 }

```

\Fld@annotnames

```

13897 \def\Fld@annotnames{%
13898 /T(\Fld@name)%
13899 \ifx\Fld@altname\relax
13900 \else
13901 /TU(\Fld@altname)%
13902 \fi
13903 \ifx\Fld@mappingname\relax
13904 \else
13905 /TM(\Fld@mappingname)%
13906 \fi
13907 }

```

\PDFForm@Check

```

13908 \def\PDFForm@Check{%
13909 /Subtype/Widget%
13910 \Fld@annotflags
13911 \Fld@pageobjref
13912 \Fld@annotnames
13913 /FT/Btn%
13914 \Fld@flags
13915 /Q \Fld@align
13916 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13917 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
13918 /MK<<%
13919 \ifnum\Fld@rotation=\z@
13920 \else
13921 /R \Fld@rotation
13922 \fi
13923 \ifx\Fld@bordercolor\relax
13924 \else
13925 /BC[\Fld@bordercolor]%
13926 \fi
13927 \ifx\Fld@bcolor\relax
13928 \else
13929 /BG[\Fld@bcolor]%
13930 \fi
13931 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13932 >>%
13933 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13934 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13935 /H/P%
13936 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi

```

```

13937 \Fld@additionalactions
13938 }

```

#### \PDFForm@Push

```

13939 \ifHy@pdfa
13940 \else
13941 \def\PDFForm@Push{%
13942 /Subtype/Widget%
13943 \Fld@annotflags
13944 \Fld@pageobjref
13945 \Fld@annotnames
13946 /FT/Btn%
13947 \Fld@flags
13948 /H/P%
13949 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13950 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13951 \ifx\Fld@bordercolor\relax\else 1\fi
13952 \space
13953 \else
13954 /MK<<%
13955 \ifnum\Fld@rotation=\z@
13956 \else
13957 /R \Fld@rotation
13958 \fi
13959 \ifx\Fld@bordercolor\relax
13960 \else
13961 /BC[\Fld@bordercolor]%
13962 \fi
13963 >>%
13964 \fi
13965 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13966 \Fld@additionalactions
13967 }%
13968 \fi

```

#### \PDFForm@List

```

13969 \def\PDFForm@List{%
13970 /Subtype/Widget%
13971 \Fld@annotflags
13972 \Fld@pageobjref
13973 \Fld@annotnames
13974 /FT/Ch%
13975 \Fld@flags
13976 /Q \Fld@align
13977 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13978 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13979 \ifx\Fld@bordercolor\relax\else 1\fi
13980 \ifx\Fld@bcolor\relax \else 1\fi
13981 \space
13982 \else
13983 /MK<<%
13984 \ifnum\Fld@rotation=\z@
13985 \else
13986 /R \Fld@rotation

```

```

13987     \fi
13988     \ifx\Fld@bordercolor\relax
13989     \else
13990         /BC[\Fld@bordercolor]%
13991     \fi
13992     \ifx\Fld@bcolor\relax
13993     \else
13994         /BG[\Fld@bcolor]%
13995     \fi
13996     >>%
13997 \fi
13998 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13999     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14000 \Fld@choices
14001 \Fld@additionalactions
14002 }

```

\PDFForm@Radio

```

14003 \def\PDFForm@Radio{%
14004     /Subtype/Widget%
14005     \Fld@annotflags
14006     \Fld@pageobjref
14007     \Fld@annotnames
14008     /FT/Btn%
14009     \Fld@flags
14010     /H/P%
14011     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14012     /MK<<%
14013     \ifnum\Fld@rotation=\z@
14014     \else
14015         /R \Fld@rotation
14016     \fi
14017     \ifx\Fld@bordercolor\relax
14018     \else
14019         /BC[\Fld@bordercolor]%
14020     \fi
14021     \ifx\Fld@bcolor\relax
14022     \else
14023         /BG[\Fld@bcolor]%
14024     \fi
14025     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14026     >>%
14027     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14028         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14029     \ifx\Fld@default\@empty
14030         /V/Off%
14031         /DV/Off%
14032     \else
14033         /V/\Fld@default
14034         /DV/\Fld@default
14035     \fi
14036     \Fld@additionalactions
14037 }

```

\PDFForm@Text

```
14038 \def\PDFForm@Text{%
14039 /Subtype/Widget%
14040 \Fld@annotflags
14041 \Fld@pageobjref
14042 \Fld@annotnames
14043 /FT/Tx%
14044 \Fld@flags
14045 /Q \Fld@align
14046 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14047 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14048     \ifx\Fld@bordercolor\relax\else 1\fi
14049     \ifx\Fld@bcolor\relax \else 1\fi
14050     \space
14051 \else
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 >>%
14066 \fi
14067 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14068     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14069 /DV(\Hy@escapestring{\Fld@default})%
14070 /V(\Hy@escapestring{\Fld@value})%
14071 \Fld@additionalactions
14072 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14073 }
```

\PDFForm@Submit

```
14074 \def\PDFForm@Submit{%
14075 /Subtype/Widget%
14076 \Fld@annotflags
14077 \Fld@pageobjref
14078 \Fld@annotnames
14079 /FT/Btn%
14080 \Fld@flags
14081 /H/P%
14082 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14083 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14084     \ifx\Fld@bordercolor\relax\else 1\fi
14085     \space
14086 \else
14087 /MK<<%
14088     \ifnum\Fld@rotation=\z@
```



```

14089     \else
14090         /R \Fld@rotation
14091     \fi
14092     \ifx\Fld@bordercolor\relax
14093     \else
14094         /BC[\Fld@bordercolor]%
14095     \fi
14096     >>%
14097 \fi
14098 /A<<%
14099 /S/SubmitForm%
14100 /F<<%
14101 /FS/URL%
14102 /F(\Hy@escapestring{\Form@action})%
14103 >>%
14104 \Fld@submitflags
14105 >>%
14106 \Fld@additionalactions
14107 }

```

\PDFForm@Reset

```

14108 \ifHy@pdfa
14109 \else
14110     \def\PDFForm@Reset{%
14111         /Subtype/Widget%
14112         \Fld@annotflags
14113         \Fld@pageobjref
14114         \Fld@annotnames
14115         /FT/Btn%
14116         \Fld@flags
14117         /H/P%
14118         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14119         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14120             \ifx\Fld@bordercolor\relax\else 1\fi
14121             \space
14122     \else
14123         /MK<<%
14124         \ifnum\Fld@rotation=\z@
14125         \else
14126             /R \Fld@rotation
14127         \fi
14128         \ifx\Fld@bordercolor\relax
14129         \else
14130             /BC[\Fld@bordercolor]%
14131         \fi
14132 %         /CA (Clear)
14133 %         /AC (Done)
14134         >>%
14135     \fi
14136     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14137     /A<</S/ResetForm>>%
14138     \Fld@additionalactions
14139 }%
14140 \fi

```

```

14141 </pdfform>
14142 <*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  $\text{\LaTeX}$  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`

```

14143 \def\phantomsection{%
14144   \Hy@MakeCurrentHrefAuto{section*}%
14145   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14146 }
14147 </packageEnd>

```

### 45.1 Bookmarks

```

14148 <*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.

```

14149 \def\Hy@writebookmark#1#2#3#4#5{%
14150   % section number, text, label, level, file
14151   \ifx\WriteBookmarks\relax%
14152     \else
14153       \ifnum#4>\Hy@bookmarksdepth\relax
14154       \else
14155         \@writetorep{#1}{#2}{#3}{#4}{#5}%
14156       \fi
14157     \fi
14158   }
14159 \def\Hy@currentbookmarklevel{0}
14160 \def\Hy@numberline#1{#1 }

```

```

14161 \def\@@writetorep#1#2#3#4#5{%
14162   \begingroup
14163   \edef\Hy@tempa{#5}%
14164   \ifx\Hy@tempa\Hy@bookmarkstype
14165     \edef\Hy@level{#4}%
14166     \ifx\Hy@levelcheck Y%
14167       \@tempcnta\Hy@level\relax
14168       \advance\@tempcnta by -1 %
14169       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14170         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14171         \advance\@tempcnta by 1 %
14172         \Hy@Warning{%
14173           Difference (\the\@tempcnta) between bookmark levels is %
14174           greater \MessageBreak than one, level fixed%
14175         }%
14176         \@tempcnta\Hy@currentbookmarklevel
14177         \advance\@tempcnta by 1 %
14178         \edef\Hy@level{\the\@tempcnta}%
14179       \fi
14180     \else
14181       \global\let\Hy@levelcheck Y%
14182     \fi
14183     \global\let\Hy@currentbookmarklevel\Hy@level
14184     \@tempcnta\Hy@level\relax
14185     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14186     \advance\@tempcnta by -1 %
14187     \edef\Hy@tempa{#3}%
14188     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14189     \ifx\Hy@tempa\Hy@tempb
14190       \Hy@Warning{%
14191         The anchor of a bookmark and its parent's must not%
14192         \MessageBreak be the same. Added a new anchor%
14193       }%
14194     \phantomsection
14195   \fi
14196   \ifHy@bookmarksnumbered
14197     \let\numberline\Hy@numberline
14198     \let\booknumberline\Hy@numberline
14199     \let\partnumberline\Hy@numberline
14200     \let\chapternumberline\Hy@numberline
14201   \else
14202     \let\numberline\@gobble
14203     \let\booknumberline\@gobble
14204     \let\partnumberline\@gobble
14205     \let\chapternumberline\@gobble
14206   \fi
14207   \pdfstringdef\Hy@tempa{#2}%
14208   \HyPsd@SanitizeForOutFile\Hy@tempa
14209   \if@filesw
14210     \stepcounter{bookmark@seq@number}%
14211     \@ifundefined{@outlinefile}{%
14212     }{%
14213       \protected@write\@outlinefile{}{%
14214         \protect\BOOKMARK

```

```

14215      [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14216      {\Hy@tempa}{\Hy@tempb}%
14217      \@percentchar\space\thebookmark@seq@number
14218      }%
14219      }%
14220      \fi
14221      \fi
14222      \endgroup
14223      }
14224      \newcounter{bookmark@seq@number}

14225      \begingroup
14226      \lccode`(`=`{%
14227      \lccode`)`=`}%
14228      \lccode`1`=\z@
14229      \lccode`2`=\z@
14230      \lccode`3`=\z@
14231      \lccode`5`=\z@
14232      \lccode`7`=\z@
14233      \lccode`\#`=\z@
14234      \lccode`\` `=\z@
14235      \lccode`\{`=\z@
14236      \lccode`\}`=\z@
14237      \lowercase{%
14238      \endgroup
14239      \def\HyPsd@SanitizeForOutFile#1{%
14240      \@onelevel@sanitize\Hy@tempa
14241      \escapechar`\\%
14242      \edef\Hy@tempa{%
14243      \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14244      }%
14245      \edef\Hy@tempa{%
14246      \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14247      }%
14248      }%
14249      \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14250      #1%
14251      \ifx\\#2\\%
14252      \expandafter\ltx@gobble
14253      \else
14254      \expandafter\ltx@firstofone
14255      \fi
14256      {%
14257      \string\173%
14258      \HyPsd@SanitizeOut@BraceLeft#2\@nil
14259      }%
14260      }%
14261      \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14262      #1%
14263      \ifx\\#2\\%
14264      \expandafter\ltx@gobble
14265      \else
14266      \expandafter\ltx@firstofone
14267      \fi
14268      {%

```

```

14269 \string\175%
14270 \HyPsd@SanitizeOut@BraceRight#2\@nil
14271 }%
14272 }%
14273 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14274 \newcommand{\currentpdfbookmark}{%
14275 \pdfbookmark[\Hy@currentbookmarklevel]%
14276 }
14277 \newcommand{\subpdfbookmark}{%
14278 \@tempcnta\Hy@currentbookmarklevel
14279 \Hy@StepCount\@tempcnta
14280 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14281 }
14282 \newcommand{\belowpdfbookmark}[2]{%
14283 \@tempcnta\Hy@currentbookmarklevel
14284 \Hy@StepCount\@tempcnta
14285 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14286 \advance\@tempcnta by -1 %
14287 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14288 }

```

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.

```

14289 \renewcommand\pdfbookmark[3][0]{%
14290 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14291 \hyper@anchorstart{#3.#1}\hyper@anchorend
14292 }
14293 \def\BOOKMARK{%
14294 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14295 }
14296 \def\@BOOKMARK[#1]{%
14297 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14298 }

```

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`

```

14299 \RequirePackage{rerunfilecheck}[2009/12/10]
14300 \def\Hy@OutlineRerunCheck{%
14301 \RerunFileCheck{\jobname.out}{%
14302 \immediate\closeout\@outlinefile
14303 }{%
14304 Rerun to get outlines right\MessageBreak
14305 or use package `bookmark'%
14306 }%
14307 }

```

### 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.

14308 (\*vtex)

14309 \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.

14310 \begingroup

14311 \catcode\`=12 %

14312 \ifnum\Hy@VTeXversion<650 %

14313 \catcode\`=12 %

14314 \gdef\hv@pdf@char#1#2#3{%

14315 \char

14316 \ifcase'#1#2#3 %

14317 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%

14318 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%

14319 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%

14320 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%

14321 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%

14322 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%

14323 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%

14324 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%

14325 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%

14326 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%

14327 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%

14328 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%

14329 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%

14330 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%

14331 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%

14332 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%

14333 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%

14334 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%

14335 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%

14336 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%

14337 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%

14338 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%

14339 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%

14340 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%

14341 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%

14342 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%

14343 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%

14344 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

14345 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%

14346 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%

14347 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

14348 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%

14349 \fi

14350 }%

```

14351 \else
14352 \gdef\hv@pdf@char{\char'}%
14353 \fi
14354 \endgroup

```

\@@BOOKMARK

```

14355 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14356 \expandafter\edef\csname @count@#3\endcsname{%
14357 \the\@serial@counter
14358 }%
14359 \edef\@mycount{\the\@serial@counter}%
14360 \Hy@StepCount\@serial@counter
14361 \edef\@parcount{%
14362 \expandafter\ifx\csname @count@#5\endcsname\relax
14363 0%
14364 \else
14365 \csname @count@#5\endcsname
14366 \fi
14367 }%
14368 \immediate\special{%
14369 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14370 s=\ifx#2-c\else o\fi,t=#4%
14371 }%
14372 }%

```

\ReadBookmarks

```

14373 \def\ReadBookmarks{%
14374 \begingroup
14375 \def\0{\hv@pdf@char 0}%
14376 \def\1{\hv@pdf@char 1}%
14377 \def\2{\hv@pdf@char 2}%
14378 \def\3{\hv@pdf@char 3}%
14379 \def\({}%
14380 \def\)}%
14381 \def\do##1{%
14382 \ifnum\catcode`##1=\active
14383 \@makeother##1%
14384 \else
14385 \ifnum\catcode`##1=6 %
14386 \@makeother##1%
14387 \fi
14388 \fi
14389 }%
14390 \dospecials
14391 \Hy@safe@activetrue
14392 \InputIfFileExists{jobname.out}{\}{}%
14393 \endgroup
14394 \ifx\WriteBookmarks\relax
14395 \else
14396 \if@filesw
14397 \newwrite\@outlinefile
14398 \Hy@OutlineRerunCheck
14399 \immediate\openout\@outlinefile=jobname.out\relax
14400 \fi

```

```

14401 \fi
14402 }

14403 </vtex>
14404 <*\vtex>
14405 \def\ReadBookmarks{%
14406 \pdf@ifdraftmode{}{%
14407 \begingroup
14408 \def\do##1{%
14409 \ifnum\catcode`##1=\active
14410 \@makeother##1%
14411 \else
14412 \ifnum\catcode`##1=6 %
14413 \@makeother##1%
14414 \fi
14415 \fi
14416 }%
14417 \dospecials
14418 \Hy@safe@activetrue
14419 \escapechar=`\%
14420 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14421 \calc@bm@number{##5}%
14422 }%
14423 \InputIfFileExists{jobname.out}{\relax}{\relax}%
14424 \ifx\WriteBookmarks\relax
14425 \global\let\WriteBookmarks\relax
14426 \fi
14427 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14428 \def\Hy@temp{##4}%
14429 <*pdfTeX>
14430 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14431 \Hy@OutlineName{}\Hy@pstringName{%
14432 ##2\check@bm@number{##3}}%
14433 }{%
14434 \expandafter\strip@prefix\meaning\Hy@temp
14435 }%
14436 </pdfTeX>
14437 <*pdfmark>
14438 \pdfmark{%
14439 pdfmark=/OUT,%
14440 Count={##2\check@bm@number{##3}},%
14441 Dest={##3},%
14442 Title=\expandafter\strip@prefix\meaning\Hy@temp
14443 }%
14444 </pdfmark>
14445 <*dvipdfm|xetex>
14446 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14447 \@pdfm@mark{%
14448 outline \ifHy@DvipdfmxOutlineOpen
14449 [%
14450 \ifnum##21>\z@
14451 \else
14452 -%
14453 \fi

```



```

14454         l %
14455         \fi
14456         ##1<<%
14457         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14458         /A<<%
14459         /S/GoTo%
14460         /D(\Hy@pstringName)%
14461         >>%
14462         >>%
14463     }%
14464 </dvipdfm | xetex>
14465 }%
14466 \begingroup
14467   \def\WriteBookmarks{0}%
14468   \InputIfFileExists{jobname.out}{-}{-}%
14469 \endgroup
14470 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14471 \endgroup
14472 }%
14473 \ifx\WriteBookmarks\relax
14474 \else
14475   \if@files
14476     \newwrite\@outlinefile
14477     \Hy@OutlineRerunCheck
14478     \immediate\openout\@outlinefile=jobname.out\relax
14479   \fi
14480 \fi
14481 }
14482 <*pdfTeX>
14483 \def\Hy@OutlineName#1#2#3#4{%
14484   \pdfoutline goto name{#2}count#3{#4}%
14485 }
14486 </pdfTeX>
14487 \def\check@bm@number#1{%
14488   \expandafter\ifx\csname B_#1\endcsname\relax
14489     0%
14490   \else
14491     \csname B_#1\endcsname
14492   \fi
14493 }
14494 \def\calc@bm@number#1{%
14495   \@tempcnta=\check@bm@number{#1}\relax
14496   \advance\@tempcnta by 1 %
14497   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14498 }
14499 </!vTeX>
14500 \ifHy@implicit
14501 \else
14502   \expandafter\endinput
14503 \fi
14504 </outlines>
14505 <*outlines | hypertex>
14506 \newlength\Hy@SectionHShift

```

```

14507 \def\Hy@SectionAnchorHref#1{%
14508   \ifx\protect\@typeset@protect
14509     \Hy@@@SectionAnchor{#1}%
14510   \fi
14511 }
14512 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14513   \leavevmode
14514   \hbox to 0pt{%
14515     \kern-\Hy@SectionHShift
14516     \Hy@raisedlink{%
14517       \hyper@anchorstart{#1}\hyper@anchorend
14518     }%
14519     \hss
14520   }%
14521 }
14522 \@ifundefined{hyper@nopatch@sectioning}
14523 {
14524   \let\H@old@ssect\@ssect
14525   \def\@ssect#1#2#3#4#5{%
14526     \Hy@MakeCurrentHrefAuto{section*}%
14527     \setlength{\Hy@SectionHShift}{#1}%
14528     \begingroup
14529       \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14530       \toks\tw@\expandafter{%
14531         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14532         #5%
14533       }%
14534       \edef\x{\endgroup
14535         \the\toks@\the\toks\tw@}%
14536     }\x
14537 }
14538 \let\H@old@schapter\@schapter
14539 \def\@schapter#1{%
14540   \begingroup
14541     \let\@mkboth\@gobbletwo
14542     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14543     \Hy@raisedlink{%
14544       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14545     }%
14546   \endgroup
14547   \H@old@schapter{#1}%
14548 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then the counting by `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

14549 \ltx@ifundefined{chapter}{-}{%
14550   \let\Hy@org@chapter\@chapter
14551   \def\@chapter{%
14552     \def\Hy@next{%
14553       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14554       \Hy@raisedlink{%
14555         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14556       }%

```

```

14557 }%
14558 \ifnum\c@secnumdepth>\m@ne
14559 \ltx@ifundefined{if@mainmatter}%
14560 \iftrue{\csname if@mainmatter\endcsname}%
14561 \let\Hy@next\relax
14562 \fi
14563 \fi
14564 \Hy@next
14565 \Hy@org@chapter
14566 }%
14567 }

14568 \let\H@old@part\@part
14569 \@ifundefined{chapter}
14570 {\let\Hy@secnum@part\z@}
14571 {\let\Hy@secnum@part\m@ne}
14572 \def\@part{%
14573 \ifnum\Hy@secnum@part>\c@secnumdepth
14574 \phantomsection
14575 \fi
14576 \H@old@part
14577 }

14578 \let\H@old@spart\@spart
14579 \def\@spart#1{%
14580 \Hy@MakeCurrentHrefAuto{part*}%
14581 \Hy@raisedlink{%
14582 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14583 }%
14584 \H@old@spart{#1}%
14585 }

14586 \let\H@old@sect\@sect
14587 \def\@sect#1#2#3#4#5#6[#7]#8{%
14588 \ifnum #2>\c@secnumdepth
14589 \expandafter\@firstoftwo
14590 \else
14591 \expandafter\@secondoftwo
14592 \fi
14593 {%
14594 \Hy@MakeCurrentHrefAuto{section*}%
14595 \setlength{\Hy@SectionHShift}{#3}%
14596 \begingroup
14597 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14598 \toks\tw@\expandafter{%
14599 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14600 #8%
14601 }%
14602 \edef\x{\endgroup
14603 \the\toks@\the\toks\tw@}%
14604 }\x
14605 }{%
14606 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14607 }%
14608 }
14609 }{}

```

```

14610 </outlines | hypertex>
14611 <*outlines>

14612 \expandafter\def\csname Parent-4\endcsname{}
14613 \expandafter\def\csname Parent-3\endcsname{}
14614 \expandafter\def\csname Parent-2\endcsname{}
14615 \expandafter\def\csname Parent-1\endcsname{}
14616 \expandafter\def\csname Parent0\endcsname{}
14617 \expandafter\def\csname Parent1\endcsname{}
14618 \expandafter\def\csname Parent2\endcsname{}
14619 \expandafter\def\csname Parent3\endcsname{}
14620 \expandafter\def\csname Parent4\endcsname{}

14621 </outlines>

```

## 46 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 46.1 PD1 encoding

```

14622 <*pd1enc>
14623 \DeclareFontEncoding{PD1}{}{}

Accents
14624 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14625 \DeclareTextAccent{\'}{PD1}{\textacute}
14626 \DeclareTextAccent{\`}{PD1}{\textasciicircum}
14627 \DeclareTextAccent{\~}{PD1}{\texttilde}
14628 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14629 \DeclareTextAccent{\r}{PD1}{\textring}
14630 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14631 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14632 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14633 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14634 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14635 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14636 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14637 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14638 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciicircum}
14639 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14640 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14641 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14642 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14643 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14644 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14645 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14646 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14647 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14648 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14649 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14650 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciicircum}
14651 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}

```

```

14652 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14653 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textstring}
14654 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14655 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14656 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14657 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14658 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14659 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14660 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14661 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14662 \DeclareTextCommand{\newtie}{PD1}[1]{%
14663   \TextSymbolUnavailable{\newtie{#1}}#1%
14664 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14665 % U+0009 (CHARACTER TABULATION)
14666 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14667 % U+000A (LINE FEED)
14668 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14669 % U+000D (CARRIAGE RETURN)
14670 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14671 % U+02D8 BREVE; breve
14672 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14673 % U+02C7 CARON; caron
14674 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14675 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14676 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14677 % U+02D9 DOT ABOVE; dotaccent
14678 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14679 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14680 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14681 % U+02DB OGONEK; ogonek
14682 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14683 % U+02DA RING ABOVE; ring
14684 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14685 % U+02DC SMALL TILDE; ilde, *tilde
14686 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

14687 % U+0022 QUOTATION MARK; quotedbl
14688 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
14689 % U+0023 NUMBER SIGN; numbersign
14690 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14691 % U+0024 DOLLAR SIGN; dollar
14692 \DeclareTextCommand{\textdollar}{PD1}{\$}% \044 U+0024
14693 % U+0025 PERCENT SIGN; percent
14694 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14695 % U+0026 AMPERSAND; ampersand
14696 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

14697 % U+0028 LEFT PARENTHESIS; parenleft  
14698 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
14699 % U+0029 RIGHT PARENTHESIS; parenright  
14700 \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  
14701 % U+002E FULL STOP; period  
14702 \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  
14703 % U+003C LESS-THAN SIGN; less  
14704 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
  
\075: U+003D EQUALS SIGN; equal  
14705 % U+003E GREATER-THAN SIGN; greater  
14706 \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  
14707 % U+005C REVERSE SOLIDUS; backslash  
14708 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
14709 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
14710 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
  
\135: U+005D RIGHT SQUARE BRACKET; bracketright  
14711 % U+005E CIRCUMFLEX ACCENT; asciicircum  
14712 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
14713 % U+005F LOW LINE; underscore  
14714 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
14715 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
14716 % U+0060 GRAVE ACCENT; grave  
14717 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
  
\141: U+0061 LATIN SMALL LETTER A; a  
  
...  
\150: U+0068 LATIN SMALL LETTER H; h  
14718 % U+0069 LATIN SMALL LETTER I; i  
14719 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
  
\152: U+006A LATIN SMALL LETTER J; j  
  
...  
\172: U+007A LATIN SMALL LETTER Z; z  
14720 % U+007B LEFT CURLY BRACKET; braceleft  
14721 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B

14722 % U+007C VERTICAL LINE; \*bar, verticalbar  
14723 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
14724 % U+007D RIGHT CURLY BRACKET; braceright  
14725 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
14726 % U+007E TILDE; asciitilde  
14727 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
14728 % U+2022 BULLET; bullet  
14729 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
14730 % U+2020 DAGGER; dagger  
14731 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
14732 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
14733 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
14734 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
14735 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
14736 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
14737 % U+2014 EM DASH; emdash  
14738 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
14739 % U+2013 EN DASH; endash  
14740 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
14741 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
14742 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
14743 % U+2044 FRACTION SLASH; fraction  
14744 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
14745 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
14746 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
14747 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
14748 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
14749 % U+2212 MINUS SIGN; minus  
14750 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
14751 % U+2030 PER MILLE SIGN; perthousand  
14752 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
14753 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
14754 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
14755 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
14756 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
14757 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
14758 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
14759 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
14760 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
14761 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
14762 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
14763 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
14764 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
14765 % U+2122 TRADE MARK SIGN; trademark  
14766 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
14767 % U+FB01 LATIN SMALL LIGATURE FI; fi  
14768 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
14769 % U+FB02 LATIN SMALL LIGATURE FL; fl  
14770 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
14771 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14772 \DeclareTextCommand{\L}{PD1}{\225}% U+0141

