

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

Sebastian Rahtz (deceased)  
Heiko Oberdiek (inactive)  
The L<sup>A</sup>T<sub>E</sub>X Project  
<https://github.com/latex3/hyperref/issues>

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## 1 Documentation overview for hyperref

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

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

**ChangeLog** This file records the version history.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<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 hyccheck.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 `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#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 \def\Hy@Error{\@PackageError{hyperref}}
246 \def\Hy@Warning{\@PackageWarning{hyperref}}
247 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
248 \def\Hy@Info{\@PackageInfo{hyperref}}
249 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
250 \def\Hy@Message#1{%
251   \GenericWarning{%
252     (hyperref)\@spaces\@spaces\@spaces\@spaces
253   }{%
254     Package hyperref Message: #1\ltx@gobble
255   }%
256 }

```

## 4.2 Version check

\Hy@VersionChecked

```
257 \chardef\Hy@VersionChecked=0 %
```

\Hy@VersionCheck

```

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

```

```

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

```

\Hy@@VersionCheck

```

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

```

### 4.3 Checks with regular expressions

```

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

```

## 4.4 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\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`.

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

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

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

## 4.5 Switches

```
361 \newif\ifHy@stoppeadearly
362 \newif\ifHy@typexml
363 \newif\ifHy@activeanchor
364 \newif\ifHy@backref
365 \newif\ifHy@bookmarks
```

```

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

```

Defaults for the switches are now set.

```

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

```



```

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

```

## 5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

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

```

### 5.1 Macros for recursions

```

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

```

## 5.2 Babel's protection of shorthand characters

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

```

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

```

## 5.3 Coordinate transformations

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

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

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

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

Example (TeX):

```

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

```

`\hypercalsbp`

```

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

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <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  $\TeX$ 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a  $\TeX$  interpreter!

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

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

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

`ppercaseUnsupportedInPdfStrings`  
`owercaseUnsupportedInPdfStrings`

```

472 \ExplSyntaxOn
473 \@ifundefined{text_uppercase:n}{}
474 {
475   \def\MakeUppercaseUnsupportedInPdfStrings#1{\use:e {\text_uppercase:n {#1}}}
476   \def\MakeLowercaseUnsupportedInPdfStrings#1{\use:e {\text_lowercase:n {#1}}}
477   \AddToHook{package/babel/after}
478   {
479     \def\MakeUppercaseUnsupportedInPdfStrings#1
480     {\use:e
481      {\exp_args:Ne
482       \text_uppercase:nn{\localeinfo*{tag.bcp47}}{#1}}
483      }
484   }
485   \def\MakeLowercaseUnsupportedInPdfStrings#1
486   {\use:e
487    {\exp_args:Ne
488     \text_lowercase:nn{\localeinfo*{tag.bcp47}}{#1}}
489    }

```

```

490     }
491   }
492 }
493 \ExplSyntaxOff

```

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

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

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

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

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

```
495 \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.

```
496 \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.

```

497 \edef\0{\string\0}%
498 \edef\1{\string\1}%
499 \edef\2{\string\2}%
500 \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.

```

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

```
513 \@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).

```
514 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
515 \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.

```

516 \let\{\textbraceleft
517 \let\}\textbraceright
518 \let\\\textbackslash
519 \let#\textnumbersign
520 \let$\textdollar
521 \let%\textpercent
522 \let&\textampersand
523 % \let~\textasciitilde
524 \let_\textunderscore
525 \let\P\textparagraph
526 \let\ldots\textellipsis
527 \let\dots\textellipsis
528 \ltx@ifUndefined{textEncodingNoboundary}%
529 {}{\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.

```
530 \def\\{\pdfstringdefWarn\\}%
531 \def\newline{\pdfstringdefWarn\newline}%
```

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

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

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

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

```

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

```

#### Package pifont.

```

589 \let\ding\HyPsd@ding
590 \let\Cube\HyPsd@DieFace
591 %* \HyPsd@DieFace -> \epsdice (epsdice)
592 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

#### Environments.

```

593 \def\begin##1{\csname##1\endcsname}%
594 \def\end##1{\csname end##1\endcsname}%

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

596 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
597 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

598 \ifHy@psdextra
599 \ifHy@unicode
600 \csname psdmapshortnames\endcsname
601 \csname psdaliasnames\endcsname
602 \fi
603 \fi

```

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

```
604 \let\foreignlanguage\@secondoftwo
605 \let\textlatin\@firstofone
606 \ltx@ifundefined{language@group}{-}{%
607   \let\bbl@info\@gobble
608   \csname HyPsd@babel@\language@group\endcsname
609 }%

610 \let\@safe@activetrue\relax
611 \let\@safe@activesfalse\relax

  Disable \cyr, used in russianb.ldf.
612 \let\cyr\relax
```

**Package german.**

```
613 \let\glqq\textglqq
614 \let\grqq\textgrqq
615 \let\glq\textglq
616 \let\grq\textgrq
617 \let\flqq\textflqq
618 \let\frqq\textfrqq
619 \let\flq\textflq
620 \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}

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

**AMS classes.**

```
622 \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.

```
623 \let\hspace\HyPsd@hspace
```

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

```
624 \let\label\@gobble
625 \let\index\@gobble
626 \let\glossary\@gobble
627 \let\href\HyPsd@href
628 \let\@mkboth\@gobbletwo
```



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

```
629 \let\ref\HyPsd@ref
630 \let\pageref\HyPsd@pageref
631 \let\nameref\HyPsd@nameref
632 \let\autoref\HyPsd@autoref
```

#### Miscellaneous commands.

```
633 \let\leavevmode\@empty
634 \let\mbox\@empty
```

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

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

#### Patch for cjk bookmarks.

```
639 \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 be added by the hook `\pdfstringdef-PreHook`.

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

```
640 \Hy@pdfstringtrue
641 \pdfstringdefPreHook
```

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

```
642 \HyPsd@LetUnexpandableSpace\space
643 \HyPsd@LetUnexpandableSpace\ %
644 \HyPsd@LetUnexpandableSpace~%
645 \HyPsd@LetUnexpandableSpace\nobreakspace
```

#### Package `xspace`.

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

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

```
654 \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:

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

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

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

```
658 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
659 \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).

```
660 \begingroup
661 \let\GenericError\@gobblefour
662 \let\GenericWarning\@gobbletwo
663 \let\GenericInfo\@gobbletwo
```

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

```
664 \ifx\nofrenchguillemets\@undefined
665 \else
666 \nofrenchguillemets
667 \fi
```

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

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

### 6.2.3 Postprocessing

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

```
677 \ifx#1\@empty
678 \else
```

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

- `TEX` does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by `TEX`'s argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode

1 and 2 are removed in the following and replaced by an marker for the xspace support.

- T<sub>E</sub>X 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.

```
679 \HyPsd@ProtectSpaces#1%
680 \let\HyPsd@String\@empty
681 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
682 \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.

```
683 \let\HyPsd@SPACEOPTI\relax
684 {%
685 \let\HyPsd@String\@empty
686 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
687 \global\let#1\HyPsd@String
688 }%
689 \expandafter\HyPsd@RemoveMask\expandafter
690 |\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.

```
691 \expandafter
692 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
```

```

693 \let\HyPsd@String\@empty
694 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
695 \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.

```

696 \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.

```

697 \iffHy@unicode
698 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
699 \HyPsd@SPACEOPTI#1%
700 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
701 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
702 {\HyPsd@SPACEOPTI\80\273}#1%
703 \else
704 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
705 \expandafter\HyPsd@Subst\expandafter{%
706 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
707 \string\273}\HyPsd@SPACEOPTI\273}#1%
708 \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.

```

709 \iffHy@unicode
710 \HyPsd@StringSubst{\)}{\80\051}#1%
711 \HyPsd@Subst){\80\051}#1%
712 \let\HyPsd@empty\relax
713 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
714 {\HyPsd@empty\80\051}#1%
715 \else
716 \HyPsd@StringSubst{\)}{\051}#1%
717 \HyPsd@Subst){\051}#1%
718 \let\HyPsd@empty\relax
719 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
720 \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`.

```

721 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
722 \ltx@ifundefined{@xspace}{%
723 }{%
724 \let\HyPsd@xspace\relax
725 \expandafter\HyPsd@Subst\expandafter
726   {\HyPsd@XSPACE}\HyPsd@xspace#1%
727 \let\HyPsd@xspace\HyPsd@doxspace
728 }%
729 \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.

```

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

```

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

```

736 \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.

```

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

```

```

743     \HyPsd@StringSubst{\050}{\string\{ }#1%
744     \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.

```

745     \ifHy@unicode
746     \edef\HyPsd@SPACEOPTI{\80\040}%
747     \else
748     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
749     \fi
750     \xdef#1{#1\@empty}%
751     \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.

```

752     \endgroup
753     \begingroup
754     \ifHy@unicode
755     \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

756     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
757     \ltx@ifundefined{StringEncodingConvertTest}{%
758     }{%
759     \EdefUnescapeString\HyPsd@temp#1%
760     \iftutex
761     \let\HyPsd@UnescapedString\HyPsd@temp
762     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
763     {utf16be}{ascii-print}{%
764     \EdefEscapeString\HyPsd@temp\HyPsd@temp
765     \global\let#1\HyPsd@temp
766     \HyPsd@EscapeTeX#1%
767     \Hy@unicodedefalse
768     }{%
769     \HyPsd@EscapeTeX#1%
770     }%
771     \else
772     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
773     {utf16be}{pdfdoc}{%
774     \EdefEscapeString\HyPsd@temp\HyPsd@temp
775     \global\let#1\HyPsd@temp
776     \HyPsd@EscapeTeX#1%
777     \Hy@unicodedefalse
778     }{%}%
779     \fi
780     }%
781     \fi
782     \fi

```

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

```
783 \pdfstringdefPostHook#1%
784 \endgroup
785 }
```

`\Hy@pdfstringdef`

```
786 \def\Hy@pdfstringdef#1#2{%
787 \pdfstringdef\Hy@gtemp{#2}%
788 \let#1\Hy@gtemp
789 }
```

## 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

```
790 \@ifpackageloaded{linguex}{%
791 \let\HyLinguex@OrgB\b
792 \let\HyLinguex@OrgC\c
793 \let\HyLinguex@OrgD\d
794 \def\HyLinguex@Restore{%
795 \let\b\HyLinguex@OrgB
796 \let\c\HyLinguex@OrgC
797 \let\d\HyLinguex@OrgD
798 }%
799 \Hy@AtEndOfPackage{%
800 \pdfstringdefDisableCommands{%
801 \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
802 \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
803 \ltx@ifundefined{oldd}{-}{\let\d\oldd}%
804 }%
805 }%
806 }{%
807 \let\HyLinguex@Restore\relax
808 }%
```

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

`\Hy@SaveCatcodeSettings`

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



```

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

```

`\Hy@RestoreCatcodeSettings`

```

853 \def\Hy@RestoreCatcodeSettings#1{%
854 \csname Hy@cat@#1\endcsname
855 \expandafter\let\csname Hy@cat@#1\endcsname\relax
856 }

```

### 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.

```

857 \@ifundefined{T@PD1}{%
858 \Hy@SaveCatcodeSettings{pd1}%
859 \input{pd1enc.def}%

```

```

860 \Hy@RestoreCatcodeSettings{pd1}%
861 \HyLinguex@Restore
862 }{}
863 \DeclareFontFamily{PD1}{pdf}{}
864 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
865 \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`.

```

866 \def\HyPsd@LoadUnicode{%
867   \@ifundefined{T@PU}{%
868     \Hy@SaveCatcodeSettings{pu}%
869     \input{puenc.def}%
870     \Hy@RestoreCatcodeSettings{pu}%
871     \HyLinguex@Restore
872   }{}%
873   \DeclareFontFamily{PU}{pdf}{}%
874   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
875   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
876   \HyPsd@LoadExtra
877   \let\HyPsd@LoadUnicode\relax
878 }

```

`\HyPsd@LoadExtra`

```

879 \def\HyPsd@LoadExtra{%
880   \ifHy@psdextra
881     \ltx@iffileloaded{puenc.def}{}%
882     \ltx@iffileloaded{puenc-greekbasic.def}{}{}%
883     \Hy@SaveCatcodeSettings{pu}%
884     \input{puenc-greekbasic.def}%
885     \Hy@RestoreCatcodeSettings{pu}}%
886   \Hy@SaveCatcodeSettings{psdextra}%
887   \input{psdextra.def}%
888   \Hy@RestoreCatcodeSettings{psdextra}%
889   \let\HyPsd@LoadExtra\relax
890   }{}%
891 \fi
892 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandible macro `\texorpdfstring`. It expects two ar-

guments, 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.

```

893 \def\texorpdfstring{%
894   \ifHy@pdfstring
895     \expandafter\@secondoftwo
896   \else
897     \expandafter\@firstoftwo
898   \fi
899 }
```

#### 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`.

```

900 \@ifundefined{pdfstringdefPreHook}{%
901   \let\pdfstringdefPreHook\@empty
902 }{}
903 \@ifundefined{pdfstringdefPostHook}{%
904   \let\pdfstringdefPostHook\@gobble
905 }{}
```

`\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`.

```

906 \def\pdfstringdefDisableCommands{%
907   \begingroup
908     \makeatletter
909     \HyPsd@DisableCommands
910 }
```

`\HyPsd@DisableCommands`

```

911 \long\def\HyPsd@DisableCommands#1{%
912   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
913   \endgroup
914 }
```

`\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`.

```

915 \def\pdfstringdefWarn#1{%
916   \expandafter\noexpand\csname<>\string#1\endcsname
917 }

```

## 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.

```

918 \begingroup
919   \catcode0=12 %
920   \def\x{\endgroup
921     \def\HyPsd@ignorespaces{%
922       \romannumeral\expandafter`\expandafter^^@%
923       \romannumeral`^^@%
924     }%
925   }%
926 \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.

```

927 \newif\ifHy@next
928 \</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.

```
929 (*package)
```

### 6.5.3 CJK patch

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

```
\HyPsd@CJKhook
```

```
931 \def\HyPsd@CJKhook{%
932   \ltx@ifpackageloaded{CJK}{%
933     \let\CJK@kern\relax
934     \let\CJKkern\relax
935     \let\CJK@CJK\relax
936     \ifHy@CJKbookmarks
937       \HyPsd@CJKhook@bookmarks
938     \fi
939     \HyPsd@CJKhook@unicode
940   }%
941 }
```

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

```
942 \begingroup
943 \catcode"7F=\active
944 \toks@{%
945   \let\CJK@ignorespaces\empty
946   \def\CJK@char#1{\@gobbletwo}%
947   \let\CJK@charx\@gobblefour
948   \let\CJK@punctchar\@gobblefour
949   \def\CJK@punctcharx#1{\@gobblefour}%
950   \catcode"7F=\active
951   \def^^7f#1^^7f#2^^7f{%
952     \string #1\HyPsd@DecimalToOctal{#2}%
953   }%
954   % ... ?
955   \ifHy@unicode
956     \def\Hy@cjkpu{\80}%
957   \else
958     \let\Hy@cjkpu\@empty
959   \fi
960   \HyPsd@CJKActiveChars
```

```

961 }%
962 \count@=127 %
963 \@whilenum\count@<255 \do{%
964   \advance\count@ by 1 %
965   \lccode`~=\count@
966   \lowercase{%
967     \toks@\expandafter{\the\toks@ ~}%
968   }%
969 }%
970 \toks@\expandafter{\the\toks@ !}%
971 \xdef\HyPsd@CJKhook@bookmarks{%
972   \the\toks@
973 }%
974 \endgroup

```

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

```

975 \def\HyPsd@CJKActiveChars#1{%
976   \ifx#1!%
977     \let\HyPsd@CJKActiveChars\relax
978   \else
979     \edef#1{\noexpand\Hy@cjku\string#1}%
980   \fi
981   \HyPsd@CJKActiveChars
982 }

```

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

```

983 \def\HyPsd@DecimalToOctal#1{%
984   \ifcase #1 %
985     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
986     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
987     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
988     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
989     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
990     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
991     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
992     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
993     \or @\or A\or B\or C\or D\or E\or F\or G%
994     \or H\or I\or J\or K\or L\or M\or N\or O%
995     \or P\or Q\or R\or S\or T\or U\or V\or W%
996     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
997     \or \140\or a\or b\or c\or d\or e\or f\or g%
998     \or h\or i\or j\or k\or l\or m\or n\or o%
999     \or p\or q\or r\or s\or t\or u\or v\or w%
1000    \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1001    \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1002    \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1003    \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1004    \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1005    \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1006    \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1007    \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1008    \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1009    \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%

```

```

1010 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1011 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1012 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1013 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1014 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1015 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1016 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1017 \fi
1018 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1019 \def\HyPsd@CJKhook@unicode{%
1020 \let\Unicode\HyPsd@CJK@Unicode
1021 \let\CJKnumber\HyPsd@CJKnumber
1022 \let\CJKdigits\HyPsd@CJKdigits
1023 }

```

\HyPsd@CJK@Unicode

```

1024 \def\HyPsd@CJK@Unicode#1#2{%
1025 \ifnum#1<256 %
1026 \HyPsd@DecimalToOctalFirst{#1}%
1027 \HyPsd@DecimalToOctalSecond{#2}%
1028 \else
1029 \933%
1030 \expandafter\expandafter\expandafter\HyPsd@HighA
1031 \intcalcDiv{#1}{4}!%
1032 \933%
1033 \ifcase\intcalcMod{#1}{4} %
1034 4\or 5\or 6\or 7%
1035 \fi
1036 \HyPsd@DecimalToOctalSecond{#2}%
1037 \fi
1038 }

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

```

```

1057 \fi
1058 \ifcase\IntCalcMod#1!8! %
1059 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1060 \fi
1061 }
1062 \def\HyPsd@DecimalToOctalFirst#1{%
1063 \9%
1064 \ifcase#1 %
1065 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1066 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1067 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1068 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1069 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1070 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1071 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1072 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1073 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1074 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1075 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1076 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1077 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1078 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1079 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1080 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1081 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1082 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1083 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1084 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1085 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1086 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1087 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1088 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1089 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1090 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1091 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1092 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1093 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1094 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1095 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1096 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1097 \fi
1098 }
1099 \def\HyPsd@DecimalToOctalSecond#1{%
1100 \ifcase #1 %
1101 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1102 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1103 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1104 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1105 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1106 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1107 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1108 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1109 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1110 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%

```



```

1111 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1112 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1113 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1114 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1115 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1116 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1117 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1118 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1119 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1120 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1121 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1122 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1123 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1124 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1125 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1126 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1127 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1128 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1129 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1130 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1131 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1132 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1133 \fi
1134 }

1135 \def\HyPsd@CJKnumber#1{%
1136 \ifnum#1<\z@
1137 \CJK@minus
1138 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1139 \else
1140 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1141 \fi
1142 }

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