14773 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14774 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
14775 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14776 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
14777 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14778 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
14779 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
14780 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14781 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
14782 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14783 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
14784 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14785 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
14786 % U+0153 LATIN SMALL LIGATURE OE; oe  
14787 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
14788 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14789 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
14790 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14791 \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.  
14792 % U+20AC EURO SIGN; \*Euro, euro  
14793 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
14794 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
14795 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
14796 % U+00A2 CENT SIGN; cent  
14797 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
14798 % U+00A3 POUND SIGN; sterling  
14799 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
14800 % U+00A4 CURRENCY SIGN; currency  
14801 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
14802 % U+00A5 YEN SIGN; yen  
14803 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
14804 % U+00A6 BROKEN BAR; brokenbar  
14805 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
14806 % U+00A7 SECTION SIGN; section  
14807 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
14808 % U+00A8 DIAERESIS; dieresis  
14809 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
14810 % U+00A9 COPYRIGHT SIGN; copyright  
14811 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
14812 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
14813 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
14814 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft  
14815 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
14816 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB  
14817 % U+00AC NOT SIGN; logicalnot  
14818 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
14819 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
14820 % U+00AE REGISTERED SIGN; registered  
14821 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
14822 % U+00AF MACRON; \*macron, overscore



14823 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
14824 % U+00B0 DEGREE SIGN; degree  
14825 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
14826 % U+00B1 PLUS-MINUS SIGN; plusminus  
14827 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
14828 % U+00B2 SUPERSCRIPT TWO; twosuperior  
14829 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
14830 % U+00B3 SUPERSCRIPT THREE; threesuperior  
14831 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
14832 % U+00B4 ACUTE ACCENT; acute  
14833 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
14834 % U+00B5 MICRO SIGN; mu, mul  
14835 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
14836 % U+00B6 PILCROW SIGN; paragraph  
14837 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
14838 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
14839 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
14840 % U+00B8 CEDILLA; cedilla  
14841 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
14842 % U+00B9 SUPERSCRIPT ONE; onesuperior  
14843 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
14844 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
14845 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
14846 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright  
14847 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
14848 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB  
14849 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
14850 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
14851 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
14852 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
14853 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
14854 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
14855 % U+00BF INVERTED QUESTION MARK; questiondown  
14856 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
14857 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
14858 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
14859 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
14860 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
14861 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
14862 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
14863 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
14864 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
14865 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
14866 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
14867 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14868 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
14869 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14870 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
14871 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14872 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
14873 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14874 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
14875 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14876 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

14877 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14878 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
14879 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14880 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
14881 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14882 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
14883 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14884 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
14885 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14886 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
14887 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14888 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
14889 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14890 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
14891 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
14892 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14893 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
14894 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14895 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
14896 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14897 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
14898 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14899 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
14900 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14901 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
14902 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
14903 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
14904 % U+00D7 MULTIPLICATION SIGN; multiply  
14905 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
14906 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
14907 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
14908 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
14909 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
14910 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
14911 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
14912 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
14913 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
14914 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
14915 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
14916 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
14917 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
14918 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
14919 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
14920 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
14921 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
14922 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
14923 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
14924 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
14925 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
14926 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
14927 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
14928 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
14929 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
14930 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3

14931 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
14932 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4  
14933 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
14934 \DeclareTextCompositeCommand{r}{PD1}{a}{\345}% U+00E5  
14935 % U+00E6 LATIN SMALL LETTER AE; ae  
14936 \DeclareTextCommand{ae}{PD1}{\346}% U+00E6  
14937 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
14938 \DeclareTextCompositeCommand{c}{PD1}{c}{\347}% U+00E7  
14939 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
14940 \DeclareTextCompositeCommand{`}{PD1}{e}{\350}% U+00E8  
14941 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
14942 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9  
14943 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
14944 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA  
14945 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
14946 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB  
14947 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
14948 \DeclareTextCompositeCommand{`}{PD1}{i}{\354}% U+00EC  
14949 \DeclareTextCompositeCommand{`}{PD1}{i}{\354}% U+00EC  
14950 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
14951 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
14952 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED  
14953 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
14954 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE  
14955 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE  
14956 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
14957 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
14958 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF  
14959 % U+00F0 LATIN SMALL LETTER ETH; eth  
14960 \DeclareTextCommand{dh}{PD1}{\360}% U+00F0  
14961 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
14962 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1  
14963 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
14964 \DeclareTextCompositeCommand{`}{PD1}{o}{\362}% U+00F2  
14965 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
14966 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3  
14967 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
14968 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4  
14969 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
14970 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5  
14971 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
14972 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6  
14973 % U+00F7 DIVISION SIGN; divide  
14974 \DeclareTextCommand{textdivide}{PD1}{\367}% U+00F7  
14975 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
14976 \DeclareTextCommand{o}{PD1}{\370}% U+00F8  
14977 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
14978 \DeclareTextCompositeCommand{`}{PD1}{u}{\371}% U+00F9  
14979 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
14980 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA  
14981 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
14982 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB  
14983 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
14984 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC

```

14985 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14986 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14987 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
14988 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14989 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
14990 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14991 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14992 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

14993 \DeclareTextCommand{\SS}{PD1}{SS}%
14994 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

14995 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
14996 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
14997 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
14998 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
14999 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15000 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15001 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15002 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15003 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15004 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15005 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15006 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15007 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15008 \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).

```

15009 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15010 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
15011 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15012 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
15013 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
15014 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
15015 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15016 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15017 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
15018 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15019 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
15020 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
15021 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
15022 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15023 </pd1enc>

```

## 46.2 PU encoding

```

15024 <*puenc>
15025 \DeclareFontEncoding{PU}{}{}

```

### 46.2.1 NFSS2 accents

15026 % U+0300 COMBINING GRAVE ACCENT; gravecmb, \*gravecomb  
15027 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300  
15028 % U+0301 COMBINING ACUTE ACCENT; acutecmb, \*acutecomb  
15029 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301  
15030 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb  
15031 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302  
15032 % U+0303 COMBINING TILDE; tildecmb, \*tildecmb  
15033 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303  
15034 % U+0304 COMBINING MACRON; macroncmb  
15035 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304  
15036 % U+0306 COMBINING BREVE; brevecmb  
15037 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
15038 \ifx\CYRDZE\@undefined \else  
15039 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
15040 \fi  
15041 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
15042 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
15043 % U+0308 COMBINING DIAERESIS; dieresiscmb  
15044 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
15045 % U+030A COMBINING RING ABOVE; ringcmb  
15046 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
15047 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
15048 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
15049 % U+030C COMBINING CARON; caroncmb  
15050 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
15051 </puenc>  
15052 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
15053 <puextra>\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
15054 <\*puenc>  
15055 \ifx\CYRDZE\@undefined \else  
15056 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
15057 \fi  
15058 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
15059 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311  
15060 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
15061 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
15062 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
15063 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-  
laut (tipa)  
15064 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324  
15065 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
15066 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325  
15067 % U+0327 COMBINING CEDILLA; cedillacmb  
15068 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
15069 % U+0328 COMBINING OGONEK; ogonekcmb  
15070 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
15071 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
15072 % \textsubcircum (tipa)  
15073 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D  
15074 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
15075 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E  
15076 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
15077 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330  
15078 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

```

15079 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15080 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15081 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15082 % U+20DD COMBINING ENCLOSING CIRCLE
15083 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15084 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15085 \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.

```

15086 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15087 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15088 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
15089 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15090 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15091 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15092 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15093 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15094 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15095 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15096 \puenc)
15097 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15098 \*puenc)
15099 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15100 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15101 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15102 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15103 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15104 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15105 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
      low}%
15106 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15107 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15108 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15109 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15110 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15111 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15112 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15113 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U
15114 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U
15115 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15116 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15117 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15118 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15119 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15120 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15121 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15122 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15123 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15124 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15125 \puenc)
15126 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%

```

15127 (\*puenc)  
 15128 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%  
 15129 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%  
 15130 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%  
 15131 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\ \83\021}}% U+0311  
 15132 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\ \83\044}}% U+0324  
 15133 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%  
 15134 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%  
 15135 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\ \83\056}}% U+032E  
 15136 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%  
 15137 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%  
 15138 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%  
 15139 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%  
 15140 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%  
 15141 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%  
 15142 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\ \83\001\83\004}}% U+0301 U+0304  
 15143 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\ \83\000\83\004}}% U+0300 U+0304

Accents for capitals (see encoding TS1)

15144 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%  
 15145 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%  
 15146 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%  
 15147 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%  
 15148 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%  
 15149 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%  
 15150 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%  
 15151 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%  
 15152 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%  
 15153 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%  
 15154 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%  
 15155 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%  
 15156 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}%  
 15157 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%  
 15158 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

#### 46.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

15159 % U+0009 (CHARACTER TABULATION)  
 15160 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009  
 15161 % U+000A (LINE FEED)  
 15162 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A  
 15163 % U+000D (CARRIAGE RETURN)  
 15164 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D  
 \80\040: U+0020 SPACE; space, spacehackarabic  
 \80\041: U+0021 EXCLAMATION MARK; exclam  
 15165 % U+0022 QUOTATION MARK; quotedbl  
 15166 \DeclareTextCommand{\textquotedbl}{PU}{\"}% \80\042 U+0022  
 15167 % U+0023 NUMBER SIGN; numbersign  
 15168 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
 15169 % U+0024 DOLLAR SIGN; dollar  
 15170 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
 15171 %\* \textdollar -> \mathdollar  
 15172 %\* \textdollar -> \EyesDollar (marvosym)  
 15173 % U+0025 PERCENT SIGN; percent

15174 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
15175 % U+0026 AMPERSAND; ampersand  
15176 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
15177 %\* \textampersand -> \binampersand (stmaryrd)  
15178 %\* \textampersand -> \with (cml)  
15179 % U+0027 APOSTROPHE; quotesingle  
15180 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
15181 % U+0028 LEFT PARENTHESIS; parenleft  
15182 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
15183 % U+0029 RIGHT PARENTHESIS; parenright  
15184 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
15185 % U+002A ASTERISK; asterisk; (?)  
15186 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A  
15187 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)  
15188 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%\* U+002B  
15189 % U+002C COMMA; comma; \MVComma (marvosym)  
15190 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%\* U+002C  
15191 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)  
15192 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%\* U+002D  
15193 % U+002E FULL STOP; period; \MVPeriod (marvosym)  
15194 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%\* U+002E  
15195 % U+002F SOLIDUS; slash; \MVDivision (marvosym)  
15196 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%\* U+002F  
15197 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)  
15198 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%\* U+0030  
15199 % U+0031 DIGIT ONE; one; \MVOne (marvosym)  
15200 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%\* U+0031  
15201 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)  
15202 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%\* U+0032  
15203 % U+0033 DIGIT THREE; three; \MVThree (marvosym)  
15204 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%\* U+0033  
15205 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)  
15206 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%\* U+0034  
15207 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)  
15208 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%\* U+0035  
15209 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
15210 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
15211 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
15212 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
15213 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
15214 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
15215 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
15216 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039  
  
\80\072: U+003A COLON; colon  
\80\073: U+003B SEMICOLON; semicolon  
  
15217 % U+003C LESS-THAN SIGN; less  
15218 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
  
\80\075: U+003D EQUALS SIGN; equal  
  
15219 % U+003E GREATER-THAN SIGN; greater  
15220 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
  
\80\077: U+003F QUESTION MARK; question  
  
15221 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)



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15222 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%* U+0040
\80\101: U+0041 LATIN CAPITAL LETTER A; A
...
\80\132: U+005A LATIN CAPITAL LETTER Z; Z
\80\133: U+005B LEFT SQUARE BRACKET; bracketleft
15223 % U+005C REVERSE SOLIDUS; backslash
15224 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
15225 % U+005E CIRCUMFLEX ACCENT; asciicircum
15226 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15227 % U+005F LOW LINE; underscore
15228 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15229 %* \textunderscore -> \mathunderscore (LaTeX)
15230 % U+0060 GRAVE ACCENT; grave
15231 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060
\80\141: U+0061 LATIN SMALL LETTER A; a
...
\80\150: U+0068 LATIN SMALL LETTER H; h
15232 % U+0069 LATIN SMALL LETTER I; i
15233 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
15234 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
\80\152: U+006A LATIN SMALL LETTER J; j
...
\80\172: U+007A LATIN SMALL LETTER Z; z
15235 % U+007B LEFT CURLY BRACKET; braceleft
15236 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
15237 % U+007C VERTICAL LINE; *bar, verticalbar
15238 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
15239 %* \textbar -> \textvtrline (tipa)
15240 % U+007D RIGHT CURLY BRACKET; braceright
15241 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
15242 % U+007E TILDE; asciitilde
15243 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

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#### 46.2.3 Latin-1 Supplement: U+0080 to U+00FF

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\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
15244 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15245 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
15246 % U+00A2 CENT SIGN; cent
15247 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
15248 % U+00A3 POUND SIGN; sterling
15249 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
15250 %* \textsterling -> \mathsterling (LaTeX)
15251 %* \textsterling -> \pounds (LaTeX)
15252 % U+00A4 CURRENCY SIGN; currency
15253 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15254 % U+00A5 YEN SIGN; yen
15255 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15256 % U+00A6 BROKEN BAR; brokenbar
15257 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6

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15258 %\* \textbrokenbar -> \brokenvert (wasysym)  
 15259 % U+00A7 SECTION SIGN; section  
 15260 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 15261 %\* \textsection -> \mathsection (LaTeX)  
 15262 %\* \textsection -> \S (LaTeX)  
 15263 % U+00A8 DIAERESIS; dieresis  
 15264 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 15265 % U+00A9 COPYRIGHT SIGN; copyright  
 15266 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
 15267 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15268 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 15269 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft  
 15270 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 15271 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB  
 15272 % U+00AC NOT SIGN; logicalnot  
 15273 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 15274 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 15275 % U+00AE REGISTERED SIGN; registered  
 15276 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 15277 % U+00AF MACRON; \*macron, overscore  
 15278 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 15279 % U+00B0 DEGREE SIGN; degree  
 15280 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 15281 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15282 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 15283 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15284 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
 15285 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 15286 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
 15287 % U+00B4 ACUTE ACCENT; acute  
 15288 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 15289 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 15290 % U+00B5 MICRO SIGN; mu, mu1  
 15291 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 15292 % U+00B6 PILCROW SIGN; paragraph  
 15293 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 15294 %\* \textparagraph -> \mathparagraph (LaTeX)  
 15295 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 15296 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 15297 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
 15298 %\* \textperiodcentered -> \Squaredot (marvosym)  
 15299 % U+00B8 CEDILLA; cedilla  
 15300 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 15301 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 15302 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
 15303 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 15304 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 15305 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright  
 15306 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 15307 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB  
 15308 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 15309 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 15310 % U+00BD VULGAR FRACTION ONE HALF; onehalf

15311 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15312 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15313 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15314 % U+00BF INVERTED QUESTION MARK; questiondown  
15315 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15316 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15317 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15318 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15319 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15320 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15321 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15322 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15323 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15324 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15325 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15326 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15327 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15328 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15329 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15330 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15331 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15332 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15333 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15334 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15335 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15336 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15337 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15338 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15339 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15340 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15341 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15342 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15343 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15344 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15345 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15346 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15347 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15348 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15349 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15350 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15351 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15352 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15353 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15354 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15355 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15356 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15357 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15358 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15359 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15360 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15361 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15362 % U+00D7 MULTIPLICATION SIGN; multiply  
15363 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15364 %\* \textmultiply -> \vartimes (stmaryrd)

15365 %\* \textmultiply -> \MVMultiplication (marvosym)  
15366 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15367 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15368 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15369 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
15370 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15371 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15372 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15373 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15374 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15375 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15376 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15377 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15378 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15379 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15380 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15381 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15382 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15383 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15384 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
15385 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15386 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15387 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15388 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15389 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15390 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15391 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15392 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15393 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15394 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15395 % U+00E6 LATIN SMALL LETTER AE; ae  
15396 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15397 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15398 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15399 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15400 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
15401 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15402 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15403 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15404 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15405 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15406 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15407 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15408 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
15409 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\354}% U+00EC  
15410 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15411 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15412 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED  
15413 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15414 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15415 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15416 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15417 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15418 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF

15419 % U+00F0 LATIN SMALL LETTER ETH; eth  
 15420 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
 15421 %\* \dh -> \eth (wsuipa, phonetic)  
 15422 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 15423 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 15424 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15425 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
 15426 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15427 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15428 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15429 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 15430 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15431 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15432 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15433 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15434 % U+00F7 DIVISION SIGN; divide  
 15435 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15436 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15437 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15438 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15439 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 15440 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15441 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15442 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15443 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 15444 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15445 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15446 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15447 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15448 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15449 % \th, \thorn (wasysym), \textthorn (tipa)  
 15450 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15451 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15452 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15453 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 46.2.4 Latin Extended-A: U+0080 to U+017F

15454 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15455 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100  
 15456 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15457 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101  
 15458 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15459 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15460 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15461 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15462 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15463 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15464 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 15465 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 15466 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 15467 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 15468 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 15469 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107

15470 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 15471 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 15472 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 15473 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 15474 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 cent  
 15475 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 15476 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 15477 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 15478 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 15479 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 15480 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 15481 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 15482 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 15483 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 15484 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 15485 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 15486 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 15487 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 15488 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
 15489 % \textcrd (tipa)  
 15490 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 15491 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
 15492 %\* \textcrd -> \crossd (wsuipa)  
 15493 % An alternate glyph with the stroke through the bowl:  
 15494 %\* \textcrd -> \textbard (tipa)  
 15495 %\* \textcrd -> \bard (wsuipa)  
 15496 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 15497 \DeclareTextCompositeCommand{=}{PU}{E}{\81\022}% U+0112  
 15498 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
 15499 \DeclareTextCompositeCommand{=}{PU}{e}{\81\023}% U+0113  
 15500 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
 15501 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
 15502 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
 15503 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
 15504 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
 15505 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
 15506 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
 15507 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
 15508 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
 15509 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
 15510 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
 15511 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
 15512 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
 15513 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
 15514 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
 15515 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
 15516 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
 15517 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
 15518 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
 15519 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
 15520 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
 15521 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
 15522 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve

15523 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15524 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15525 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15526 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15527 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15528 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
maaccent  
15529 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15530 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15531 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15532 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15533 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
15534 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15535 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
15536 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15537 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15538 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (Ams)  
15539 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+0127  
15540 %\* \textthbar -> \textcrh (tipa)  
15541 %\* \textthbar -> \crossh (wsuipa)  
15542 %\* \textthbar -> \planck (phonetic)  
15543 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15544 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15545 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15546 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15547 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
15548 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15549 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15550 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15551 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15552 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
15553 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15554 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15555 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
15556 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15557 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
15558 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15559 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15560 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15561 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15562 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
15563 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15564 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15565 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15566 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
15567 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15568 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
15569 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15570 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
15571 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
15572 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
15573 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
15574 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

15575 \DeclareTextCompositeCommand{\~}{PU}{j}{\81\065}% U+0135  
 15576 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 15577 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 15578 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 15579 \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`.

15580 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 15581 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 15582 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 15583 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 15584 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 15585 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 15586 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 15587 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 15588 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 15589 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 15590 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 15591 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 15592 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 15593 \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`.

15594 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
 15595 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
 15596 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 15597 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 15598 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 15599 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 15600 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 15601 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 15602 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 15603 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
 15604 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 15605 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
 15606 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
 15607 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 15608 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 15609 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 15610 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 15611 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 15612 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 15613 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 15614 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 15615 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 15616 % U+014A LATIN CAPITAL LETTER ENG; Eng



15617 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15618 % U+014B LATIN SMALL LETTER ENG; eng  
15619 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15620 %\* \ng -> \eng (wsuipa)  
15621 %\* \ng -> \engma (phonetic)  
15622 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15623 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C  
15624 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15625 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D  
15626 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15627 \DeclareTextCompositeCommand{\u} {PU}{O}{\81\116}% U+014E  
15628 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15629 \DeclareTextCompositeCommand{\u} {PU}{o}{\81\117}% U+014F  
15630 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
15631 \DeclareTextCompositeCommand{\H} {PU}{O}{\81\120}% U+0150  
15632 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
15633 \DeclareTextCompositeCommand{\H} {PU}{o}{\81\121}% U+0151  
15634 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15635 \DeclareTextCommand{\OE} {PU}{\81\122}% U+0152  
15636 % U+0153 LATIN SMALL LIGATURE OE; oe  
15637 \DeclareTextCommand{\oe} {PU}{\81\123}% U+0153  
15638 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
15639 \DeclareTextCompositeCommand{' } {PU}{R}{\81\124}% U+0154  
15640 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
15641 \DeclareTextCompositeCommand{' } {PU}{r}{\81\125}% U+0155  
15642 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
15643 \DeclareTextCompositeCommand{\c} {PU}{R}{\81\126}% U+0156  
15644 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
15645 \DeclareTextCompositeCommand{\c} {PU}{r}{\81\127}% U+0157  
15646 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
15647 \DeclareTextCompositeCommand{\v} {PU}{R}{\81\130}% U+0158  
15648 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
15649 \DeclareTextCompositeCommand{\v} {PU}{r}{\81\131}% U+0159  
15650 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
15651 \DeclareTextCompositeCommand{' } {PU}{S}{\81\132}% U+015A  
15652 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
15653 \DeclareTextCompositeCommand{' } {PU}{s}{\81\133}% U+015B  
15654 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
15655 \DeclareTextCompositeCommand{\^} {PU}{S}{\81\134}% U+015C  
15656 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
15657 \DeclareTextCompositeCommand{\^} {PU}{s}{\81\135}% U+015D  
15658 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
15659 \DeclareTextCompositeCommand{\c} {PU}{S}{\81\136}% U+015E  
15660 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
15661 \DeclareTextCompositeCommand{\c} {PU}{s}{\81\137}% U+015F  
15662 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15663 \DeclareTextCompositeCommand{\v} {PU}{S}{\81\140}% U+0160  
15664 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15665 \DeclareTextCompositeCommand{\v} {PU}{s}{\81\141}% U+0161  
15666 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent

15667 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
15668 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
15669 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
15670 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
15671 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
15672 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
15673 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
15674 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
15675 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
15676 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
15677 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
15678 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
15679 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
15680 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
15681 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
15682 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
15683 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
15684 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
15685 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
15686 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
15687 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
15688 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
15689 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
15690 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
15691 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
15692 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
15693 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
15694 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
15695 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
15696 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
15697 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
15698 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
15699 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
15700 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
15701 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
15702 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
15703 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
15704 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
15705 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
15706 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
15707 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
15708 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
15709 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
15710 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15711 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
15712 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
15713 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
15714 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
15715 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
15716 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
15717 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
15718 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent

15719 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 15720 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 15721 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 15722 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 15723 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 15724 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 15725 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

#### 46.2.5 Latin Extended-B: U+0180 to U+024F

15726 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 15727 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 15728 %\* \textcrb -> \crossb (wsuipa)  
 15729 % An alternate glyph with the stroke through the bowl:  
 15730 %\* \textcrb -> \textbarb (tipa)  
 15731 %\* \textcrb -> \barb (wsuipa)  
 15732 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-  
       netic)  
 15733 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181  
 15734 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 15735 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 15736 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-  
       netic)  
 15737 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
 15738 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed  
 15739 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E  
 15740 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
 15741 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 15742 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 15743 %\* \textflorin -> \Florin (marvosym)  
 15744 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
 15745 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
 15746 %\* \texthvlig -> \hv (wsuipa)  
 15747 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-  
       netic)  
 15748 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
 15749 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
 15750 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
 15751 %\* \texthtk -> \hausak (phonetic)  
 15752 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
 15753 % \textbarl (tipa), \barl (wsuipa)  
 15754 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
 15755 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
 15756 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
 15757 % \textcrlambda (tipa)  
 15758 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
 15759 %\* \textcrlambda -> \crossnilambda (wsuipa)  
 15760 %\* \textcrlambda -> \barlambd (phonetic)  
 15761 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
 15762 %\* \textcrlambda -> \lambdash (txfonts/pxfonts)  
 15763 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-  
       long;  
 15764 % \textnrleg (tipx)  
 15765 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
 15766 %\* \textPUnrleg -> \textnrleg (tipx)

15767 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthttp (tipa)  
 15768 \DeclareTextCommand{\texthttp}{PU}{\81\245}% U+01A5  
 15769 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
 15770 % \textlhookt (tipa)  
 15771 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
 15772 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
 15773 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
 15774 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
 15775 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
 15776 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
 15777 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
 15778 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
 15779 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
 15780 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
 15781 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
 15782 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
 15783 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
 15784 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
 tal;  
 15785 % \textpipe (tipa)  
 15786 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
 15787 %\* \textpipe -> \textpipevar (tipx)  
 15788 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
 15789 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
 15790 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
 15791 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
 15792 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
 BLE BAR;  
 15793 % clickalveolar; \textdoublebarpipe (tipa)  
 15794 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
 15795 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 15796 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 15797 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 15798 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
 15799 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 15800 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 15801 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 15802 % U+01D0 LATIN SMALL LETTER I WITH CARON; icarón  
 15803 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15804 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15805 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 15806 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 15807 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocarón  
 15808 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 15809 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 15810 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 15811 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucarón  
 15812 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 15813 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 15814 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 15815 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 15816 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 15817 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 15818 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5

15819 %\* \textgslash -> \textcrg (tipa)  
15820 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
15821 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
15822 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
15823 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
15824 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
15825 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
15826 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
15827 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
15828 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
15829 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
15830 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
15831 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
15832 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
15833 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15834 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15835 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
15836 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
15837 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
15838 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
15839 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
15840 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
15841 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
15842 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
15843 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
15844 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
15845 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
15846 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
15847 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
15848 % \*Oslashacute, Ostrokeacut  
15849 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
15850 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
15851 % \*oslashacute, ostrokeacute  
15852 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
15853 </puenc>  
15854 <\*puextra>  
15855 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
15856 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
15857 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
15858 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
15859 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
15860 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
15861 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
15862 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
15863 </puextra>  
15864 <\*puenc>  
15865 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
15866 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
15867 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-  
breve  
15868 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
15869 </puenc>  
15870 <\*puextra>