```

```

1165 \else
1166 \expandafter\HyPsd@CJKnumberLarge
1167 \number\IntCalcDiv#1!100000000!\expandafter!%
1168 \number\IntCalcMod#1!100000000!!%
1169 \fi
1170 \fi
1171 \fi
1172 }
1173 \def\HyPsd@CJKnumberLarge#1!#2!{%
1174 \HyPsd@CJKnumberFour#1!{#2}%
1175 \CJK@hundredmillion
1176 \ifnum#2=\z@
1177 \else
1178 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1179 \IntCalcDiv#2!10000!%
1180 !\CJK@zero{10}%
1181 \CJK@tenthousand
1182 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1183 \IntCalcMod#2!10000!%
1184 !\CJK@zero{10}%
1185 \@empty
1186 \fi
1187 }
1188 \def\HyPsd@CJKnumberFour#1!#2#3{%
1189 \ifnum#1=\z@
1190 \expandafter\@gobble
1191 \else
1192 \ifnum#1<1000 %
1193 #2%
1194 \HyPsd@CJKnumberThree#1!{#3}%
1195 \else
1196 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1197 \CJK@thousand
1198 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1199 \IntCalcMod#1!1000!%
1200 !\CJK@zero{10}%
1201 \fi
1202 \fi
1203 }
1204 \def\HyPsd@CJKnumberThree#1!#2#3{%
1205 \ifnum#1=\z@
1206 \else
1207 \ifnum#1<100 %
1208 #2%
1209 \HyPsd@CJKnumberTwo#1!{#3}%
1210 \else
1211 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1212 \CJK@hundred
1213 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1214 \IntCalcMod#1!100!%
1215 !\CJK@zero{10}%
1216 \fi
1217 \fi
1218 }

```

```

1219 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1220 \ifnum#1=\z@
1221 \else
1222 \ifnum#1<#3 %
1223 #2%
1224 \HyPsd@@CJKnumber{#1}%
1225 \else
1226 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1227 \CJK@ten
1228 \ifnum\IntCalcMod#1!10!=\z@
1229 \else
1230 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1231 \fi
1232 \fi
1233 \fi
1234 }

1235 \def\HyPsd@CJKdigits#1{%
1236 \ifx*#1\relax
1237 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1238 \else
1239 \HyPsd@@CJKdigits\CJK@null{#1}%
1240 \fi
1241 }

1242 \def\HyPsd@@CJKdigits#1#2{%
1243 \ifx\#2\%
1244 \else
1245 \HyPsd@@@CJKdigits#1#2\@nil
1246 \fi
1247 }%
1248 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1249 \HyPsd@CJKdigit#1{#2}%
1250 \ifx\#3\%
1251 \expandafter\@gobble
1252 \else
1253 \expandafter\@firstofone
1254 \fi
1255 }%
1256 \HyPsd@@@CJKdigits#1#3\@nil
1257 }%
1258 }

1259 \def\HyPsd@CJKdigit#1#2{%
1260 \ifcase#2 %
1261 #1\or
1262 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1263 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1264 \fi
1265 }

```

### 6.5.6 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> versions

[1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows (L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> 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\endcsname\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}

1266 \def\HyPsd@inmathwarn#1#2{%
1267   \ifx#2\expandafter
1268     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1269       \HyPsd@GLYPHERR
1270       \expandafter\@gobble\string#1%
1271       >%
1272       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1273     \else
1274       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1275     \fi
1276   \else
1277     \expandafter#2%
1278   \fi
1279 }
1280 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}

```

```
1281 \def\HyPsd@EndWithElse#1\else{\else}
```

`\HyPsd@add@accent`

```
1282 \def\HyPsd@add@accent#1#2{%
1283 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1284 #2%
1285 }%
```

### 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`.

```
1286 \def\HyPsd@LetUnexpandableSpace#1{%
1287 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1288 }
```

`\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.

```
1289 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

### 6.5.8 Marker for commands

`\HyPsd@XSPACE` Some commands and information 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.

```
1290 \edef\HyPsd@XSPACE{\string#\string X}
1291 \edef\HyPsd@ITALCORR{\string#\string I}
1292 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1293 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1294 \def\HyPsd@@hspace#1##2\END{%
1295 \ifx\#2\%
1296 \HyPsd@hspacetest{#1}%
1297 \else
1298 \expandafter\HyPsd@hspacetest
1299 \fi
1300 }
```

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

```
1301 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1302 \ltx@ifundefined{tocsection}{%
1303 \let\HyPsd@AMSclassfix\relax
1304 }{%
1305 \def\HyPsd@AMSclassfix{%
1306 \let\tocpart\HyPsd@tocsection
1307 \let\tocchapter\HyPsd@tocsection
1308 \let\tocappendix\HyPsd@tocsection
1309 \let\tocsection\HyPsd@tocsection
1310 \let\tocsubsection\HyPsd@tocsection
1311 \let\tocsubsubsection\HyPsd@tocsection
1312 \let\tocparagraph\HyPsd@tocsection
1313 }%
1314 \def\HyPsd@tocsection#1#2#3{%
1315 \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1316 #3%
1317 }%
1318 }
```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1319 \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.

```
1320 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1321 \def\HyPsd@@ref#1*#2\END{%
1322 \ifx\#2\%
1323 \HyPsd@@@ref{#1}%
1324 \else
1325 \expandafter\HyPsd@@@ref
1326 \fi
1327 }%
```

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

```
1328 \def\HyPsd@@@ref#1{%
1329 \expandafter\ifx\csname r@#1\endcsname\relax
1330 ??%
1331 \else
1332 \expandafter\expandafter\expandafter
1333 \@car\csname r@#1\endcsname\@nil
1334 \fi
1335 }
```

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

```
1336 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1337 \def\HyPsd@@pageref#1*#2\END{%
```

```

1338 \ifx\#2\%
1339 \HyPsd@@@pageref{#1}%
1340 \else
1341 \expandafter\HyPsd@@@pageref
1342 \fi
1343 }

```

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

```

1344 \def\HyPsd@@@pageref#1{%
1345 \expandafter\ifx\csname r@#1\endcsname\relax
1346 ??%
1347 \else
1348 \expandafter\expandafter\expandafter\expandafter
1349 \expandafter\expandafter\expandafter\@car
1350 \expandafter\expandafter\expandafter\@gobble
1351 \csname r@#1\endcsname{}\@nil
1352 \fi
1353 }

```

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

```

1354 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

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

```

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

```

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

```

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

```

1372 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1373 \def\HyPsd@@autoref#1*#2\END{%
1374 \ifx\#2\%
1375 \HyPsd@@@autoref{#1}%
1376 \else

```

```

1377 \expandafter\HyPsd@@@autoref
1378 \fi
1379 }

```

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

```

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

```

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

```

1390 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1391 \ifx\#4\%
1392 \else
1393 \HyPsd@@@autorefname#4.\@nil
1394 \fi
1395 }

```

`\HyPsd@@@autorefname`

```

1396 \def\HyPsd@@@autorefname#1.#2\@nil{%
1397 \ltx@ifundefined{#1autorefname}{%
1398 \ltx@ifundefined{#1name}{%
1399 }{%
1400 \csname#1name\endcsname\space
1401 }%
1402 }{%
1403 \csname#1autorefname\endcsname\space
1404 }%
1405 }

```

### 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 cause 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 unmathced `\if... tokens`, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1406 \begingroup
1407 \def\x#1#2{%
1408 \endgroup
1409 \let#1\def
1410 \def\HyPsd@DefCommand##1##2###{%
1411 #1%
1412 \expandafter\noexpand
1413 \csname\expandafter\@gobble\string##1\@empty\endcsname
1414 \@gobble
1415 }%
1416 \let#2\let
1417 \def\HyPsd@@LetCommand##1{%
1418 \expandafter\ifx\csname##1\expandafter\endcsname
1419 \csname iftrue\endcsname
1420 \pdfstringdefWarn\let
1421 \expandafter\@gobble
1422 \else
1423 \expandafter\ifx\csname##1\expandafter\endcsname
1424 \csname iffalse\endcsname
1425 \pdfstringdefWarn\let
1426 \expandafter\expandafter\expandafter\@gobble
1427 \else
1428 #2%
1429 \expandafter\noexpand
1430 \csname##1\expandafter\expandafter\expandafter\endcsname
1431 \fi
1432 \fi
1433 }%
1434 }%
1435 \expandafter\x\csname <def>-command\expandafter\endcsname
1436 \csname <let>-command\endcsname
1437 \def\HyPsd@LetCommand#1{%
1438 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1439 \expandafter\expandafter\expandafter{%
1440 \expandafter\@gobble\string#1\@empty
1441 }%
1442 }

```

### 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).

```
1443 \def\HyPsd@ifnextchar#1{%
1444   \pdfstringdefWarn#1%
1445   \expandafter\@gobbletwo\@gobble
1446 }
```

### 6.5.14 `\@protected@testoptifnextchar`

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

```
1447 \def\HyPsd@protected@testopt#1{%
1448   \pdfstringdefWarn#1%
1449   \@gobbletwo
1450 }
```

## 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:

```
1451 \def\HyPsd@Warning#1{%
1452   \begingroup
1453   \let\space\ltx@space
1454   \Hy@Warning{#1}%
1455   \endgroup
1456 }
```

### 6.6.2 Protecting spaces

```
1457 \RequirePackage{etexcmds}[2007/09/09]
1458 \ifetex@unexpanded
1459   \expandafter\@secondoftwo
1460 \else
1461   \expandafter\@firstoftwo
1462 \fi
1463 {%
```

`\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`.

```

1464 \def\HyPsd@ProtectSpaces#1{%
1465   \iftrue
1466     \expandafter\HyPsd@@ProtectSpacesFi
1467     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1468   \fi
1469 }%
```

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

```

1470 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1471   \fi
1472   \ifx\scrollmode#2\scrollmode
1473     \HyPsd@RemoveMask#1\HyPsd@End#3%
1474   \else
1475     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1476     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1477   \fi
1478 }%
```

### Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

1479 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1480   \toks@\expandafter{#1}%
1481   \xdef#2{\the\toks@}%
1482 }%
1483 }{%
1484   \let\HyPsd@fi\fi
1485   \def\HyPsd@ProtectSpaces#1{%
1486     \xdef#1{%
1487       \iftrue
1488         \expandafter\HyPsd@@ProtectSpacesFi
1489         \expandafter|\expandafter\@empty#1| %
1490       \HyPsd@fi
1491     }%
1492     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1493   }%
1494   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1495     \fi
1496     \etex@unexpanded{#1}%
1497     \ifx\scrollmode#2\scrollmode
1498     \else
1499       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1500     \HyPsd@fi
1501   }%
```

```

1502 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1503 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1504 }%
1505 }

```

### 6.6.3 Remove grouping braces

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

```

1506 \def\HyPsd@RemoveBraces#1{%
1507 \ifx\scrollmode#1\scrollmode
1508 \else
1509 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1510 \fi
1511 }

```

`\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`.

```

1512 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1513 \fi
1514 \def\Hy@temp@A{#1#2}%
1515 \def\Hy@temp@B{#3}%
1516 \ifx\Hy@temp@A\Hy@temp@B
1517 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1518 \HyPsd@String#1%
1519 }%
1520 \ifx\scrollmode#2\scrollmode
1521 \else
1522 \Hy@ReturnAfterFiFiEnd{%
1523 \HyPsd@RemoveBraces{#2}%
1524 }%
1525 \fi
1526 \else
1527 \def\Hy@temp@A{#1}%
1528 \HyPsd@AppendItalcrr\HyPsd@String
1529 \ifx\Hy@temp@A\@empty
1530 \Hy@ReturnAfterElseFiFiEnd{%
1531 \HyPsd@RemoveBraces{#2}%
1532 }%
1533 \else
1534 \HyPsd@ProtectSpaces\Hy@temp@A
1535 \HyPsd@AppendItalcrr\Hy@temp@A
1536 \Hy@ReturnAfterFiFiEnd{%
1537 \expandafter\HyPsd@RemoveBraces\expandafter
1538 {\Hy@temp@A#2}%

```

```

1539 }%
1540 \fi
1541 \fi
1542 \Hy@ReturnEnd
1543 }

```

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

```

1544 \def\HyPsd@AppendItalcrr#1{%
1545 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#}#1%
1546 }
1547 \def\HyPsd@@AppendItalcrr#1#2{%
1548 \expandafter\def\expandafter#2\expandafter{#2#1}%
1549 }

```

#### 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>.

```

1550 \ltx@ifundefined{directlua}{%
1551 }{%
1552 \expandafter\ifx\csname\endcsname\relax\fi
1553 }

```

#### Check catcodes.

`\HyPsd@CheckCatcodes` Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting spaces and removing braces `#1` should be a single token, no group of several tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the meaning of `\protect` are removed here. (`\protect` should have the meaning of `\@typeset@protect` that is equal to `\relax`).

For the comparison with active characters, `~` cannot be used because it has the meaning of a blank space here. And active characters need to be checked, if they have been defined using `\protected`.

```

1554 \begingroup
1555 \catcode`\Q=\active
1556 \let Q\ltx@empty
1557 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1558 \global\let\HyPsd@Rest\relax
1559 \ifcat\relax\noexpand#1\relax
1560 \ifx#1\protect
1561 \else
1562 \ifx#1\penalty
1563 \setbox\z@=\hbox{%
1564 \afterassignment\HyPsd@AfterCountRemove
1565 \count@=#2\HyPsd@End
1566 }%

```

```

1567 \else
1568 \ifx#1\kern
1569 \setbox\z@=\hbox{%
1570 \afterassignment\HyPsd@AfterDimenRemove
1571 \dimen@=#2\HyPsd@End
1572 }%
1573 \else
1574 \ifx#1\hskip
1575 \setbox\z@=\hbox{%
1576 \afterassignment\HyPsd@AfterSkipRemove
1577 \skip@=#2\HyPsd@End
1578 }%
1579 \else
1580 \HyPsd@CatcodeWarning{#1}%
1581 \fi
1582 \fi
1583 \fi
1584 \fi
1585 \else
1586 \ifcat\noexpand#1\noexpandQ% active character
1587 \expandafter\expandafter\expandafter\def
1588 \expandafter\expandafter\expandafter\HyPsd@String
1589 \expandafter\expandafter\expandafter{%
1590 \expandafter\HyPsd@String\string#1%
1591 }%
1592 \else
1593 \ifcat#1A% letter
1594 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1595 \HyPsd@String#1%
1596 }%
1597 \else
1598 \ifcat#1 % SPACE
1599 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1600 \HyPsd@String\HyPsd@SPACEOPTI
1601 }%
1602 \else
1603 \ifcat$#1%
1604 \HyPsd@CatcodeWarning{math shift}%
1605 \else
1606 \ifcat&#1%
1607 \HyPsd@CatcodeWarning{alignment tab}%
1608 \else
1609 \ifcat^#1%
1610 \HyPsd@CatcodeWarning{superscript}%
1611 \else
1612 \ifcat_#1%
1613 \HyPsd@CatcodeWarning{subscript}%
1614 \else
1615 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1616 \HyPsd@String#1%
1617 }%
1618 \fi
1619 \fi
1620 \fi

```

```

1621     \fi
1622     \fi
1623     \fi
1624     \fi
1625     \fi
1626     \ifx\HyPsd@Rest\relax
1627       \ifx\scrollmode#2\scrollmode
1628       \else
1629         \Hy@ReturnAfterFiFiEnd{%
1630           \HyPsd@CheckCatcodes#2\HyPsd@End
1631         }%
1632       \fi
1633     \else
1634       \ifx\HyPsd@Rest\@empty
1635       \else
1636         \Hy@ReturnAfterFiFiEnd{%
1637           \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1638         }%
1639       \fi
1640     \fi
1641     \Hy@ReturnEnd
1642   }%
1643 \endgroup

```

### Remove counts, dimens, skips.

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

```

1644 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1645   \gdef\HyPsd@Rest{#1}%
1646 }

```

`\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.

```

1647 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1648   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>\fi>1ex %
1649     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1650     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1651   \else
1652     \ifdim\dimen@=\z@
1653     \else
1654       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1655     \fi
1656     \gdef\HyPsd@Rest{#1}%
1657   \fi
1658 }

```

`\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).

```

1659 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1660   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>1ex %
1661     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%

```

```

1662 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1663 \else
1664 \ifdim\skip@=\z@
1665 \else
1666 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1667 \fi
1668 \gdef\HyPsd@Rest{#1}%
1669 \fi
1670 }

```

### Catcode warnings.

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

```

1671 \def\HyPsd@CatcodeWarning#1{%
1672 \HyPsd@Warning{%
1673 Token not allowed in a PDF string (%
1674 \ifHy@unicode
1675 Unicode%
1676 \else
1677 PDFDocEncoding%
1678 \fi
1679 ):%
1680 \MessageBreak removing ` \HyPsd@RemoveCmdPrefix#1'%
1681 }%
1682 }
1683 \begingroup
1684 \catcode`\|=0 %
1685 \catcode`\|=12 %
1686 |gdef|HyPsd@RemoveCmdPrefix#1{%
1687 |expandafter|HyPsd@@RemoveCmdPrefix
1688 |string#1|@empty\<>-|@empty|@empty
1689 }%
1690 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1691 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1692 \def\HyPsd@RemoveSpaceWarning#1{%
1693 \HyPsd@Warning{%
1694 Token not allowed in a PDF string (%
1695 \ifHy@unicode
1696 Unicode%
1697 \else
1698 PDFDocEncoding%
1699 \fi
1700 ):%
1701 \MessageBreak #1\MessageBreak
1702 removed%
1703 }%
1704 }

```

\HyPsd@ReplaceSpaceWarning

```

1705 \def\HyPsd@ReplaceSpaceWarning#1{%
1706 \HyPsd@Warning{%
1707 Token not allowed in a PDF string (%

```



```

1708 \ifHy@unicode
1709 Unicode%
1710 \else
1711 PDFDocEncoding%
1712 \fi
1713 ):%
1714 \MessageBreak #1\MessageBreak
1715 replaced by space%
1716 }%
1717 }

```

### 6.6.5 Check for wrong glyphs

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

```

1718 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1719 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1720 \HyPsd@String#1%
1721 }%
1722 \ifx\#2\%
1723 \else
1724 \ltx@ReturnAfterFi{%
1725 \HyPsd@GlyphProcessWarning#2\@empty
1726 }%
1727 \fi
1728 }
1729 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1730 \HyPsd@@@GlyphProcessWarning#1+++>%
1731 \HyPsd@GlyphProcess#2\@empty
1732 }
1733 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1734 \ifx\#2\%
1735 \HyPsd@Warning{%
1736 Glyph not defined in %
1737 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1738 removing \@backslashchar#1'%
1739 }%
1740 \else
1741 \HyPsd@Warning{%
1742 Composite letter \@backslashchar#1+#2'\MessageBreak
1743 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1744 \MessageBreak
1745 removing \@backslashchar#1'%
1746 }%
1747 \fi
1748 }

```

### 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`.

```

1749 \def\HyPsd@spaceopti#1{ % first space
1750 \ifx\HyPsd@spaceopti#1%
1751   \040%
1752 \else
1753   #1%
1754 \fi
1755 }%

```

### 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.
1756 \def\HyPsd@Subst#1#2#3{%
1757 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1758 \fi
1759 ##1%
1760 \ifx\scrollmode##2\scrollmode
1761 \else
1762   #2%
1763 \HyPsd@@@ReplaceFi##2\END
1764 \fi
1765 }%
1766 \xdef#3{%
1767 \iftrue
1768 \expandafter\HyPsd@@@ReplaceFi#3#1\END
1769 \fi
1770 }%
1771 }

```

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

```

1772 \def\HyPsd@StringSubst#1{%
1773 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1774 }

```

`\HyPsd@EscapeTeX`

```

1775 \begingroup
1776 \lccode`!\=`\%
1777 \lccode`|\=``\%
1778 \lccode`\(=``{\%
1779 \lccode`\)=``}\%
1780 \lccode`0=\ltx@zero
1781 \lccode`1=\ltx@zero
1782 \lccode`3=\ltx@zero
1783 \lccode`4=\ltx@zero
1784 \lccode`5=\ltx@zero
1785 \lccode`7=\ltx@zero
1786 \lowercase{\endgroup
1787 \def\HyPsd@EscapeTeX#1{%

```

```

1788 \HyPsd@Subst!{|045}#1%
1789 \HyPsd@Subst({|173}#1%
1790 \HyPsd@Subst){|175}#1%
1791 }%
1792 }

```

### 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.