15871 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
15872 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
15873 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
15874 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15875 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15876 </puextra>  
15877 <\*puenc>  
15878 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
15879 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
15880 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
15881 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
15882 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
15883 </puenc>  
15884 <\*puextra>  
15885 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
15886 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
15887 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
15888 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
15889 </puextra>  
15890 <\*puenc>  
15891 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
edbreve  
15892 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
15893 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
breve  
15894 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
15895 </puenc>  
15896 <\*puextra>  
15897 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
15898 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
15899 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
15900 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
15901 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
15902 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
15903 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
15904 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
15905 </puextra>  
15906 <\*puenc>  
15907 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
edbreve  
15908 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
15909 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
breve  
15910 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
15911 % U+021E LATIN CAPITAL LETTER H WITH CARON  
15912 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
15913 % U+021F LATIN SMALL LETTER H WITH CARON  
15914 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
15915 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
15916 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
15917 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
15918 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225

15919 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 15920 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 15921 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 15922 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 15923 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 15924 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 15925 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 15926 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 15927 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 15928 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 15929 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 15930 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 15931 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 15932 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 15933 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 15934 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 15935 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 15936 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 15937 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 15938 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 15939 % U+0237 LATIN SMALL LETTER DOTLESS J  
 15940 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 15941 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 15942 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 15943 %\* \textPUdblig -> \textdblig (tipx)  
 15944 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 15945 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 15946 %\* \textPUqplig -> \textqplig (tipx)  
 15947 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 15948 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 15949 %\* \textslashc -> \textcentoldstyle (textcomp)  
 15950 % With bar instead of stroke:  
 15951 %\* \textslashc -> \textbarc (tipa)

#### 46.2.6 IPA Extensions: U+0250 to U+02AF

15952 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 15953 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 15954 %\* \textturna -> \inva (wasysym)  
 15955 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 15956 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 15957 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 15958 %\* \textscripta -> \vara (phonetic)  
 15959 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 15960 % \textturnscripta (tipa)  
 15961 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 15962 %\* \textturnscripta -> \invscripta (wsuipa)  
 15963 %\* \textturnscripta -> \rotvara (phonetic)  
 15964 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 15965 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 15966 %\* \texthtb -> \hookb (wsuipa)  
 15967 %\* \texthtb -> \hausab (phonetic)  
 15968 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 15969 % \textopeno (tipa), \openo (wasysym)  
 15970 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254

15971 %\* \textopeno -> \varopeno (phonetic)  
 15972 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 15973 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 15974 %\* \textctc -> \curlyc (wsuipa)  
 15975 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 15976 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256  
 15977 %\* \textrtaild -> \taild (wsuipa)  
 15978 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
 15979 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
 15980 %\* \texthtd -> \hookd (wsuipa)  
 15981 %\* \texthtd -> \hausad (phonetic)  
 15982 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
 15983 % \textreve (tipa), \reve (wsuipa)  
 15984 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258  
 15985 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
 15986 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
 15987 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259  
 15988 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
 15989 % \textrhookschwa (tipa)  
 15990 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
 15991 %\* \textrhookschwa -> \er (wsuipa)  
 15992 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
 SILON; eopen;  
 15993 % \niepsilon (wsuipa)  
 15994 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B  
 15995 %\* \textniepsilon -> \epsi (phonetic)  
 15996 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
 15997 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
 15998 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C  
 15999 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
 reversedhook;  
 16000 % \textrhookrevepsilon (tipa)  
 16001 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D  
 16002 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
 16003 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
 versedclosed;  
 16004 % \textcloserevepsilon (tipa)  
 16005 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
 16006 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
 16007 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
 lessstroke;  
 16008 % \textbardotlessj (tipa)  
 16009 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
 16010 %\* \textbardotlessj -> \barj (phonetic)  
 16011 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
 16012 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
 16013 %\* \texthtg -> \hookg (wsuipa)  
 16014 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
 16015 % \textscriptg (tipa), \scriptg (wsuipa)  
 16016 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261  
 16017 %\* \textscriptg -> \varg (phonetic)  
 16018 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
 16019 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262  
 16020 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;



16021 % \ipagamma (wsuipa), \vod (phonetic)  
16022 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16023 %\* \textipagamma -> \vod (pnonetic)  
16024 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16025 % \babygamma (wsuipa)  
16026 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16027 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16028 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16029 %\* \textturnh -> \invh (wsuipa)  
16030 %\* \textturnh -> \udesc (phonetic)  
16031 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16032 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16033 %\* \texthth -> \hookh (wsuipa)  
16034 %\* \texthth -> \voicedh (phonetic)  
16035 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
16036 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16037 %\* \texththeng -> \hookheng (wsuipa)  
16038 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16039 % \textbari (tipa), \bari (wsuipa)  
16040 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16041 %\* \textbari -> \ibar (phonetic)  
16042 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16043 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16044 %\* \textniiota -> \vari (phonetic)  
16045 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16046 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16047 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16048 % \textltilde (tipa)  
16049 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16050 %\* \textltilde -> \tildel (wsuipa)  
16051 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16052 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16053 %\* \textbeltl -> \latfric (wsuipa)  
16054 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16055 % \hookretroflex; \textrtail (tipa)  
16056 \DeclareTextCommand{\textrtail}{PU}{\82\155}% U+026D  
16057 %\* \textrtail -> \tail (wsuipa)  
16058 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16059 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16060 %\* \textlyoghlig -> \lz (wsuipa)  
16061 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16062 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16063 %\* \textturnm -> \invm (wsuipa)  
16064 %\* \textturnm -> \rotm (phonetic)  
16065 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlonglegturned;  
16066 % \textturnmrleg (tipa)  
16067 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16068 %\* \textturnmrleg -> \legm (wsuipa)  
16069 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16070 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16071 %\* \textltailm -> \labdentalnas (wsuipa)  
16072 %\* \textltailm -> \emgma (phonetic)

16073 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
 tailn (tipa)  
 16074 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16075 %\* \textltailn -> \nj (wsuipa)  
 16076 %\* \textltailn -> \enya (phonetic)  
 16077 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16078 % nhookretroflex; \textrtailn (tipa)  
 16079 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
 16080 %\* \textrtailn -> \tailn (wsuipa)  
 16081 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16082 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
 16083 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16084 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16085 % \textbaro (tipa), \baro (wsuipa)  
 16086 % But \baro from stmaryrd is different!  
 16087 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
 16088 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)  
 16089 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276  
 16090 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
 16091 % \textcloseomega (tipa)  
 16092 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16093 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16094 %\* \textcloseomega -> \varomega (phonetic)  
 16095 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)  
 16096 \DeclareTextCommand{\textnphi}{PU}{\82\170}%\* U+0278  
 16097 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16098 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16099 %\* \textturnr -> \invr (wsuipa)  
 16100 %\* \textturnr -> \rotr (phonetic)  
 16101 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16102 % rlonglegturned; \textturnlongleg (tipa)  
 16103 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16104 %\* \textturnlongleg -> \invleg (wsuipa)  
 16105 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
 16106 % \textturnrrtail (tipa)  
 16107 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16108 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16109 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-  
 glegr (tipa)  
 16110 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
 16111 %\* \textlongleg -> \leg (wsuipa)  
 16112 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
 16113 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16114 %\* \textrtailr -> \tailr (wsuipa)  
 16115 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
 16116 % \textfishhookr (tipa)  
 16117 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
 16118 %\* \textfishhookr -> \flapr (wsuipa)  
 16119 %\* \textfishhookr -> \flap (phonetic)  
 16120 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfish-  
 hookreversed;  
 16121 % \textlhtlongi (tipa)  
 16122 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16123 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)

```

16124 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16125 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16126 % \textinvscr (tipa), \invscr (wsuipa)
16127 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16128 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)
16129 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282
16130 %* \textrtails -> \tails (wsuipa)
16131 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16132 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16133 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16134 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16135 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16136 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-
    versed;
16137 % \textvibyi (tipa)
16138 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16139 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16140 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16141 %* \textctesh -> \curlyesh (wsuipa)
16142 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16143 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16144 %* \textturnt -> \clickt (wsuipa)
16145 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-
    hook;
16146 % \textrtailt (tipa)
16147 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288
16148 %* \textrtailt -> \tailt (wsuipa)
16149 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16150 % \textbaru (tipa), \baru (wsuipa)
16151 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16152 %* \textbaru -> \ubar (phonetic)
16153 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16154 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16155 %* \textniupsilon -> \rotOmega (phonetic)
16156 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
    TER SCRIPT V;
16157 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16158 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16159 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16160 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16161 %* \textturnv -> \invv (wsuipa)
16162 %* \textturnv -> \pwedge (phonetic)
16163 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
16164 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16165 %* \textturnw -> \invw (wsuipa)
16166 %* \textturnw -> \rotw (phonetic)
16167 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16168 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16169 %* \textturny -> \invy (wsuipa)
16170 %* \textturny -> \roty (phonetic)
16171 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
16172 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16173 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
    hook;

```

16174 % \texttrtailz (tipa)  
16175 \DeclareTextCommand{\texttrtailz}{PU}{\82\220}% U+0290  
16176 %\* \texttrtailz -> \tailz (wsuipa)  
16177 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16178 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16179 %\* \textctz -> \curlyz (wsuipa)  
16180 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16181 % \textyogh (tipa), \yogh (wsuipa)  
16182 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16183 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
16184 % ezhcurl; \textctyogh (tipa)  
16185 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
16186 %\* \textctyogh -> \curlyyogh (wsuipa)  
16187 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16188 % \textglotstop (tipa), \glotstop (wsuipa)  
16189 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16190 %\* \textglotstop -> \ejective (wsuipa)  
16191 %\* \textglotstop -> \glottal (phonetic)  
16192 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16193 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16194 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16195 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16196 %\* \textrevglotstop -> \reveject (wsuipa)  
16197 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16198 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16199 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16200 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16201 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16202 %\* \textstretchc -> \clickc (wsuipa)  
16203 %\* \textstretchc -> \textstretchcvar (tipx)  
16204 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16205 % \textbullseye (tipa)  
16206 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16207 %\* \textbullseye -> \clickb (wsuipa)  
16208 %\* \textbullseye -> \textObullseye (tipx)  
16209 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16210 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16211 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16212 % \textcloseepsilon (tipa)  
16213 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
16214 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16215 % \texthtscg (tipa)  
16216 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16217 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16218 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16219 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail;  
16220 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16221 %\* \textctj -> \textctjvar (tipx)  
16222 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16223 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16224 %\* \textturnk -> \textturnsck (tipx)  
16225 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)

16226 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F  
 16227 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 16228 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 16229 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
 stroke;  
 16230 % \textbarglotstop (tipa)  
 16231 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 16232 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16233 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
 versed;  
 16234 % \textbarrevglotstop (tipa)  
 16235 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16236 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16237 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16238 %\* \textdzlig -> \dz (wsupipa)  
 16239 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
 lig (tipa)  
 16240 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16241 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16242 % \textdctzlig (tipa)  
 16243 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16244 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16245 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16246 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16247 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16248 %\* \texttshlig -> \tesh (wsuipa)  
 16249 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16250 % \texttctclig (tipa)  
 16251 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16252 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16253 % \textlhtlongy (tipa)  
 16254 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16255 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16256 % \textvibyy (tipa)  
 16257 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

#### 46.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16258 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16259 % commareversedmod, afii64937; \textrevapostrophe (tipa)  
 16260 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16261 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16262 % \textraiseglotstop (tipa)  
 16263 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16264 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16265 % \textlptr (tipa)  
 16266 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16267 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16268 % \textrptr (tipa)  
 16269 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16270 % U+02C7 CARON; caron  
 16271 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16272 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16273 % \textprimstress (tipa)  
 16274 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8

16275 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; `verticallinelowmod`;  
 16276 % `\textsecstress` (tipa)  
 16277 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16278 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; `colontriangularmod`;  
 16279 % `\textlengthmark` (tipa)  
 16280 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16281 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; `colontriangularhalfmod`;  
 16282 % `\texthalflength` (tipa)  
 16283 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16284 % U+02D8 BREVE; `breve`  
 16285 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16286 % U+02D9 DOT ABOVE; `dotaccent`  
 16287 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16288 % U+02DA RING ABOVE; `ring`  
 16289 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16290 % U+02DB OGONEK; `ogonek`  
 16291 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16292 % U+02DC SMALL TILDE; `ilde`, `*tilde`  
 16293 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16294 % U+02DD DOUBLE ACUTE ACCENT; `hungarumlaut`  
 16295 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16296 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 16297 % U+02F3 MODIFIER LETTER LOW RING  
 16298 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16299 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16300 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16301 % U+02F7 MODIFIER LETTER LOW TILDE  
 16302 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16303 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; `\textopencorner` (tipa)  
 16304 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16305 % U+02FA MODIFIER LETTER END HIGH TONE; `\textcorner` (tipa)  
 16306 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

#### 46.2.8 Combining Diacritical Marks: U+0300 to U+036F

16307 % U+030F COMBINING DOUBLE GRAVE ACCENT; `dblgravecmb`  
 16308 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16309 % U+0311 COMBINING INVERTED BREVE; `breveinvertedcmb`  
 16310 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16311 % U+0323 COMBINING DOT BELOW; `dotbelowcmb`, `*dotbelowcomb`  
 16312 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16313 % U+0331 COMBINING MACRON BELOW; `macronbelowcmb`  
 16314 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16315 % U+0361 COMBINING DOUBLE INVERTED BREVE; `breveinverteddoublecmb`  
 16316 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

#### 46.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if `\textBeta` is defined.

16317 \ifx\textBeta\@undefined \else  
 16318 \input{puenc-greek.def}  
 16319 \fi  
 16320 \end{puenc}

#### 46.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names. Cyrillic only loaded if \CYRDZE is defined.

```
16321 (*puenc)
16322 \ifx\CYRDZE\@undefined \else
16323 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16324 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16325 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
16326 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16327 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16328 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16329 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16330 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16331 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16332 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
16333 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16334 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16335 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16336 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16337 % Icyrrilic, *afii10055
16338 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16339 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
16340 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16341 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
16342 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16343 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16344 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16345 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16346 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16347 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16348 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16349 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16350 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16351 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
16352 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16353 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
16354 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
16355 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16356 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
16357 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrilic, *afii10145
16358 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16359 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16360 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16361 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16362 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16363 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16364 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16365 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16366 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16367 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16368 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16369 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16370 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
```

16371 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
 16372 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
 16373 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
 16374 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
 16375 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
 16376 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
 16377 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
 16378 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
 16379 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
 16380 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
 16381 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
 16382 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
 16383 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
 16384 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
 16385 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
 16386 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
 16387 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
 16388 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
 16389 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
 16390 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
 16391 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
 16392 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
 16393 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
 16394 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
 16395 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
 16396 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
 16397 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
 16398 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
 16399 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
 16400 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
 16401 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
 16402 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
 16403 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
 16404 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
 16405 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
 16406 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
 16407 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
 16408 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
 16409 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
 16410 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
 16411 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
 16412 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
 16413 % Hardsigncyrillic, \*afii10044  
 16414 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
 16415 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
 16416 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
 16417 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
 16418 % Softsigncyrillic, \*afii10046  
 16419 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
 16420 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
 16421 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
 16422 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
 16423 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
 16424 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049



16425 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16426 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16427 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16428 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16429 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16430 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16431 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16432 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16433 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16434 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16435 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16436 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16437 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16438 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
16439 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
16440 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16441 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
16442 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
16443 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
16444 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
16445 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
16446 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
16447 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
16448 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
16449 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
16450 \DeclareTextCommand{\cyl}{PU}{\84\073}% U+043B  
16451 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
16452 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
16453 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
16454 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
16455 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
16456 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
16457 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
16458 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
16459 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
16460 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
16461 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
16462 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
16463 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
16464 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
16465 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
16466 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
16467 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
16468 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
16469 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
16470 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
16471 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
16472 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
16473 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
16474 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
16475 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
16476 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
16477 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
16478 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449

16479 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyril-  
 lic  
 16480 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
 16481 %\* \cyrhrdsn -> \hardsign (tipa)  
 16482 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
 16483 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
 16484 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
 16485 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
 16486 %\* \cyrstsn -> \softsign (tipa)  
 16487 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
 16488 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
 16489 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
 16490 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E  
 16491 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
 16492 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F  
 16493 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
 16494 \DeclareTextCompositeCommand{\`}{PU}{\cyr}{\84\120}% U+0450  
 16495 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
 16496 \DeclareTextCommand{\cyrIo}{PU}{\84\121}% U+0451  
 16497 \DeclareTextCompositeCommand{\"}{PU}{\cyr}{\84\121}% U+0451  
 16498 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 16499 \DeclareTextCommand{\cyrDje}{PU}{\84\122}% U+0452  
 16500 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 16501 \DeclareTextCompositeCommand{\'}{PU}{\cyr}{\84\123}% U+0453  
 16502 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
 16503 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% U+0454  
 16504 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 16505 \DeclareTextCommand{\cyrDze}{PU}{\84\125}% U+0455  
 16506 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16507 % \*afii10103, icyrillic  
 16508 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% U+0456  
 16509 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
 16510 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% U+0457  
 16511 \DeclareTextCompositeCommand{\"}{PU}{\cyrIi}{\84\127}% U+0457  
 16512 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 16513 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% U+0458  
 16514 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 16515 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459  
 16516 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 16517 \DeclareTextCommand{\cyrNje}{PU}{\84\132}% U+045A  
 16518 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 16519 \DeclareTextCommand{\cyrTshe}{PU}{\84\133}% U+045B  
 16520 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 16521 \DeclareTextCompositeCommand{\'}{PU}{\cyrK}{\84\134}% U+045C  
 16522 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 16523 \DeclareTextCompositeCommand{\`}{PU}{\cyrI}{\84\135}% U+045D  
 16524 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 16525 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 16526 \DeclareTextCompositeCommand{\U}{PU}{\cyrU}{\84\136}% U+045E  
 16527 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 16528 \DeclareTextCommand{\cyrDzhe}{PU}{\84\137}% U+045F  
 16529 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 16530 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 16531 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic

16532 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 16533 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 16534 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 16535 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 16536 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 16537 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 16538 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 16539 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 16540 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 16541 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
 16542 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 16543 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
 16544 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
 16545 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittlei-  
 otifiedcyrillic  
 16546 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 16547 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittlei-  
 otifiedcyrillic  
 16548 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 16549 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 16550 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 16551 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 16552 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
 16553 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
 cyrillic  
 16554 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 16555 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
 cyrillic  
 16556 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 16557 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 16558 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 16559 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 16560 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 16561 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 16562 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 16563 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 16564 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 16565 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 16566 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 16567 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 16568 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 16569 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 16570 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 16571 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 16572 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 16573 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 GRAVE ACCENT; Izhitsadblgravecyrillic  
 16574 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\166}% U+0476  
 16576 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 GRAVE ACCENT; izhitsadblgravecyrillic  
 16577 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 16579 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 16580 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 16581 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic

16582 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 16583 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 16584 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 16585 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 16586 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 16587 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 16588 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 16589 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 16590 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 16591 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 16592 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 16593 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 16594 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 16595 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 16596 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 16597 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 16598 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 16599 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 16600 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 16601 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 16602 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 16603 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 16604 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 16605 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 16606 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 16607 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 16608 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 16609 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 16610 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 16611 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 16612 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 16613 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 16614 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 16615 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 16616 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 16617 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 16618 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492

16619 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 16620 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 16621 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 16622 % Ghemiddlehookcyrillic  
 16623 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 16624 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 16625 % ghemiddlehookcyrillic  
 16626 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 16627 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 16628 % Zhedescendercyrillic  
 16629 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 16630 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 16631 % zhedescendercyrillic  
 16632 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 16633 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 16634 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 16635 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 16636 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 16637 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 16638 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 16639 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 16640 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 16641 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
 dercyrillic  
 16642 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 16643 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 16644 % Kavertikalstrokecyrillic  
 16645 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 16646 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
 16647 % kavertikalstrokecyrillic  
 16648 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 16649 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 16650 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 16651 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 16652 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 16653 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 16654 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 16655 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 16656 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 16657 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
 dercyrillic  
 16658 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 16659 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
 cyrillic  
 16660 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 16661 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 16662 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 16663 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 16664 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 16665 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
 dlehookcyrillic

16666 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
16667 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
16668 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
16669 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
16670 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
16671 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
16672 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
16673 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
16674 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
16675 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
16676 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
16677 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
16678 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
16679 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
16680 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
16681 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
16682 \DeclareTextCommand{\cyrtasc}{PU}{\84\255}% U+04AD  
16683 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
16684 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
16685 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
16686 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
16687 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
16688 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
16689 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
16690 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
16691 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
16692 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
16693 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
16694 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
16695 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
16696 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
16697 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
16698 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
16699 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
16700 % Chedescendercyrillic  
16701 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
16702 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
16703 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
16704 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
16705 % Cheverticalstrokecyrillic  
16706 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
16707 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
16708 % cheverticalstrokecyrillic

16709 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 16710 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 16711 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 16712 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 16713 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 16714 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic  
 16715 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 16716 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
 16717 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 16718 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
 16719 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 16720 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 16721 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
 16722 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 16723 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 16724 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 16725 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 16726 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 16727 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 16728 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 16729 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 16730 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 16731 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 16732 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 16733 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 16734 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 16735 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 16736 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 16737 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 16738 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 16739 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 16740 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 16741 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 16742 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
 16743 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 16744 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
 16745 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 16746 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 16747 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 16748 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 16749 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 16750 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 16751 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 16752 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 16753 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 16754 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic

16755 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
16756 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresis Cyrillic  
16757 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
16758 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aie Cyrillic  
16759 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
16760 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aie Cyrillic  
16761 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
16762 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrev Cyrillic  
16763 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
16764 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrev Cyrillic  
16765 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
16766 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwac Cyrillic  
16767 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
16768 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwac Cyrillic  
16769 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
16770 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
16771 % Schwadie Cyrillic  
16772 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
16773 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
16774 % schwadie Cyrillic  
16775 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
16776 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-  
16777 % risis Cyrillic  
16777 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
16778 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedie-  
16779 % risis Cyrillic  
16779 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
16780 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedie-  
16781 % risis Cyrillic  
16781 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
16782 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedie-  
16783 % risis Cyrillic  
16783 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
16784 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
16785 % risis Cyrillic  
16785 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
16786 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-  
16787 % risis Cyrillic  
16787 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
16788 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron Cyrillic  
16789 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2  
16790 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron Cyrillic  
16791 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3  
16792 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis Cyrillic  
16793 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
16794 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis Cyrillic  
16795 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
16796 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis Cyrillic  
16797 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
16798 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis Cyrillic  
16799 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
16800 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred Cyrillic  
16801 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8



16802 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 16803 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 16804 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
 16805 % Obarreddieresiscyrillic  
 16806 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
 16807 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
 16808 % obarreddieresiscyrillic  
 16809 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 16810 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 16811 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 16812 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 16813 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 16814 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 16815 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 16816 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 16817 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
 16818 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 16819 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 16820 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 16821 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 16822 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 16823 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 16824 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 16825 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 16826 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 16827 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 16828 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 16829 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 16830 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 16831 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 16832 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 16833 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 16834 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 16835 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 16836 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 16837 \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  
 16838 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 16839 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 16840 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 16841 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD  
 16842 \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

```
16843 \ifx\hebdalet\@undefined\else
16844 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
16845 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
16846 % U+05D0 HEBREW LETTER ALEF
16847 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
16848 % U+05D1 HEBREW LETTER BET
16849 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
16850 % U+05D2 HEBREW LETTER GIMEL
16851 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
16852 % U+05D3 HEBREW LETTER DALET
16853 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
16854 % U+05D4 HEBREW LETTER HE
16855 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
16856 % U+05D5 HEBREW LETTER VAV
16857 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
16858 % U+05D6 HEBREW LETTER ZAYIN
16859 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
16860 % U+05D7 HEBREW LETTER HET
16861 \DeclareTextCommand{\hebbhet}{PU}{\85\327}% U+05D7
16862 % U+05D8 HEBREW LETTER TET
16863 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
16864 % U+05D9 HEBREW LETTER YOD
16865 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
16866 % U+05DA HEBREW LETTER FINAL KAF
16867 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
16868 % U+05DB HEBREW LETTER KAF
16869 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
16870 % U+05DC HEBREW LETTER LAMED
16871 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
16872 % U+05DD HEBREW LETTER FINAL MEM
16873 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
16874 % U+05DE HEBREW LETTER MEM
16875 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
16876 % U+05DF HEBREW LETTER FINAL NUN
16877 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
16878 % U+05E0 HEBREW LETTER NUN
16879 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
16880 % U+05E1 HEBREW LETTER SAMEKH
16881 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
16882 % U+05E2 HEBREW LETTER AYIN
16883 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
16884 % U+05E3 HEBREW LETTER FINAL PE
16885 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
16886 % U+05E4 HEBREW LETTER PE
16887 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
16888 % U+05E5 HEBREW LETTER FINAL TSADI
16889 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
16890 % U+05E6 HEBREW LETTER TSADI
```

16891 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 16892 % U+05E7 HEBREW LETTER QOF  
 16893 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 16894 % U+05E8 HEBREW LETTER RESH  
 16895 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 16896 % U+05E9 HEBREW LETTER SHIN  
 16897 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 16898 %\* \hebshin -> \hebsin (he8)  
 16899 % U+05EA HEBREW LETTER TAV  
 16900 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 16901 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 16902 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 16903 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 16904 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 16905 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 16906 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2  
 16907 \fi

#### 46.2.12 Thai: U+0E00 to U+0E7F

16908 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 16909 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 46.2.13 Phonetic Extensions: U+1D00 to U+1D7F

16910 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
 16911 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
 16912 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 16913 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
 16914 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
 16915 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
 16916 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
 16917 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
 16918 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
 16919 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
 16920 %\* \textPUscK -> \textscK (tipx)  
 16921 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
 16922 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
 16923 %\* \textPUscM -> \textscM (tipx)  
 16924 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
 16925 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
 16926 %\* \textPUscP -> \textscP (tipx)  
 16927 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 16928 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 16929 %\* \textPUrevscr -> \textrevscr (tipx)  
 16930 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)  
 16931 \DeclareTextCommand{\textscU}{PU}{\9035\034}%\* U+1D1C  
 16932 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 16933 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
 16934 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 16935 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
 16936 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 16937 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
 16938 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 16939 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65

16940 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 16941 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
 16942 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 16943 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
 16944 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 16945 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
 16946 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 16947 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 16948 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 16949 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 16950 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 16951 % \barsci (wsuipa)  
 16952 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 16953 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 16954 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 16955 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 16956 % \barscu (wsuipa)  
 16957 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 46.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