```

1793 \def\HyPsd@doxspace#1{%
1794 \ifx#1\relax\else
1795 \ifx#1.\else
1796 \ifx#1:\else
1797 \ifx#1,\else
1798 \ifx#1;\else
1799 \ifx#1!\else
1800 \ifx#1?\else
1801 \ifx#1/\else
1802 \ifx#1-\else
1803 \ifx#1'\else
1804 \HyPsd@SPACEOPTI
1805 \fi
1806 \fi
1807 \fi
1808 \fi
1809 \fi
1810 \fi
1811 \fi
1812 \fi
1813 \fi
1814 \fi
1815 #1%
1816 }%

```

### 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.

```

1817 \begingroup
1818 \catcode`\|=0 %
1819 \catcode`\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

1820 |gdef|HyPsd@ConvertToUnicode#1{%
1821 |xdef#1{%
1822 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1823 }%
1824 |ifx#1|@empty
1825 |else

```

```

1826 |xdef#1{%
1827   \376\377%
1828   #1%
1829 }%
1830 |fi
1831 }%

```

#### \HyPsd@DoConvert

```

1832 |gdef|HyPsd@DoConvert#1{%
1833   |ifx#1|@empty
1834   |else
1835     |ltx@ReturnAfterFi{%
1836       |ifx#1\%%
1837       \%%
1838       |expandafter|HyPsd@DoEscape
1839       |else
1840         |HyPsd@Char{#1}%
1841         |expandafter|HyPsd@DoConvert
1842       |fi
1843     }%
1844   |fi
1845 }%

```

#### \HyPsd@DoEscape

```

1846 |gdef|HyPsd@DoEscape#1{%
1847   |ifx#19%
1848     |expandafter|HyPsd@GetTwoBytes
1849     |else
1850       |ltx@ReturnAfterFi{%
1851         |ifx#18%
1852         00%
1853         |expandafter|HyPsd@GetTwoBytes
1854         |else
1855           #1%
1856           |expandafter|HyPsd@GetOneByte
1857         |fi
1858       }%
1859     |fi
1860 }%

```

#### \HyPsd@GetTwoBytes

```

1861 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1862   #1\#2#3#4%
1863   |HyPsd@DoConvert
1864 }%

```

#### \HyPsd@GetOneByte

```

1865 |gdef|HyPsd@GetOneByte#1#2{%
1866   #1#2%
1867   |HyPsd@DoConvert
1868 }%
1869 |endgroup

```

`\HyPsd@@GetNextTwoTokens` T<sub>E</sub>X does only allow nine parameters, so we need another macro to get more arguments.

```
1870 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1871 \xdef#4{#4#1#2}%
1872 \HyPsd@@ConvertToUnicode#3\END#4%
1873 }
```

`\HyPsd@Char`

```
1874 \begingroup
1875 \catcode0=9 %
1876 \catcode`\^=7 %
1877 \catcode`\^^=12 %
1878 \def\x{^^^0000}%
1879 \expandafter\endgroup
1880 \ifx\x\@empty
1881 \def\HyPsd@Char#1{%
1882 \ifnum`#1<128 %
1883 \@backslashchar 000#1%
1884 \else
1885 \ifnum`#1<65536 %
1886 \expandafter\HyPsd@CharTwoByte\number`#1!%
1887 \else
1888 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1889 \intcalcSub{`#1}{65536}!%
1890 \fi
1891 \fi
1892 }%
1893 \def\HyPsd@CharTwoByte#1!{%
1894 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1895 \IntCalcDiv#1!256!%
1896 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1897 \IntCalcMod#1!256!%
1898 }%
1899 \def\HyPsd@CharOctByte#1!{%
1900 \@backslashchar
1901 \IntCalcDiv#1!64!%
1902 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1903 \IntCalcMod#1!8!%
1904 }%
1905 \def\HyPsd@CharSurrogate#1!{%
1906 \@backslashchar 33%
1907 \IntCalcDiv#1!262144!%
1908 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1909 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1910 \@backslashchar 33%
1911 \expandafter\expandafter\expandafter\IntCalcAdd
1912 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1913 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1914 \IntCalcMod#1!256!%
1915 }%
1916 \else
1917 \def\HyPsd@Char#1{%
1918 \@backslashchar 000#1%
1919 }%
```

```

1920 \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.
1921 \ifcsname UTFviii@loop\endcsname
1922 \def\HyPsd@expand@utfvii{%
1923   \count@"C2
1924   \@tempcnta"F5
1925   \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1926   \UTFviii@loop
1927 }
1928 \else
1929 \def\HyPsd@expand@utfvii{}
1930 \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

1931 \begingroup
1932 \lccode`~=\^^f4\relax
1933 \lowercase{\endgroup
1934 \def\HyPsd@UTFviii{%
1935   \HyPsd@expand@utfvii
1936   \let\UTFviii@two@octets\HyPsd@UTFviii@two
1937   \let\UTFviii@three@octets\HyPsd@UTFviii@three
1938   \let\UTFviii@four@octets\HyPsd@UTFviii@four
1939   \ifx~\HyPsd@UTFviii@cccxliv@undef
1940     \let~\HyPsd@UTFviii@cccxliv@def
1941   \fi
1942   \let\unichar\HyPsd@unichar
1943 }%
1944 }%
1945 \def\HyPsd@UTFviii@cccxliv@undef{\@inpenc@undefined@{utf8}}%
1946 \edef\HyPsd@UTFviii@cccxliv@def{%
1947   \noexpand\UTFviii@four@octets\string ^^f4%
1948 }%

```

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

$$\begin{aligned}
 a & := A/4 - 48 & (1) \\
 b & := A - 4 * (A/4) & (2)
 \end{aligned}$$

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

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

$$(5)$$

```

1949 \def\HyPsd@UTFviii@two#1#2{%
1950 \expandafter\HyPsd@UTFviii@@two
1951 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1952 \number`#1\expandafter|
1953 \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|
1954 \number`#2 \@nil
1955 }%
1956 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1957 \expandafter\8
1958 \number\numexpr #1-48\expandafter\relax
1959 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1960 \number\numexpr #3-8*
1961 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1962 \number\numexpr #4-8*#3\relax
1963 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1964 \def\HyPsd@UTFviii@three#1#2#3{%
1965 \expandafter\HyPsd@UTFviii@@three
1966 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1967 \number`#1\expandafter|
1968 \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1969 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|
1970 \number`#2\expandafter|
1971 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|
1972 \number`#3 \@nil
1973 }%
1974 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1975 \expandafter\9
1976 \number\numexpr #1-56\expandafter\relax
1977 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1978 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1979 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1980 \number\numexpr #6-16\expandafter\relax
1981 \number\numexpr #7-8*#6\relax
1982 }%

```

Surrogates: 4 octets in UTF-8, a surrogate pair in UTF-16. High surrogate range: U+D800-U+DBFF, low surrogate range: U+DC00-U+DFFF.

```

UTF-8: 11110uuu 10uuzzzz 10yyyyyy 10xxxxxx
www = uuuu - 1
UTF-16: 110110ww wwzzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1983 \def\HyPsd@UTFviii@four#1#2{%
1984 \expandafter\HyPsd@@UTFviii@four\number
1985 \numexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1986 \expandafter|\number
1987 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
1988 }%
1989 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1990 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1991 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1992 \ifodd#2 %
1993 \number\numexpr(#2-1)/2\relax
1994 \else
1995 \number\numexpr#2/2\relax
1996 \fi
1997 \number\numexpr\ifodd#2 4+\fi
1998 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1999 \933%
2000 \expandafter\HyPsd@@@UTFviii@four\number
2001 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
2002 }%
2003 \def\HyPsd@@@UTFviii@four#1|#2{%
2004 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2005 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2006 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
2007 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
2008 }%

```

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

```

2009 \def\HyPsd@unichar#1{%
2010 \ifHy@unicode
2011 \ifnum#1>"10FFFF %
2012 \HyPsd@UnicodeReplacementCharacter % illegal
2013 \else
2014 \ifnum#1>"FFFF %

```

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

```

2015 \expandafter\HyPsd@unichar\expandafter{%
2016 \number\numexpr 55296+%
2017 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2018 \relax\relax\relax
2019 }%

```

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

```

2020 \expandafter\HyPsd@unichar\expandafter{%
2021 \number\numexpr#1-9216%
2022 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2023 \relax\relax\relax
2024 }%
2025 \else

```



```

2026     \ifnum#1>"7FF %
2027     \9%
2028     \expandafter\HyPsd@unichar@first@byte\expandafter{%
2029     \number
2030     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2031     }%
2032     \else
2033     \8%
2034     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2035     \fi
2036     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2037     \number
2038     \numexpr#1-256*\number
2039     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2040     }%
2041     \fi
2042     \fi
2043     \else
2044     .% unsupported (Unicode -> PDF Doc Encoding)
2045     \fi
2046     }%
2047     \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2048     \def\HyPsd@unichar@first@byte#1{%
2049     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2050     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2051     \number
2052     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2053     \relax\relax\relax
2054     }%
2055     }%
2056     \def\HyPsd@unichar@second@byte#1{%
2057     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2058     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2059     \number
2060     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2061     \relax\relax\relax
2062     }%
2063     }%
2064     \def\HyPsd@unichar@octtwo#1{%
2065     \number\dimexpr.125\dimexpr#1sp\relax\relax
2066     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2067     \relax\relax\relax
2068     }%

```

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

```

2069 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2070 \ifx@gobble#1%
2071 \else
2072 [Please insert \textbackslash PrerenderUnicode%
2073 \textbraceleft#1\textbraceright\space
2074 into preamble]%
2075 \fi
2076 }%

```

### 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`.

```
2077 \def\HyPsd@DieFace#1{%
2078   \ifHy@unicode
2079   \ifnum#1<1 %
2080     \HyPsd@UnicodeReplacementCharacter
2081   \else
2082     \ifnum#1>6 %
2083       \9046\205%
2084       \expandafter\expandafter\expandafter
2085       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2086     \else
2087       \9046\20\intcalcDec{#1}%
2088     \fi
2089   \fi
2090 \else
2091   .% Die faces are not part of PDFDocEncoding
2092 \fi
2093 }
```

`\HyPsd@DieFaceLarge`

```
2094 \def\HyPsd@DieFaceLarge#1!{%
2095   \ifnum#1>6 %
2096     \expandafter\ltx@firstoftwo
2097   \else
2098     \expandafter\ltx@secondoftwo
2099   \fi
2100   {%
2101     \9046\205%
2102     \expandafter\expandafter\expandafter
2103     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2104   }{%
2105     \9046\20\IntCalcDec#1!%
2106   }%
2107 }
```

### 6.6.11 Support for moon phases of package china2e

```
2108 \def\HyPsd@MoonPha#1{%
2109   \ifcase\intcalcNum{#1} %
2110     \HyPsd@UnicodeReplacementCharacter
2111   \or % 1
2112   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2113   \9330\074\9337\032%
```

```

2114 \or % 2
2115 \HyPsd@UnicodeReplacementCharacter
2116 \or % 3
2117 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2118 \9330\074\9337\035%
2119 \or % 4
2120 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2121 \9330\074\9337\034%
2122 \else
2123 \HyPsd@UnicodeReplacementCharacter
2124 \fi
2125 }
2126 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2127 \def\HyPsd@ding#1{%
2128 \ifHy@unicode
2129 \ifnum#1<32 %
2130 \HyPsd@UnicodeReplacementCharacter
2131 \else
2132 \ifnum#1>254 %
2133 \HyPsd@UnicodeReplacementCharacter
2134 \else
2135 \ifnum#1<127 %
2136 \expandafter\expandafter\expandafter
2137 \HyPsd@@ding\intcalcNum{#1}!%
2138 \else
2139 \ifnum#1>160 %
2140 \expandafter\expandafter\expandafter
2141 \HyPsd@@ding\intcalcNum{#1}!%
2142 \else
2143 \HyPsd@UnicodeReplacementCharacter
2144 \fi
2145 \fi
2146 \fi
2147 \fi
2148 \else
2149 .% Dingbats are not part of PDFDocEncoding
2150 \fi
2151 }

```

\HyPsd@@ding

```

2152 \def\HyPsd@@ding#1!{%
2153 \ltx@ifundefined{HyPsd@ding@#1}{%
2154 \ifnum#1<127 %
2155 \9047%
2156 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2157 \else
2158 \ifnum#1<168 %
2159 \9047\14\IntCalcSub#1!160!%
2160 \else
2161 \ifnum#1>181 %
2162 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%

```

```

2163     \else
2164     % 172..181 -> U+2460..U+2469
2165     \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2166     \fi
2167     \fi
2168     \fi
2169   }{%
2170   \csname HyPsd@ding@#1\endcsname
2171   }%
2172 }

2173 \@namedef{HyPsd@ding@32}{\space}
2174 % U+260E BLACK TELEPHONE
2175 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2176 % U+261B BLACK RIGHT POINTING INDEX
2177 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2178 % U+261E WHITE RIGHT POINTING INDEX
2179 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2180 % U+2605 BLACK STAR
2181 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2182 % U+25CF BLACK CIRCLE
2183 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2184 % U+25A0 BLACK SQUARE
2185 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2186 % U+25B2 BLACK UP-POINTING TRIANGLE
2187 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2188 % U+25BC BLACK DOWN-POINTING TRIANGLE
2189 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2190 % U+25C6 BLACK DIAMOND
2191 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2192 % U+25D7 RIGHT HALF BLACK CIRCLE
2193 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2194 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2195 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2196 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2197 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2198 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2199 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2200 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2201 \@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.

```

2202 \@ifpackageloaded{subfigure}{%
2203   \ltx@ifundefined{sub@label}{%
2204     \Hy@hypertextnamesfalse
2205   }{%
2206     \renewcommand*{\sub@label}[1]{%
2207       \@bsphack
2208       \subfig@oldlabel{#1}%

```

```

2209 \if@filesw
2210 \begingroup
2211 \edef\@currentlabstr{%
2212 \expandafter\strip@prefix\meaning\@currentlabelname
2213 }%
2214 \protected@write\@auxout{}\@auxout{%
2215 \string\newlabel{sub@#1}{%
2216 {\@nameuse{@@thesub\@capttype}}%
2217 {\thepage}%
2218 }%
2219 \expandafter\strip@period\@currentlabstr
2220 \relax.\relax\@@@%
2221 }%
2222 {\@currentHref}%
2223 }%
2224 }%
2225 }%
2226 \endgroup
2227 \fi
2228 \@esphack
2229 }%
2230 }%
2231 }{}

```

## 7.2 Package xr and xr-hyper

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

```

2232 \ltx@ifundefined{XR@addURL}{%
2233 }{}%

```

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.

```

2234 \def\XR@addURL#1{\XR@@dURL#1}{-}{-}\%
2235 \def\XR@@dURL#1#2#3#4#5\{\%
2236 {#1}{#2}%
2237 \if!#4!%
2238 \else
2239 {#3}{#4}{\XR@URL}%
2240 \fi
2241 }%
2242 }

2243 \def\Hy@true{true}
2244 \def\Hy@false{false}

```

Providing dummy definitions.

```

2245 \let\literalps@out\@gobble
2246 \newcommand\pdfbookmark[3]{}{}
2247 \def\Acrobatmenu#1#2{\leavevmode#2}
2248 \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

```
2249 \let\HyperRaiseLinkHook\@empty
2250 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2251 \newcount\Hy@SavedSpaceFactor
2252 \def\Hy@SaveSpaceFactor{%
2253   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2254 }
2255 \def\Hy@RestoreSpaceFactor{%
2256   \relax
2257   \ifhmode
2258     \ifnum\Hy@SavedSpaceFactor>\z@
2259       \spacefactor=\Hy@SavedSpaceFactor
2260     \fi
2261   \fi
2262 }
2263 \def\Hy@SaveSavedSpaceFactor{%
2264   \edef\Hy@RestoreSavedSpaceFactor{%
2265     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2266   }%
2267 }
2268 \def\Hy@raisedlink#1{%
2269   \ifvmode
2270     #1%
2271   \else
2272     \Hy@SaveSpaceFactor
2273     \penalty\@M
2274     \smash{%
2275       \begingroup
2276         \let\HyperRaiseLinkLength\@tempdima
2277         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2278         \HyperRaiseLinkHook
2279       \expandafter\endgroup
2280       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2281         \Hy@RestoreSpaceFactor
2282         #1%
2283         \Hy@SaveSpaceFactor
2284       }%
2285     }%
2286   \Hy@RestoreSpaceFactor
```

```

2287 \fi
2288 }

```

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

```

\Hy@RestoreLastskip 2289 \def\Hy@SaveLastskip{%
2290 \let\Hy@RestoreLastskip\relax
2291 \ifvmode
2292 \ifdim\lastskip=\z@
2293 \ifnum\lastnodetype=1 %
2294 \let\Hy@RestoreLastskip\relax
2295 \else
2296 \let\Hy@RestoreLastskip\nobreak
2297 \fi
2298 \else
2299 \begingroup
2300 \skip@=-\lastskip
2301 \edef\x{%
2302 \endgroup
2303 \def\noexpand\Hy@RestoreLastskip{%
2304 \noexpand\ifvmode
2305 \noexpand\nobreak
2306 \vskip\the\skip@
2307 \vskip\the\lastskip\relax
2308 \noexpand\fi
2309 }%
2310 }%
2311 \x
2312 \fi
2313 \else
2314 \ifhmode
2315 \ifdim\lastskip=\z@
2316 \let\Hy@RestoreLastskip\nobreak
2317 \else
2318 \begingroup
2319 \skip@=-\lastskip
2320 \edef\x{%
2321 \endgroup
2322 \def\noexpand\Hy@RestoreLastskip{%
2323 \noexpand\ifhmode
2324 \noexpand\nobreak
2325 \hskip\the\skip@
2326 \hskip\the\lastskip\relax
2327 \noexpand\fi
2328 }%
2329 }%
2330 \x
2331 \fi
2332 \fi
2333 \fi
2334 }%

```

## 9 Options

```

2335 \SetupKeyvalOptions{%
2336   family=Hyp,%
2337   prefix=HyOpt%
2338 }

```

## 9.1 Help macros

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

```

\AddToDocumentProperties
\GetDocumentProperties 2339 \ExplSyntaxOn
2340 \@ifundefined{AddToDocumentProperties}
2341 {
2342   \prop_new:N \g__hyp_documentproperties_prop
2343   \NewDocumentCommand\AddToDocumentProperties{O{\currname}mm}
2344   {
2345     \exp_args:NNx
2346     \prop_gput:Nnn \g__hyp_documentproperties_prop
2347     {
2348       \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2349     }
2350     { #3}
2351   }
2352   \NewExpandableDocumentCommand\GetDocumentProperties{m}
2353   {
2354     \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2355   }
2356 }{}
2357 \ExplSyntaxOff

\IfHyperBooleanExists

2358 \def\IfHyperBooleanExists#1{%
2359   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2360     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2361   }%
2362 }

2363 \@namedef{KV@Hyp@stoppedearly@default}{}

\IfHyperBoolean

2364 \def\IfHyperBoolean#1{%
2365   \IfHyperBooleanExists{#1}{%
2366     \csname ifHy@#1\endcsname
2367     \expandafter\ltx@firstoftwo
2368   \else
2369     \expandafter\ltx@secondoftwo
2370   \fi
2371 } \ltx@secondoftwo
2372 }

\Hy@boolkey

2373 \def\Hy@boolkey#1#2{%

```



```

2374 \edef\Hy@tempa{#2}%
2375 \lowercase\expandafter{%
2376 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2377 }%
2378 \ifx\Hy@tempa\@empty
2379 \let\Hy@tempa\Hy@true
2380 \fi
2381 \ifx\Hy@tempa\Hy@true
2382 \else
2383 \ifx\Hy@tempa\Hy@false
2384 \else
2385 \let\Hy@tempa\relax
2386 \fi
2387 \fi
2388 \ifx\Hy@tempa\relax
2389 \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2390 \else
2391 \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2392 \csname Hy@#1\Hy@tempa\endcsname
2393 \fi
2394 }

```

#### \Hy@WarnOptionValue

```

2395 \def\Hy@WarnOptionValue#1#2#3{%
2396 \Hy@Warning{%
2397 Unexpected value `#1'\MessageBreak
2398 of option `#2' instead of\MessageBreak
2399 #3%
2400 }%
2401 }

```

#### \Hy@DisableOption

```

2402 \def\Hy@DisableOption#1{%
2403 \ltx@ifundefined{KV@Hyp@#1@default}{%
2404 \define@key{Hyp}{#1}%
2405 }{%
2406 \define@key{Hyp}{#1}[]%
2407 }%
2408 {\Hy@WarnOptionDisabled{#1}}%
2409 }
2410

```

#### \Hy@WarnOptionDisabled

```

2411 \def\Hy@WarnOptionDisabled#1{%
2412 \Hy@Warning{%
2413 Option `#1' has already been used,\MessageBreak
2414 setting the option has no effect%
2415 }%
2416 }

```

\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.