16958 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 16959 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F  
 16960 %\* \textPURhooka -> \textrhooka (tipx)  
 16961 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 16962 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 16963 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 16964 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92  
 16965 %\* \textPURhooke -> \textrhooke (tipx)  
 16966 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 16967 % \textrhookepsilon (tipx)  
 16968 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93  
 16969 %\* \textPURhookepsilon -> \textrhookepsilon (tipx)  
 16970 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 16971 % \textrhookopeno (tipx)  
 16972 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97  
 16973 %\* \textPURhookopeno -> \textrhookopeno (tipx)

#### 46.2.15 Latin Extended Additional: U+1E00 to U+1EFF

16974 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 16975 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 16976 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 16977 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 16978 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 16979 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 16980 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 16981 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 16982 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 16983 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 16984 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 16985 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 16986 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow

16987 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 16988 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 16989 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 16990 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 16991 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 16992 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 16993 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 16994 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
 16995 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
 16996 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
 16997 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
 16998 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 16999 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 17000 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 17001 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 17002 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 17003 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 17004 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 17005 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 17006 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
 cumflexbelow  
 17007 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
 17008 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
 cumflexbelow  
 17009 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
 17010 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
 17011 % Emacrongrave  
 17012 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
 17013 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
 17014 % emacrongrave  
 17015 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
 17016 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
 17017 % Emacronacute  
 17018 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
 17019 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
 17020 % emacronacute  
 17021 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
 17022 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
 cumflexbelow  
 17023 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
 17024 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
 cumflexbelow  
 17025 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
 17026 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
 17027 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
 17028 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
 17029 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
 17030 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 17031 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
 17032 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 17033 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
 17034 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
 17035 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
 17036 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron

17037 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21  
17038 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17039 \DeclareTextCompositeCommand{.} {PU}{H}{\9036\042}% U+1E22  
17040 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17041 \DeclareTextCompositeCommand{.} {PU}{h}{\9036\043}% U+1E23  
17042 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17043 \DeclareTextCompositeCommand{d} {PU}{H}{\9036\044}% U+1E24  
17044 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17045 \DeclareTextCompositeCommand{d} {PU}{h}{\9036\045}% U+1E25  
17046 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17047 \DeclareTextCompositeCommand{"} {PU}{H}{\9036\046}% U+1E26  
17048 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17049 \DeclareTextCompositeCommand{"} {PU}{h}{\9036\047}% U+1E27  
17050 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17051 \DeclareTextCompositeCommand{c} {PU}{H}{\9036\050}% U+1E28  
17052 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17053 \DeclareTextCompositeCommand{c} {PU}{h}{\9036\051}% U+1E29  
17054 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17055 \DeclareTextCompositeCommand{\textsubbreve} {PU}{H}{\9036\052}% U+1E2A  
17056 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17057 \DeclareTextCompositeCommand{\textsubbreve} {PU}{h}{\9036\053}% U+1E2B  
17058 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17059 \DeclareTextCompositeCommand{\textsubtilde} {PU}{I}{\9036\054}% U+1E2C  
17060 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17061 \DeclareTextCompositeCommand{\textsubtilde} {PU}{i}{\9036\055}% U+1E2D  
17062 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17063 \DeclareTextCompositeCommand{'} {PU}{K}{\9036\060}% U+1E30  
17064 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17065 \DeclareTextCompositeCommand{'} {PU}{k}{\9036\061}% U+1E31  
17066 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17067 \DeclareTextCompositeCommand{d} {PU}{K}{\9036\062}% U+1E32  
17068 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17069 \DeclareTextCompositeCommand{d} {PU}{k}{\9036\063}% U+1E33  
17070 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17071 \DeclareTextCompositeCommand{b} {PU}{K}{\9036\064}% U+1E34  
17072 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17073 \DeclareTextCompositeCommand{b} {PU}{k}{\9036\065}% U+1E35  
17074 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17075 \DeclareTextCompositeCommand{d} {PU}{L}{\9036\066}% U+1E36  
17076 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17077 \DeclareTextCompositeCommand{d} {PU}{l}{\9036\067}% U+1E37  
17078 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17079 \DeclareTextCompositeCommand{b} {PU}{L}{\9036\072}% U+1E3A  
17080 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17081 \DeclareTextCompositeCommand{b} {PU}{l}{\9036\073}% U+1E3B  
17082 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17083 \DeclareTextCompositeCommand{\textsubcircum} {PU}{L}{\9036\074}% U+1E3C  
17084 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17085 \DeclareTextCompositeCommand{\textsubcircum} {PU}{l}{\9036\075}% U+1E3D  
17086 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17087 \DeclareTextCompositeCommand{'} {PU}{M}{\9036\076}% U+1E3E  
17088 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute

17089 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17090 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17091 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17092 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17093 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17094 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17095 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17096 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17097 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17098 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17099 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17100 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17101 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17102 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17103 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17104 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17105 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17106 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17107 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17108 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17109 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17110 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17111 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17112 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17113 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17114 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17115 % Omacrongrave  
17116 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17117 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17118 % omacrongrave  
17119 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17120 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17121 % Omacronacute  
17122 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17123 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17124 % omacronacute  
17125 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17126 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17127 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17128 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17129 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17130 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17131 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17132 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17133 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17134 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17135 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17136 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17137 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17138 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17139 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17140 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow

17141 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17142 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17143 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17144 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17145 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17146 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17147 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17148 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17149 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17150 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17151 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17152 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17153 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17154 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17155 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17156 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17157 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17158 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17159 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17160 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17161 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17162 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17163 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17164 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17165 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17166 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17167 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17168 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17169 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17170 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17171 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17172 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
17173 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17174 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17175 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17176 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17177 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17178 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
17179 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17180 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
17181 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17182 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17183 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17184 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17185 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17186 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17187 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17188 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow



17189 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17190 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17191 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17192 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17193 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17194 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17195 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17196 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17197 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17198 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17199 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17200 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17201 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17202 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17203 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17204 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17205 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17206 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17207 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17208 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17209 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17210 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17211 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17212 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17213 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17214 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17215 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17216 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17217 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17218 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17219 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17220 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17221 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17222 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17223 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17224 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17225 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17226 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17227 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17228 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17229 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17230 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17231 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17232 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17233 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17234 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17235 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17236 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17237 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17238 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17239 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17240 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17241 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17242 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-

taccent

17243 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B

17244 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow

17245 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0

17246 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow

17247 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1

17248 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow

17249 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8

17250 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow

17251 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9

17252 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde

17253 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC

17254 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde

17255 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

17256 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow

17257 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA

17258 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow

17259 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB

17260 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow

17261 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC

17262 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow

17263 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

17264 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow

17265 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4

17266 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow

17267 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5

17268 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave

17269 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

17270 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave

17271 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3

17272 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow

17273 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4

17274 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow

17275 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5

17276 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde

17277 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8

17278 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde

17279 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

#### 46.2.16 General Punctuation: U+2000 to U+206F

17280 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner

17281 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C

17282 % U+2013 EN DASH; endash

17283 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013

17284 % U+2014 EM DASH; emdash

17285 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014

17286 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar

17287 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016

17288 %\* \textbardbl -> \textdoublevertline (tipa)

17289 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft

17290 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018

17291 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright

17292 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019

17293 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase

17294 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
17295 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
17296 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
17297 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
17298 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
17299 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
17300 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
17301 % U+2020 DAGGER; dagger  
17302 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
17303 %\* \textdagger -> \dag (LaTeX)  
17304 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
17305 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
17306 %\* \textdaggerdbl -> \ddagger (LaTeX)  
17307 %\* \textdaggerdbl -> \ddag (LaTeX)  
17308 % U+2022 BULLET; bullet  
17309 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
17310 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
17311 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
17312 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
17313 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
17314 %\* \textellipsis -> \mathellipsis  
17315 % U+2030 PER MILLE SIGN; perthousand  
17316 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
17317 % U+2031 PER TEN THOUSAND SIGN  
17318 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
17319 % U+2032 PRIME; minute; \prime (MnSymbol)  
17320 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
17321 % U+2033 DOUBLE PRIME; \second (mathabx)  
17322 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
17323 % U+2034 TRIPLE PRIME; \third (mathabx)  
17324 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
17325 % U+2035 REVERSED PRIME; \backprime (AmS)  
17326 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
17327 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
17328 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
17329 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
17330 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
17331 % U+203B REFERENCE MARK; referencemark  
17332 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
17333 % U+203D INTERROBANG  
17334 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
17335 % U+2044 FRACTION SLASH; fraction  
17336 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
17337 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
17338 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
17339 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
17340 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
17341 % U+2052 COMMERCIAL MINUS SIGN  
17342 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
17343 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
17344 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
17345 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)

17346 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17347 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17348 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

#### 46.2.17 Superscripts and Subscripts: U+2070 to U+209F

17349 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17350 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17351 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17352 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17353 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17354 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17355 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17356 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17357 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17358 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17359 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17360 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17361 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17362 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17363 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17364 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17365 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17366 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 17367 % U+207B SUPERSCRIPT MINUS  
 17368 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 17369 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17370 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
 17371 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17372 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 17373 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17374 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 17375 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 17376 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 17377 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 17378 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
 17379 % U+2081 SUBSCRIPT ONE; oneinferior  
 17380 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 17381 % U+2082 SUBSCRIPT TWO; twoinferior  
 17382 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 17383 % U+2083 SUBSCRIPT THREE; threeinferior  
 17384 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
 17385 % U+2084 SUBSCRIPT FOUR; fourinferior  
 17386 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
 17387 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 17388 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
 17389 % U+2086 SUBSCRIPT SIX; sixinferior  
 17390 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
 17391 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 17392 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 17393 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 17394 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 17395 % U+2089 SUBSCRIPT NINE; nineinferior  
 17396 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 17397 % U+208A SUBSCRIPT PLUS SIGN

17398 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 17399 % U+208B SUBSCRIPT MINUS  
 17400 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 17401 % U+208C SUBSCRIPT EQUALS SIGN  
 17402 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 17403 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 17404 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 17405 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 17406 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 17407 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 17408 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 17409 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 17410 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 17411 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 17412 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 17413 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 17414 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 17415 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 17416 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 17417 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 17418 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 17419 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 17420 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 17421 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 17422 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 17423 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17424 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17425 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17426 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17427 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17428 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17429 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17430 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17431 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17432 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

#### 46.2.18 Currency Symbols: U+20A0 to U+20CF

17433 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17434 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17435 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17436 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17437 % U+20A6 NAIRA SIGN  
 17438 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17439 % U+20A7 PESETA SIGN; peseta  
 17440 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17441 % U+20A9 WON SIGN; won  
 17442 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 17443 % U+20AB DONG SIGN; dong  
 17444 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 17445 % U+20AC EURO SIGN; \*Euro, euro  
 17446 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 17447 %\* \texteuro -> \EurDig (marvosym)  
 17448 %\* \texteuro -> \EURdig (marvosym)  
 17449 %\* \texteuro -> \EurHv (marvosym)

17450 %\* \texteuro -> \EURhv (marvosym)  
 17451 %\* \texteuro -> \EurCr (marvosym)  
 17452 %\* \texteuro -> \EURcr (marvosym)  
 17453 %\* \texteuro -> \EurTm (marvosym)  
 17454 %\* \texteuro -> \EURtm (marvosym)  
 17455 %\* \texteuro -> \Eur (marvosym)  
 17456 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
 17457 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
 17458 %\* \textDeleatur -> \Denarius (marvosym)  
 17459 % U+20B1 PESO SIGN  
 17460 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 17461 % U+20B2 GUARANI SIGN  
 17462 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

#### 46.2.19 Letterlike Symbols: U+2100 to U+214F

17463 % U+2103 DEGREE CELSIUS; centigrade  
 17464 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 17465 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 17466 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 17467 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 17468 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 17469 % U+2113 SCRIPT SMALL L (=ell, liter); affi61289, lsquare; \ell (LaTeX)  
 17470 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 17471 % U+2116 NUMERO SIGN; \*affi61352, numero  
 17472 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 17473 % U+2117 SOUND RECORDING COPYRIGHT  
 17474 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 17475 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 17476 % weierstrass; \wp (LaTeX)  
 17477 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 17478 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 17479 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 17480 % U+211E PRESCRIPTION TAKE; prescription  
 17481 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 17482 % U+2120 SERVICE MARK  
 17483 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 17484 % U+2122 TRADE MARK SIGN; trademark  
 17485 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 17486 % U+2126 OHM SIGN; Ohm, Omega  
 17487 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 17488 % U+2127 INVERTED OHM SIGN  
 17489 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 17490 %\* \textmho -> \agemO (wasysym)  
 17491 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 17492 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 17493 % U+212B ANGSTROM SIGN; angstrom  
 17494 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 17495 % U+212E ESTIMATED SYMBOL; estimated  
 17496 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 17497 %\* \textestimated -> \EstimatedSign (marvosym)  
 17498 %\* \textestimated -> \Ecommerce (marvosym)  
 17499 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 17500 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132

17501 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 17502 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 17503 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 17504 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 17505 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 17506 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 17507 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 17508 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 17509 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 17510 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 17511 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 17512 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 17513 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 17514 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}%\* U+214B  
 17515 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 17516 %\* \textinvamp -> \parr (cml)

#### 46.2.20 Number Forms: U+2150 to U+218F

17517 % U+2150 VULGAR FRACTION ONE SEVENTH  
 17518 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 17519 % U+2151 VULGAR FRACTION ONE NINTH  
 17520 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 17521 % U+2152 VULGAR FRACTION ONE TENTH  
 17522 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 17523 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 17524 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 17525 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 17526 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 17527 % U+2155 VULGAR FRACTION ONE FIFTH  
 17528 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 17529 % U+2156 VULGAR FRACTION TWO FIFTHS  
 17530 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 17531 % U+2157 VULGAR FRACTION THREE FIFTHS  
 17532 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 17533 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 17534 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 17535 % U+2159 VULGAR FRACTION ONE SIXTH  
 17536 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 17537 % U+215A VULGAR FRACTION FIVE SIXTHS  
 17538 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 17539 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 17540 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 17541 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 17542 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 17543 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 17544 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
 17545 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
 17546 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
 17547 % U+2184 LATIN SMALL LETTER REVERSED C  
 17548 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
 17549 % U+2189 VULGAR FRACTION ZERO THIRDS  
 17550 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

#### 46.2.21 Arrows: U+2190 to U+21FF

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17551 % U+2190 LEFTWARDS ARROW; arrowleft
17552 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
17553 % U+2191 UPWARDS ARROW; arrowup
17554 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
17555 % U+2192 RIGHTWARDS ARROW; arrowright
17556 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
17557 %* \textrightarrow -> \MVRightArrow (marvosym)
17558 %* \textrightarrow -> \MVRightarrow (marvosym)
17559 % U+2193 DOWNWARDS ARROW; arrowdown
17560 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
17561 %* \textdownarrow -> \MVArrowDown (marvosym)
17562 %* \textdownarrow -> \Force (marvosym)
17563 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)
17564 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%* U+2194
17565 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
17566 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
17567 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
17568 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
17569 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17570 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
17571 %* \textnearrow -> \textglobrise (tipa)
17572 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17573 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17574 %* \textsearrow -> \textglobfall (tipa)
17575 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17576 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17577 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17578 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17579 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17580 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17581 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17582 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17583 % \ntwoheadleftarrow (txfonts/pxfonts)
17584 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17585 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17586 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17587 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17588 % \twoheadrightarrow (AmS)
17589 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17590 % \ntwoheadrightarrow (txfonts/pxfonts)
17591 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17592 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17593 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17594 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17595 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17596 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17597 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17598 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17599 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17600 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17601 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17602 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17603 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA

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17604 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17605 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17606 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17607 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17608 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharpoon (AmS)
17609 \DeclareTextCommand{\textnleftrightharpoon}{PU}{\9041\256}%* U+21AE
17610 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17611 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17612 %* \textlightning -> \Lightning (marvosym)
17613 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17614 % \dlsh (mathabx)
17615 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
17616 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17617 % \curvearrowleft (AmS)
17618 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17619 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17620 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17621 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
17622 % \leftharpoonup (LaTeX)
17623 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17624 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17625 % \leftharpoondown (LaTeX)
17626 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17627 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17628 % \upharpoonright (AmS)
17629 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17630 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17631 % \upharpoonleft (AmS)
17632 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17633 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17634 % \rightharpoonup (LaTeX)
17635 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17636 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17637 % \rightharpoondown (LaTeX)
17638 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17639 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17640 % \downharpoonright (AmS)
17641 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17642 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17643 % \downharpoonleft (AmS)
17644 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17645 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17646 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17647 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17648 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17649 % \updownarrows (MnSymbol)
17650 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17651 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; \arrowleft-
    overright;
17652 % \leftrightarrows (AmS)
17653 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6

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17654 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17655 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17656 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17657 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17658 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17659 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17660 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17661 \DeclareTextCommand{\textdownarrows}{PU}{\9041\312}%* U+21CA
17662 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17663 % \leftrightharpoons (AmS);
17664 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17665 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17666 % \rightleftharpoons (LaTeX, AmS)
17667 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17668 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17669 % \nLeftarrow (AmS)
17670 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17671 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
17672 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17673 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
17674 % \nRightarrow (AmS)
17675 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17676 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17677 % \Leftarrow (LaTeX)
17678 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17679 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17680 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17681 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17682 % \Rightarrow (LaTeX)
17683 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17684 %* \textRightarrow -> \Conclusion (marvosym)
17685 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbl down; \Downarrow (LaTeX)
17686 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17687 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdbl both;
17688 % \Leftrightarrow (LaTeX)
17689 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17690 %* \textLeftrightarrow -> \Equivalence (marvosym)
17691 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17692 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17693 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17694 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17695 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17696 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17697 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17698 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17699 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)
17700 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%* U+21D9
17701 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17702 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17703 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)

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17704 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17705 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17706 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17707 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17708 \DeclareTextCommand{\textrightsquigarrow}{PU}{\9041\335}%* U+21DD
17709 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17710 % \dashleftarrow (AmS)
17711 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17712 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17713 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
17714 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17715 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
17716 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17717 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17718 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow
(MnSymbol)
17719 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17720 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
17721 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17722 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17723 % \downuparrows (MnSymbol)
17724 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
17725 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17726 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17727 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17728 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17729 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
(stmaryrd)
17730 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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#### 46.2.22 Mathematical Operators: U+2200 to U+22FF

```

17731 % U+2200 FOR ALL; forall; \forall (LaTeX)
17732 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17733 % U+2201 COMPLEMENT; \complement (AmS)
17734 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17735 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17736 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17737 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17738 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17739 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17740 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17741 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17742 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17743 %* \textemptyset -> \varnothing (AmS)
17744 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17745 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17746 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17747 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17748 % U+2208 ELEMENT OF; element; \in (LaTeX)
17749 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17750 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17751 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209

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17752 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17753 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17754 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17755 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17756 %* \textni -> \owns (mathabx)
17757 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17758 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17759 %* \textnotowner -> \notni (txfonts/pxfonts)
17760 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17761 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17762 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17763 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17764 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17765 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17766 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17767 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17768 % U+2212 MINUS SIGN; minus
17769 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
17770 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17771 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17772 % U+2214 DOT PLUS; \dotplus (AmS)
17773 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17774 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17775 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
17776 % \DividesNot (marvosym)
17777 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
17778 % U+2216 SET MINUS; \setminus (LaTeX)
17779 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17780 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17781 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17782 % U+2218 RING OPERATOR; \circ (LaTeX)
17783 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17784 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17785 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
17786 % U+221A SQUARE ROOT; radical
17787 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
17788 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17789 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17790 %* \textpropto -> \varprop (wasysym)
17791 % U+221E INFINITY; infinity; \infty (LaTeX)
17792 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17793 % U+2220 ANGLE; angle; \angle (LaTeX)
17794 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17795 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17796 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17797 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17798 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17799 %* \textsphericalangle -> \varangle (wasysym)
17800 %* \textsphericalangle -> \Anglesign (marvosym)
17801 %* \textsphericalangle -> \AngleSign (marvosym)
17802 % U+2223 DIVIDES; divides; \mid (LaTeX)
17803 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17804 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
17805 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224

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17806 %* \textnmid -> \notdivides (mathabx)
17807 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
17808 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
17809 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
17810 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
17811 %* \textnparallel -> nUpdownline (MnSymbol)
17812 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
17813 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
17814 % \owedge (stmaryrd)
17815 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
17816 %* \textowedge -> \varowedge (stmaryrd)
17817 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
17818 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
17819 % \ovee (stmaryrd)
17820 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
17821 %* \textovee -> \varovee (stmaryrd)
17822 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
17823 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
17824 % U+222A UNION; union; \cup (LaTeX)
17825 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
17826 % U+222B INTEGRAL; integral; \int (LaTeX)
17827 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
17828 %* \textint -> \varint (wasysym)
17829 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
17830 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
17831 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
17832 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
17833 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
17834 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
17835 %* \textoint -> \varoint (wasysym)
17836 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
17837 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
17838 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
17839 % \ointclockwise (txfonts/pxfonts)
17840 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
17841 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrackwise (tx-
    fonts/pxfonts)
17842 \DeclareTextCommand{\textointctrackwise}{PU}{\9042\063}%* U+2233
17843 % U+2234 THEREFORE; therefore; \therefore (AmS)
17844 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
17845 %* \texttherefore -> uptherefore (MnSymbol)
17846 % U+2235 BECAUSE; because; \because (AmS)
17847 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
17848 %* \textbecause -> \downtherefore (MnSymbol)
17849 % U+2236 RATIO; \vdotdot (MnSymbol)
17850 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
17851 % U+2237 PROPORTION; \squaredots (MnSymbol)
17852 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
17853 % U+2238 DOT MINUS; \dotminus (MnSymbol)
17854 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
17855 %* \textdotminus -> \textdotdiv (mathabx)
17856 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
17857 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
17858 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)

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17859 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
17860 %* \textsim -> \AC (wasysym)
17861 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
17862 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
17863 % \nbacksim (txfonts/pxfonts)
17864 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
17865 % U+2240 WREATH PRODUCT; \wr (LaTeX)
17866 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
17867 %* \textwr -> \wreath (MnSymbol)
17868 % U+2241 NOT TILDE; \nsim (AmS)
17869 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
17870 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
17871 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
17872 % \neqsim (MnSymbol)
17873 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
17874 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)
17875 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
17876 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
17877 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
17878 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
17879 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
17880 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
17881 % \ncong (AmS)
17882 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
17883 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
17884 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
17885 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
17886 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
17887 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
17888 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
17889 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
17890 % \napproxeq (txfonts/pxfonts)
17891 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
17892 % U+224B TRIPLE TILDE; \triple sim (MnSymbol)
17893 \DeclareTextCommand{\texttriple sim}{PU}{\9042\113}%* U+224B
17894 %* \texttriple sim -> \VHF (wasysym)
17895 % \ntriple sim (MnSymbol)
17896 \DeclareTextCommand{\textntriple sim}{PU}{\9042\113\83\070}%* U+224B U+0338
17897 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
17898 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
17899 % \nbackcong (MnSymbol)
17900 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
17901 % U+224D EQUIVALENT TO; \asymp (LaTeX)
17902 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
17903 % \nasymp (txfonts/pxfonts)
17904 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
17905 %* \textnasymp -> \notasym (mathabx)
17906 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
17907 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
17908 % \nBumpeq (txfonts/pxfonts)
17909 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
17910 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
17911 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F

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17912 % \nbumpeq (txfonts/pxfonts)  
17913 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%\* U+224F U+0338  
17914 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
17915 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
17916 % \ndoteq (MnSymbol)  
17917 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%\* U+2250 U+0338  
17918 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;  
17919 % \doteqdot (AmS)  
17920 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%\* U+2251  
17921 %\* \textdoteqdot -> \Doteq (MnSymbol)  
17922 % \nDoteq (MnSymbol)  
17923 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%\* U+2251 U+0338  
17924 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-  
qualorimage;  
17925 % \fallingdotseq (AmS)  
17926 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%\* U+2252  
17927 % \nfallingdotseq (MnSymbol)  
17928 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%\* U+2252 U+0338  
17929 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-  
matelyequal;  
17930 % \risingdotseq (AmS)  
17931 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%\* U+2253  
17932 % \nrisingdotseq (MnSymbol)  
17933 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%\* U+2253 U+0338  
17934 % U+2254 COLON EQUALS; \colonequals (colonequals)  
17935 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%\* U+2254  
17936 % U+2255 EQUALS COLON; \equalscolon (colonequals)  
17937 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%\* U+2255  
17938 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)  
17939 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%\* U+2256  
17940 % \neqcirc (MnSymbol)  
17941 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%\* U+2256 U+0338  
17942 % U+2257 RING EQUAL TO; \circeq (AmS)  
17943 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%\* U+2257  
17944 % \ncirceq (MnSymbol)  
17945 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%\* U+2257 U+0338  
17946 % U+2259 ESTIMATES; \hateq (MnSymbol)  
17947 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%\* U+2259  
17948 %\* \texthateq -> \corresponds (mathabx)  
17949 %\* \texthateq -> \Corresponds (marvosym)  
17950 % \nhateq (MnSymbol)  
17951 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%\* U+2259 U+0338  
17952 % U+225C DELTA EQUAL TO; \triangleeq (AmS)  
17953 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%\* U+225C  
17954 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)  
17955 \DeclareTextCommand{\textneq}{PU}{\9042\140}%\* U+2260  
17956 \DeclareTextCommand{\textne}{PU}{\9042\140}%\* U+2260  
17957 %\* \textneq -> \nequal (MnSymbol)  
17958 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)  
17959 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%\* U+2261  
17960 %\* \textequiv -> \Congruent (marvosym)  
17961 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)  
17962 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%\* U+2262  
17963 %\* \textnequiv -> \NotCongruent (marvosym)

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17964 %* \textnequiv -> \notequiv (mathabx)
17965 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
17966 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
17967 \DeclareTextCommand{\textile}{PU}{\9042\144}%* U+2264
17968 %* \textleq -> \LessOrEqual (marvosym)
17969 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
17970 % \ge (LaTeX), \geq (LaTeX)
17971 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
17972 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
17973 %* \textgeq -> \LargerOrEqual (marvosym)
17974 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
17975 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
17976 % \nleqq (txfonts/pxfonts)
17977 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
17978 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
17979 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
17980 % \ngeqq (txfonts/pxfonts)
17981 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
17982 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
17983 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
17984 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
17985 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
17986 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
17987 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
17988 % \nll (txfonts/pxfonts)
17989 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
17990 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
17991 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
17992 % \ngg (txfonts/pxfonts)
17993 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
17994 % U+226C BETWEEN; \between (AmS)
17995 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
17996 % U+226E NOT LESS-THAN; notless; \nless (AmS)
17997 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
17998 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
17999 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18000 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18001 % \nleq (AmS)
18002 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18003 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18004 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18005 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18006 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18007 %* \textlessim -> \apprle (wasysym)
18008 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18009 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18010 %* \textgtrsim -> \apprge (wasysym)
18011 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18012 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18013 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)

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18014 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%\* U+2275  
18015 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)  
18016 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%\* U+2276  
18017 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)  
18018 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%\* U+2277  
18019 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-  
fonts/pxfonts)  
18020 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%\* U+2278  
18021 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-  
fonts/pxfonts)  
18022 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%\* U+2279  
18023 % U+227A PRECEDES; precedes; \prec (LaTeX)  
18024 \DeclareTextCommand{\textprec}{PU}{\9042\172}%\* U+227A  
18025 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)  
18026 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%\* U+227B  
18027 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)  
18028 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%\* U+227C  
18029 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18030 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18031 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18032 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18033 % \nprecsim (txfonts/pxfonts)  
18034 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
18035 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18036 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18037 % \nsuccsim (txfonts/pxfonts)  
18038 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
18039 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
18040 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
18041 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)  
18042 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
18043 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
18044 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
18045 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
18046 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283  
18047 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)  
18048 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%\* U+2284  
18049 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)  
18050 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%\* U+2285  
18051 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)  
18052 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%\* U+2286  
18053 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)  
18054 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%\* U+2287  
18055 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)  
18056 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%\* U+2288  
18057 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)  
18058 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%\* U+2289  
18059 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-  
neq (AmS)  
18060 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%\* U+228A  
18061 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-  
neq (AmS)  
18062 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%\* U+228B  
18063 % U+228D MULTiset MULTIPLICATION; \cupdot (MnSymbol)

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18064 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18065 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18066 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18067 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18068 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18069 % \nsqsubset (txfonts/pxfonts)
18070 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18071 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18072 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18073 % \nsqsupset (txfonts/pxfonts)
18074 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18075 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseq (LaTeX)
18076 \DeclareTextCommand{\textsqsubseq}{PU}{\9042\221}%* U+2291
18077 % \nsqsubseq (txfonts/pxfonts)
18078 \DeclareTextCommand{\textnsqsubseq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18079 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseq (LaTeX)
18080 \DeclareTextCommand{\textsqsupseq}{PU}{\9042\222}%* U+2292
18081 % \nsqsupseq (txfonts/pxfonts)
18082 \DeclareTextCommand{\textnsqsupseq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18083 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18084 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18085 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18086 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18087 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18088 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18089 %* \textoplus -> \varoplus (stmaryrd)
18090 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18091 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18092 %* \textominus -> \varominus (stmaryrd)
18093 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18094 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18095 %* \textotimes -> \varotimes (stmaryrd)
18096 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18097 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18098 %* \textoslash -> \varoslash (stmaryrd)
18099 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18100 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18101 %* \textodot -> \varodot (stmaryrd)
18102 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18103 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18104 %* \textcircledcirc -> \ocirc (mathabx)
18105 %* \textcircledcirc -> \varocircle (stmaryrd)
18106 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18107 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18108 %* \textcircledast -> \varoast (stmaryrd)
18109 %* \textcircledast -> \oasterisk (mathabx)
18110 % U+229D CIRCLED DASH; \circleddash (AmS)
18111 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18112 % U+229E SQUARED PLUS; \boxplus (AmS)
18113 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18114 % U+229F SQUARED MINUS; \boxminus (AmS)
18115 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18116 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18117 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0

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18118 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18119 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18120 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18121 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18122 %* \textvdash -> \rightvdash (MnSymbol)
18123 % U+22A3 LEFT TACK; \dashv (LaTeX)
18124 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18125 %* \textdashv -> \leftvdash (MnSymbol)
18126 % \ndashv (mathabx)
18127 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18128 %* \textndashv -> \nleftvdash (MnSymbol)
18129 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
18130 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18131 %* \texttop -> \downvdash (MnSymbol)
18132 % \ndownvdash (MnSymbol)
18133 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18134 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18135 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18136 %* \textbot -> \upvdash (MnSymbol)
18137 % \nupvdash (MnSymbol)
18138 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18139 %* \textnupvdash -> \nperp (MnSymbol)
18140 % U+22A8 TRUE; \vDash (AmS)
18141 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18142 %* \textvDash -> \models (LaTeX)
18143 %* \textvDash -> \rightmodels (MnSymbol)
18144 % U+22A9 FORCES; \Vdash (AmS)
18145 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18146 %* \textVdash -> \rightVdash (MnSymbol)
18147 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18148 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18149 % \nVvdash (mathabx)
18150 \DeclareTextCommand{\textnVvdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18151 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18152 % \VDash (mathabx)
18153 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18154 %* \textVDash -> \rightModels (MnSymbol)
18155 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18156 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18157 %* \textnvdash -> \nrightvdash (MnSymbol)
18158 % U+22AD NOT TRUE; \nvDash (AmS)
18159 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18160 %* \textnvDash -> \nrightmodels (MnSymbol)
18161 %* \textnvDash -> \nmodels (MnSymbol)
18162 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18163 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18164 %* \textnVdash -> \nrightVdash (MnSymbol)
18165 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18166 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18167 %* \textnVDash -> \nrightModels (MnSymbol)
18168 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18169 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18170 %* \textlhd -> \lessclosed (MnSymbol)

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18171 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18172 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18173 %* \textrhd -> \gtrclosed (MnSymbol)
18174 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18175 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18176 %* \textunlhd -> \leqclosed (MnSymbol)
18177 %* \textunlhd -> \trianglelefteq (MnSymbol)
18178 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
    texsym, ...)
18179 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18180 %* \textunrhd -> \geqclosed (MnSymbol)
18181 %* \textunrhd -> \trianglerighteq (MnSymbol)
18182 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18183 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18184 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18185 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18186 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18187 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18188 % U+22BB XOR; \veebar (AmS)
18189 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18190 % U+22BC NAND; \barwedge (mathabx)
18191 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18192 % U+22C6 STAR OPERATOR; \star (LaTeX)
18193 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18194 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18195 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18196 % U+22C8 BOWTIE; \bowtie (LaTeX)
18197 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18198 %* \textbowtie -> \Bowtie (wasysym)
18199 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18200 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18201 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18202 % \rtimes (AmS)
18203 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18204 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18205 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18206 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18207 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18208 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18209 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18210 % \nbacksimeq (txfonts/pxfonts)
18211 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18212 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18213 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18214 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18215 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18216 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18217 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18218 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18219 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18220 % \nSubset (txfonts/pxfonts)
18221 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18222 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18223 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1

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18224 % \nSupset (txfonts/pxfonts)
18225 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18226 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18227 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18228 %* \textCap -> \doublecap (mathabx)
18229 % U+22D3 DOUBLE UNION; \Cup (AmS)
18230 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18231 %* \textCup -> \doublecup (mathabx)
18232 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18233 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18234 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18235 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18236 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18237 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18238 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18239 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18240 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18241 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18242 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18243 % \lesseqgtr (AmS)
18244 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18245 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18246 % \gtreqless (AmS)
18247 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18248 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18249 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18250 % \ncurlyeqprec (mathabx)
18251 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18252 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18253 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18254 % \ncurlyeqsucc (mathabx)
18255 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18256 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18257 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18258 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18259 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18260 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubsetq (tx-
    fonts/pxfonts)
18261 \DeclareTextCommand{\textnqsubsetq}{PU}{\9042\342}%* U+22E2
18262 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupsetq (tx-
    fonts/pxfonts)
18263 \DeclareTextCommand{\textnqsupsetq}{PU}{\9042\343}%* U+22E3
18264 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18265 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18266 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18267 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18268 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18269 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18270 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18271 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18272 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18273 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18274 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)

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18275 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%\* U+22E8  
 18276 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)  
 18277 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%\* U+22E9  
 18278 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)  
 18279 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%\* U+22EA  
 18280 %\* \textntriangleleft -> \nlessclosed (MnSymbol)  
 18281 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)  
 18282 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%\* U+22EB  
 18283 %\* \textntriangleright -> \ngtrclosed (MnSymbol)  
 18284 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
 18285 % \ntrianglelefteq (AmS)  
 18286 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%\* U+22EC  
 18287 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
 18288 % \ntrianglerighteq (AmS)  
 18289 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
 18290 %\* \textntrianglerighteq -> \textngeqclosed  
 18291 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
 18292 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
 18293 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
 18294 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
 18295 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
 18296 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
 18297 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
 18298 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
 18299 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
 18300 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

#### 46.2.23 Miscellaneous Technical: U+2300 to U+23FF

18301 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)  
 18302 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
 18303 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
 18304 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
 18305 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)  
 18306 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%\* U+2311  
 18307 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
 18308 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
 18309 % U+231A WATCH; \clock (wasysym)  
 18310 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
 18311 %\* \textclock -> \Clocklogo (marvosym)  
 18312 %\* \textclock -> \ClockLogo (marvosym)  
 18313 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
 18314 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
 18315 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
 18316 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
 18317 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
 18318 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
 18319 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
 18320 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
 18321 % U+2322 FROWN; \frown (LaTeX)  
 18322 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
 18323 % U+2323 SMILE; \smile (LaTeX)  
 18324 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
 18325 % U+2328 KEYBOARD; \Keyboard (marvosym)

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18326 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18327 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft; \langle (LaTeX)
18328 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18329 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright; \rangle (LaTeX)
18330 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18331 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18332 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18333 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18334 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18335 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18336 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
18337 %* \textstmaryrdbaro -> \baro (stmaryrd)
18338 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18339 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18340 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18341 % \notbackslash (wasysym)
18342 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18343 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18344 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18345 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18346 % \APLleftarrowbox (wasysym)
18347 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18348 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18349 % \APLrightarrowbox (wasysym)
18350 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18351 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18352 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18353 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18354 % \APLdownarrowbox (wasysym)
18355 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18356 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18357 % \APLinput (wasysym)
18358 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
18359 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
18360 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
18361 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
18362 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
18363 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
18364 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
18365 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
18366 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
18367 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18368 % \ForwardToIndex (marvosym)
18369 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
18370 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18371 % \RewindToIndex (marvosym)
18372 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

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#### 46.2.24 Control Pictures: U+2400 to U+243F

18373 % U+2422 BLANK SYMBOL  
18374 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
18375 % U+2423 OPEN BOX; blank  
18376 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 46.2.25 Optical Character Recognition: U+2440 to U+245F

18377 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
18378 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
18379 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 46.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18380 % U+2460 CIRCLED DIGIT ONE; onecircle  
18381 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
18382 % U+2461 CIRCLED DIGIT TWO; twocircle  
18383 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
18384 % U+2462 CIRCLED DIGIT THREE; threecircle  
18385 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
18386 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
18387 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
18388 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
18389 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
18390 % U+2465 CIRCLED DIGIT SIX; sixcircle  
18391 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
18392 % U+2466 CIRCLED DIGIT SEVEN; sevendecircle  
18393 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
18394 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
18395 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
18396 % U+2468 CIRCLED DIGIT NINE; ninecircle  
18397 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
18398 % U+2469 CIRCLED NUMBER TEN; tencircle  
18399 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
18400 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
18401 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
18402 % U+246B CIRCLED NUMBER TWELVE; twelvencircle  
18403 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
18404 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
18405 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
18406 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
18407 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
18408 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
18409 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
18410 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
18411 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
18412 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
18413 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
18414 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
18415 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
18416 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
18417 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
18418 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
18419 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
18420 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
18421 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
18422 % \CircledA (marvosym)



18423 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
18424 %\* \textCircledA -> \CleaningA  
18425 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
18426 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
18427 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
18428 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
18429 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
18430 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
18431 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
18432 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
18433 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
18434 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
18435 % \CleaningF (marvosym)  
18436 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
18437 % \CleaningFF (marvosym)  
18438 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
18439 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
18440 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
18441 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
18442 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
18443 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
18444 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
18445 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
18446 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
18447 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
18448 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
18449 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
18450 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
18451 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
18452 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
18453 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
18454 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
18455 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
18456 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
18457 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
18458 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
18459 % \CleaningP (marvosym)  
18460 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
18461 % \CleaningPP (marvosym)  
18462 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
18463 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
18464 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
18465 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
18466 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
18467 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
18468 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
18469 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
18470 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
18471 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
18472 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
18473 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
18474 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
18475 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
18476 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC

18477 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 18478 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 18479 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 18480 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 18481 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 18482 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 18483 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 18484 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 18485 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 18486 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 18487 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 18488 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 18489 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 18490 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 18491 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 18492 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 18493 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 18494 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 18495 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 18496 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 18497 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 18498 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 18499 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 18500 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 18501 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 18502 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 18503 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 18504 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 18505 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 18506 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 18507 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 18508 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 18509 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 18510 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 18511 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 18512 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 18513 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 18514 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 18515 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 18516 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 18517 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 18518 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 18519 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 18520 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 18521 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 18522 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 18523 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 18524 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 18525 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 18526 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 18527 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 18528 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 18529 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 18530 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7

18531 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 18532 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 18533 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 18534 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 18535 % U+24EA CIRCLED DIGIT ZERO  
 18536 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

#### 46.2.27 Box Drawing: U+2500 to 257F

18537 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
 Line (marvosym)  
 18538 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
 18539 %\* \textCuttingLine -> \Kutline (marvosym)  
 18540 %\* \textCuttingLine -> \CutLine (marvosym)  
 18541 %\* \textCuttingLine -> \Cutline (marvosym)

#### 46.2.28 Geometric Shapes: U+25A0 to U+25FF

18542 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)  
 18543 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%\* U+25B2  
 18544 %\* \textUParrow -> \MoveUp (marvosym)  
 18545 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 18546 % \bigtriangleup (LaTeX)  
 18547 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 18548 %\* \textbigtriangleup -> \APLup (wasysym)  
 18549 %\* \textbigtriangleup -> \Bleech (marvosym)  
 18550 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)  
 18551 \DeclareTextCommand{\textForward}{PU}{\9045\266}%\* U+25B6  
 18552 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 tion);  
 18553 % whiterightpointingtriangle; \triangleright (LaTeX)  
 18554 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 18555 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)  
 18556 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%\* U+25BA  
 18557 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)  
 18558 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%\* U+25BC  
 18559 %\* \textDOWNarrow -> \MoveDown (marvosym)  
 18560 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-  
 angle;  
 18561 % \bigtriangledown (LaTeX)  
 18562 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%\* U+25BD  
 18563 %\* \textbigtriangledown -> \APLdown (wasysym)  
 18564 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)  
 18565 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%\* U+25C0  
 18566 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-  
 striction);  
 18567 % whiteleftpointingtriangle; \triangleleft (LaTeX)  
 18568 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%\* U+25C1  
 18569 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)  
 18570 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%\* U+25C4  
 18571 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)  
 18572 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%\* U+25C7  
 18573 %\* \textdiamond -> \Diamond (wasysym)  
 18574 % U+25CA LOZENGE; lozenge; \lozenge (AmS)  
 18575 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%\* U+25CA  
 18576 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)

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18577 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18578 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18579 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18580 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18581 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18582 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18583 % \boxbar (stmaryrd)
18584 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18585 % U+25EF LARGE CIRCLE; largecircle
18586 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18587 %* \textbigcircle -> \varbigcirc (stmaryrd)
18588 %

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#### 46.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18589 % U+2601 CLOUD; \Cloud (ifsym)
18590 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18591 % U+2605 BLACK STAR; \FiveStar (bbding)
18592 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18593 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18594 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18595 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18596 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18597 %* \textPhone -> \Telefon (marvosym)
18598 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18599 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18600 %* \textboxempty -> \Box (wasysym)
18601 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18602 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18603 %* \textCheckedbox -> \CheckedBox (marvosym)
18604 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18605 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18606 %* \textCrossedbox -> \XBox (wasysym)
18607 %* \textCrossedbox -> \CrossedBox (marvosym)
18608 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18609 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18610 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
18611 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18612 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
18613 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18614 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
18615 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18616 %* \textHandLeft -> \rightpointleft (fourier)
18617 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
18618 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18619 %* \textHandRight -> \leftpointright (fourier)
18620 %* \textHandRight -> \PointingHand (marvosym)
18621 %* \textHandRight -> \Pointinghand (marvosym)
18622 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18623 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18624 %* \textRadioactivity -> \Radiation (ifsym)
18625 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18626 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18627 % U+2625 ANKH; \Ankh (marvosym)
18628 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625

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18629 % U+262F YIN YANG; \YinYang (marvosym)  
18630 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
18631 %\* \textYinYang -> \Yinyang (marvosym)  
18632 %\* \textYinYang -> \YingYang (marvosym)  
18633 %\* \textYinYang -> \Yingyang (marvosym)  
18634 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18635 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18636 %\* \textfrownie -> \Frowny (marvosym)  
18637 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
18638 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
18639 %\* \textsmiley -> \Smiley (marvosym)  
18640 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
18641 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
18642 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
18643 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
18644 %\* \textsun -> \Sun (marvosym)  
18645 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
18646 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
18647 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
18648 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
18649 % U+263F MERCURY; \mercury (wasysym)  
18650 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
18651 %\* \textmercury -> \Mercury (marvosym)  
18652 % U+2640 FEMALE SIGN; female; \female (wasysym)  
18653 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
18654 %\* \textPUfemale -> \textfemale (tipx)  
18655 %\* \textPUfemale -> \female (wasysym)  
18656 %\* \textPUfemale -> \venus (wasysym)  
18657 %\* \textPUfemale -> \Venus (marvosym)  
18658 %\* \textPUfemale -> \Female (marvosym)  
18659 % U+2641 EARTH; \earth (wasysym)  
18660 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
18661 %\* \textearth -> \Earth (marvosym)  
18662 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
18663 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
18664 %\* \textmale -> \mars (wasysym)  
18665 %\* \textmale -> \Mars (marvosym)  
18666 %\* \textmale -> \Male (marvosym)  
18667 % U+2643 JUPITER; \jupiter (wasysym)  
18668 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
18669 %\* \textjupiter -> \Jupiter (marvosym)  
18670 % U+2644 SATURN; \saturn (wasysym)  
18671 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
18672 %\* \textsaturn -> \Saturn (marvosym)  
18673 % U+2645 URANUS; \uranus (wasysym)  
18674 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
18675 %\* \texturanus -> \Uranus (marvosym)  
18676 % U+2646 NEPTUNE; \neptune (wasysym)  
18677 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
18678 %\* \textneptune -> \Neptune (marvosym)  
18679 % U+2647 PLUTO; \pluto (wasysym)  
18680 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
18681 %\* \textpluto -> \Pluto (marvosym)  
18682 % U+2648 ARIES; \aries (wasysym)

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18683 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18684 %* \textaries -> \Aries (marvosym)
18685 % U+2649 TAURUS; \taurus (wasysym)
18686 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18687 %* \texttaurus -> \Taurus (marvosym)
18688 % U+264A GEMINI; \gemini (wasysym)
18689 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18690 %* \textgemini -> \Gemini (marvosym)
18691 % U+264B CANCER; \cancer (wasysym)
18692 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18693 %* \textcancer -> \Cancer (marvosym)
18694 % U+264C LEO; \leo (wasysym)
18695 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18696 %* \textleo -> \Leo (marvosym)
18697 % U+264D VIRGO; \virgo (wasysym)
18698 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18699 %* \textvirgo -> \Virgo (marvosym)
18700 % U+264E LIBRA; \libra (wasysym)
18701 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18702 %* \textlibra -> \Libra (marvosym)
18703 % U+264F SCORPIO; \scorpio (wasysym)
18704 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18705 %* \textscorpio -> \Scorpio (marvosym)
18706 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18707 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18708 %* \textsagittarius -> \Sagittarius (marvosym)
18709 % U+2651 CAPRICORN; \capricornus (wasysym)
18710 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18711 %* \textcapricornus -> \Capricorn (marvosym)
18712 % U+2652 AQUARIUS; \aquarius (wasysym)
18713 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18714 %* \textaquarius -> \Aquarius (marvosym)
18715 % U+2653 PISCES; \pisces (wasysym)
18716 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18717 %* \textpisces -> \Pisces (marvosym)
18718 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18719 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18720 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18721 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18722 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18723 %* \textheartsuitwhite -> \Heart (marvosym)
18724 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18725 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18726 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18727 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18728 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18729 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18730 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18731 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18732 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18733 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18734 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18735 % U+2666 BLACK DIAMOND SUIT; diamond
18736 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666

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18737 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
18738 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667  
18739 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
18740 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
18741 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
18742 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
18743 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
18744 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
18745 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
18746 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
note (arev)  
18747 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
18748 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
18749 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
18750 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
18751 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
18752 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
18753 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
18754 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
18755 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
18756 %\* \textrecycle -> \Recycling (marvosym)  
18757 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
18758 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
18759 % U+2691 BLACK FLAG; \Flag (ifsym)  
18760 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
18761 %\* \textFlag -> \VarFlag (ifsym)  
18762 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
18763 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
18764 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
18765 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
18766 %\* \textdsmilitary -> \textxswup (fourier)  
18767 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
18768 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
18769 % U+2696 SCALES; \dsjuridical (dictsym)  
18770 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
18771 % U+2697 ALEMBIC; \dschemical (dictsym)  
18772 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
18773 % U+2698 FLOWER; \dsbiological (dictsym)  
18774 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
18775 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
18776 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
18777 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
18778 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
18779 % U+26A0 WARNING SIGN; \danger (fourier)  
18780 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
18781 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
18782 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
18783 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
18784 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
18785 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
vosym)  
18786 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
18787 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
18788 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5

18789 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 18790 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 18791 % U+26AD MARRIAGE SYMBOL  
 18792 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 18793 % U+26AE DIVORCE SYMBOL  
 18794 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 18795 % U+26B2 NEUTER; \textunconfemale (tipx)  
 18796 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2  
 18797 %\* \textPUunconfemale -> \textunconfemale (tipx)  
 18798 % U+26B9 SEXTILE; \hexstar (wasysym)  
 18799 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 18800 % U+26BD SOCCER BALL; \Football (marvosym)  
 18801 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 18802 %\* \textSoccerBall -> \Football (marvosym)  
 18803 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 18804 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 18805 % U+26C6 RAIN; \Rain (ifsym)  
 18806 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 18807 % U+26D4 NO ENTRY; \noway (fourier)  
 18808 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 18809 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 18810 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 18811 % U+26FA TENT; \Tent (ifsym)  
 18812 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

#### 46.2.30 Dingbats: U+2700 to U+27BF

18813 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
 18814 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 18815 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 18816 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 18817 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 18818 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 18819 %\* \textScissorRight -> \RightScissors (marvosym)  
 18820 %\* \textScissorRight -> \Leftscissors (marvosym)  
 18821 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 18822 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 18823 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 18824 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 18825 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 18826 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 18827 % U+2707 TAPE DRIVE; \Tape (bding)  
 18828 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 18829 % U+2708 AIRPLANE; \Plane (bding)  
 18830 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 18831 % U+2709 ENVELOPE; \Envelope (bding),  
 18832 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 18833 %\* \textEnvelope -> \Letter (marvosym)  
 18834 % U+270C VICTORY HAND; \Peace (bding)  
 18835 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 18836 % U+270D WRITING HAND; \WritingHand (marvosym)  
 18837 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 18838 %\* \textWritingHand -> \Writinghand (marvosym)  
 18839 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 18840 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E



18841 % U+270F PENCIL; \PencilRight (bding)  
18842 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
18843 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
18844 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
18845 % U+2711 WHITE NIB; \NibRight (bding)  
18846 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
18847 % U+2712 BLACK NIB; \NibSolidRight (bding)  
18848 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
18849 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
18850 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
18851 %\* \textCheckmark -> \checkmark (MnSymbol)  
18852 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
18853 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
18854 % U+2715 MULTIPLICATION X; \XSolid (bding)  
18855 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
18856 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
18857 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
18858 % U+2717 BALLOT X; \XSolidBrush (bding)  
18859 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
18860 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
18861 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
18862 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
18863 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
18864 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
18865 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
18866 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
18867 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
18868 % U+271D LATIN CROSS; \Cross (bding)  
18869 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
18870 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
18871 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
18872 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
18873 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
18874 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
18875 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
18876 % U+2721 STAR OF DAVID; \DavidStar (bding)  
18877 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
18878 %\* \textDavidStar -> \davidstar (wasysym)  
18879 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
18880 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
18881 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
18882 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
18883 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
18884 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
18885 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
18886 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
18887 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
18888 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
18889 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
18890 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
18891 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
18892 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
18893 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)

18894 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
18895 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
18896 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
18897 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
18898 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
18899 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
18900 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
18901 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
18902 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
18903 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
18904 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
18905 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
18906 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
18907 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
18908 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
18909 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
18910 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
18911 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
18912 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
18913 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
18914 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
18915 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
18916 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
18917 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
18918 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
18919 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
18920 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
18921 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
18922 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
18923 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
18924 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
18925 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
18926 % \SixFlowerOpenCenter (bding)  
18927 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
18928 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
18929 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
18930 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
18931 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
18932 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
18933 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
18934 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
18935 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
18936 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
18937 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
18938 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
18939 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
18940 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)

18941 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 18942 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
 18943 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 18944 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 18945 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 18946 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 18947 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 18948 % U+2747 SPARKLE; \Sparkle (bding)  
 18949 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 18950 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 18951 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 18952 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 18953 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 18954 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 18955 % \EightFlowerPetalRemoved (bding)  
 18956 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 18957 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 18958 % \EightAsterisk (bding)  
 18959 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 18960 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 18961 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 18962 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 18963 % \SquareShadowBottomRight (bding)  
 18964 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 18965 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 18966 % \SquareShadowTopRight (bding)  
 18967 \DeclareTextCommand{\textSquareShadowTopRight}{PU}{\9047\120}%\* U+2750  
 18968 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 18969 % \SquareCastShadowBottomRight (bding)  
 18970 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 18971 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 18972 % \SquareCastShadowTopRight (bding)  
 18973 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 18974 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 18975 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 18976 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 18977 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 18978 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 18979 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 18980 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 18981 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

#### 46.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

18982 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 18983 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 18984 % \notperp (mathabx)  
 18985 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 18986 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 18987 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 18988 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 18989 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 18990 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 18991 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC

18992 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
18993 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
18994 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
18995 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
18996 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
18997 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

#### 46.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

18998 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
18999 % \circlearrowleft (AmS)  
19000 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
19001 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
19002 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
19003 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
19004 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
19005 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
19006 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
19007 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)  
19008 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%\* U+27F7  
19009 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
19010 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
19011 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \longrightarrow (AmS)  
19012 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
19013 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)  
19014 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%\* U+27FA  
19015 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
19016 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
19017 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-  
from (stmaryrd)  
19018 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
19019 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-  
sto (stmaryrd)  
19020 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

#### 46.2.33 Supplemental Arrows-B: U+2900 to U+297F

19021 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-  
bol)  
19022 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
19023 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-  
bol)  
19024 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
19025 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
19026 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%\* U+2923  
19027 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)  
19028 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
19029 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
19030 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%\* U+2925  
19031 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)  
19032 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
19033 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
19034 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
19035 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
19036 % \rcurvearrowne (MnSymbol)  
19037 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934

19038 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-  
 WARDS;  
 19039 % \lcurvearrowse (MnSymbol)  
 19040 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 19041 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-  
 WARDS;  
 19042 % \lcurvearrowsw (MnSymbol)  
 19043 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 19044 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 19045 % \rcurvearrowse (MnSymbol)  
 19046 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19047 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 19048 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 19049 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19050 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19051 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19052 % \rcurvearrowdown (MnSymbol)  
 19053 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 19054 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 19055 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 19056 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-  
 bol)  
 19057 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
 19058 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 19059 % \rcurvearrowright (MnSymbol)  
 19060 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
 19061 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-  
 poon (mathabx)  
 19062 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
 19063 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-  
 poon (mathabx)  
 19064 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
 19065 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 19066 % \updownharpoonrightleft (MnSymbol)  
 19067 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
 19068 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 19069 % \updownharpoonleftright (MnSymbol)  
 19070 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
 19071 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19072 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19073 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
 19074 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19075 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19076 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
 19077 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 19078 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19079 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
 19080 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19081 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19082 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965

19083 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19084 % \leftbarharpoon (mathabx)  
 19085 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
 19086 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19087 % LONG DASH; \barleftharpoon (mathabx)  
 19088 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
 19089 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19090 % LONG DASH; \rightbarharpoon (mathabx)  
 19091 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
 19092 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 19093 % LONG DASH; \barrightharpoon (mathabx)  
 19094 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
 19095 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19096 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 19097 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
 19098 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 19099 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 19100 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 19101 % U+297F DOWN FISH TAIL  
 19102 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

#### 46.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19103 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)  
 19104 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%\* U+2987  
 19105 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 19106 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 19107 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 19108 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 19109 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19110 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19111 %\* \textobar -> \textvarobar (stmaryrd)  
 19112 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19113 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19114 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19115 %\* \textobslash -> \obackslash (mathabx)  
 19116 %\* \textobslash -> \varobslash (stmaryrd)  
 19117 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19118 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19119 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19120 %\* \textobot -> \odplus (ulsy)  
 19121 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-  
 vosym)  
 19122 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 19123 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19124 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19125 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19126 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19127 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19128 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19129 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19130 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 19131 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)

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19132 \DeclareTextCommand{\textboxslash}{PU}{\9051\305}%* U+29C5
19133 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
19134 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
19135 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
19136 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
19137 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
19138 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
19139 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
19140 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
19141 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
19142 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
19143 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
19144 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

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#### 46.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

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19145 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
19146 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
19147 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19148 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19149 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19150 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19151 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19152 %   pxfonts, wasysym)
19153 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19154 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19155 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19156 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19157 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19158 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19159 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19160 %* \textminusdot -> \divdot (mathabx)
19161 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
19162 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19163 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19164 %   \dtimes (mathdesign)
19165 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19166 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19167 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19168 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19169 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19170 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19171 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19172 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19173 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19174 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19175 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19176 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19177 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19178 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19179 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19180 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19181 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19182 %* \textdoublevee -> \merge (stmaryrd)
19183 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;

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19184 % \doublebarwedge (AmS)
19185 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19186 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19187 % \veedoublebar (mahtabx)
19188 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19189 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19190 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19191 % \neqdot (MnSymbol)
19192 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19193 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19194 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19195 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19196 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19197 % \nleqslant (txfonts/pxfonts)
19198 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19199 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19200 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19201 % \ngeqslant (txfonts/pxfonts)
19202 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19203 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19204 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19205 % \nlessapprox (txfonts/pxfonts)
19206 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19207 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19208 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19209 % \ngtrapprox (txfonts/pxfonts)
19210 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19211 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
19212 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19213 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19214 % \gneq (AmS)
19215 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
19216 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19217 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19218 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19219 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19220 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
    THAN;
19221 % \lesseqgtr (AmS)
19222 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%* U+2A8B
19223 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
    THAN;
19224 % \gtreqless (AmS)
19225 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
19226 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19227 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19228 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19229 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19230 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19231 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19232 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19233 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
19234 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)