```

2417 \def\Hy@CheckOptionValue#1#2#3{%
2418   \begingroup
2419     \edef\x{#1}%
2420     \@onelevel@sanitize\x
2421     \let\y=y%
2422     \def\do##1##2{%
2423       \def\z{##1}%
2424       \@onelevel@sanitize\z
2425       \ifx\x\z
2426         \let\y=n%
2427         \let\do\@gobbletwo
2428       \fi
2429     }%
2430     #3%
2431     \ifx\y y%
2432       \def\do##1##2{%
2433         * `##1'%
2434         \ifx\##2\\\else\space(##2)\fi
2435         \MessageBreak
2436       }%
2437       \Hy@Warning{%
2438         Values of option `##2':\MessageBreak
2439         #3%
2440         * An empty value disables the option.\MessageBreak
2441         Unknown value `x'%
2442       }%
2443     \fi
2444   \endgroup
2445 }

```

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

```

2446 \def\Hy@DefNameKey#1{%
2447   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2448 }

```

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

```

2449 \def\Hy@@DefNameKey#1#2#3{%
2450   \define@key{Hyp}{#2}{%
2451     \edef#1{##1}%
2452     \ifx#1\@empty
2453       \else
2454         \Hy@CheckOptionValue{##1}{#2}{#3}%
2455       \fi
2456     }%
2457   \let#1\@empty
2458 }

```

\Hy@UseNameKey

```

2459 \def\Hy@UseNameKey#1#2{%

```

```

2460 \ifx#2\@empty
2461 \else
2462 /#1/#2%
2463 \fi
2464 }

```

## 9.2 Defining the options

```

2465 \define@key{Hyp}{implicit}[true]{%
2466 \Hy@boolkey{implicit}{#1}%
2467 }
2468 \define@key{Hyp}{draft}[true]{%
2469 \Hy@boolkey{draft}{#1}%
2470 }
2471 \define@key{Hyp}{final}[true]{%
2472 \Hy@boolkey{final}{#1}%
2473 }
2474 \let\KV@Hyp@nolinks\KV@Hyp@draft

2475 \def\Hy@ObsoletePaperOption#1{%
2476 \Hy@WarningNoLine{%
2477 Option `#1' is no longer used%
2478 }%
2479 \define@key{Hyp}{#1}[true]{}%
2480 }
2481 \def\Hy@temp#1{%
2482 \define@key{Hyp}{#1}[true]{%
2483 \Hy@ObsoletePaperOption{#1}%
2484 }%
2485 }
2486 \Hy@temp{a4paper}
2487 \Hy@temp{a5paper}
2488 \Hy@temp{b5paper}
2489 \Hy@temp{letterpaper}
2490 \Hy@temp{legalpaper}
2491 \Hy@temp{executivepaper}

2492 \define@key{Hyp}{setpagesize}[true]{%
2493 \Hy@boolkey{setpagesize}{#1}%
2494 }
2495 \define@key{Hyp}{debug}[true]{%
2496 \Hy@boolkey{debug}{#1}%
2497 }
2498 \define@key{Hyp}{linktocpage}[true]{%
2499 \Hy@boolkey{linktocpage}{#1}%
2500 \ifHy@linktocpage
2501 \let\Hy@linktoc\Hy@linktoc@page
2502 \else
2503 \let\Hy@linktoc\Hy@linktoc@section
2504 \fi
2505 }
2506 \chardef\Hy@linktoc@none=0 %
2507 \chardef\Hy@linktoc@section=1 %
2508 \chardef\Hy@linktoc@page=2 %
2509 \chardef\Hy@linktoc@all=3 %

```

```

2510 \ifHy@linktocpage
2511 \let\Hy@linktoc\Hy@linktoc@page
2512 \else
2513 \let\Hy@linktoc\Hy@linktoc@section
2514 \fi
2515 \define@key{Hyp}{linktoc}{%
2516 \@ifundefined{Hy@linktoc@#1}{%
2517 \Hy@Warning{%
2518 Unexpected value `#1' of\MessageBreak
2519 option `linktoc' instead of `none',\MessageBreak
2520 `section', `page' or `all'%
2521 }%
2522 }{%
2523 \expandafter\let\expandafter\Hy@linktoc
2524 \csname Hy@linktoc@#1\endcsname
2525 }%
2526 }
2527 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2528 \let\XR@ext\relax
2529 \define@key{Hyp}{verbose}[true]{%
2530 \Hy@boolkey{verbose}{#1}%
2531 }

```

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.

```

2532 \define@key{Hyp}{raiselinks}[true]{%
2533 \Hy@boolkey{raiselinks}{#1}%
2534 }

```

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

```

2535 \def\Hy@setbreaklinks#1{%
2536 \csname breaklinks#1\endcsname
2537 }
2538 \def\Hy@breaklinks@unsupported{%
2539 \ifx\Hy@setbreaklinks\@gobble
2540 \ifHy@breaklinks
2541 \Hy@WarningNoLine{%
2542 You have enabled option `breaklinks'.\MessageBreak
2543 But driver ``\Hy@driver.def' does not support this.\MessageBreak
2544 Expect trouble with the link areas of broken links%
2545 }%
2546 \fi
2547 \fi
2548 }
2549 \define@key{Hyp}{breaklinks}[true]{%
2550 \Hy@boolkey{breaklinks}{#1}%
2551 \let\Hy@setbreaklinks\@gobble
2552 }
2553 \define@key{Hyp}{localanchorname}[true]{%
2554 \Hy@WarningNoLine{%
2555 Option `localanchorname' is deprecated%
2556 }%

```

```

2557 \Hy@boolkey{localanchorname}{#1}%
2558 }

```

Determines whether an automatic anchor is put on each page

```

2559 \define@key{Hyp}{pageanchor}[true]{%
2560 \Hy@boolkey{pageanchor}{#1}%
2561 }

```

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.

```

2562 \define@key{Hyp}{plainpages}[true]{%
2563 \Hy@boolkey{plainpages}{#1}%
2564 }

```

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?

```

2565 \define@key{Hyp}{naturalnames}[true]{%
2566 \Hy@boolkey{naturalnames}{#1}%
2567 }

```

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

```

2568 \define@key{Hyp}{hypertexnames}[true]{%
2569 \Hy@boolkey{hypertexnames}{#1}%
2570 }

```

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

```

2571 \define@key{Hyp}{nesting}[true]{%
2572 \Hy@boolkey{nesting}{#1}%
2573 }

```

```

2574 \define@key{Hyp}{destlabel}[true]{%
2575 \Hy@boolkey{destlabel}{#1}%
2576 }

```

```

2577 \define@key{Hyp}{unicode}[true]{%
2578 \Hy@boolkey{unicode}{#1}%
2579 \ifHy@unicode
2580 \def\HyPsd@pdfencoding{unicode}%
2581 \HyPsd@LoadUnicode
2582 \else
2583 \def\HyPsd@pdfencoding{pdfdoc}%
2584 \fi
2585 }

```

```

2586 \Hy@AtBeginDocument{%
2587 \ifx\HyPsd@LoadUnicode\relax
2588 \else
2589 \def\HyPsd@LoadUnicode{%
2590 \Hy@Error{%
2591 Unicode support for bookmarks is not available.\MessageBreak
2592 Activate unicode support by using one of the options\MessageBreak
2593 `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2594 in the preamble%
2595 }%\ehc
2596 \global\let\HyPsd@LoadUnicode\relax
2597 \global\Hy@unicodedefalse
2598 \global\let\Hy@unicodetrue\Hy@unicodedefalse

```

```

2599 }%
2600 \fi
2601 }

2602 \define@key{Hyp}{pdfencoding}{%
2603 \edef\HyPsd@temp{#1}%
2604 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2605 \let\HyPsd@pdfencoding\HyPsd@temp
2606 \Hy@unicodedefalse
2607 \else
2608 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2609 \z@
2610 \else
2611 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2612 \z@
2613 \else
2614 \@ne
2615 \fi
2616 \fi
2617 \let\HyPsd@pdfencoding\HyPsd@temp
2618 \hypersetup{unicode}%
2619 \ifHy@unicode
2620 \def\HyPsd@pdfencoding{#1}%
2621 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2622 \HyPsd@LoadStringEnc
2623 \fi
2624 \else
2625 \Hy@Warning{Cannot switch to unicode bookmarks}%
2626 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2627 \fi
2628 \else
2629 \@onelevel@sanitize\HyPsd@temp
2630 \Hy@Warning{%
2631 Values of option `pdfencoding':\MessageBreak
2632 `pdfdoc', `unicode', `auto'.\MessageBreak
2633 Ignoring unknown value `\HyPsd@temp'%
2634 }%
2635 \fi
2636 \fi
2637 }

2638 \def\HyPsd@pdfencoding@auto{auto}
2639 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2640 \def\HyPsd@pdfencoding@unicode{unicode}

change 2020-08-14, use unicode by default:
2641 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2642 \HyPsd@LoadUnicode
2643 \def\HyPsd@LoadStringEnc{%
2644 \RequirePackage{stringenc}[2009/12/15]%
2645 \let\HyPsd@LoadStringEnc\relax
2646 }
2647 \Hy@AtBeginDocument{%
2648 \@ifpackageloaded{stringenc}{%
2649 \let\HyPsd@LoadStringEnc\relax
2650 }-%

```

```

2651 \def\HyPsd@LoadStringEnc{%
2652 \Hy@WarningNoLine{%
2653 Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2654 in the preamble or load the package there%
2655 }%
2656 }%
2657 }%
2658 }
2659 \define@key{Hyp}{psdextra}[true]{%
2660 \Hy@boolkey{psdextra}{#1}%
2661 \HyPsd@LoadExtra
2662 }
2663 \def\hypersetup{\kvsetkeys{Hyp}}
2664 \newif\ifHy@setpdfversion
2665 \define@key{Hyp}{pdfversion}{%
2666 \@ifundefined{Hy@pdfversion@#1}{%
2667 \PackageWarning{hyperref}{%
2668 Unsupported PDF version `#1'.\MessageBreak
2669 Valid values: 1.2-1.7, 2.0%
2670 }%
2671 }{%
2672 \Hy@setpdfversiontrue
2673 \@nameuse{Hy@pdfversion@#1}%
2674 }%
2675 }
\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or
\pdfvariable majorversion} so introduce new names here.
2676 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
2677 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
2678 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
2679 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2680 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2681 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
2682 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
2683 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}
Legacy name, earlier releases assumed 1.x
2684 \let\Hy@pdfversion\Hy@pdf@minorversion
2685 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
2686 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}
if pdfminorversion is defined, make sure pdfmajorversion is too.
2687 \@ifundefined{pdfminorversion}{}{%
2688 \@ifundefined{pdfmajorversion}{}%
2689 \newcount\pdfmajorversion

```

```

2690 \pdfmajorversion=1
2691 }{}%
2692 }
2693 \ifx\pdfmajorversion\@undefined\else
2694 \def\Hy@pdfmajorversion{\pdfmajorversion}
2695 \fi

```

## 10 Options for different drivers

```

2696 \newif\ifHy@DviMode
2697 \let\Hy@DviErrMsg\ltx@empty
2698 \ifpdf
2699 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2700 \else
2701 \ifxetex
2702 \def\Hy@DviErrMsg{XeTeX is running}%
2703 \else
2704 \ifvtex
2705 \ifnum\OpMode=\z@
2706 \Hy@DviModetrue
2707 \else
2708 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2709 \fi
2710 \else
2711 \Hy@DviModetrue
2712 \fi
2713 \fi
2714 \fi
2715 \def\HyOpt@CheckDvi#1{%
2716 \ifHy@DviMode
2717 \expandafter\ltx@firstofone
2718 \else
2719 \Hy@Error{%
2720 Wrong DVI mode driver option `#1',\MessageBreak
2721 because \Hy@DviErrMsg
2722 }\@ehc
2723 \expandafter\ltx@gobble
2724 \fi
2725 }
2726 \DeclareVoidOption{tex4ht}{%
2727 \Hy@texhttrue
2728 \kvsetkeys{Hyp}{colorlinks=true}%
2729 \def\BeforeTeXIVht{\RequirePackage{color}}%
2730 \def\Hy@driver{htex4ht}%
2731 \def\MaybeStopEarly{%
2732 \Hy@Message{Stopped early}%
2733 \Hy@AtBeginDocument{%
2734 \PDF@FinishDoc
2735 \gdef\PDF@FinishDoc{}%
2736 }%
2737 \endinput
2738 }%
2739 }
2740 \DeclareVoidOption{pdftex}{%

```



```

2741 \ifpdf
2742 \def\Hy@driver{hpdfTeX}%
2743 \PassOptionsToPackage{pdfTeX}{color}%
2744 \else
2745 \Hy@Error{%
2746   Wrong driver option `pdfTeX',\MessageBreak
2747   because pdfTeX in PDF mode is not detected%
2748 } \@ehc
2749 \fi
2750 }
2751 \DeclareVoidOption{luatex}{%
2752 \ifpdf
2753 \ifx\pdfextension\@undefined
2754 \def\Hy@driver{hpdfTeX}%
2755 \PassOptionsToPackage{pdfTeX}{color}%
2756 \else
2757 \def\Hy@driver{hluatex}%
2758 \PassOptionsToPackage{luatex}{color}%
2759 \fi
2760 \else
2761 \Hy@Error{%
2762   Wrong driver option `luatex',\MessageBreak
2763   because luaTeX in PDF mode is not detected%
2764 } \@ehc
2765 \fi
2766 }
2767 \DeclareVoidOption{nativepdf}{%
2768 \HyOpt@CheckDvi{nativepdf}{%
2769 \def\Hy@driver{hdvips}%
2770 \PassOptionsToPackage{dvips}{color}%
2771 }%
2772 }
2773 \DeclareVoidOption{dviPDFM}{%
2774 \HyOpt@CheckDvi{dviPDFM}{%
2775 \def\Hy@driver{hdvipdfm}%
2776 }%
2777 }
2778 \DeclareVoidOption{dviPDFMX}{%
2779 \HyOpt@CheckDvi{dviPDFMX}{%
2780 \def\Hy@driver{hdvipdfm}%
2781 \PassOptionsToPackage{dviPDFMX}{color}%
2782 }%
2783 }
2784 \define@key{Hyp}{dviPDFMX-outline-open}[true]{%
2785 \expandafter\ifx\csname if#1\expandafter\endcsname
2786   \csname iftrue\endcsname
2787 \chardef\SpecialDvipdfmXOutlineOpen\@ne
2788 \else
2789 \chardef\SpecialDvipdfmXOutlineOpen\z@
2790 \fi
2791 }
2792 \DeclareVoidOption{xetex}{%
2793 \ifxetex
2794 \def\Hy@driver{hxetex}%

```

```

2795 \else
2796   \Hy@Error{%
2797     Wrong driver option `xetex',\MessageBreak
2798     because XeTeX is not detected%
2799   }\@ehc
2800 \fi
2801 }
2802 \DeclareVoidOption{pdfmark}{%
2803   \HyOpt@CheckDvi{pdfmark}{%
2804     \def\Hy@driver{hdvips}%
2805   }%
2806 }
2807 \DeclareVoidOption{dvips}{%
2808   \HyOpt@CheckDvi{dvips}{%
2809     \def\Hy@driver{hdvips}%
2810     \PassOptionsToPackage{dvips}{color}%
2811   }%
2812 }
2813 \DeclareVoidOption{hypertex}{%
2814   \HyOpt@CheckDvi{hypertex}{%
2815     \def\Hy@driver{hypertex}%
2816   }%
2817 }
2818 \let\Hy@MaybeStopNow\relax
2819 \DeclareVoidOption{vtex}{%
2820   \ifvtex
2821     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2822     \def\Hy@driver{hvtex}%
2823     \else
2824       \ifnum\OpMode=10\relax
2825         \def\Hy@driver{hvtexhtm}%
2826         \def\MaybeStopEarly{%
2827           \Hy@Message{Stopped early}%
2828           \Hy@AtBeginDocument{%
2829             \PDF@FinishDoc
2830             \gdef\PDF@FinishDoc{}}%
2831         }%
2832         \endinput
2833       }%
2834     \else
2835       \Hy@Error{%
2836         Wrong driver option `vtex',\MessageBreak
2837         because of wrong OpMode (\the\OpMode)%
2838       }\@ehc
2839     \fi
2840   \fi
2841 \else
2842   \Hy@Error{%
2843     Wrong driver option `vtex',\MessageBreak
2844     because VTeX is not running%
2845   }\@ehc
2846 \fi
2847 }
2848 \DeclareVoidOption{vtexpdfmark}{%

```

```

2849 \ifvtex
2850   \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2851   \def\Hy@driver{hvtexmrk}%
2852   \else
2853     \Hy@Error{%
2854       Wrong driver option `vtexpdfmark',\MessageBreak
2855       because of wrong OpMode (\the\OpMode)%
2856     }\@ehc
2857   \fi
2858 \else
2859   \Hy@Error{%
2860     Wrong driver option `vtexpdfmark',\MessageBreak
2861     because VTeX is not running%
2862   }\@ehc
2863 \fi
2864 }
2865 \DeclareVoidOption{dviwindo}{%
2866   \HyOpt@CheckDvi{dviwindo}{%
2867     \def\Hy@driver{hdvwind}%
2868     \kvsetkeys{Hyp}{colorlinks}%
2869     \PassOptionsToPackage{dviwindo}{color}%
2870   }%
2871 }
2872 \DeclareVoidOption{dvipsone}{%
2873   \HyOpt@CheckDvi{dvipsone}{%
2874     \def\Hy@driver{hdvipson}%
2875     \PassOptionsToPackage{dvipsone}{color}%
2876   }%
2877 }
2878 \DeclareVoidOption{textures}{%
2879   \HyOpt@CheckDvi{textures}{%
2880     \def\Hy@driver{httexture}%
2881   }%
2882 }
2883 \DeclareVoidOption{latex2html}{%
2884   \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2885     A current html.sty will do all necessary (re)definitions%
2886   }%
2887 }

```

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

```

2888 \DeclareVoidOption{ps2pdf}{%
2889   \HyOpt@CheckDvi{ps2pdf}{%
2890     \def\Hy@driver{hdvips}%
2891     \PassOptionsToPackage{dvips}{color}%
2892   }%
2893 }
2894 \let\HyOpt@DriverFallback\ltx@empty
2895 \define@key{Hyp}{driverfallback}{%
2896   \ifHy@DviMode
2897     \def\HyOpt@DriverFallback{#1}%
2898     \Hy@Match\HyOpt@DriverFallback{}{%
2899       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2900       latex2html|tex4ht)$%

```

```

2901   }-}{%
2902   \Hy@Warning{%
2903     Invalid driver `#1' for option\MessageBreak
2904     `driverfallback'%
2905   }%
2906   \let\HyOpt@DriverFallback\ltx@empty
2907   }%
2908 \fi
2909 }

2910 \let\HyOpt@CustomDriver\ltx@empty
2911 \define@key{Hyp}{customdriver}{%
2912   \IfFileExists{#1.def}{%
2913     \def\HyOpt@CustomDriver{#1}%
2914   }-}{%
2915     \Hy@Warning{%
2916       Missing driver file `#1.def',\MessageBreak
2917       ignoring custom driver%
2918     }%
2919   }%
2920 }

```

## 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.