```



```

19235 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19236 % \npreceq (txfonts/pxfonts)
19237 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19238 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
      Symbol)
19239 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19240 % \nsucceq (txfonts/pxfonts)
19241 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19242 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
      neq (mathabx)
19243 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19244 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
      neq (mathabx)
19245 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19246 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19247 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19248 % \npreceqq (txfonts/pxfonts)
19249 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19250 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19251 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19252 % \nsucceqq (txfonts/pxfonts)
19253 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19254 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19255 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19256 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19257 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19258 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19259 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19260 % \nprecapprox (txfonts/pxfonts)
19261 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19262 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19263 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19264 % \nsuccapprox (txfonts/pxfonts)
19265 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19266 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19267 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19268 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19269 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19270 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19271 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19272 % \nsubseteqq (txfonts/pxfonts, mathabx)
19273 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19274 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19275 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19276 % \nsupseteqq (mathabx)
19277 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19278 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19279 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19280 %* \textdashV -> \leftVdash (MnSymbol)
19281 % \ndashV (mathabx)
19282 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19283 %* \textndashV -> \nleftVdash (MnSymbol)

```

19284 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 19285 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%\* U+2AE4  
 19286 %\* \textDashv -> \leftmodels (MnSymbol)  
 19287 % \nDashv (mathabx)  
 19288 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%\* U+2AE4 U+0338  
 19289 %\* \textnDashv -> \nleftmodels (MnSymbol)  
 19290 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 19291 % \DashV (mathabx)  
 19292 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%\* U+2AE5  
 19293 %\* \textDashV -> \leftModels (MnSymbol)  
 19294 % \nDashV (mathabx)  
 19295 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%\* U+2AE5 U+0338  
 19296 %\* \textnDashV -> \nleftModels (MnSymbol)  
 19297 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 19298 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%\* U+2AEA  
 19299 % \ndownmodels (MnSymbol)  
 19300 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%\* U+2AEA U+0338  
 19301 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 19302 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 19303 % \nupmodels (MnSymbol)  
 19304 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%\* U+2AEB U+0338  
 19305 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 19306 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 19307 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 19308 % \interleave (stmaryrd)  
 19309 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 19310 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)  
 19311 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%\* U+2AFD  
 19312 %\* \textsslash -> \varparallel (txfonts\pxfonts)

#### 46.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19313 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 19314 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 19315 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 19316 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

#### 46.2.37 Latin Extended-C: U+2C60 to U+2C7F

19317 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 19318 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

#### 46.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19319 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 19320 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 19321 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 19322 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 19323 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 19324 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

#### 46.2.39 Modifier Tone Letters: U+A700 to U+A71F

19325 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 19326 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 19327 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 19328 % \textdownstep (tipa)  
 19329 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

#### 46.2.40 Latin Extended-D: U+A720 to U+A7FF

```
19330 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
19331 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
19332 %* \textPUheng -> \textheng (tipx)
19333 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
19334 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
19335 %* \textPULhookfour -> \textlhookfour (tipx)
19336 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
19337 \DeclareTextCommand{\textPUScf}{PU}{\9247\060}% U+A730
19338 %* \textPUScf -> \textscf (tipx)
19339 % U+A735 LATIN SMALL LETTER AO; \textaoig (tipx)
19340 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
19341 %* \textPUaolig -> \textaoig (tipx)
19342 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
19343 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
19344 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
19345 \DeclareTextCommand{\textcircumlw}{PU}{\9247\210}% U+A788
```

#### 46.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```
19346 % U+FB01 LATIN SMALL LIGATURE FI; fi
19347 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
19348 % U+FB02 LATIN SMALL LIGATURE FL; fl
19349 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02
```

#### 46.2.42 Musical Symbols: U+1D100 to U+1D1FF

```
19350 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
19351 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
19352 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
19353 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
19354 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
19355 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
19356 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
19357 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
19358 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
19359 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
19360 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
19361 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
19362 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
19363 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
19364 %* \textfullnote -> \Ganz (harmony)
19365 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
19366 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
19367 %* \texthalfnote -> \Halb (harmony)
19368 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
19369 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
19370 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
19371 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
19372 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
19373 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
19374 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
19375 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162
```

#### 46.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19376 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19377 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19378 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 19379 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 19380 % U+1F468 MAN; \ManFace (marvosym)  
 19381 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 19382 % U+1F469 WOMAN; \WomanFace (marvosym)  
 19383 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 19384 %\* \textWomanFace -> \Womanface (marvosym)  
 19385 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 19386 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 19387 %\* \textFax -> \Faxmachine (marvosym)  
 19388 % U+1F525 FIRE; \Fire (ifsym)  
 19389 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 46.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19390 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19391 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19392 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19393 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19394 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19395 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 46.2.45 Miscellaneous

19396 \DeclareTextCommand{\SS}{PU}{SS}%  
 19397 % \textcopyleft (textcomp)  
 19398 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 19399 % \ccnc (ccllicenses)  
 19400 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 19401 % \ccnd (ccllicenses)  
 19402 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 19403 % \ccsa (ccllicenses)  
 19404 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 19405 % \Info (marvosym, china2e)  
 19406 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
 19407 % \CESign (marvosym)  
 19408 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045  
 19409 %\* \textCESign -> \CESign (marvosym)

#### 46.2.46 Aliases

Aliases (german.sty)

19410 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%  
 19411 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%  
 19412 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%  
 19413 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%  
 19414 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%  
 19415 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%  
 19416 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%  
 19417 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

Aliases (math names)

19418 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%\*  
 19419 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%\*  
 19420 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%\*

```

19421 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19422 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19423 </puenc>

```

## 46.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19424 <*puvnenc>

19425 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19426 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19427 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19428 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19429 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19430 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19431 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19432 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19433 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19434 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19435 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19436 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

19437 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19438 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19439 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
19440 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
19441 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
19442 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
19443 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
19444 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
19445 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
19446 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
19447 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
19448 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
19449 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
19450 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
19451 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
19452 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
19453 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
19454 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
19455 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
19456 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
19457 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
19458 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
19459 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
19460 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
19461 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
19462 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
19463 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
19464 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
19465 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
19466 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
19467 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
19468 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

```

19469 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
19470 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
19471 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
19472 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
19473 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
19474 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
19475 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
19476 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
19477 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
19478 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
19479 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD  
19480 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
19481 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
19482 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
19483 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
19484 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
19485 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
19486 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
19487 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
19488 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
19489 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB  
19490 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
19491 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
19492 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
19493 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
19494 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
19495 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
19496 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
19497 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
19498 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
19499 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
19500 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
19501 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
19502 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
19503 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
19504 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0  
19505 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
19506 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
19507 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
19508 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
19509 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
19510 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
19511 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
19512 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
19513 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
19514 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
19515 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
19516 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
19517 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
19518 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
19519 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
19520 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
19521 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
19522 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD

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19523 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19524 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19525 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19526 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19527 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19528 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19529 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19530 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19531 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19532 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19533 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19534 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19535 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19536 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19537 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19538 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19539 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19540 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19541 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19542 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19543 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19544 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19545 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19546 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19547 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19548 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19549 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19550 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19551 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19552 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19553 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19554 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19555 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19556 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19557 </p>

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## 46.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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19558 (*puarenc)

19559 % U+0621;afii57409;ARABIC LETTER HAMZA
19560 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19561 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19562 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19563 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19564 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19565 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19566 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19567 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19568 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19569 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19570 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19571 % U+0627;afii57415;ARABIC LETTER ALEF

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19572 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 19573 % U+0628;afii57416;ARABIC LETTER BEH  
 19574 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 19575 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 19576 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 19577 % U+062A;afii57418;ARABIC LETTER TEH  
 19578 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 19579 % U+062B;afii57419;ARABIC LETTER THEH  
 19580 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 19581 % U+062C;afii57420;ARABIC LETTER JEEM  
 19582 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 19583 % U+062D;afii57421;ARABIC LETTER HAH  
 19584 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 19585 % U+062E;afii57422;ARABIC LETTER KHAH  
 19586 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 19587 % U+062F;afii57423;ARABIC LETTER DAL  
 19588 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 19589 % U+0630;afii57424;ARABIC LETTER THAL  
 19590 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 19591 % U+0631;afii57425;ARABIC LETTER REH  
 19592 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 19593 % U+0632;afii57426;ARABIC LETTER ZAIN  
 19594 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 19595 % U+0633;afii57427;ARABIC LETTER SEEN  
 19596 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 19597 % U+0634;afii57428;ARABIC LETTER SHEEN  
 19598 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 19599 % U+0635;afii57429;ARABIC LETTER SAD  
 19600 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 19601 % U+0636;afii57430;ARABIC LETTER DAD  
 19602 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 19603 % U+0637;afii57431;ARABIC LETTER TAH  
 19604 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 19605 % U+0638;afii57432;ARABIC LETTER ZAH  
 19606 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 19607 % U+0639;afii57433;ARABIC LETTER AIN  
 19608 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 19609 % U+063A;afii57434;ARABIC LETTER GHAIN  
 19610 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 19611 % U+0640;afii57440;ARABIC TATWEEL  
 19612 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 19613 % U+0641;afii57441;ARABIC LETTER FEH  
 19614 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 19615 % U+0642;afii57442;ARABIC LETTER QAF  
 19616 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 19617 % U+0643;afii57443;ARABIC LETTER KAF  
 19618 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 19619 % U+0644;afii57444;ARABIC LETTER LAM  
 19620 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 19621 % U+0645;afii57445;ARABIC LETTER MEEM  
 19622 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 19623 % U+0646;afii57446;ARABIC LETTER NOON  
 19624 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 19625 % U+0647;afii57470;ARABIC LETTER HEH



19626 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 19627 % U+0648;afii57448;ARABIC LETTER WAW  
 19628 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 19629 % U+0649;afii57449;ARABIC LETTER ALEF MAKURA  
 19630 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 19631 % U+064A;afii57450;ARABIC LETTER YEH  
 19632 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 19633 % U+064B;afii57451;ARABIC FATHATAN  
 19634 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 19635 % U+064C;afii57452;ARABIC DAMMATAN  
 19636 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 19637 % U+064D;afii57453;ARABIC KASRATAN  
 19638 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 19639 % U+064E;afii57454;ARABIC FATHA  
 19640 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 19641 % U+064F;afii57455;ARABIC DAMMA  
 19642 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 19643 % U+0650;afii57456;ARABIC KASRA  
 19644 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 19645 % U+0651;afii57457;ARABIC SHADDA  
 19646 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 19647 % U+0652;afii57458;ARABIC SUKUN  
 19648 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 19649 % U+067E ARABIC LETTER PEH; afii57506  
 19650 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 19651 % U+0686 ARABIC LETTER TCHEH; afii57507  
 19652 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 19653 % U+0698 ARABIC LETTER JEH; afii57508  
 19654 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 19655 % U+06A9 ARABIC LETTER KEHEH  
 19656 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 19657 % U+06AF ARABIC LETTER GAF; afii57509  
 19658 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 19659 % U+06CC ARABIC LETTER FARSI YEH  
 19660 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 19661 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 19662 \DeclareTextCommand{\ZWJ}{PU}{\9040\014}% U+200C  
 19663 % U+200D ZERO WIDTH JOINER; afii301  
 19664 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D  
 19665 </puarenc>  
 19666 < \*psdextra>  
 19667 \Hy@VersionCheck{psdextra.def}  
 19668 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
 19669 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
 19670 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
 19671 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
 19672 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
 19673 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
 19674 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
 19675 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
 19676 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6

19677 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
19678 \DeclareTextCommand{\textPsi}{PU}{\83\250}%\* U+03A8  
19679 \DeclareTextCommand{\textOmega}{PU}{\83\251}%\* U+03A9  
19680 \DeclareTextCommand{\textalpha}{PU}{\83\261}%\* U+03B1  
19681 \DeclareTextCommand{\textbeta}{PU}{\83\262}%\* U+03B2  
19682 \DeclareTextCommand{\textgamma}{PU}{\83\263}%\* U+03B3  
19683 \DeclareTextCommand{\textdelta}{PU}{\83\264}%\* U+03B4  
19684 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%\* U+03B5  
19685 \DeclareTextCommand{\textzeta}{PU}{\83\266}%\* U+03B6  
19686 \DeclareTextCommand{\texteta}{PU}{\83\267}%\* U+03B7  
19687 \DeclareTextCommand{\texttheta}{PU}{\83\270}%\* U+03B8  
19688 \DeclareTextCommand{\textiota}{PU}{\83\271}%\* U+03B9  
19689 \DeclareTextCommand{\textkappa}{PU}{\83\272}%\* U+03BA  
19690 \DeclareTextCommand{\textlambda}{PU}{\83\273}%\* U+03BB  
19691 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%\* U+03BC  
19692 \DeclareTextCommand{\textnu}{PU}{\83\275}%\* U+03BD  
19693 \DeclareTextCommand{\textxi}{PU}{\83\276}%\* U+03BE  
19694 \DeclareTextCommand{\textpi}{PU}{\83\300}%\* U+03C0  
19695 \DeclareTextCommand{\textrho}{PU}{\83\301}%\* U+03C1  
19696 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%\* U+03C2  
19697 \DeclareTextCommand{\textsigma}{PU}{\83\303}%\* U+03C3  
19698 \DeclareTextCommand{\texttau}{PU}{\83\304}%\* U+03C4  
19699 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%\* U+03C5  
19700 \DeclareTextCommand{\textphi}{PU}{\83\306}%\* U+03C6  
19701 \DeclareTextCommand{\textchi}{PU}{\83\307}%\* U+03C7  
19702 \DeclareTextCommand{\textpsi}{PU}{\83\310}%\* U+03C8  
19703 \DeclareTextCommand{\textomega}{PU}{\83\311}%\* U+03C9  
19704 \newcommand\*{\psdmapshortnames}{%  
19705 \let\MVPlus\textMVPlus  
19706 \let\MVComma\textMVComma  
19707 \let\MVMinus\textMVMinus  
19708 \let\MVPeriod\textMVPeriod  
19709 \let\MVDivision\textMVDivision  
19710 \let\MVZero\textMVZero  
19711 \let\MVOne\textMVOne  
19712 \let\MVTwo\textMVTwo  
19713 \let\MVThree\textMVThree  
19714 \let\MVFour\textMVFour  
19715 \let\MVFive\textMVFive  
19716 \let\MVSix\textMVSix  
19717 \let\MVSeven\textMVSeven  
19718 \let\MVEight\textMVEight  
19719 \let\MVNine\textMVNine  
19720 \let\MVAt\textMVAt  
19721 \let\copyright\textcopyright  
19722 \let\twosuperior\texttwosuperior  
19723 \let\threesuperior\textthreesuperior  
19724 \let\onesuperior\textonesuperior  
19725 \let\Thorn\textThorn  
19726 \let\thorn\textthorn  
19727 \let\hbar\texthbar  
19728 \let\hausaB\texthausaB  
19729 \let\hausaD\texthausaD  
19730 \let\hausaK\texthausaK

19731 \let\barl\textbarl  
 19732 \let\inve\textinve  
 19733 \let\slashc\textslashc  
 19734 \let\scripta\textscripta  
 19735 \let\openo\textopeno  
 19736 \let\rtaild\textrtaild  
 19737 \let\reve\textreve  
 19738 \let\schwa\textschwa  
 19739 \let\niepsilon\textniepsilon  
 19740 \let\revepsilon\textrevepsilon  
 19741 \let\rhookrepsilon\text\rhookrepsilon  
 19742 \let\scriptg\textscriptg  
 19743 \let\scg\textscg  
 19744 \let\ipagamma\textipagamma  
 19745 \let\babygamma\textbabygamma  
 19746 \let\bari\textbari  
 19747 \let\niiota\textniiota  
 19748 \let\sci\textsci  
 19749 \let\scn\textscn  
 19750 \let\niphi\textniphi  
 19751 \let\longlegr\textlonglegr  
 19752 \let\scr\textscr  
 19753 \let\invscr\textinvscr  
 19754 \let\esh\textesh  
 19755 \let\baru\textbaru  
 19756 \let\niupsilon\textniupsilon  
 19757 \let\scriptv\textscriptv  
 19758 \let\turnv\textturnv  
 19759 \let\turnw\textturnw  
 19760 \let\turny\textturny  
 19761 \let\scy\textscy  
 19762 \let\yogh\textyogh  
 19763 \let\glotstop\textglotstop  
 19764 \let\revglotstop\textrevglotstop  
 19765 \let\invglotstop\textinvglotstop  
 19766 \let\Gamma\textGamma  
 19767 \let\Delta\textDelta  
 19768 \let\Theta\textTheta  
 19769 \let\Lambda\textLambda  
 19770 \let\Xi\textXi  
 19771 \let\Pi\textPi  
 19772 \let\Sigma\textSigma  
 19773 \let\Upsilon\textUpsilon  
 19774 \let\Phi\textPhi  
 19775 \let\Psi\textPsi  
 19776 \let\Omega\textOmega  
 19777 \let\alpha\textalpha  
 19778 \let\beta\textbeta  
 19779 \let\gamma\textgamma  
 19780 \let\delta\textdelta  
 19781 \let\epsilon\textepsilon  
 19782 \let\zeta\textzeta  
 19783 \let\eta\texteta  
 19784 \let\theta\texttheta

19785 \let\iota\textiota  
19786 \let\kappa\textkappa  
19787 \let\lambda\textlambda  
19788 \let\mu\textmu  
19789 \let\mugreek\textmugreek  
19790 \let\nu\textnu  
19791 \let\xi\textxi  
19792 \let\pi\textpi  
19793 \let\rho\textrho  
19794 \let\varsigma\textvarsigma  
19795 \let\sigma\textsigma  
19796 \let\tau\texttau  
19797 \let\upsilon\textupsilon  
19798 \let\phi\textphi  
19799 \let\chi\textchi  
19800 \let\psi\textpsi  
19801 \let\omega\textomega  
19802 \let\scd\textscd  
19803 \let\scu\textscu  
19804 \let\iinferior\textiinferior  
19805 \let\rinferior\extrinferior  
19806 \let\uiinferior\textuiinferior  
19807 \let\vinferior\textvinferior  
19808 \let\betainferior\textbetainferior  
19809 \let\gammainferior\textgammainferior  
19810 \let\rhoinferior\textrhoinferior  
19811 \let\phiinferior\textphiinferior  
19812 \let\chiinferior\textchiinferior  
19813 \let\barsci\textbarsci  
19814 \let\barp\textbarp  
19815 \let\barscu\textbarscu  
19816 \let\htrtaild\texthtrtaild  
19817 \let\dagger\textdagger  
19818 \let\bullet\textbullet  
19819 \let\hdotfor\texthdotfor  
19820 \let\prime\textprime  
19821 \let\second\textsecond  
19822 \let\third\textthird  
19823 \let\backprime\textbackprime  
19824 \let\lefttherefore\textlefttherefore  
19825 \let\fourth\textfourth  
19826 \let\diamonddots\textdiamonddots  
19827 \let\zerosuperior\textzerosuperior  
19828 \let\isuperior\textisuperior  
19829 \let\foursuperior\textfoursuperior  
19830 \let\fivesuperior\textfivesuperior  
19831 \let\sixsuperior\textsixsuperior  
19832 \let\sevensuperior\textsevensuperior  
19833 \let\eightsuperior\texteightsuperior  
19834 \let\ninesuperior\textninesuperior  
19835 \let\plussuperior\textplussuperior  
19836 \let\minussuperior\textminussuperior  
19837 \let\equalsuperior\textequalsuperior  
19838 \let\parenleftsuperior\textparenleftsuperior

19839 \let\parenrightsuperior\textparenrightsuperior  
 19840 \let\nsuperior\textnsuperior  
 19841 \let\zeroinferior\textzeroinferior  
 19842 \let\oneinferior\textoneinferior  
 19843 \let\twoinferior\texttwoinferior  
 19844 \let\threeinferior\textthreeinferior  
 19845 \let\fourinferior\textfourinferior  
 19846 \let\fiveinferior\textfiveinferior  
 19847 \let\sixinferior\textsixinferior  
 19848 \let\seveninferior\textseveninferior  
 19849 \let\eightinferior\texteightinferior  
 19850 \let\nineinferior\textnineinferior  
 19851 \let\plusinferior\textplusinferior  
 19852 \let\minusinferior\textminusinferior  
 19853 \let\equalsinferior\textequalsinferior  
 19854 \let\parenleftinferior\textparenleftinferior  
 19855 \let\parenrightinferior\textparenrightinferior  
 19856 \let\ainferior\textainferior  
 19857 \let\einferior\texteinferior  
 19858 \let\oinferior\textoinferior  
 19859 \let\xinferior\textxinferior  
 19860 \let\schwainferior\textschwainferior  
 19861 \let\hinferior\texthinferior  
 19862 \let\kinferior\textkinferior  
 19863 \let\linferior\textlinferior  
 19864 \let\minferior\textminferior  
 19865 \let\ninferior\textninferior  
 19866 \let\pinferior\textpinferior  
 19867 \let\sinferior\textsinferior  
 19868 \let\tinferior\texttinferior  
 19869 \let\Deleatur\textDeleatur  
 19870 \let\hslash\texthslash  
 19871 \let\Im\textIm  
 19872 \let\ell\textell  
 19873 \let\wp\textwp  
 19874 \let\Re\textRe  
 19875 \let\mho\textmho  
 19876 \let\riota\textriota  
 19877 \let\Finv\textFinv  
 19878 \let\aleph\textaleph  
 19879 \let\beth\textbeth  
 19880 \let\gimel\textgimel  
 19881 \let\daleth\textdaleth  
 19882 \let\x\textx  
 19883 \let\Game\textGame  
 19884 \let\leftarrow\textleftarrow  
 19885 \let\uparrow\textuparrow  
 19886 \let\rightarrow\textrightarrow  
 19887 \let\downarrow\textdownarrow  
 19888 \let\leftrightarrow\textleftrightarrow  
 19889 \let\updownarrow\textupdownarrow  
 19890 \let\nwarrow\textnwarrow  
 19891 \let\nearrow\textnearrow  
 19892 \let\searrow\textsearrow

19893 \let\swarrow\textswarrow  
 19894 \let\nleftarrow\textnleftarrow  
 19895 \let\nrightarrow\textnrightarrow  
 19896 \let\twoheadleftarrow\texttwoheadleftarrow  
 19897 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 19898 \let\twoheaduparrow\texttwoheaduparrow  
 19899 \let\twoheadrightarrow\texttwoheadrightarrow  
 19900 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 19901 \let\twoheaddownarrow\texttwoheaddownarrow  
 19902 \let\leftarrowtail\textleftarrowtail  
 19903 \let\rightarrowtail\textrightarrowtail  
 19904 \let\mapsto\textmapsto  
 19905 \let\hookrightarrow\texthookrightarrow  
 19906 \let\hookleftarrow\texthookleftarrow  
 19907 \let\looparrowleft\textlooparrowleft  
 19908 \let\looparrowright\textlooparrowright  
 19909 \let\nlefttrightharpoonup\textnlefttrightharpoonup  
 19910 \let\lightning\textlightning  
 19911 \let\dlsh\textdlsh  
 19912 \let\curvearrowleft\textcurvearrowleft  
 19913 \let\curvearrowright\textcurvearrowright  
 19914 \let\leftharpoonup\textleftharpoonup  
 19915 \let\leftharpoondown\textleftharpoondown  
 19916 \let\upharpoonright\textupharpoonright  
 19917 \let\upharpoonleft\textupharpoonleft  
 19918 \let\rightharpoonup\text\rightharpoonup  
 19919 \let\rightharpoondown\text\rightharpoondown  
 19920 \let\downharpoonright\textdownharpoonright  
 19921 \let\downharpoonleft\textdownharpoonleft  
 19922 \let\rightleftarrows\textrightleftarrows  
 19923 \let\updownarrows\textupdownarrows  
 19924 \let\leftrightarrows\textleftrightarrows  
 19925 \let\leftleftarrows\textleftleftarrows  
 19926 \let\upuparrows\textupuparrows  
 19927 \let\righttrightarrows\textrighttrightarrows  
 19928 \let\downdownarrows\textdowndownarrows  
 19929 \let\leftrightharpoons\textleftrightharpoons  
 19930 \let\rightleftharpoons\textrightleftharpoons  
 19931 \let\nLeftarrow\textnLeftarrow  
 19932 \let\nLeftrightarrow\textnLeftrightarrow  
 19933 \let\nRrightarrow\textnRrightarrow  
 19934 \let\Leftarrow\textLeftarrow  
 19935 \let\Uparrow\textUparrow  
 19936 \let\Rrightarrow\textRrightarrow  
 19937 \let\Downarrow\textDownarrow  
 19938 \let\Leftrightarrow\textLeftrightarrow  
 19939 \let\Updownarrow\textUpdownarrow  
 19940 \let\Nwarrow\textNwarrow  
 19941 \let\Nearrow\textNearrow  
 19942 \let\searrow\textsearrow  
 19943 \let\swarrow\textswarrow  
 19944 \let\Lleftarrow\textLleftarrow  
 19945 \let\Rrightarrow\textRrightarrow  
 19946 \let\leftsquigarrow\textleftsquigarrow

19947  $\backslash\mathrm{rightsquigarrow}\text{rightsquigarrow}$   
 19948  $\backslash\mathrm{dashleftarrow}\text{dashleftarrow}$   
 19949  $\backslash\mathrm{dasheduparrow}\text{dasheduparrow}$   
 19950  $\backslash\mathrm{dashrightarrow}\text{dashrightarrow}$   
 19951  $\backslash\mathrm{dasheddownarrow}\text{dasheddownarrow}$   
 19952  $\backslash\mathrm{pointer}\text{pointer}$   
 19953  $\backslash\mathrm{downuparrows}\text{downuparrows}$   
 19954  $\backslash\mathrm{leftarrowtriangle}\text{leftarrowtriangle}$   
 19955  $\backslash\mathrm{rightarrowtriangle}\text{rightarrowtriangle}$   
 19956  $\backslash\mathrm{leftrightarrowtriangle}\text{leftrightarrowtriangle}$   
 19957  $\backslash\mathrm{forall}\text{forall}$   
 19958  $\backslash\mathrm{complement}\text{complement}$   
 19959  $\backslash\mathrm{partial}\text{partial}$   
 19960  $\backslash\mathrm{exists}\text{exists}$   
 19961  $\backslash\mathrm{nexists}\text{nexists}$   
 19962  $\backslash\mathrm{emptyset}\text{emptyset}$   
 19963  $\backslash\mathrm{triangle}\text{triangle}$   
 19964  $\backslash\mathrm{nabla}\text{nabla}$   
 19965  $\backslash\mathrm{in}\text{in}$   
 19966  $\backslash\mathrm{notin}\text{notin}$   
 19967  $\backslash\mathrm{smallin}\text{smallin}$   
 19968  $\backslash\mathrm{ni}\text{ni}$   
 19969  $\backslash\mathrm{notowner}\text{notowner}$   
 19970  $\backslash\mathrm{smallowns}\text{smallowns}$   
 19971  $\backslash\mathrm{prod}\text{prod}$   
 19972  $\backslash\mathrm{amalg}\text{amalg}$   
 19973  $\backslash\mathrm{sum}\text{sum}$   
 19974  $\backslash\mathrm{mp}\text{mp}$   
 19975  $\backslash\mathrm{dotplus}\text{dotplus}$   
 19976  $\backslash\mathrm{Divides}\text{Divides}$   
 19977  $\backslash\mathrm{DividesNot}\text{DividesNot}$   
 19978  $\backslash\mathrm{setminus}\text{setminus}$   
 19979  $\backslash\mathrm{ast}\text{ast}$   
 19980  $\backslash\mathrm{circ}\text{circ}$   
 19981  $\backslash\mathrm{surd}\text{surd}$   
 19982  $\backslash\mathrm{propto}\text{propto}$   
 19983  $\backslash\mathrm{infty}\text{infty}$   
 19984  $\backslash\mathrm{angle}\text{angle}$   
 19985  $\backslash\mathrm{measuredangle}\text{measuredangle}$   
 19986  $\backslash\mathrm{sphericalangle}\text{sphericalangle}$   
 19987  $\backslash\mathrm{mid}\text{mid}$   
 19988  $\backslash\mathrm{nmid}\text{nmid}$   
 19989  $\backslash\mathrm{parallel}\text{parallel}$   
 19990  $\backslash\mathrm{nparallel}\text{nparallel}$   
 19991  $\backslash\mathrm{wedge}\text{wedge}$   
 19992  $\backslash\mathrm{owedge}\text{owedge}$   
 19993  $\backslash\mathrm{vee}\text{vee}$   
 19994  $\backslash\mathrm{ovee}\text{ovee}$   
 19995  $\backslash\mathrm{cap}\text{cap}$   
 19996  $\backslash\mathrm{cup}\text{cup}$   
 19997  $\backslash\mathrm{int}\text{int}$   
 19998  $\backslash\mathrm{iint}\text{iint}$   
 19999  $\backslash\mathrm{iiint}\text{iiint}$   
 20000  $\backslash\mathrm{ooint}\text{ooint}$

20001 \let\oiint\textoiint  
 20002 \let\ointclockwise\textointclockwise  
 20003 \let\ointctrlockwise\textointctrlockwise  
 20004 \let\therefore\texttherefore  
 20005 \let\because\textbecause  
 20006 \let\vdotdot\textvdotdot  
 20007 \let\squaredots\textsquaredots  
 20008 \let\dotminus\textdotminus  
 20009 \let\eqcolon\texteqcolon  
 20010 \let\sim\textsim  
 20011 \let\backsim\textbacksim  
 20012 \let\nbacksim\textnbacksim  
 20013 \let\wr\textwr  
 20014 \let\nsim\textnsim  
 20015 \let\eqsim\texteqsim  
 20016 \let\neqsim\textneqsim  
 20017 \let\simeq\textsimeq  
 20018 \let\nsimeq\textnsimeq  
 20019 \let\cong\textcong  
 20020 \let\ncong\textncong  
 20021 \let\approx\textapprox  
 20022 \let\napprox\textnapprox  
 20023 \let\approxeq\textapproxeq  
 20024 \let\napproxeq\textnapproxeq  
 20025 \let\triplesim\texttriplesim  
 20026 \let\ntriplesim\textntriplesim  
 20027 \let\backcong\textbackcong  
 20028 \let\nbackcong\textnbackcong  
 20029 \let\asymp\textasymp  
 20030 \let\nasymp\textnasymp  
 20031 \let\Bumpeq\textBumpeq  
 20032 \let\nBumpeq\textnBumpeq  
 20033 \let\bumpeq\textbumpeq  
 20034 \let\nbumpeq\textnbumpeq  
 20035 \let\doteq\textdoteq  
 20036 \let\ndoteq\textndoteq  
 20037 \let\doteqdot\textdoteqdot  
 20038 \let\ndoteq\textndoteq  
 20039 \let\fallingdoteq\textfallingdoteq  
 20040 \let\nfallingdoteq\textnfallingdoteq  
 20041 \let\risingdoteq\textrisingdoteq  
 20042 \let\nrisingdoteq\textnrisingdoteq  
 20043 \let\colonequals\textcolonequals  
 20044 \let\equalscolon\textequalscolon  
 20045 \let\eqcirc\texteqcirc  
 20046 \let\neqcirc\textneqcirc  
 20047 \let\circeq\textcirceq  
 20048 \let\ncirceq\textncirceq  
 20049 \let\hateq\texthateq  
 20050 \let\nhateq\textnhateq  
 20051 \let\triangleeq\texttriangleeq  
 20052 \let\neq\textneq  
 20053 \let\ne\textne  
 20054 \let\equiv\textequiv



20055 \let\nequiv\textnequiv  
 20056 \let\leq\textleq  
 20057 \let\le\textle  
 20058 \let\geq\textgeq  
 20059 \let\ge\textge  
 20060 \let\leqq\textleqq  
 20061 \let\leqq\textnleqq  
 20062 \let\geqq\textgeqq  
 20063 \let\geqq\textngeqq  
 20064 \let\leqq\textlneqq  
 20065 \let\gneqq\textgneqq  
 20066 \let\ll\textll  
 20067 \let\nll\textnll  
 20068 \let\gg\textgg  
 20069 \let\ngg\textngg  
 20070 \let\between\textbetween  
 20071 \let\nless\textnless  
 20072 \let\ngtr\textngtr  
 20073 \let\leq\textnleq  
 20074 \let\ngtr\textngeq  
 20075 \let\lessim\textlessim  
 20076 \let\gtrsim\textgtrsim  
 20077 \let\nlessim\textnlessim  
 20078 \let\ngtrsim\textngtrsim  
 20079 \let\lessgtr\textlessgtr  
 20080 \let\gtrless\textgtrless  
 20081 \let\ngtrless\textngtrless  
 20082 \let\nlessgtr\textnlessgtr  
 20083 \let\prec\textprec  
 20084 \let\succ\textsucc  
 20085 \let\preccurlyeq\textpreccurlyeq  
 20086 \let\succcurlyeq\textsucccurlyeq  
 20087 \let\prec\textprec  
 20088 \let\prec\textprec  
 20089 \let\succsim\textsuccsim  
 20090 \let\nsuccsim\textnsuccsim  
 20091 \let\prec\textprec  
 20092 \let\nsucc\textnsucc  
 20093 \let\subset\textsubset  
 20094 \let\supset\textsupset  
 20095 \let\nsubset\textnsubset  
 20096 \let\nsupset\textnsupset  
 20097 \let\subseteq\textsubseteq  
 20098 \let\supseteq\textsupseteq  
 20099 \let\nsubseteq\textnsubseteq  
 20100 \let\nsupseteq\textnsupseteq  
 20101 \let\subsetneq\textsubsetneq  
 20102 \let\supsetneq\textsupsetneq  
 20103 \let\cupdot\textcupdot  
 20104 \let\cupplus\textcupplus  
 20105 \let\sqsubset\textsqsubset  
 20106 \let\nsqsubset\textnsqsubset  
 20107 \let\sqsupset\textsqsupset  
 20108 \let\nsqsupset\textnsqsupset

20109  $\backslash\text{let}\backslash\text{sqsubseteq}\backslash\text{textsqsubseteq}$   
 20110  $\backslash\text{let}\backslash\text{nsqsubseteq}\backslash\text{textnsqsubseteq}$   
 20111  $\backslash\text{let}\backslash\text{sqsupseteq}\backslash\text{textsqsupseteq}$   
 20112  $\backslash\text{let}\backslash\text{nsqsupseteq}\backslash\text{textnsqsupseteq}$   
 20113  $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqcap}$   
 20114  $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqcup}$   
 20115  $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$   
 20116  $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$   
 20117  $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$   
 20118  $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$   
 20119  $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$   
 20120  $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$   
 20121  $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$   
 20122  $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$   
 20123  $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$   
 20124  $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$   
 20125  $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$   
 20126  $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$   
 20127  $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$   
 20128  $\backslash\text{let}\backslash\text{dashv}\backslash\text{textdashv}$   
 20129  $\backslash\text{let}\backslash\text{ndashv}\backslash\text{textndashv}$   
 20130  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 20131  $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{textndownvdash}$   
 20132  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 20133  $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{textnupvdash}$   
 20134  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 20135  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20136  $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$   
 20137  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20138  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20139  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20140  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20141  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20142  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$   
 20143  $\backslash\text{let}\backslash\text{lhs}\backslash\text{textrhs}$   
 20144  $\backslash\text{let}\backslash\text{rhd}\backslash\text{textrhd}$   
 20145  $\backslash\text{let}\backslash\text{unlhd}\backslash\text{textunlhd}$   
 20146  $\backslash\text{let}\backslash\text{unrhd}\backslash\text{textunrhd}$   
 20147  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 20148  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 20149  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 20150  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 20151  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 20152  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 20153  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20154  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20155  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textrtimes}$   
 20156  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 20157  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20158  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 20159  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20160  $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{textnbacksimeq}$   
 20161  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20162  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$

20163 \let\Subset\textSubset  
 20164 \let\NSubset\textNSubset  
 20165 \let\Supset\textSupset  
 20166 \let\NSupset\textNSupset  
 20167 \let\Cap\textCap  
 20168 \let\Cup\textCup  
 20169 \let\pitchfork\textpitchfork  
 20170 \let\lessdot\textlessdot  
 20171 \let\gtrdot\textgtrdot  
 20172 \let\lll\textlll  
 20173 \let\ggg\textggg  
 20174 \let\lesseqgtr\textlesseqgtr  
 20175 \let\gtreqless\textgtreqless  
 20176 \let\curlyeqprec\textcurlyeqprec  
 20177 \let\ncurlyeqprec\textncurlyeqprec  
 20178 \let\curlyeqsucc\textcurlyeqsucc  
 20179 \let\ncurlyeqsucc\textncurlyeqsucc  
 20180 \let\preccurlyeq\textpreccurlyeq  
 20181 \let\nsucccurlyeq\textnsucccurlyeq  
 20182 \let\sqsubseteq\textsqsubseteq  
 20183 \let\sqsupseteq\textsqsupseteq  
 20184 \let\sqsubsetneq\textsqsubsetneq  
 20185 \let\sqsupsetneq\textsqsupsetneq  
 20186 \let\lnsim\textlnsim  
 20187 \let\gnsim\textgnsim  
 20188 \let\precnsim\textprecnsim  
 20189 \let\succnsim\textsuccnsim  
 20190 \let\triangleleft\texttriangleleft  
 20191 \let\triangleright\texttriangleright  
 20192 \let\trianglelefteq\texttrianglelefteq  
 20193 \let\trianglerighteq\texttrianglerighteq  
 20194 \let\vdots\textvdots  
 20195 \let\cdots\textcdots  
 20196 \let\udots\textudots  
 20197 \let\ddots\textddots  
 20198 \let\barin\textbarin  
 20199 \let\diameter\textdiameter  
 20200 \let\backneg\textbackneg  
 20201 \let\wasylozenge\textwasylozenge  
 20202 \let\invbackneg\textinvbackneg  
 20203 \let\clock\textclock  
 20204 \let\ulcorner\textulcorner  
 20205 \let\urcorner\texturcorner  
 20206 \let\llcorner\textllcorner  
 20207 \let\lrcorner\textlrcorner  
 20208 \let\frown\textfrown  
 20209 \let\smile\textsmile  
 20210 \let\Keyboard\textKeyboard  
 20211 \let\langle\textlangle  
 20212 \let\rangle\textrangle  
 20213 \let\APLinv\textAPLinv  
 20214 \let\Tumbler\textTumbler  
 20215 \let\notslash\textnotslash  
 20216 \let\notbackslash\textnotbackslash

20217 \let\boxbackslash\textboxbackslash  
 20218 \let\APLleftarrowbox\textAPLleftarrowbox  
 20219 \let\APLrightarrowbox\textAPLrightarrowbox  
 20220 \let\APLuparrowbox\textAPLuparrowbox  
 20221 \let\APLdownarrowbox\textAPLdownarrowbox  
 20222 \let\APLinput\textAPLinput  
 20223 \let\Request\textRequest  
 20224 \let\Beam\textBeam  
 20225 \let\hexagon\texthexagon  
 20226 \let\APLbox\textAPLbox  
 20227 \let\ForwardToIndex\textForwardToIndex  
 20228 \let\RewindToIndex\textRewindToIndex  
 20229 \let\bbslash\textbbslash  
 20230 \let\CircledA\textCircledA  
 20231 \let\CleaningF\textCleaningF  
 20232 \let\CleaningFF\textCleaningFF  
 20233 \let\CleaningP\textCleaningP  
 20234 \let\CleaningPP\textCleaningPP  
 20235 \let\CuttingLine\textCuttingLine  
 20236 \let\UParrow\textUParrow  
 20237 \let\bigtriangleup\textbigtriangleup  
 20238 \let\Forward\textForward  
 20239 \let\triangleright\texttriangleright  
 20240 \let\RHD\textRHD  
 20241 \let\DOWNarrow\textDOWNarrow  
 20242 \let\bigtriangledown\textbigtriangledown  
 20243 \let\Rewind\textRewind  
 20244 \let\triangleleft\texttriangleleft  
 20245 \let\LHD\textLHD  
 20246 \let\diamond\textdiamond  
 20247 \let\lozenge\textlozenge  
 20248 \let\LEFTCIRCLE\textLEFTCIRCLE  
 20249 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 20250 \let\openbullet\textopenbullet  
 20251 \let\boxbar\textboxbar  
 20252 \let\bigcircle\textbigcircle  
 20253 \let\Cloud\textCloud  
 20254 \let\FiveStar\textFiveStar  
 20255 \let\FiveStarOpen\textFiveStarOpen  
 20256 \let\Phone\textPhone  
 20257 \let\boxempty\textboxempty  
 20258 \let\Checkedbox\textCheckedbox  
 20259 \let\Crossedbox\textCrossedbox  
 20260 \let\Coffeecup\textCoffeecup  
 20261 \let\HandCuffLeft\textHandCuffLeft  
 20262 \let\HandCuffRight\textHandCuffRight  
 20263 \let\HandLeft\textHandLeft  
 20264 \let\HandRight\textHandRight  
 20265 \let\Radioactivity\textRadioactivity  
 20266 \let\Biohazard\textBiohazard  
 20267 \let\Ankh\textAnkh  
 20268 \let\YinYang\textYinYang  
 20269 \let\frownie\textfrownie  
 20270 \let\smiley\textsmiley

20271 \let\blacksmiley\textblacksmiley  
 20272 \let\sun\textsun  
 20273 \let\leftmoon\textleftmoon  
 20274 \let\rightmoon\textrightmoon  
 20275 \let\mercury\textmercury  
 20276 \let\earth\textearth  
 20277 \let\male\textmale  
 20278 \let\jupiter\textjupiter  
 20279 \let\saturn\textsaturn  
 20280 \let\uranus\texturanus  
 20281 \let\neptune\textneptune  
 20282 \let\pluto\textpluto  
 20283 \let\aries\textaries  
 20284 \let\taurus\texttaurus  
 20285 \let\gemini\textgemini  
 20286 \let\cancer\textcancer  
 20287 \let\leo\textleo  
 20288 \let\virgo\textvirgo  
 20289 \let\libra\textlibra  
 20290 \let\scorpio\textscorpio  
 20291 \let\sagittarius\textsagittarius  
 20292 \let\capricornus\textcapricornus  
 20293 \let\aquarius\textaquarius  
 20294 \let\pisces\textpisces  
 20295 \let\quarternote\textquarternote  
 20296 \let\twonotes\texttwonotes  
 20297 \let\sixteenthnote\textsixteenthnote  
 20298 \let\flat\textflat  
 20299 \let\natural\textnatural  
 20300 \let\sharp\textsharp  
 20301 \let\recycle\textrecycle  
 20302 \let\Wheelchair\textWheelchair  
 20303 \let\Flag\textFlag  
 20304 \let\MineSign\textMineSign  
 20305 \let\ds\textds  
 20306 \let\ds\textds  
 20307 \let\ds\textds  
 20308 \let\ds\textds  
 20309 \let\ds\textds  
 20310 \let\ds\textds  
 20311 \let\manstar\textmanstar  
 20312 \let\danger\textdanger  
 20313 \let\FemaleFemale\textFemaleFemale  
 20314 \let\MaleMale\textMaleMale  
 20315 \let\FemaleMale\textFemaleMale  
 20316 \let\Hermaphrodite\textHermaphrodite  
 20317 \let\Neutral\textNeutral  
 20318 \let\hexstar\texthexstar  
 20319 \let\SunCloud\textSunCloud  
 20320 \let\Rain\textRain  
 20321 \let\noway\textnoway  
 20322 \let\Mountain\textMountain  
 20323 \let\Tent\textTent  
 20324 \let\ScissorRight\textScissorRight

20325 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20326 \let\ScissorHollowRight\textScissorHollowRight  
 20327 \let\PhoneHandset\textPhoneHandset  
 20328 \let\Tape\textTape  
 20329 \let\Plane\textPlane  
 20330 \let\Envelope\textEnvelope  
 20331 \let\Peace\textPeace  
 20332 \let\WritingHand\textWritingHand  
 20333 \let\PencilRightDown\textPencilRightDown  
 20334 \let\PencilRight\textPencilRight  
 20335 \let\PencilRightUp\textPencilRightUp  
 20336 \let\NibRight\textNibRight  
 20337 \let\NibSolidRight\textNibSolidRight  
 20338 \let\Checkmark\textCheckmark  
 20339 \let\CheckmarkBold\textCheckmarkBold  
 20340 \let\XSolid\textXSolid  
 20341 \let\XSolidBold\textXSolidBold  
 20342 \let\XSolidBrush\textXSolidBrush  
 20343 \let\PlusOutline\textPlusOutline  
 20344 \let\Plus\textPlus  
 20345 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20346 \let\PlusCenterOpen\textPlusCenterOpen  
 20347 \let\Cross\textCross  
 20348 \let\CrossOpenShadow\textCrossOpenShadow  
 20349 \let\CrossOutline\textCrossOutline  
 20350 \let\CrossMaltese\textCrossMaltese  
 20351 \let\DavidStar\textDavidStar  
 20352 \let\FourAsterisk\textFourAsterisk  
 20353 \let\JackStar\textJackStar  
 20354 \let\JackStarBold\textJackStarBold  
 20355 \let\ClowerTips\textClowerTips  
 20356 \let\FourStar\textFourStar  
 20357 \let\FourStarOpen\textFourStarOpen  
 20358 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20359 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20360 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20361 \let\FiveStarOutline\textFiveStarOutline  
 20362 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20363 \let\FiveStarConvex\textFiveStarConvex  
 20364 \let\FiveStarShadow\textFiveStarShadow  
 20365 \let\AsteriskBold\textAsteriskBold  
 20366 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20367 \let\EightStarTaper\textEightStarTaper  
 20368 \let\EightStarConvex\textEightStarConvex  
 20369 \let\SixStar\textSixStar  
 20370 \let\EightStar\textEightStar  
 20371 \let\EightStarBold\textEightStarBold  
 20372 \let\TwelveStar\textTwelveStar  
 20373 \let\SixteenStarLight\textSixteenStarLight  
 20374 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20375 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20376 \let\Asterisk\textAsterisk  
 20377 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20378 \let\FiveFlowerPetal\textFiveFlowerPetal

20379 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20380 \let\EightFlowerPetal\textEightFlowerPetal  
 20381 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20382 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20383 \let\SnowflakeChevron\textSnowflakeChevron  
 20384 \let\Snowflake\textSnowflake  
 20385 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20386 \let\Sparkle\textSparkle  
 20387 \let\SparkleBold\textSparkleBold  
 20388 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20389 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20390 \let\EightAsterisk\textEightAsterisk  
 20391 \let\CircleShadow\textCircleShadow  
 20392 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20393 \let\SquareTopRight\textSquareTopRight  
 20394 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20395 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20396 \let\DiamondSolid\textDiamondSolid  
 20397 \let\RectangleThin\textRectangleThin  
 20398 \let\Rectangle\textRectangle  
 20399 \let\RectangleBold\textRectangleBold  
 20400 \let\perp\textperp  
 20401 \let\notperp\textnotperp  
 20402 \let\veedot\textveedot  
 20403 \let\wedgedot\textwedgedot  
 20404 \let\leftspoon\textleftspoon  
 20405 \let\lbrackdbl\textlbrackdbl  
 20406 \let\rbrackdbl\textrbrackdbl  
 20407 \let\circlearrowleft\textcirclearrowleft  
 20408 \let\circlearrowright\textcirclearrowright  
 20409 \let\longleftarrow\textlongleftarrow  
 20410 \let\longrightarrow\textlongrightarrow  
 20411 \let\longleftarrow\textlongleftarrow  
 20412 \let\Longleftarrow\textLongleftarrow  
 20413 \let\Longrightarrow\textLongrightarrow  
 20414 \let\Longleftarrow\textLongleftarrow  
 20415 \let\longmapsto\textlongmapsto  
 20416 \let\Longmapsfrom\textLongmapsfrom  
 20417 \let\Longmapsto\textLongmapsto  
 20418 \let\nwsearrow\textnwsearrow  
 20419 \let\neswarrow\textneswarrow  
 20420 \let\hookrightarrow\texthookrightarrow  
 20421 \let\rhookrightarrow\text\rhookrightarrow  
 20422 \let\hookrightarrow\texthookrightarrow  
 20423 \let\rhookrightarrow\text\rhookrightarrow  
 20424 \let\leadsto\textleadsto  
 20425 \let\curvearrowright\textcurvearrowright  
 20426 \let\lcurvearrowright\textlcurvearrowright  
 20427 \let\lcurvearrowright\textlcurvearrowright  
 20428 \let\curvearrowright\textcurvearrowright  
 20429 \let\lcurvearrowdown\textlcurvearrowdown  
 20430 \let\curvearrowdown\textcurvearrowdown  
 20431 \let\curvearrowleft\textcurvearrowleft  
 20432 \let\curvearrowright\textcurvearrowright