```

2921 \define@key{Hyp}{hyperfigures}[true]{%
2922   \Hy@boolkey{hyperfigures}{#1}%
2923 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2924 \define@key{Hyp}{hyperfootnotes}[true]{%
2925   \Hy@boolkey{hyperfootnotes}{#1}%
2926 }

```

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

```

2927 \def\back@none{none}
2928 \def\back@section{section}
2929 \def\back@page{page}
2930 \def\back@slide{slide}
2931 \define@key{Hyp}{backref}[section]{%
2932   \lowercase{\def\Hy@tempa{#1}}%
2933   \ifx\Hy@tempa\@empty
2934     \let\Hy@tempa\back@section
2935   \fi
2936   \ifx\Hy@tempa\Hy@false
2937     \let\Hy@tempa\back@none
2938   \fi
2939   \ifx\Hy@tempa\back@slide
2940     \let\Hy@tempa\back@section
2941   \fi
2942   \ifx\Hy@tempa\back@page
2943     \PassOptionsToPackage{hyperpageref}{backref}%
2944     \Hy@backreftrue
2945   \else

```

```

2946 \ifx\Hy@tempa\back@section
2947 \PassOptionsToPackage{hyperref}{backref}%
2948 \Hy@backreftrue
2949 \else
2950 \ifx\Hy@tempa\back@none
2951 \Hy@backreffalse
2952 \else
2953 \Hy@WarnOptionValue{#1}{backref}{%
2954 `section', `slide', `page', `none',\MessageBreak
2955 or `false'}%
2956 \fi
2957 \fi
2958 \fi
2959 }
2960 \define@key{Hyp}{pagebackref}[true]{%
2961 \edef\Hy@tempa{#1}%
2962 \lowercase\expandafter{%
2963 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2964 }%
2965 \ifx\Hy@tempa@empty
2966 \let\Hy@tempa\Hy>true
2967 \fi
2968 \ifx\Hy@tempa\Hy>true
2969 \PassOptionsToPackage{hyperpageref}{backref}%
2970 \Hy@backreftrue
2971 \else
2972 \ifx\Hy@tempa\Hy>false
2973 \Hy@backreffalse
2974 \else
2975 \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2976 \fi
2977 \fi
2978 }

```

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

```

2979 \define@key{Hyp}{hyperindex}[true]{%
2980 \Hy@boolkey{hyperindex}{#1}%
2981 }

```

Configuration of encap char.

```

2982 \define@key{Hyp}{encap}[\\]{%
2983 \def\HyInd@EncapChar{#1}%
2984 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2985 \def\HyLang@afrikaans{%
2986 \def\equationautorefname{Vergelyking}%
2987 \def\footnoteautorefname{Voetnota}%
2988 \def\itemautorefname{Item}%
2989 \def\figureautorefname{Figuur}%
2990 \def\tableautorefname{Tabel}%

```

```

2991 \def\partautorefname{Deel}%
2992 \def\appendixautorefname{Bylae}%
2993 \def\chapterautorefname{Hoofstuk}%
2994 \def\sectionautorefname{Afdeling}%
2995 \def\subsectionautorefname{Subafdeling}%
2996 \def\subsubsectionautorefname{Subsubafdeling}%
2997 \def\paragraphautorefname{Paragraaf}%
2998 \def\subparagraphautorefname{Subparagraaf}%
2999 \def\FancyVerbLineautorefname{Lyn}%
3000 \def\theoremautorefname{Teorema}%
3001 \def\pageautorefname{Bladsy}%
3002 }
3003 \def\HyLang@english{%
3004 \def\equationautorefname{Equation}%
3005 \def\footnoteautorefname{footnote}%
3006 \def\itemautorefname{item}%
3007 \def\figureautorefname{Figure}%
3008 \def\tableautorefname{Table}%
3009 \def\partautorefname{Part}%
3010 \def\appendixautorefname{Appendix}%
3011 \def\chapterautorefname{chapter}%
3012 \def\sectionautorefname{section}%
3013 \def\subsectionautorefname{subsection}%
3014 \def\subsubsectionautorefname{subsubsection}%
3015 \def\paragraphautorefname{paragraph}%
3016 \def\subparagraphautorefname{subparagraph}%
3017 \def\FancyVerbLineautorefname{line}%
3018 \def\theoremautorefname{Theorem}%
3019 \def\pageautorefname{page}%
3020 }
3021 \def\HyLang@french{%
3022 \def\equationautorefname{'equation}%
3023 \def\footnoteautorefname{note}%
3024 \def\itemautorefname{item}%
3025 \def\figureautorefname{figure}%
3026 \def\tableautorefname{tableau}%
3027 \def\partautorefname{partie}%
3028 \def\appendixautorefname{annexe}%
3029 \def\chapterautorefname{chapitre}%
3030 \def\sectionautorefname{section}%
3031 \def\subsectionautorefname{sous-section}%
3032 \def\subsubsectionautorefname{sous-sous-section}%
3033 \def\paragraphautorefname{paragraphe}%
3034 \def\subparagraphautorefname{sous-paragraphe}%
3035 \def\FancyVerbLineautorefname{ligne}%
3036 \def\theoremautorefname{th'eor`eme}%
3037 \def\pageautorefname{page}%
3038 }
3039 \def\HyLang@german{%
3040 \def\equationautorefname{Gleichung}%
3041 \def\footnoteautorefname{Fu\ss note}%
3042 \def\itemautorefname{Punkt}%
3043 \def\figureautorefname{Abbildung}%
3044 \def\tableautorefname{Tabelle}%

```

```

3045 \def\partautorefname{Teil}%
3046 \def\appendixautorefname{Anhang}%
3047 \def\chapterautorefname{Kapitel}%
3048 \def\sectionautorefname{Abschnitt}%
3049 \def\subsectionautorefname{Unterabschnitt}%
3050 \def\subsubsectionautorefname{Unterunterabschnitt}%
3051 \def\paragraphautorefname{Absatz}%
3052 \def\subparagraphautorefname{Unterabsatz}%
3053 \def\FancyVerbLineautorefname{Zeile}%
3054 \def\theoremautorefname{Theorem}%
3055 \def\pageautorefname{Seite}%
3056 }
3057 \def\HyLang@italian{%
3058 \def\equationautorefname{Equazione}%
3059 \def\footnoteautorefname{nota}%
3060 \def\itemautorefname{punto}%
3061 \def\figureautorefname{Figura}%
3062 \def\tableautorefname{Tabella}%
3063 \def\partautorefname{Parte}%
3064 \def\appendixautorefname{Appendice}%
3065 \def\chapterautorefname{Capitolo}%
3066 \def\sectionautorefname{sezione}%
3067 \def\subsectionautorefname{sottosezione}%
3068 \def\subsubsectionautorefname{sottosottosezione}%
3069 \def\paragraphautorefname{paragrafo}%
3070 \def\subparagraphautorefname{sottoparagrafo}%
3071 \def\FancyVerbLineautorefname{linea}%
3072 \def\theoremautorefname{Teorema}%
3073 \def\pageautorefname{Pag. \@}%
3074 }
3075 \def\HyLang@magyar{%
3076 \def\equationautorefname{Egyenlet}%
3077 \def\footnoteautorefname{1'abjegyzet}%
3078 \def\itemautorefname{Elem}%
3079 \def\figureautorefname{'Abra}%
3080 \def\tableautorefname{T\abl'azat}%
3081 \def\partautorefname{R'esz}%
3082 \def\appendixautorefname{F\u'uggel'ek}%
3083 \def\chapterautorefname{fejezet}%
3084 \def\sectionautorefname{szakasz}%
3085 \def\subsectionautorefname{alszakasz}%
3086 \def\subsubsectionautorefname{alalszakasz}%
3087 \def\paragraphautorefname{bekezd'es}%
3088 \def\subparagraphautorefname{albekezd'es}%
3089 \def\FancyVerbLineautorefname{sor}%
3090 \def\theoremautorefname{T'etel}%
3091 \def\pageautorefname{oldal}%
3092 }
3093 \def\HyLang@portuges{%
3094 \def\equationautorefname{Equa\c c\~ao}%
3095 \def\footnoteautorefname{Nota de rodap'e}%
3096 \def\itemautorefname{Item}%
3097 \def\figureautorefname{Figura}%
3098 \def\tableautorefname{Tabela}%

```

```

3099 \def\partautorefname{Parte}%
3100 \def\appendixautorefname{Ap\^endice}%
3101 \def\chapterautorefname{Cap\itulo}%
3102 \def\sectionautorefname{Se\c c\~ao}%
3103 \def\subsectionautorefname{Subse\c c\~ao}%
3104 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3105 \def\paragraphautorefname{par\agrafo}%
3106 \def\subparagraphautorefname{subpar\agrafo}%
3107 \def\FancyVerbLineautorefname{linha}%
3108 \def\theoremautorefname{Teorema}%
3109 \def\pageautorefname{P\agina}%
3110 }

```

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`.

```
3111 \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`?

```
3112 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%
```

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

```

3113 % \def\equationautorefname{%
3114 %   \cyr\cyrv\cyrery\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3115 % }%

```

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

```

3116 \def\footnoteautorefname{%
3117   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3118 }%

```

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}`”

```

3119 % \def\footnoteautorefname{%
3120 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3121 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3122 % }%

```

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

```

3123 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3124 % \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.

```
3125 \def\itemautorefname{\cyr\cyrp.}%  
3126 % \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.

```
3127 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3128 \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.

```
3129 \def\partautorefname{\cyr\cyrch.}%  
3130 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3131 \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.

```
3132 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3133 % \def\appendixautorefname{%  
3134 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre  
3135 % }%
```

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.

```
3136 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
3137 \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.

```
3138 \def\paragraphautorefname{\cyr\cyrp.}%  
3139 \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.

```
3140 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%  
3141 % \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.

```
3142 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3143 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%  
3144 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3145 % \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 ...

```
3146 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3147 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3148 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3149 \def\pageautorefname{\cyr\cyrs.}%
```

```
3150 }
```

```
3151 \def\HyLang@spanish{%
```

```
3152 \def\equationautorefname{Ecuaci'on}%
```

```
3153 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
3154 \def\itemautorefname{Elemento}%
```

```
3155 \def\figureautorefname{Figura}%
```

```
3156 \def\tableautorefname{Tabla}%
```

```
3157 \def\partautorefname{Parte}%
```

```
3158 \def\appendixautorefname{Ap'endice}%
```

```
3159 \def\chapterautorefname{Cap'itulo}%
```

```
3160 \def\sectionautorefname{Secci'on}%
```

```
3161 \def\subsectionautorefname{Subsecci'on}%
```

```
3162 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
3163 \def\paragraphautorefname{P'arrafo}%
```

```
3164 \def\subparagraphautorefname{Subp'arrafo}%
```

```
3165 \def\FancyVerbLineautorefname{L'inea}%
```

```
3166 \def\theoremautorefname{Teorema}%
```

```
3167 \def\pageautorefname{P'agina}%
```

```
3168 }
```

```
3169 \def\HyLang@catalan{%
```

```
3170 \def\equationautorefname{Equaci'o}%
```

```
3171 \def\footnoteautorefname{Nota al peu de p`agina}%
```

```
3172 \def\itemautorefname{Element}%
```

```
3173 \def\figureautorefname{Figura}%
```

```
3174 \def\tableautorefname{Taula}%
```

```
3175 \def\partautorefname{Part}%
```

```
3176 \def\appendixautorefname{Ap`endix}%
```

```
3177 \def\chapterautorefname{Cap`itol}%
```

```
3178 \def\sectionautorefname{Secci'o}%
```

```
3179 \def\subsectionautorefname{Subsecci'o}%
```

```
3180 \def\subsubsectionautorefname{Subsubsecci'o}%
```

```
3181 \def\paragraphautorefname{Par`agraf}%
```

```
3182 \def\subparagraphautorefname{Subpar`agraf}%
```

```
3183 \def\FancyVerbLineautorefname{L'inia}%
```

```
3184 \def\theoremautorefname{Teorema}%
```

```
3185 \def\pageautorefname{P`agina}%
```

```
3186 }
```

```
3187 \def\HyLang@vietnamese{%
```

```
3188 \def\equationautorefname{Ph\uhorn{}}\horn{}}ng tr`inh}%
```

```
3189 \def\footnoteautorefname{Ch`u th`ich}%
```

```
3190 \def\itemautorefname{m`d`u`c}%
```

```
3191 \def\figureautorefname{H`inh}%
```

```

3192 \def\tableautorefname{B\h{a}ng}%
3193 \def\partautorefname{Ph\`{\acircumflex}{n}}%
3194 \def\appendixautorefname{Ph\{d\{u} l\{d\{u}c}}%
3195 \def\chapterautorefname{ch\{uhorn\}\{ohorn\}ng}%
3196 \def\sectionautorefname{m\{d\{u}c}}%
3197 \def\subsectionautorefname{m\{d\{u}c}}%
3198 \def\subsubsectionautorefname{m\{d\{u}c}}%
3199 \def\paragraphautorefname{\dj\}\o\{d\{a}n}}%
3200 \def\subparagraphautorefname{\dj\}\o\{d\{a}n}}%
3201 \def\FancyVerbLineautorefname{d\`ong}%
3202 \def\theoremautorefname{\DJ\}\{d\{i}nh l\`y}}%
3203 \def\pageautorefname{Trang}%
3204 }

```

Greek, see github issue 52

```

3205 \def\HyLang@greek{%
3206   \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\textomega\textsigma\texteta}%
3207     \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3208     \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3209     \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3210   \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3211   \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3212   \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3213     \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%
3214     \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3215     \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3216     \def\subsubsectionautorefname{\textupsilon\textpi\textomicron-\textupsilon\textpi\textomicron\textrho\textalpha\textphi\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3217     \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3218     \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3219     \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acconos\texteta}%
3220     \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\textrho\texteta\textmu\textalpha}%
3221     \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\textalpha}%
3222 }

3223 \def\HyLang@dutch{%
3224   \def\equationautorefname{Vergelijking}%
3225   \def\footnoteautorefname{voetnoot}%
3226   \def\itemautorefname{punt}%
3227   \def\figureautorefname{Figuur}%

```

```

3228 \def\tableautorefname{Tabel}%
3229 \def\partautorefname{Deel}%
3230 \def\appendixautorefname{Bijlage}%
3231 \def\chapterautorefname{hoofdstuk}%
3232 \def\sectionautorefname{paragraaf}%
3233 \def\subsectionautorefname{deelparagraaf}%
3234 \def\subsubsectionautorefname{deel-deelparagraaf}%
3235 \def\paragraphautorefname{alinea}%
3236 \def\subparagraphautorefname{deelalinea}%
3237 \def\FancyVerbLineautorefname{regel}%
3238 \def\theoremautorefname{Stelling}%
3239 \def\pageautorefname{pagina}%
3240 }
3241 \def\HyLang@norsk{%
3242 \def\equationautorefname{Ligning}%
3243 \def\footnoteautorefname{fotnote}%
3244 \def\itemautorefname{element}%
3245 \def\figureautorefname{Figur}%
3246 \def\tableautorefname{Tabell}%
3247 \def\partautorefname{Del}%
3248 \def\appendixautorefname{Tillegg}%
3249 \def\chapterautorefname{kapittel}%
3250 \def\sectionautorefname{seksjon}%
3251 \def\subsectionautorefname{underseksjon}%
3252 \def\subsubsectionautorefname{under-underseksjon}%
3253 \def\paragraphautorefname{avsnitt}%
3254 \def\subparagraphautorefname{underavsnitt}%
3255 \def\FancyVerbLineautorefname{Linje}%
3256 \def\theoremautorefname{Teorem}%
3257 \def\pageautorefname{side}%
3258 }
3259 \def\HyLang@danish{%
3260 \def\equationautorefname{Ligning}%
3261 \def\footnoteautorefname{fodnote}%
3262 \def\itemautorefname{element}%
3263 \def\figureautorefname{Figur}%
3264 \def\tableautorefname{Tabel}%
3265 \def\partautorefname{Del}%
3266 \def\appendixautorefname{Bilag}%
3267 \def\chapterautorefname{kapitel}%
3268 \def\sectionautorefname{sektion}%
3269 \def\subsectionautorefname{under-sektion}%
3270 \def\subsubsectionautorefname{under-under-sektion}%
3271 \def\paragraphautorefname{afsnit}%
3272 \def\subparagraphautorefname{underafsnit}%
3273 \def\FancyVerbLineautorefname{linje}%
3274 \def\theoremautorefname{Teorem}%
3275 \def\pageautorefname{side}%
3276 }
3277 \def\HyLang@addto#1#2{%
3278 #2%