20433 \let\leftrightharpoon\textleftrightharpoon  
 20434 \let\rightleftharpoon\textrightleftharpoon  
 20435 \let\updownharpoonrightleft\textupdownharpoonrightleft  
 20436 \let\updownharpoonleftright\textupdownharpoonleftright  
 20437 \let\leftleftharpoons\textleftleftharpoons  
 20438 \let\upupharpoons\textupupharpoons  
 20439 \let\righttrightharpoons\textrighttrightharpoons  
 20440 \let\downdownharpoons\textdowndownharpoons  
 20441 \let\leftbarharpoon\textleftbarharpoon  
 20442 \let\barleftharpoon\textbarleftharpoon  
 20443 \let\rightbarharpoon\textrightbarharpoon  
 20444 \let\barriightharpoon\textbarriightharpoon  
 20445 \let\updownharpoons\textupdownharpoons  
 20446 \let\downupharpoons\textdownupharpoons  
 20447 \let\moo\textmoo  
 20448 \let\llparenthesis\textllparenthesis  
 20449 \let\rrparenthesis\textrrparenthesis  
 20450 \let\invdiameter\textinvdiameter  
 20451 \let\obar\textobar  
 20452 \let\obslash\textobslash  
 20453 \let\obot\textobot  
 20454 \let\NoChemicalCleaning\textNoChemicalCleaning  
 20455 \let\olessthan\textolessthan  
 20456 \let\ogreaterthan\textogreaterthan  
 20457 \let\boxslash\textboxslash  
 20458 \let\boxbslash\textboxbslash  
 20459 \let\boxast\textboxast  
 20460 \let\boxcircle\textboxcircle  
 20461 \let\boxbox\textboxbox  
 20462 \let\Valve\textValve  
 20463 \let\multimapboth\textmultimapboth  
 20464 \let\shuffle\textshuffle  
 20465 \let\uplus\textuplus  
 20466 \let\bigdoublewedge\textbigdoublewedge  
 20467 \let\bigdoublevee\textbigdoublevee  
 20468 \let\Join\textJoin  
 20469 \let\fatsemi\textfatsemi  
 20470 \let\cirplus\textcirplus  
 20471 \let\minusdot\textminusdot  
 20472 \let\dottimes\textdottimes  
 20473 \let\dtimes\textdtimes  
 20474 \let\odiv\textodiv  
 20475 \let\invneg\textinvneg  
 20476 \let\sqdoublecap\textsqdoublecap  
 20477 \let\capdot\textcapdot  
 20478 \let\sqdoublecup\textsqdoublecup  
 20479 \let\doublewedge\textdoublewedge  
 20480 \let\doublevee\textdoublevee  
 20481 \let\doublebarwedge\textdoublebarwedge  
 20482 \let\veedoublebar\textveedoublebar  
 20483 \let\eqdot\texteqdot  
 20484 \let\neqdot\textneqdot  
 20485 \let\coloncolonequals\textcoloncolonequals  
 20486 \let\leqslant\textleqslant



20487  $\backslash\mathrm{leqslant}\backslash\mathrm{textleqslant}$   
 20488  $\backslash\mathrm{geqslant}\backslash\mathrm{textgeqslant}$   
 20489  $\backslash\mathrm{ngeqslant}\backslash\mathrm{textngeqslant}$   
 20490  $\backslash\mathrm{lessapprox}\backslash\mathrm{textlessapprox}$   
 20491  $\backslash\mathrm{nlessapprox}\backslash\mathrm{textnlessapprox}$   
 20492  $\backslash\mathrm{gtrapprox}\backslash\mathrm{textgtrapprox}$   
 20493  $\backslash\mathrm{ngtrapprox}\backslash\mathrm{textngtrapprox}$   
 20494  $\backslash\mathrm{ineq}\backslash\mathrm{textineq}$   
 20495  $\backslash\mathrm{gneq}\backslash\mathrm{textgneq}$   
 20496  $\backslash\mathrm{lnapprox}\backslash\mathrm{textlnapprox}$   
 20497  $\backslash\mathrm{gnapprox}\backslash\mathrm{textgnapprox}$   
 20498  $\backslash\mathrm{lesseqgtr}\backslash\mathrm{textlesseqgtr}$   
 20499  $\backslash\mathrm{gtreqless}\backslash\mathrm{textgtreqless}$   
 20500  $\backslash\mathrm{eqslantless}\backslash\mathrm{texteqslantless}$   
 20501  $\backslash\mathrm{eqslantgtr}\backslash\mathrm{texteqslantgtr}$   
 20502  $\backslash\mathrm{leftslice}\backslash\mathrm{textleftslice}$   
 20503  $\backslash\mathrm{rightslice}\backslash\mathrm{textrightslice}$   
 20504  $\backslash\mathrm{preceq}\backslash\mathrm{textpreceq}$   
 20505  $\backslash\mathrm{npreceq}\backslash\mathrm{textnpreceq}$   
 20506  $\backslash\mathrm{succeq}\backslash\mathrm{textsucceq}$   
 20507  $\backslash\mathrm{nsucceq}\backslash\mathrm{textnsucceq}$   
 20508  $\backslash\mathrm{precneq}\backslash\mathrm{textprecneq}$   
 20509  $\backslash\mathrm{succneq}\backslash\mathrm{textsuccneq}$   
 20510  $\backslash\mathrm{preceqq}\backslash\mathrm{textpreceqq}$   
 20511  $\backslash\mathrm{npreceqq}\backslash\mathrm{textnpreceqq}$   
 20512  $\backslash\mathrm{succeqq}\backslash\mathrm{textsucceqq}$   
 20513  $\backslash\mathrm{nsucceqq}\backslash\mathrm{textnsucceqq}$   
 20514  $\backslash\mathrm{precneqq}\backslash\mathrm{textprecneqq}$   
 20515  $\backslash\mathrm{succneqq}\backslash\mathrm{textsuccneqq}$   
 20516  $\backslash\mathrm{precapprox}\backslash\mathrm{textprecapprox}$   
 20517  $\backslash\mathrm{nprecapprox}\backslash\mathrm{textnprecapprox}$   
 20518  $\backslash\mathrm{succapprox}\backslash\mathrm{textsuccapprox}$   
 20519  $\backslash\mathrm{nsuccapprox}\backslash\mathrm{textnsuccapprox}$   
 20520  $\backslash\mathrm{precnapprox}\backslash\mathrm{textprecnapprox}$   
 20521  $\backslash\mathrm{succnapprox}\backslash\mathrm{textsuccnapprox}$   
 20522  $\backslash\mathrm{subseteqq}\backslash\mathrm{textsubseteqq}$   
 20523  $\backslash\mathrm{nsubseteqq}\backslash\mathrm{textnsubseteqq}$   
 20524  $\backslash\mathrm{supseteqq}\backslash\mathrm{textsupseteqq}$   
 20525  $\backslash\mathrm{nsupseteqq}\backslash\mathrm{textnsupseteqq}$   
 20526  $\backslash\mathrm{dashV}\backslash\mathrm{textdashV}$   
 20527  $\backslash\mathrm{ndashV}\backslash\mathrm{textndashV}$   
 20528  $\backslash\mathrm{Dashv}\backslash\mathrm{textDashv}$   
 20529  $\backslash\mathrm{nDashv}\backslash\mathrm{textnDashv}$   
 20530  $\backslash\mathrm{DashV}\backslash\mathrm{textDashV}$   
 20531  $\backslash\mathrm{nDashV}\backslash\mathrm{textnDashV}$   
 20532  $\backslash\mathrm{downmodels}\backslash\mathrm{textdownmodels}$   
 20533  $\backslash\mathrm{ndownmodels}\backslash\mathrm{textndownmodels}$   
 20534  $\backslash\mathrm{upmodels}\backslash\mathrm{textupmodels}$   
 20535  $\backslash\mathrm{nupmodels}\backslash\mathrm{textnupmodels}$   
 20536  $\backslash\mathrm{upspoon}\backslash\mathrm{textupspoon}$   
 20537  $\backslash\mathrm{interleave}\backslash\mathrm{textinterleave}$   
 20538  $\backslash\mathrm{slash}\backslash\mathrm{textslash}$   
 20539  $\backslash\mathrm{pentagon}\backslash\mathrm{textpentagon}$   
 20540  $\backslash\mathrm{varhexagon}\backslash\mathrm{textvarhexagon}$

20541 `\let\jinferior\textjinferior`  
 20542 `\let\slashdiv\textslashdiv`  
 20543 `\let\fivedots\textfivedots`  
 20544 `\let\oo\textoo`  
 20545 `\let\GaPa\textGaPa`  
 20546 `\let\HaPa\textHaPa`  
 20547 `\let\ViPa\textViPa`  
 20548 `\let\AcPa\textAcPa`  
 20549 `\let\SePa\textSePa`  
 20550 `\let\ZwPa\textZwPa`  
 20551 `\let\fullnote\textfullnote`  
 20552 `\let\halfnote\texthalfnote`  
 20553 `\let\Vier\textVier`  
 20554 `\let\Acht\textAcht`  
 20555 `\let\Sech\textSech`  
 20556 `\let\Zwdr\textZwdr`  
 20557 `\let\Mundus\textMundus`  
 20558 `\let\Moon\textMoon`  
 20559 `\let\ManFace\textManFace`  
 20560 `\let\WomanFace\textWomanFace`  
 20561 `\let\Fax\textFax`  
 20562 `\let\Fire\textFire`  
 20563 `\let\Bicycle\textBicycle`  
 20564 `\let\Gentsroom\textGentsroom`  
 20565 `\let\Ladiesroom\textLadiesroom`  
 20566 `\let\ccnc\textccnc`  
 20567 `\let\ccsa\textccsa`  
 20568 `\let\Info\textInfo`  
 20569 `\let\CESign\textCESign`  
 20570 `\let\neg\textneg`  
 20571 `\let\times\texttimes`  
 20572 `\let\div\textdiv`  
 20573 `\let\pm\textpm`  
 20574 `\let\cdot\textcdot`  
 20575 `\}% \psdmapshortnames`  
 20576 `\newcommand*{\psdaliasnames}{\%`  
 20577 `\let\epsdice\HyPsd@DieFace`  
 20578 `\let\fcdice\HyPsd@DieFace`  
 20579 `\let\MoonPha\HyPsd@MoonPha`  
 20580 `\let\mathdollar\textdollar`  
 20581 `\let\EyesDollar\textdollar`  
 20582 `\let\binampersand\textampersand`  
 20583 `\let\with\textampersand`  
 20584 `\let\mathunderscore\textunderscore`  
 20585 `\let\textvertline\textbar`  
 20586 `\let\mathsterling\textsterling`  
 20587 `\let\pounds\textsterling`  
 20588 `\let\brokenvert\textbrokenbar`  
 20589 `\let\mathsection\textsection`  
 20590 `\let\S\textsection`  
 20591 `\let\mathparagraph\textparagraph`  
 20592 `\let\MultiplicationDot\textperiodcentered`  
 20593 `\let\Squaredot\textperiodcentered`  
 20594 `\let\vartimes\textmultiply`

20595 \let\MVMultiplication\textmultiply  
 20596 \let\eth\dh  
 20597 \let\crossd\textcrd  
 20598 \let\textbard\textcrd  
 20599 \let\bard\textcrd  
 20600 \let\textcrh\texthbar  
 20601 \let\crossh\texthbar  
 20602 \let\planck\texthbar  
 20603 \let\eng\ng  
 20604 \let\engma\ng  
 20605 \let\crossb\textcrb  
 20606 \let\textbarb\textcrb  
 20607 \let\barb\textcrb  
 20608 \let\Florin\textflorin  
 20609 \let\hv\texthvl  
 20610 \let\hausak\texthtk  
 20611 \let\crossnilambda\textcrlambda  
 20612 \let\barlambda\textcrlambda  
 20613 \let\lambdabar\textcrlambda  
 20614 \let\lambdash\textcrlambda  
 20615 \let\textnrleg\textPUnrleg  
 20616 \let\textpipevar\textpipe  
 20617 \let\textdoublepipevar\textdoublepipe  
 20618 \let\textdoublebarpipevar\textdoublebarpipe  
 20619 \let\textcrg\textgslash  
 20620 \let\textdblig\textPUdblig  
 20621 \let\textqplig\textPUqplig  
 20622 \let\textcentoldstyle\textslashc  
 20623 \let\textbarc\textslashc  
 20624 \let\inva\textturna  
 20625 \let\vara\textscripta  
 20626 \let\invscripta\textturnscripta  
 20627 \let\rotvara\textturnscripta  
 20628 \let\hookb\texthtb  
 20629 \let\hausab\texthtb  
 20630 \let\varopeno\textopeno  
 20631 \let\curlyc\textctc  
 20632 \let\taild\textrtaild  
 20633 \let\hookd\texthtd  
 20634 \let\hausad\texthtd  
 20635 \let\er\textrhookswa  
 20636 \let\epsi\textniepsilon  
 20637 \let\hookrepsilon\texthookrepsilon  
 20638 \let\closedrepsilon\textcloserepsilon  
 20639 \let\barj\textbardotlessj  
 20640 \let\hookg\texthtg  
 20641 \let\varg\textscriptg  
 20642 \let\vod\texttipagamma  
 20643 \let\invh\textturnh  
 20644 \let\udesc\textturnh  
 20645 \let\hookh\texthth  
 20646 \let\voicedh\texthth  
 20647 \let\hookheng\texththeng  
 20648 \let\ibar\textbari

20649 \let\vari\textnniota  
 20650 \let\tildel\textltilde  
 20651 \let\latfric\textbeltl  
 20652 \let\tail\texttrtail  
 20653 \let\lz\textlyoghlig  
 20654 \let\invm\textturnm  
 20655 \let\rotm\textturnm  
 20656 \let\legm\textturnmrleg  
 20657 \let\labdentainas\textltailm  
 20658 \let\emgma\textltailm  
 20659 \let\nj\textltailn  
 20660 \let\enya\textltailn  
 20661 \let\tailn\textrtailn  
 20662 \let\closedniomega\textcloseomega  
 20663 \let\varomega\textcloseomega  
 20664 \let\invr\textturnr  
 20665 \let\rotr\textturnr  
 20666 \let\invlegr\textturnlonglegr  
 20667 \let\tailinvr\textturnrrtail  
 20668 \let\legr\textlonglegr  
 20669 \let\tailr\textrtailr  
 20670 \let\flapr\textfishhookr  
 20671 \let\flap\textfishhookr  
 20672 \let\tails\textrtails  
 20673 \let\curlyesh\textctesh  
 20674 \let\clickt\textturnt  
 20675 \let\tailt\textrtailt  
 20676 \let\ubar\textbaru  
 20677 \let\rotOmega\textniupsilon  
 20678 \let\invv\textturnv  
 20679 \let\pwedge\textturnv  
 20680 \let\invw\textturnw  
 20681 \let\rotw\textturnw  
 20682 \let\invy\textturny  
 20683 \let\roty\textturny  
 20684 \let\tailz\textrtailz  
 20685 \let\curlyz\textctz  
 20686 \let\curlyyogh\textctyogh  
 20687 \let\ejective\textglotstop  
 20688 \let\glottal\textglotstop  
 20689 \let\reveject\textrevglotstop  
 20690 \let\clickc\textstretchc  
 20691 \let\textstretchcvar\textstretchc  
 20692 \let\clickb\textbullseye  
 20693 \let\textObullseye\textbullseye  
 20694 \let\textctjvar\textctj  
 20695 \let\textturnsck\textturnk  
 20696 \let\dz\textdzlig  
 20697 \let\tesh\textteshlig  
 20698 \let\digamma\textdigammagreek  
 20699 \let\hardsign\cyrrhdsn  
 20700 \let\softsign\cyrsftsn  
 20701 \let\hebsin\hebshin  
 20702 \let\textsck\textPUscck

20703 \let\textscm\textPUscm  
 20704 \let\textscp\textPUscp  
 20705 \let\textrevscr\textPUrevscr  
 20706 \let\textrhoaka\textPURhooka  
 20707 \let\textrhooke\textPURhooke  
 20708 \let\textrhookepsilon\textPURhookepsilon  
 20709 \let\texthookopeno\textPURhookopeno  
 20710 \let\textdoublevertline\textbardbl  
 20711 \let\dag\textdagger  
 20712 \let\ddagger\textdaggerdbl  
 20713 \let\ddag\textdaggerdbl  
 20714 \let\mathellipsis\textellipsis  
 20715 \let\EurDig\texteuro  
 20716 \let\EURdig\texteuro  
 20717 \let\EurHv\texteuro  
 20718 \let\EURhv\texteuro  
 20719 \let\EurCr\texteuro  
 20720 \let\EURcr\texteuro  
 20721 \let\EurTm\texteuro  
 20722 \let\EURtm\texteuro  
 20723 \let\Eur\texteuro  
 20724 \let\Denarius\textDeleatur  
 20725 \let\agemO\textmho  
 20726 \let\EstimatedSign\textestimated  
 20727 \let\Ecommerce\textestimated  
 20728 \let\bindnasrepma\textinvamp  
 20729 \let\parr\textinvamp  
 20730 \let\MVRightArrow\textrightarrow  
 20731 \let\MVRightarrow\textrightarrow  
 20732 \let\MVArrowDown\textdownarrow  
 20733 \let\Force\textdownarrow  
 20734 \let\textglobrise\textnearrow  
 20735 \let\textglobfall\textsearrow  
 20736 \let\Lightning\textlightning  
 20737 \let\Conclusion\textrightarrow  
 20738 \let\dashedleftarrow\textdashleftarrow  
 20739 \let\dashedrightarrow\textdashrightarrow  
 20740 \let\varnothing\textemptyset  
 20741 \let\owns\textni  
 20742 \let\notni\textnotowner  
 20743 \let\varprop\textpropto  
 20744 \let\varangle\textsphericalangle  
 20745 \let\Anglesign\textsphericalangle  
 20746 \let\AngleSign\textsphericalangle  
 20747 \let\notdivides\textnmid  
 20748 \let\varowedge\textowedge  
 20749 \let\varovee\textovee  
 20750 \let\varint\textint  
 20751 \let\varoint\textoint  
 20752 \let\downtherefore\textbecause  
 20753 \let\textdotdiv\textdotminus  
 20754 \let\AC\textsim  
 20755 \let\wreath\textwr  
 20756 \let\nthickapprox\textnapprox

20757 \let\VHF\texttriplesim  
 20758 \let\notasymp\textnasymp  
 20759 \let\Doteq\textdoteqdot  
 20760 \let\corresponds\texthateq  
 20761 \let\Corresponds\texthateq  
 20762 \let\nequal\textneq  
 20763 \let\Congruent\textequiv  
 20764 \let\NotCongruent\textnequiv  
 20765 \let\notequiv\textnequiv  
 20766 \let\LessOrEqual\textleq  
 20767 \let\LargerOrEqual\textgeq  
 20768 \let\apprle\textless  
 20769 \let\apprge\textgtr  
 20770 \let\varoplus\textoplus  
 20771 \let\varominus\textominus  
 20772 \let\varotimes\textotimes  
 20773 \let\varoslash\textoslash  
 20774 \let\varodot\textodot  
 20775 \let\ocirc\textcircledcirc  
 20776 \let\varocircle\textcircledcirc  
 20777 \let\varoast\textcircledast  
 20778 \let\oasterisk\textcircledast  
 20779 \let\rightvdash\textvdash  
 20780 \let\leftvdash\textdashv  
 20781 \let\leftvdash\textdashv  
 20782 \let\downvdash\texttop  
 20783 \let\upvdash\textbot  
 20784 \let\rightperp\textnupvdash  
 20785 \let\models\textvDash  
 20786 \let\models\textvDash  
 20787 \let\models\textVdash  
 20788 \let\models\textVdash  
 20789 \let\models\textnvDash  
 20790 \let\models\textnvDash  
 20791 \let\models\textnvDash  
 20792 \let\models\textnVdash  
 20793 \let\models\textnVdash  
 20794 \let\lessclosed\textlhd  
 20795 \let\gtrclosed\textrhd  
 20796 \let\leqclosed\textunlhd  
 20797 \let\trianglelefteq\textunlhd  
 20798 \let\geqclosed\textunrhd  
 20799 \let\trianglerighteq\textunrhd  
 20800 \let\Bowtie\textbowtie  
 20801 \let\varcurlyvee\textcurlyvee  
 20802 \let\varcurlywedge\textcurlywedge  
 20803 \let\doublecap\textCap  
 20804 \let\doublecup\textCup  
 20805 \let\varsubsetneq\textsubsetneq  
 20806 \let\varsupsetneq\textsupsetneq  
 20807 \let\lessclosed\texttriangleleft  
 20808 \let\ngtrclosed\texttriangleleft  
 20809 \let\Clocklogo\textclock  
 20810 \let\ClockLogo\textclock

20811 \let\baro\textstmaryrdbaro  
 20812 \let\varparallelinv\textbbslash  
 20813 \let\CleaningA\textCircledA  
 20814 \let\Kutline\textCuttingLine  
 20815 \let\CutLine\textCuttingLine  
 20816 \let\Cutline\textCuttingLine  
 20817 \let\MoveUp\textUParrow  
 20818 \let\APLup\textbigtriangleup  
 20819 \let\Bleech\textbigtriangleup  
 20820 \let\MoveDown\textDOWNarrow  
 20821 \let\APLdown\textbigtriangledown  
 20822 \let\Diamond\textdiamond  
 20823 \let\varbigcirc\textbigcircle  
 20824 \let\Telefon\textPhone  
 20825 \let\Box\textboxempty  
 20826 \let\CheckedBox\textCheckedbox  
 20827 \let\XBox\textCrossedbox  
 20828 \let\CrossedBox\textCrossedbox  
 20829 \let\rightpointleft\textHandLeft  
 20830 \let\leftpointright\textHandRight  
 20831 \let\PointingHand\textHandRight  
 20832 \let\Pointinghand\textHandRight  
 20833 \let\Radiation\textRadioactivity  
 20834 \let\Yinyang\textYinYang  
 20835 \let\YingYang\textYinYang  
 20836 \let\Yingyang\textYinYang  
 20837 \let\Frowny\textfrownie  
 20838 \let\Smiley\textsmiley  
 20839 \let\Sun\textsun  
 20840 \let\Mercury\textmercury  
 20841 \let\textfemale\textPUfemale  
 20842 \let\female\textPUfemale  
 20843 \let\venus\textPUfemale  
 20844 \let\Venus\textPUfemale  
 20845 \let\Female\textPUfemale  
 20846 \let\Earth\textearth  
 20847 \let\mars\textmale  
 20848 \let\Mars\textmale  
 20849 \let\Male\textmale  
 20850 \let\Jupiter\textjupiter  
 20851 \let\Saturn\textsaturn  
 20852 \let\Uranus\texturanus  
 20853 \let\Neptune\textneptune  
 20854 \let\Pluto\textpluto  
 20855 \let\Aries\textaries  
 20856 \let\Taurus\texttaurus  
 20857 \let\Gemini\textgemini  
 20858 \let\Cancer\textcancer  
 20859 \let\Leo\textleo  
 20860 \let\Virgo\textvirgo  
 20861 \let\Libra\textlibra  
 20862 \let\Scorpio\textscorpio  
 20863 \let\Sagittarius\textsagittarius  
 20864 \let\Capricorn\textcapricornus

20865 \let\Aquarius\textaquarius  
 20866 \let\Pisces\textpisces  
 20867 \let\spadesuit\textspadesuitblack  
 20868 \let\Heart\textheartsuitwhite  
 20869 \let\heartsuit\textheartsuitwhite  
 20870 \let\diamondsuit\textdiamondsuitwhite  
 20871 \let\clubsuit\textclubsuitblack  
 20872 \let\eighthnote\textmusicalnote  
 20873 \let\Recycling\textrecycle  
 20874 \let\VarFlag\textFlag  
 20875 \let\textxswup\textdsmilitary  
 20876 \let\textuncrfemale\textPUuncrfemale  
 20877 \let\Football\textSoccerBall  
 20878 \let\CutLeft\textScissorRightBrokenBottom  
 20879 \let\Cutright\textScissorRightBrokenBottom  
 20880 \let\RightScissors\textScissorRight  
 20881 \let\Leftscissors\textScissorRight  
 20882 \let\Letter\textEnvelope  
 20883 \let\Writinghand\textWritingHand  
 20884 \let\checkmark\textCheckmark  
 20885 \let\DavidStar\textDavidStar  
 20886 \let\llbracket\textlbrackdbl  
 20887 \let\rrbracket\textrrbrackdbl  
 20888 \let\RightTorque\textlcurvearrowdown  
 20889 \let\Righttorque\textlcurvearrowdown  
 20890 \let\LeftTorque\textrcurvearrowdown  
 20891 \let\Lefttorque\textrcurvearrowdown  
 20892 \let\textvarobar\textobar  
 20893 \let\circledbslash\textobslash  
 20894 \let\obackslash\textobslash  
 20895 \let\varobslash\textobslash  
 20896 \let\odplus\textobot  
 20897 \let\varolessthan\textolessthan  
 20898 \let\varogreaterthan\textogreaterthan  
 20899 \let\divdot\textminusdot  
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 20903 \let\leftVdash\textdashV  
 20904 \let\nleftVdash\textndashV  
 20905 \let\leftmodels\textDashv  
 20906 \let\nleftmodels\textnDashv  
 20907 \let\leftModels\textDashV  
 20908 \let\nleftModels\textnDashV  
 20909 \let\varparallel\textsslash  
 20910 \let\textheng\textPUheng  
 20911 \let\textlhookfour\textPUlhookfour  
 20912 \let\textscf\textPUscf  
 20913 \let\textaoig\textPUaoig  
 20914 \let\Ganz\textfullnote  
 20915 \let\Halb\texthalfnote  
 20916 \let\Womanface\textWomanFace  
 20917 \let\Faxmachine\textFax  
 20918 \let\CEsign\textCESign



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20919 }% \psdaliasnames
20920 \psdextra
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## 47 End of file hycheck.tex

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20921 \*check
20922 \typeout{}
20923 \begin{document}
20924 \end{document}
20925 \check
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