```

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

```

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

3291 \def\HyLang@DeclareLang#1#2#3{%
3292   \@ifpackagewith{babel}{#1}{%
3293     \expandafter\HyLang@addto
3294       \csname extras#1\expandafter\endcsname
3295       \csname HyLang@#2\endcsname
3296     \begingroup
3297       \edef\x{\endgroup
3298         #3%
3299       }%
3300     \x
3301     \@namedef{HyLang@#1@done}{}%
3302   }{%
3303     \begingroup
3304       \edef\x##1##2{%
3305         \noexpand\ifx##2\relax
3306           \errmessage{No definitions for language #2' found!}%
3307         \noexpand\fi
3308       \endgroup
3309       \noexpand\define@key{Hyp}{#1}[]{}%
3310       \noexpand\@ifundefined{HyLang@#1@done}{%
3311         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3312         #3%
3313         \noexpand\@namedef{HyLang@#1@done}{}%
3314       }{%
3315         }%
3316       }%
3317     \expandafter\x\csname extras#1\expandafter\endcsname
3318       \csname HyLang@#2\endcsname
3319   }
3320 \HyLang@DeclareLang{english}{english}{}
3321 \HyLang@DeclareLang{UKenglish}{english}{}
3322 \HyLang@DeclareLang{british}{english}{}
3323 \HyLang@DeclareLang{USenglish}{english}{}
3324 \HyLang@DeclareLang{american}{english}{}
3325 \HyLang@DeclareLang{german}{german}{}
3326 \HyLang@DeclareLang{austrian}{german}{}
3327 \HyLang@DeclareLang{ngerman}{german}{}
3328 \HyLang@DeclareLang{naustrian}{german}{}
3329 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3330 \HyLang@DeclareLang{brazil}{portuges}{}
3331 \HyLang@DeclareLang{brazilian}{portuges}{}
3332 \HyLang@DeclareLang{portuguese}{portuges}{}

```

```

3333 \HyLang@DeclareLang{spanish}{spanish}{}
3334 \HyLang@DeclareLang{catalan}{catalan}{}
3335 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3336 \HyLang@DeclareLang{french}{french}{}
3337 \HyLang@DeclareLang{frenchb}{french}{}
3338 \HyLang@DeclareLang{français}{french}{}
3339 \HyLang@DeclareLang{acadian}{french}{}
3340 \HyLang@DeclareLang{canadien}{french}{}
3341 \HyLang@DeclareLang{italian}{italian}{}
3342 \HyLang@DeclareLang{magyar}{magyar}{}
3343 \HyLang@DeclareLang{hungarian}{magyar}{}
3344 \HyLang@DeclareLang{greek}{greek}{}
3345 \HyLang@DeclareLang{dutch}{dutch}{}
3346 \HyLang@DeclareLang{norsk}{norsk}{}
3347 \HyLang@DeclareLang{norwegian}{norsk}{}
3348 \HyLang@DeclareLang{danish}{danish}{}

```

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

```

3349 \DeclareVoidOption{vietnamese}{%
3350 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3351 \Hy@AtEndOfPackage{%
3352 \ifundefined{T@PU}{}{}%
3353 \input{puvnenc.def}%
3354 }%
3355 }%
3356 }
3357 \DeclareVoidOption{vietnam}{%
3358 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3359 \Hy@AtEndOfPackage{%
3360 \ifundefined{T@PU}{}{}%
3361 \input{pvnenc.def}%
3362 }%
3363 }%
3364 }

```

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

```

3365 \DeclareVoidOption{arabic}{%
3366 \Hy@AtEndOfPackage{%
3367 \ifundefined{T@PU}{}{}%
3368 \input{puarenc.def}%
3369 }%
3370 }%
3371 }

```

## 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.

```

3372 \define@key{Hyp}{colorlinks}[true]{%
3373 \Hy@boolkey{colorlinks}{#1}%
3374 }
3375 \DeclareVoidOption{hidelinks}{%
3376 \Hy@colorlinksfalse
3377 \Hy@ocgcolorlinksfalse

```

```

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

```

## 14 Bookmarking

```

3402 \begingroup\expandafter\expandafter\expandafter\endgroup
3403 \expandafter\ifx\csname chapter\endcsname\relax
3404 \def\toclevel@part{0}%
3405 \else
3406 \def\toclevel@part{-1}%
3407 \fi
3408 \def\toclevel@chapter{0}
3409 \def\toclevel@section{1}
3410 \def\toclevel@subsection{2}
3411 \def\toclevel@subsubsection{3}
3412 \def\toclevel@paragraph{4}
3413 \def\toclevel@subparagraph{5}
3414 \def\toclevel@figure{0}
3415 \def\toclevel@table{0}
3416 \define@key{Hyp}{bookmarks}[true]{%
3417 \Hy@boolkey{bookmarks}{#1}%
3418 }
3419 \define@key{Hyp}{bookmarksopen}[true]{%
3420 \Hy@boolkey{bookmarksopen}{#1}%
3421 }

```

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.

```

3422 \let\Hy@bookmarksdepth\c@tocdepth
3423 \define@key{Hyp}{bookmarksdepth}[]{%
3424   \begingroup
3425   \edef\x{#1}%
3426   \ifx\x\empty
3427     \global\let\Hy@bookmarksdepth\c@tocdepth
3428   \else
3429     \@ifundefined{toclevel@\x}{%
3430       \@onelevel@sanitize\x
3431       \edef\y{\expandafter\@car\x\@nil}%
3432       \ifcase 0\expandafter\ifx\y-1\fi
3433         \expandafter\ifnum\expandafter`y>47 %
3434         \expandafter\ifnum\expandafter`y<58 1\fi\relax
3435       \Hy@Warning{Unknown document division name (\x)}%
3436     \else
3437       \setbox\z@=\hbox{%
3438         \count@=\x
3439         \xdef\Hy@bookmarksdepth{\the\count@}%
3440       }%
3441     \fi
3442   }{%
3443     \setbox\z@=\hbox{%
3444       \count@=\csname toclevel@\x\endcsname
3445       \xdef\Hy@bookmarksdepth{\the\count@}%
3446     }%
3447   }%
3448 \fi
3449 \endgroup
3450 }

```

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

```

3451 \define@key{Hyp}{bookmarksopenlevel}{%
3452   \def\@bookmarksopenlevel{#1}%
3453 }
3454 \def\@bookmarksopenlevel{\maxdimen}
3455 % `bookmarkstype' to specify which `toc' file to mimic
3456 \define@key{Hyp}{bookmarkstype}{%
3457   \def\Hy@bookmarkstype{#1}%
3458 }
3459 \def\Hy@bookmarkstype{toc}

```

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

```

3460 \define@key{Hyp}{bookmarksnumbered}[true]{%
3461   \Hy@boolkey{bookmarksnumbered}{#1}%
3462 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

3463 \define@key{Hyp}{CJKbookmarks}[true]{%

```



```

3464 \Hy@boolkey{CJKbookmarks}{#1}%
3465 }

3466 \def\Hy@temp#1{%
3467 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3468 }
3469 \def\Hy@@temp#1#2#3{%
3470 \define@key{Hyp}{#2color}{%
3471 \HyColor@HyperrefColor{##1}#1%
3472 }%
3473 \def#1{#3}%
3474 }
3475 \Hy@temp{link}{red}
3476 \Hy@temp{anchor}{black}
3477 \Hy@temp{cite}{green}
3478 \Hy@temp{file}{cyan}
3479 \Hy@temp{url}{magenta}
3480 \Hy@temp{menu}{red}
3481 \Hy@temp{run}{\@filecolor}
3482 \define@key{Hyp}{pagecolor}{%
3483 \Hy@WarningPageColor
3484 }
3485 \def\Hy@WarningPageColor{%
3486 \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3487 \global\let\Hy@WarningPageColor\relax
3488 }
3489 \define@key{Hyp}{allcolors}{%
3490 \HyColor@HyperrefColor{#1}\@linkcolor
3491 \HyColor@HyperrefColor{#1}\@anchorcolor
3492 \HyColor@HyperrefColor{#1}\@citecolor
3493 \HyColor@HyperrefColor{#1}\@filecolor
3494 \HyColor@HyperrefColor{#1}\@urlcolor
3495 \HyColor@HyperrefColor{#1}\@menucolor
3496 \HyColor@HyperrefColor{#1}\@runcolor
3497 }

3498 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3499 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3500 \let\@baseurl\@empty
3501 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3502 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3503 \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.

```

3504 \let\@pdfpagetransition\relax
3505 \define@key{Hyp}{pdfpagetransition}{%
3506 \def\@pdfpagetransition{#1}%
3507 }

```

`\@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.

```

3508 \let\@pdfpageduration\relax
3509 \define@key{Hyp}{pdfpageduration}{%
3510   \def\@pdfpageduration{#1}%
3511   \Hy@Match\@pdfpageduration}{%
3512     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3513   }{)%
3514   \Hy@Warning{%
3515     Invalid value `@pdfpageduration'\MessageBreak
3516     of option `pdfpageduration'\MessageBreak
3517     is replaced by an empty value%
3518   }%
3519   \let\@pdfpageduration\ltx@empty
3520 }%
3521 }

```

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).

```

3522 \def\Hy@ColorList{cite,file,link,menu,run,url}
3523 \@for\Hy@temp:=\Hy@ColorList\do{%
3524   \edef\Hy@temp{%
3525     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3526       \noexpand\HyColor@HyperrefBorderColor
3527         {##1}%
3528         \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3529         {hyperref}%
3530       {\Hy@temp bordercolor}%
3531     }%
3532   }%
3533   \Hy@temp
3534 }
3535 \define@key{Hyp}{pagebordercolor}{%
3536   \Hy@WarningPageBorderColor
3537 }
3538 \def\Hy@WarningPageBorderColor{%
3539   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3540   \global\let\Hy@WarningPageBorderColor\relax
3541 }
3542 \define@key{Hyp}{allbordercolors}{%
3543   \def\Hy@temp##1##2{%
3544     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3545   }%
3546   \Hy@temp\@citebordercolor{cite}%
3547   \Hy@temp\@filebordercolor{file}%
3548   \Hy@temp\@linkbordercolor{link}%
3549   \Hy@temp\@menubordercolor{menu}%

```

```

3550 \Hy@temp\@runbordercolor{run}%
3551 \Hy@temp\@urlbordercolor{url}%
3552 }

3553 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3554 \Hy@DefNameKey{pdfhighlight}{%
3555 \do{/I}{Invert}%
3556 \do{/N}{None}%
3557 \do{/O}{Outline}%
3558 \do{/P}{Push}%
3559 }
3560 \def\Hy@setpdfhighlight{%
3561 \ifx\@pdfhighlight\@empty
3562 \else
3563 /H\@pdfhighlight
3564 \fi
3565 }
3566 \define@key{Hyp}{pdfborder}{%
3567 \let\Hy@temp\@pdfborder
3568 \def\@pdfborder{#1}%
3569 \Hy@Match\@pdfborder}{%
3570 ~\HyPat@NonNegativeReal/ %
3571 \HyPat@NonNegativeReal/ %
3572 \HyPat@NonNegativeReal/%
3573 ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*]?$%
3574 }-}{%
3575 \Hy@Warning{%
3576 Invalid value `@\pdfborder'\MessageBreak
3577 for option `pdfborder'.\MessageBreak
3578 Option setting is ignored%
3579 }%
3580 \let\@pdfborder\Hy@temp
3581 }%
3582 }
3583 \define@key{Hyp}{pdfborderstyle}{%
3584 \let\Hy@temp\@pdfborderstyle
3585 \def\@pdfborderstyle{#1}%
3586 \Hy@Match\@pdfborderstyle}{%
3587 ~%
3588 ( */Type */Border%
3589 | */W +\HyPat@NonNegativeReal/%
3590 | */S */[SDBIU]%
3591 | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?%
3592 )* *$%
3593 }-}{%
3594 \Hy@Warning{%
3595 Invalid value `@\pdfborderstyle'\MessageBreak
3596 for option `pdfborderstyle'.\MessageBreak
3597 Option setting is ignored%
3598 }%
3599 \let\@pdfborderstyle\Hy@temp
3600 }%
3601 }
3602 \def\Hy@setpdfborder{%
3603 \ifx\@pdfborder\@empty

```

```

3604 \else
3605 /Border[\@pdfborder]%
3606 \fi
3607 \ifx\@pdfborderstyle\@empty
3608 \else
3609 /BS<<\@pdfborderstyle>>%
3610 \fi
3611 }
3612 \Hy@DefNameKey{pdfpagemode}{%
3613 \do{UseNone}{}%
3614 \do{UseOutlines}{}%
3615 \do{UseThumbs}{}%
3616 \do{FullScreen}{}%
3617 \do{UseOC}{PDF 1.5}%
3618 \do{UseAttachments}{PDF 1.6}%
3619 }
3620 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3621 \do{UseNone}{}%
3622 \do{UseOutlines}{}%
3623 \do{UseThumbs}{}%
3624 \do{FullScreen}{}%
3625 \do{UseOC}{PDF 1.5}%
3626 \do{UseAttachments}{PDF 1.6}%
3627 }
3628 \Hy@DefNameKey{pdfdirection}{%
3629 \do{L2R}{Left to right}%
3630 \do{R2L}{Right to left}%
3631 }
3632 \Hy@DefNameKey{pdfviewarea}{%
3633 \do{MediaBox}{}%
3634 \do{CropBox}{}%
3635 \do{BleedBox}{}%
3636 \do{TrimBox}{}%
3637 \do{ArtBox}{}%
3638 }
3639 \Hy@DefNameKey{pdfviewclip}{%
3640 \do{MediaBox}{}%
3641 \do{CropBox}{}%
3642 \do{BleedBox}{}%
3643 \do{TrimBox}{}%
3644 \do{ArtBox}{}%
3645 }
3646 \Hy@DefNameKey{pdfprintarea}{%
3647 \do{MediaBox}{}%
3648 \do{CropBox}{}%
3649 \do{BleedBox}{}%
3650 \do{TrimBox}{}%
3651 \do{ArtBox}{}%
3652 }
3653 \Hy@DefNameKey{pdfprintclip}{%
3654 \do{MediaBox}{}%
3655 \do{CropBox}{}%
3656 \do{BleedBox}{}%
3657 \do{TrimBox}{}%

```

```

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

3682 \define@key{Hyp}{pdfusetitle}[true]{%
3683 \Hy@boolkey{pdfusetitle}{#1}%
3684 }
3685 \def\HyXeTeX@CheckUnicode{%
3686 \ifxetex
3687 \ifHy@unicode
3688 \else
3689 \Hy@WarningNoLine{%
3690 XeTeX driver only supports unicode.\MessageBreak
3691 Enabling option `unicode'%
3692 }%
3693 \kvsetkeys{Hyp}{unicode}%
3694 \fi
3695 \else
3696 \let\HyXeTeX@CheckUnicode\relax
3697 \fi
3698 }
3699 \def\HyPsd@PrerenderUnicode#1{%
3700 \begingroup
3701 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3702 \else
3703 \sbox0{%
3704 \let\GenericInfo@gobbletwo
3705 \let\GenericWarning@gobbletwo
3706 \let\GenericError@gobblefour
3707 \PrerenderUnicode{#1}%
3708 }%
3709 \fi
3710 \endgroup
3711 }

```

```

3712 \define@key{Hyp}{pdftitle}{%
3713   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3714   \HyXeTeX@CheckUnicode
3715   \HyPsd@PrerenderUnicode{#1}%
3716   \pdfstringdef\@pdftitle{#1}%
3717 }
3718 \define@key{Hyp}{pdfauthor}{%
3719   \AddToDocumentProperties[hyperref]{pdfauthor}{#1}%
3720   \HyXeTeX@CheckUnicode
3721   \HyPsd@PrerenderUnicode{#1}%
3722   \pdfstringdef\@pdfauthor{#1}%
3723 }
3724 \define@key{Hyp}{pdfproducer}{%
3725   \AddToDocumentProperties[hyperref]{pdfproducer}{#1}%
3726   \HyXeTeX@CheckUnicode
3727   \HyPsd@PrerenderUnicode{#1}%
3728   \pdfstringdef\@pdfproducer{#1}%
3729 }
3730 \define@key{Hyp}{pdfcreator}{%
3731   \AddToDocumentProperties[hyperref]{pdfcreator}{#1}%
3732   \HyXeTeX@CheckUnicode
3733   \HyPsd@PrerenderUnicode{#1}%
3734   \pdfstringdef\@pdfcreator{#1}%
3735 }
3736 \define@key{Hyp}{addtopdfcreator}{%
3737   \HyXeTeX@CheckUnicode
3738   \HyPsd@PrerenderUnicode{#1}%
3739   \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3740 }
3741 \define@key{Hyp}{pdfcreationdate}{%
3742   \begingroup
3743     \Hy@unicodedefalse
3744     \pdfstringdef\@pdfcreationdate{#1}%
3745   \endgroup
3746 }
3747 \define@key{Hyp}{pdfmoddate}{%
3748   \begingroup
3749     \Hy@unicodedefalse
3750     \pdfstringdef\@pdfmoddate{#1}%
3751   \endgroup
3752 }
3753 \define@key{Hyp}{pdfsubject}{%
3754   \AddToDocumentProperties[hyperref]{pdfsubject}{#1}%
3755   \HyXeTeX@CheckUnicode
3756   \HyPsd@PrerenderUnicode{#1}%
3757   \pdfstringdef\@pdfsubject{#1}%
3758 }
3759 \define@key{Hyp}{pdfkeywords}{%
3760   \AddToDocumentProperties[hyperref]{pdfkeywords}{#1}%
3761   \HyXeTeX@CheckUnicode
3762   \HyPsd@PrerenderUnicode{#1}%
3763   \pdfstringdef\@pdfkeywords{#1}%
3764 }
3765 \define@key{Hyp}{pdftrapped}{%

```

```

3766 \lowercase{\edef\Hy@temp{#1}}%
3767 \ifx\Hy@temp\HyInfo@trapped@true
3768 \def\@pdftrapped{True}%
3769 \else
3770 \ifx\Hy@temp\HyInfo@trapped@false
3771 \def\@pdftrapped{False}%
3772 \else
3773 \ifx\Hy@temp\HyInfo@trapped@unknown
3774 \def\@pdftrapped{Unknown}%
3775 \else
3776 \ifx\Hy@temp\@empty
3777 \else
3778 \Hy@Warning{%
3779     Unsupported value `#1'\MessageBreak
3780     for option `pdftrapped'%
3781 }%
3782 \fi
3783 \def\@pdftrapped{}%
3784 \fi
3785 \fi
3786 \fi
3787 }
3788 \def\HyInfo@trapped@true{true}
3789 \def\HyInfo@trapped@false{false}
3790 \def\HyInfo@trapped@unknown{unknown}
3791 \def\HyInfo@TrappedUnsupported{%
3792 \ifx\@pdftrapped\@empty
3793 \else
3794 \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3795 \gdef\HyInfo@TrappedUnsupported{}%
3796 \fi
3797 }
3798 \define@key{Hyp}{pdfinfo}{%
3799 \kvsetkeys{pdfinfo}{#1}%
3800 }
3801 \def\Hy@temp#1{%
3802 \lowercase{\Hy@temp@A{#1}}{#1}%
3803 }
3804 \def\Hy@temp@A#1#2{%
3805 \define@key{pdfinfo}{#2}{%
3806 \hypersetup{pdf#1={##1}}%
3807 }%
3808 }
3809 \Hy@temp{Title}
3810 \Hy@temp{Author}
3811 \Hy@temp{Keywords}
3812 \Hy@temp{Subject}
3813 \Hy@temp{Creator}
3814 \Hy@temp{Producer}
3815 \Hy@temp{CreationDate}
3816 \Hy@temp{ModDate}
3817 \Hy@temp{Trapped}
3818 \newif\ifHyInfo@AddonUnsupported
3819 \kv@set@family@handler{pdfinfo}{%

```

```

3820 \HyInfo@AddonHandler{#1}{#2}%
3821 }
3822 \let\HyInfo@do\relax
3823 \def\HyInfo@AddonHandler#1#2{%
3824 \ifx\kv@value\relax
3825 \Hy@Warning{%
3826 Option `pdfinfo': ignoring key `kv@key' without value%
3827 }%
3828 \else
3829 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3830 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3831 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3832 \ifHyInfo@AddonUnsupported
3833 \Hy@Warning{%
3834 This driver does not support additional\MessageBreak
3835 information entries, therefore\MessageBreak
3836 `kv@key' is ignored%
3837 }%
3838 \else
3839 \def\HyInfo@tmp###1{%
3840 \kv@define@key{pdfinfo}{##1}{%
3841 \HyXeTeX@CheckUnicode
3842 \HyPsd@PrerenderUnicode{###1}%
3843 \pdfstringdef\HyInfo@Value{###1}%
3844 \global\expandafter
3845 \let\csname HyInfo@Value@##1\endcsname
3846 \HyInfo@Value
3847 }%
3848 }%
3849 \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3850 \global\expandafter
3851 \let\csname KV@pdfinfo@\HyInfo@Key\endcsname
3852 \csname KV@pdfinfo@\HyInfo@Key\endcsname
3853 \xdef\HyInfo@AddonList{%
3854 \HyInfo@AddonList
3855 \HyInfo@do{\HyInfo@Key}%
3856 }%
3857 \kv@parse@normalized{%
3858 \HyInfo@Key={#2}%
3859 }{%
3860 \kv@processor@default{pdfinfo}%
3861 }%
3862 \fi
3863 \else
3864 \kv@parse@normalized{%
3865 \HyInfo@Key={#2}%
3866 }{%
3867 \kv@processor@default{pdfinfo}%
3868 }%
3869 \fi
3870 \fi
3871 }
3872 \def\HyInfo@GenerateAddons{%
3873 \ifHyInfo@AddonUnsupported

```



```

3874 \def\HyInfo@Addons{ }%
3875 \else
3876 \begingroup
3877 \toks@{ }%
3878 \def\HyInfo@do##1{%
3879 \EdefEscapeName\HyInfo@Key{##1}%
3880 \edef\x{%
3881 \toks@{%
3882 \the\toks@
3883 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3884 }%
3885 }%
3886 \x
3887 }%
3888 \HyInfo@AddonList
3889 \edef\x{\endgroup
3890 \def\noexpand\HyInfo@Addons{\the\toks@}%
3891 }%
3892 \x
3893 \fi
3894 }
3895 \global\let\HyInfo@AddonList\ltx@empty

3896 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \ }
3897 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
3898 \let\setpdflinkmargin\gobble
3899 \def\calculate@pdfview#1 #2\{%
3900 \def\@pdfview{#1}%
3901 \ifx\#2\%
3902 \def\@pdfviewparams{ -32768}%
3903 \else
3904 \def\@pdfviewparams{ #2}%
3905 \fi
3906 }
3907 \def\Hy@number#1{%
3908 \the\numexpr#1\relax
3909 }%
3910 \define@key{Hyp}{pdfstartpage}{%
3911 \ifx\#1\%
3912 \let\@pdfstartpage\ltx@empty
3913 \else
3914 \edef\@pdfstartpage{\Hy@number{#1}}%
3915 \fi
3916 }%
3917 \define@key{Hyp}{pdfstartview}{%
3918 \ifx\#1\%
3919 \let\@pdfstartview\ltx@empty
3920 \else
3921 \def\@pdfstartview{/#1}%
3922 \fi
3923 }
3924 \def\HyPat@NonNegativeReal/{%
3925 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3926 }
3927 \define@key{Hyp}{pdfremotestartview}{%

```

```

3928 \ifx\#1\%
3929 \def\@pdfremotestartview{/Fit}%
3930 \else
3931 \edef\@pdfremotestartview{#1}%
3932 \Hy@Match\@pdfremotestartview}{}%
3933 ~{XYZ(%
3934   ()| %
3935   (null|-\HyPat@NonNegativeReal/) %
3936   (null|-\HyPat@NonNegativeReal/) %
3937   (null|\HyPat@NonNegativeReal/)%
3938   )|}% end of "XYZ"
3939   Fit(%
3940     ()| %
3941     B| %
3942     (H|V|BH|BV)(%
3943       ()| %
3944       (null|\HyPat@NonNegativeReal/)%
3945     )| %
3946     R %
3947     \HyPat@NonNegativeReal/ %
3948     \HyPat@NonNegativeReal/ %
3949     \HyPat@NonNegativeReal/ %
3950     \HyPat@NonNegativeReal/%
3951   )}% end of "Fit"
3952   )$%
3953 }-}{%
3954 \Hy@Warning{%
3955   Invalid value \@pdfremotestartview'\MessageBreak
3956   of \pdfremotestartview'\MessageBreak
3957   is replaced by `Fit'%
3958 }%
3959 \let\@pdfremotestartview\@empty
3960 }%
3961 \ifx\@pdfremotestartview\@empty
3962 \def\@pdfremotestartview{/Fit}%
3963 \else
3964 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3965 \fi
3966 \fi
3967 }
3968 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3969 \define@key{Hyp}{pdftoolbar}[true]{%
3970 \Hy@boolkey{pdftoolbar}{#1}%
3971 }
3972 \define@key{Hyp}{pdfmenubar}[true]{%
3973 \Hy@boolkey{pdfmenubar}{#1}%
3974 }
3975 \define@key{Hyp}{pdfwindowui}[true]{%
3976 \Hy@boolkey{pdfwindowui}{#1}%
3977 }
3978 \define@key{Hyp}{pdffitwindow}[true]{%
3979 \Hy@boolkey{pdffitwindow}{#1}%
3980 }
3981 \define@key{Hyp}{pdfcenterwindow}[true]{%

```

```

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

```

Test according to ABNF of RFC 3066.

```

4023 \Hy@Match\@pdflang{icase}{%
4024 ^%
4025 [a-z]{1,8}%
4026 (-[a-z0-9]{1,8})*%
4027 $%
4028 }%

```

Test according to ABNF of RFC 5646.

```

4029 \Hy@Match\@pdflang{icase}{%
4030 ^%
4031 (%
4032 % langtag

```

```

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

```

Test for unique extensions.

```

4059     \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4060     \Hy@Match\@pdflang{icase}{^x-}{}%
4061     % remove privateuse
4062     \edef\Hy@temp{-\@pdflang}%
4063     \Hy@Match\Hy@temp{icase}{}%
4064     ~%
4065     (%
4066     (-[a-wyz0-9]|-[a-z0-9]{2,8})?%
4067     )%
4068     -x-%
4069     }{%
4070     \edef\Hy@temp{%
4071     \expandafter\strip@prefix\pdfastmatch1%
4072     }%
4073     }{}%
4074     \Hy@Match\Hy@temp{icase}{}%
4075     (-[a-wyz0-9]-).*\ltx@backslashchar1%
4076     }{%
4077     \Hy@Warning{%
4078     Invalid language identifier `#1'\MessageBreak
4079     for option `pdfang', because it violates\MessageBreak
4080     well-formedness defined in RFC 4646\MessageBreak
4081     by duplicate singleton subtags%
4082     }%
4083     \let\@pdfang\relax
4084     }{}%
4085     }%

```

4086 }{}%

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

```
4087 \ifx\@pdflang\relax
4088 \else
4089 \Hy@Match\@pdflang{icase}{%
4090 ~%
4091 [a-zA-Z]{2}-%
4092 (%
4093 aa|AA|%
4094 [qQ][m-zA-Z]|%
4095 [xX][a-zA-Z]|%
4096 zz|ZZ%
4097 )%
4098 (-|%)%
4099 }{}%
4100 \Hy@Warning{%
4101 Invalid language identifier `#1'\MessageBreak
4102 for option `pdflang' because of invalid country code%
4103 \MessageBreak
4104 in second subtag (RFC 3066)%
4105 }%
4106 \let\@pdflang\relax
4107 }{}%
4108 \fi
4109 }{}%
4110 \Hy@Warning{%
4111 Invalid language identifier `#1'\MessageBreak
4112 for option `pdflang', because it violates\MessageBreak
4113 well-formedness defined in RFC 5646%
4114 }%
4115 \let\@pdflang\relax
4116 }%
4117 }{}%
4118 \Hy@Warning{%
4119 Invalid language identifier `#1'\MessageBreak
4120 for option `pdflang' (RFC 3066)%
4121 }%
4122 \let\@pdflang\relax
4123 }%
4124 \fi
4125 \fi
4126 }
4127 \define@key{Hyp}{pdfpagelabels}[true]{%
4128 \Hy@boolkey{pdfpagelabels}{#1}%
4129 }
4130 \define@key{Hyp}{pdfescapeform}[true]{%
4131 \Hy@boolkey{pdfescapeform}{#1}%
4132 }
```

Default values:

```
4133 \def\@linkbordercolor{1 0 0}
4134 \def\@urlbordercolor{0 1 1}
4135 \def\@menubordercolor{1 0 0}
4136 \def\@filebordercolor{0 .5 .5}
```

```

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

```

4178 \let\hyper@normalise\ExecuteOptions
4179 \let\ExecuteOptions\hypersetup
4180 \Hy@RestoreCatcodes
4181 \InputIfFileExists{hyperref.cfg}{-}{-}
4182 \Hy@SetCatcodes
4183 \let\ExecuteOptions\hyper@normalise
4184 \ifx\Hy@MaybeStopNow\relax
4185 \else
4186   \Hy@stoppedearytrue

```

```

4187 \expandafter\Hy@MaybeStopNow
4188 \fi
4189 \Hy@stoppedearlyfalse

```

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

```

4190 \SetupKeyvalOptions{family=Hyp}
4191 \DeclareLocalOptions{%
4192   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4193 }

```

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

```

4194 \@ifpackagewith{hyperref}{tex4ht}{%
4195 }{%
4196   \@ifpackageloaded{tex4ht}{%
4197     \PassOptionsToPackage{tex4ht}{hyperref}%
4198   }{%
4199     \ltx@ifundefined{HCode}{%
4200     }{%
4201       \begingroup
4202         \def\Hy@pkg{tex4ht}%
4203         \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4204           \def\Hy@param{#2#3}%
4205           \ifx\Hy@param\ltx@empty
4206             \expandafter\ltx@gobble
4207           \else
4208             \def\Hy@param{#3}%
4209             \ifx\Hy@param\Hy@pkg
4210               \PassOptionsToPackage{#2}{tex4ht}%
4211               \expandafter\expandafter\expandafter\@gobble
4212             \else
4213               \expandafter\expandafter\expandafter\ltx@firstofone
4214             \fi
4215           \fi
4216           {\Hy@temp@A#4\Hy@NIL}%
4217         }%
4218         \expandafter
4219         \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4220       \endgroup
4221       \PassOptionsToPackage{tex4ht}{hyperref}%
4222     }%
4223   }%
4224 }

4225 \let\ReadBookmarks\relax
4226 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4227 \def\Hy@xspace@end{}
4228 \ltx@ifundefined{xspaceaddexceptions}{%
4229   \Hy@AtBeginDocument{%
4230     \ltx@ifundefined{xspaceaddexceptions}{%

```

```

4231 }{%
4232 \def\Hy@xspace@end{%
4233 \ltx@gobble{end for xspace}%
4234 }%
4235 \xspaceaddexceptions{%
4236 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4237 }%
4238 }%
4239 }%
4240 }{%
4241 \def\Hy@xspace@end{%
4242 \ltx@gobble{end for xspace}%
4243 }%
4244 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4245 }

```

## 15.2 Option draft

```

4246 \Hy@AtBeginDocument{%
4247 \ifHy@draft
4248 \let\hyper@@anchor\@gobble
4249 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4250 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4251 \def\hyper@anchorend{\Hy@xspace@end}%
4252 \let\hyper@linkstart\@gobbletwo
4253 \def\hyper@linkend{\Hy@xspace@end}%
4254 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4255 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4256 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4257 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4258 \let\PDF@SetupDoc\@empty
4259 \let\PDF@FinishDoc\@empty
4260 \let\ReadBookmarks\relax
4261 \let\WriteBookmarks\relax
4262 \Hy@WarningNoLine{Draft mode on}%
4263 \fi
4264 \Hy@DisableOption{draft}%
4265 \Hy@DisableOption{nolinks}%
4266 \Hy@DisableOption{final}%
4267 }

```

## 15.3 PDF/A

```

4268 \Hy@DisableOption{pdfa}
4269 \ifHy@pdfa
4270 \ifnum \Hy@pdf@majorminor@version < 104
4271 \kvsetkeys{Hyp}{pdfversion=1.4}%
4272 \fi
4273 \Hy@DisableOption{pdfversion}%
4274 \def\Hy@Acrobatmenu#1#2{%
4275 \leavevmode
4276 \begingroup
4277 \edef\x{#1}%
4278 \@onelevel@sanitize\x
4279 \ifx\x\Hy@NextPage

```



```

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

```

4317 \def\Hy@wrapper@babel#1#2{%
4318   \begingroup
4319   \Hy@safe@activestruer
4320   \set@display@protect
4321   \edef\x{#2}%
4322   \@onelevel@sanitize\x
4323   \toks@{#1}%
4324   \edef\x{\endgroup\the\toks@{\x}}%
4325   \x

```

```

4326 }
4327 \def\Hy@WrapperDef#1{%
4328   \begingroup
4329     \escapechar=\m@ne
4330     \xdef\Hy@gtemp{%
4331       \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4332     }%
4333   \endgroup
4334   \edef#1{%
4335     \noexpand\Hy@wrapper@babel
4336     \expandafter\noexpand\Hy@gtemp
4337   }%
4338   \expandafter\def\Hy@gtemp
4339 }

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

```

```

4380 \ifx\@pdfpagemode\@empty
4381 \gdef\@pdfpagemode{UseNone}%
4382 \fi
4383 \global\Hy@backreffalse
4384 }%
4385 \Hy@AtEndOfPackage{%
4386 \global\let\ReadBookmarks\relax
4387 \global\let\WriteBookmarks\relax
4388 }%
4389 \fi
4390 \Hy@DisableOption{implicit}

```

### 15.4.1 Driver loading

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

```

4391 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4392 \@ifundefined{stockheight}{\newdimen\stockheight}{}
4393 \Hy@AtEndOfPackage{%
4394 \ifpackageloaded{tex4ht}{%
4395 \def\Hy@driver{htex4ht}%
4396 \Hy@texhttrue
4397 }{}%

```

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.

```

4398 \ifx\Hy@driver\@empty
4399 \else
4400 \ifx\pdfextension\@undefined
4401 \def\Hy@temp{hpdftex}%
4402 \else
4403 \def\Hy@temp{hluatex}%
4404 \fi
4405 \ifpdf
4406 \ifx\Hy@driver\Hy@temp
4407 \else
4408 \Hy@WarningNoLine{%
4409 Wrong driver `\'Hy@driver.def';\MessageBreak
4410 pdfTeX is running in PDF mode.\MessageBreak
4411 Forcing driver `\'Hy@temp.def'%
4412 }%
4413 \let\Hy@driver\Hy@temp
4414 \fi
4415 \else
4416 \ifx\Hy@driver\Hy@temp
4417 \Hy@WarningNoLine{%
4418 Wrong driver `\'Hy@driver.def';\MessageBreak
4419 pdfTeX is not running in PDF mode.\MessageBreak
4420 Using default driver%
4421 }%
4422 \let\Hy@driver\@empty
4423 \fi
4424 \fi
4425 \fi
4426 \ifHy@texht

```

```

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

```

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

```

4468 \let\HyOpt@DriverType\ltx@empty
4469 \ifx\HyOpt@CustomDriver\ltx@empty
4470   \ifx\Hy@driver\@empty
4471     \def\HyOpt@DriverType{ (autodetected)}%
4472     \providecommand*{\Hy@defaultdriver}{hdvips}%
4473   \ifpdf
4474     \ifx\pdfextension\@undefined
4475     \def\Hy@driver{hpdfTeX}%
4476   \else
4477     \def\Hy@driver{hluatex}%
4478   \fi
4479 \else

```

```

4480 \ifxetex
4481 \def\Hy@driver{hxdetex}%
4482 \else
4483 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4484 \def\Hy@driver{hvtexhtm}%
4485 \def\MaybeStopEarly{%
4486 \Hy@Message{Stopped early}}%
4487 \Hy@AtBeginDocument{%
4488 \PDF@FinishDoc
4489 \gdef\PDF@FinishDoc{}}%
4490 }%
4491 \endinput
4492 }%
4493 \else
4494 \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4495 \def\Hy@driver{hvtex}%
4496 \else
4497 \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4498 \def\Hy@driver{hvtex}%
4499 \else
4500 \ifx\HyOpt@DriverFallback\ltx@empty
4501 \let\Hy@driver\Hy@defaultdriver
4502 \def\HyOpt@DriverType{ (default)}%
4503 \else
4504 \begingroup
4505 \toks@\expandafter{\HyOpt@DriverFallback}%
4506 \edef\x{\endgroup
4507 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4508 }%
4509 \x
4510 \ifx\Hy@driver\ltx@empty
4511 \let\Hy@driver\Hy@defaultdriver
4512 \def\HyOpt@DriverType{ (default)}%
4513 \else
4514 \def\HyOpt@DriverType{ (fallback)}%
4515 \fi
4516 \fi
4517 \fi
4518 \fi
4519 \fi
4520 \fi
4521 \fi
4522 \ifx\Hy@driver\Hy@defaultdriver
4523 \def\Hy@temp{hdviwind}%
4524 \ifx\Hy@temp\Hy@driver
4525 \kvsetkeys{Hyp}{colorlinks}%
4526 \PassOptionsToPackage{dviwindo}{color}%
4527 \fi
4528 \fi
4529 \fi
4530 \else
4531 \def\HyOpt@DriverType{ (custom)}%
4532 \let\Hy@driver\HyOpt@CustomDriver
4533 \fi

```

```

4534 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4535 \chardef\Hy@VersionChecked=0 %
4536 \input{\Hy@driver.def}%
4537 \ifcase\Hy@VersionChecked
4538   \Hy@VersionCheck{\Hy@driver.def}%
4539 \fi
4540 \let\@unprocessedoptions\relax
4541 \Hy@RestoreCatcodes
4542 \Hy@DisableOption{tex4ht}%
4543 \Hy@DisableOption{pdftex}%
4544 \Hy@DisableOption{nativepdf}%
4545 \Hy@DisableOption{dviPDFm}%
4546 \Hy@DisableOption{dviPDFmx}%
4547 \Hy@DisableOption{dviPDFmx-outline-open}%
4548 \Hy@DisableOption{pdfmark}%
4549 \Hy@DisableOption{dvips}%
4550 \Hy@DisableOption{hypertext}%
4551 \Hy@DisableOption{vtex}%
4552 \Hy@DisableOption{vtexpdfmark}%
4553 \Hy@DisableOption{dviwindo}%
4554 \Hy@DisableOption{dvipsone}%
4555 \Hy@DisableOption{textures}%
4556 \Hy@DisableOption{latex2html}%
4557 \Hy@DisableOption{ps2pdf}%
4558 \Hy@DisableOption{xetex}%
4559 \Hy@DisableOption{driverfallback}%
4560 \Hy@DisableOption{customdriver}%
4561 \Hy@DisableOption{pdfversion}%
4562 }

```

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.

```

4563 \newif\ifHy@DvipdfmxOutlineOpen
4564 \ifxetex
4565   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4566   \else
4567     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4568     \Hy@DvipdfmxOutlineOpenttrue
4569   \fi
4570 \fi
4571 \begingroup\expandafter\expandafter\expandafter\endgroup
4572 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4573 \else
4574   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4575     \Hy@DvipdfmxOutlineOpenttrue
4576   \fi
4577 \fi

```

### 15.4.2 Bookmarks

```

4578 \def\WriteBookmarks{0}
4579 \def\@bookmarkopenstatus#1{%
4580   \ifHy@bookmarksopen

```

The purpose of the `\@firstofone-number-space-construct` is that no `\relax` will be inserted by T<sub>E</sub>X before the `\else`:

```

4581 \ifnum#1<\expandafter\@firstofone\expandafter
4582     {\number\@bookmarksopenlevel} % explicit space
4583 \else
4584     -%
4585 \fi
4586 \else
4587     -%
4588 \fi
4589 }
4590 \ifHy@bookmarks
4591 \Hy@Info{Bookmarks ON}%
4592 \ifx\@pdfpagemode\@empty
4593 \def\@pdfpagemode{UseOutlines}%
4594 \fi
4595 \else
4596 \let\@bookmarkopenstatus\ltx@gobble
4597 \Hy@Info{Bookmarks OFF}%
4598 \Hy@AtEndOfPackage{%
4599 \global\let\ReadBookmarks\relax
4600 \global\let\WriteBookmarks\relax
4601 }%
4602 \ifx\@pdfpagemode\@empty
4603 \def\@pdfpagemode{UseNone}%
4604 \fi
4605 \fi
4606 \Hy@DisableOption{bookmarks}

```

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

```

4607 \def\Hy@CatcodeWrapper#1{%
4608 \let\Hy@EndWrap\ltx@empty
4609 \def\TMP@EnsureCode###1##2{%
4610 \edef\Hy@EndWrap{%
4611 \Hy@EndWrap
4612 \catcode###1 \the\catcode###1\relax
4613 }%
4614 \catcode###1 ##2\relax
4615 }%
4616 \TMP@EnsureCode{10}{12}% ^^J
4617 \TMP@EnsureCode{33}{12}% !
4618 \TMP@EnsureCode{34}{12}% "
4619 \TMP@EnsureCode{36}{3}% $ (math)
4620 \TMP@EnsureCode{38}{4}% & (alignment)
4621 \TMP@EnsureCode{39}{12}% '
4622 \TMP@EnsureCode{40}{12}% (
4623 \TMP@EnsureCode{41}{12}% )
4624 \TMP@EnsureCode{42}{12}% *
4625 \TMP@EnsureCode{43}{12}% +
4626 \TMP@EnsureCode{44}{12}% ,
4627 \TMP@EnsureCode{45}{12}% -
4628 \TMP@EnsureCode{46}{12}% .
4629 \TMP@EnsureCode{47}{12}% /
4630 \TMP@EnsureCode{58}{12}% :
4631 \TMP@EnsureCode{59}{12}% ;

```

```

4632 \TMP@EnsureCode{60}{12}% <
4633 \TMP@EnsureCode{61}{12}% =
4634 \TMP@EnsureCode{62}{12}% >
4635 \TMP@EnsureCode{63}{12}% ?
4636 \TMP@EnsureCode{91}{12}% [
4637 \TMP@EnsureCode{93}{12}% ]
4638 \TMP@EnsureCode{94}{7}% ^ (superscript)
4639 \TMP@EnsureCode{95}{8}% _ (subscript)
4640 \TMP@EnsureCode{96}{12}% `
4641 \TMP@EnsureCode{124}{12}% |
4642 \TMP@EnsureCode{126}{13}% ~ (active)
4643 #1\relax
4644 \Hy@endWrap
4645 }

```

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

```

4646 \Hy@AtBeginDocument{%
4647   \ifHy@ocgcolorlinks
4648     \kvsetkeys{Hyp}{colorlinks}%
4649     \ifHy@pdfa
4650       \Hy@Warning{%
4651         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4652         using `colorlinks' instead of `ocgcolorlinks'%
4653       }%
4654     \Hy@ocgcolorlinksfalse
4655   \fi
4656 \fi
4657 \ifHy@ocgcolorlinks
4658 \else
4659   \Hy@DisableOption{ocgcolorlinks}%
4660 \fi
4661 \ifHy@colorlinks
4662   \def\@pdfborder{0 0 0}%
4663   \let\@pdfborderstyle\@empty
4664   \Hy@CatcodeWrapper{%
4665     \RequirePackage{color}%
4666   }%
4667   \def\Hy@colorlink#1{%
4668     \begingroup
4669     \HyColor@UseColor#1%
4670   }%
4671   \def\Hy@endcolorlink{\endgroup}%
4672   \Hy@Info{Link coloring ON}%
4673 \else
4674   \ifHy@frenchlinks
4675     \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4676     \def\Hy@endcolorlink{\endgroup}%
4677     \Hy@Info{French linking ON}%
4678   \else

```

for grouping consistency:

```

4679   \def\Hy@colorlink#1{\begingroup}%
4680   \def\Hy@endcolorlink{\endgroup}%
4681   \Hy@Info{Link coloring OFF}%

```



```

4682 \fi
4683 \fi
4684 \Hy@DisableOption{colorlinks}%
4685 \Hy@DisableOption{frenchlinks}%
4686 \ifHy@texht
4687 \else

```

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

```

4688 \ifHy@implicit
4689 \let \T@Ref\HyRef@Ref
4690 \def\@refstar#1{%
4691 \NR@ref@showkeys{#1}%
4692 \HyRef@StarSetRef{#1}\@firstoffive
4693 }
4694 \def\@pagerefstar#1{%
4695 \NR@ref@showkeys{#1}%
4696 \HyRef@StarSetRef{#1}\@secondoffive
4697 }
4698 \def\@namerefstar#1{%
4699 \NR@ref@showkeys{#1}%
4700 \HyRef@StarSetRef{#1}\@thirdoffive
4701 }
4702 \def\@Refstar#1{%
4703 \NR@ref@showkeys{#1}%
4704 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4705 }%
4706 \else
4707 \fi
4708 \fi
4709 }
4710 \Hy@AtBeginDocument{%
4711 \ifx\ReadBookmarks\relax
4712 \else
4713 \Hy@CatcodeWrapper\ReadBookmarks
4714 \fi
4715 }
4716 \ifHy@backref
4717 \RequirePackage{backref}%
4718 \else
4719 \let\Hy@backout\@gobble
4720 \fi
4721 \Hy@DisableOption{backref}
4722 \Hy@DisableOption{pagebackref}
4723 \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.

```

4724 \begingroup
4725 \endlinechar=-1 %
4726 \catcode\^^A=14 %
4727 \catcode\^^M\active
4728 \catcode\%\active
4729 \catcode\#\active
4730 \catcode\_ \active
4731 \catcode\$\active
4732 \catcode\&\active
4733 \gdef\hyper@normalise{^^A
4734 \begingroup
4735 \catcode\^^M\active
4736 \def^^M{ }^^A
4737 \catcode\%\active
4738 \let%\@percentchar
4739 \let\%\@percentchar
4740 \catcode\#\active
4741 \def#\{hyper@hash}^^A
4742 \def\#{hyper@hash}^^A
4743 \@makeother\&^^A
4744 \edef&{\string&}^^A
4745 \edef\&{\string&}^^A
4746 \edef\textunderscore{\string_}^^A
4747 \let\_ \textunderscore
4748 \catcode\_ \active
4749 \let\_ \textunderscore
4750 \let~\hyper@tilde
4751 \let\~\hyper@tilde
4752 \let\textasciitilde\hyper@tilde
4753 \let\\\@backslashchar
4754 \edef$\{string$\}^^A
4755 \Hy@safe@activetrue
4756 \hyper@n@rmalise
4757 }^^A
4758 \catcode\#=6 ^^A
4759 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4760 \gdef\hyper@n@rmalise#1#2{^^A
4761 \def\Hy@tempa{#2}^^A
4762 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4763 \ltx@ReturnAfterElseFi{^^A
4764 \hyper@@normalise{#1}^^A
4765 }^^A
4766 \else
4767 \ltx@ReturnAfterFi{^^A
4768 \hyper@@normalise{#1}{#2}^^A
4769 }^^A
4770 \fi
4771 }^^A
4772 \gdef\hyper@@normalise#1#2{^^A
4773 \edef\Hy@tempa{^^A
4774 \endgroup
4775 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A

```

```

4776 }^^A
4777 \Hy@tempa
4778 }^^A
4779 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4780 #1^^A
4781 \ifx\limits#2\limits
4782 \else
4783 \ltx@ReturnAfterFi{^^A
4784 \Hy@RemovePercentCr #2\@nil
4785 }^^A
4786 \fi
4787 }^^A
4788 \endgroup
4789 \providecommand*\hyper@chars{%
4790 \let#\hyper@hash
4791 \let%\@percentchar
4792 \Hy@safe@activestrue
4793 }

4794 \def\hyperlink#1#2{%
4795 \hyper@@link{#1}{#2}%
4796 }

4797 \def\Hy@VerboseLinkStart#1#2{%
4798 \ifHy@verbose
4799 \begingroup
4800 \Hy@safe@activestrue
4801 \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4802 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4803 \xdef\Hy@VerboseGlobalTemp{%
4804 \Hy@VerboseGlobalTemp, %
4805 line \the\inputlineno
4806 }%
4807 \endgroup
4808 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4809 \@onelevel@sanitize\Hy@VerboseLinkInfo
4810 \fi
4811 }

4812 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4813 \def\Hy@VerboseLinkStop{%
4814 \ifHy@verbose
4815 \begingroup
4816 \edef\x{\endgroup
4817 \write\m@ne{%
4818 Package `hyperref' Info: %
4819 End of reference \Hy@VerboseLinkInfo.%
4820 }%
4821 }%
4822 \x
4823 \fi
4824 }

4825 \def\Hy@VerboseAnchor#1{%
4826 \ifHy@verbose
4827 \begingroup
4828 \Hy@safe@activestrue

```

```

4829 \Hy@Info{Anchor ``HyperDestNameFilter{#1}'}%
4830 \endgroup
4831 \fi
4832 }

4833 \def\Hy@AllowHyphens{%
4834 \relax
4835 \ifhmode
4836 \penalty\@M
4837 \hskip\z@skip
4838 \fi
4839 }

4840 \DeclareRobustCommand*\href}[1]{}{%
4841 \begingroup
4842 \setkeys{href}{#1}%
4843 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4844 }
4845 \def\Hy@href#-{%
4846 \hyper@normalise\href@
4847 }
4848 \begingroup
4849 \catcode`\$=6 %
4850 \catcode`\#=12 %
4851 \gdef\href@\$1{\expandafter\href@split$1#-#\\}%
4852 \gdef\href@split$1#2##3\\$4{%
4853 \hyper@@link{$1}{$2}{$4}%
4854 \endgroup
4855 }%
4856 \endgroup

```

Option ‘page’.

```

4857 \define@key{href}{page}{%
4858 \def\Hy@href@page{#1}%
4859 }
4860 \let\Hy@href@page\@empty
4861 \newcount\c@Hy@tempcnt
4862 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4863 \def\Hy@MakeRemoteAction{%
4864 \ifx\Hy@href@page\@empty
4865 \def\Hy@href@page{0}%
4866 \else
4867 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4868 \ifnum\c@Hy@tempcnt<\@ne
4869 \Hy@Warning{%
4870 Invalid page number (\theHy@tempcnt)\MessageBreak
4871 for remote PDF file.\MessageBreak
4872 Using page 1%
4873 }%
4874 \def\Hy@href@page{0}%
4875 \else
4876 \global\advance\c@Hy@tempcnt\m@ne
4877 \edef\Hy@href@page{\theHy@tempcnt}%
4878 \fi
4879 \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.

```
4880 \ifx\Hy@href@nextactionraw\@empty
4881 \else
4882 \Hy@pdfnewwindowsettrue
4883 \Hy@pdfnewwindowtrue
4884 \fi
4885 }
```

Option ‘pdfremotestartview’.

```
4886 \define@key{href}{pdfremotestartview}{%
4887 \setkeys{Hyp}{pdfremotestartview={#1}}%
4888 }
```

Option ‘pdfnewwindow’.

```
4889 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4890 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
4891 \newif\ifHy@href@ismap
4892 \define@key{href}{ismap}[true]{%
4893 \ltx@ifundefined{Hy@href@ismap#1}{%
4894 \Hy@Error{%
4895 Invalid value (#1) for key `ismap'.\MessageBreak
4896 Permitted values are `true' or `false'.\MessageBreak
4897 Ignoring `ismap'%
4898 }\@ehc
4899 }{%
4900 \csname Hy@href@ismap#1\endcsname
4901 }%
4902 }
```

Option ‘nextactionraw’.

```
4903 \let\Hy@href@nextactionraw\@empty
4904 \define@key{href}{nextactionraw}{%
4905 \edef\Hy@href@nextactionraw{#1}%
4906 \ifx\Hy@href@nextactionraw\@empty
4907 \else
4908 \Hy@Match\Hy@href@nextactionraw{ }{%
4909 ~(\HyPat@ObjRef/|<<.*S[ /.+>>|%
4910 \[( ?\HyPat@ObjRef/|<<.*S[ /.+>>)+ ?])$%
4911 } }{%
4912 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4913 \Hy@href@nextactionraw\MessageBreak
4914 The action is discarded%
4915 }%
4916 }%
4917 \ifx\Hy@href@nextactionraw\@empty
4918 \else
4919 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4920 \fi
4921 \fi
4922 }
4923 \def\HyPat@ObjRef/{.+}
```

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

```

4924 \RequirePackage{url}
4925 \let\HyOrg@url\url
4926 \def\Hurl{\begingroup \Url}
4927 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4928 \def\nolinkurl@#1{\Hurl{#1}}
4929 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4930 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4931 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4932 \providecommand\hyper@image[2]{#2}
4933 \def\hypertarget#1#2{%
4934   \ifHy@nesting
4935     \hyper@@anchor{#1}{#2}%
4936   \else
4937     \hyper@@anchor{#1}{\relax}#2%
4938   \fi
4939 }

```

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

```

4940 \DeclareRobustCommand*\hyperref{%
4941   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4942 }
4943 \def\Hy@babelnormalise#1[#2]{%
4944   \begingroup
4945     \Hy@safe@activestrue
4946     \let\protect\@unexpandable@protect
4947     \edef\Hy@tempa{%
4948       \endgroup
4949       \noexpand#1[#{#2}]%
4950     }%
4951   \Hy@tempa
4952 }
4953 \def\@hyperref{\hyper@normalise\@hyperref}
4954 \def\@hyperref#1#2#3{%
4955   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
4956   \expandafter\tryhyper@link\ref@one\{#1}%
4957 }
4958 \def\tryhyper@link#1\#2{%
4959   \hyper@@link{#2}{#1}%
4960 }
4961 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4962 \def\@hyperdef#1#2#3{%, category, name, text
4963   \ifx\\#1\\%
4964     \def\Hy@AnchorName{#2}%
4965   \else
4966     \def\Hy@AnchorName{#1.#2}%
4967   \fi
4968   \ifHy@nesting

```

```

4969 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4970 \else
4971 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4972 \fi
4973 }

```

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.

```

4974 \let\hyperrefundefinedlink\@firstofone
4975 \def\label@hyperref[#1]{%
4976 \expandafter\label@@hyperref\c@#1\endcsname{#1}%
4977 }%
4978 \def\label@@hyperref#1#2#3{%
4979 \ifx#1\relax
4980 \protect\G@refundefinedtrue
4981 \@latex@warning{%
4982 Hyper reference `#2' on page \thepage \space undefined%
4983 }%
4984 \begingroup
4985 \hyperrefundefinedlink{#3}%
4986 \endgroup
4987 \else
4988 \hyper@@link{\expandafter\@fifthoffive#1}%
4989 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4990 \fi
4991 }
4992 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4993 % anchor text
4994 \@bsphack
4995 \ifx\#2\%
4996 \def\Hy@AnchorName{#3}%
4997 \else
4998 \def\Hy@AnchorName{#2.#3}%
4999 \fi
5000 \if@filesw
5001 \protected@write\@auxout{}{%
5002 \string\newlabel{#1}{#2}{#3}{\Hy@AnchorName}}%
5003 }%
5004 \fi
5005 \@esphack
5006 \ifHy@nesting
5007 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5008 \else
5009 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5010 \fi
5011 }

```

`\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`

```
5012 \ExplSyntaxOn
5013 \cs_new:Npn \hyperget #1 #2
5014 {
5015   \use:c { __hyp_get_#1:n } { #2}
5016 }
5017
5018 \cs_new:Npn \__hyp_get_anchor:n #1
5019 {
5020   \HyperDestNameFilter
5021   {
5022     \cs_if_exist:cTF {r@#1}
5023     {
5024       \tl_item:cn {r@#1}{4}
5025     }
5026     {
5027       Doc-Start
5028     }
5029   }
5030 }
5031 \cs_new:Npn \__hyp_get_pageanchor:n #1
5032 {
5033   \HyperDestNameFilter
5034   {
5035     \cs_if_exist:cTF {r@#1}
5036     {
5037       page. \tl_item:cn {r@#1}{2}
5038     }
5039     {
5040       Doc-Start
5041     }
5042   }
5043 }
5044 \cs_new:Npn \__hyp_get_currentanchor:n #1
5045 {
5046   \HyperDestNameFilter { \@currentHref }
5047 }
5048 \ExplSyntaxOff
```

## 16.1 Link box support for XeTeX

```
5049 \newdimen\XeTeXLinkMargin
5050 \setlength{\XeTeXLinkMargin}{2pt}
5051 \ifxetex
5052   \font\XeTeXLink@font=pzdr at 1sp\relax
5053   \newcommand*{\XeTeXLink@space}{%
5054     \begingroup
5055       \XeTeXLink@font
5056       \@xxxii
5057     \endgroup
5058   }%
5059   \newcommand{\XeTeXLinkBox}[1]{%
5060     \begingroup
5061     \leavevmode
```



```

5062 \sbox\z@{#1}%
5063 \begingroup
5064 \dimen@=\dp\z@
5065 \advance\dimen@\XeTeXLinkMargin
5066 \setbox\tw@=\llap{%
5067 \hb@xt@\XeTeXLinkMargin{%
5068 \lower\dimen@\hbox{\XeTeXLink@space}%
5069 \hss
5070 }%
5071 }%
5072 \dp\tw@=\dp\z@
5073 \ht\tw@=\ht\z@
5074 \copy\tw@
5075 \endgroup
5076 \copy\z@
5077 \dimen@=\ht\z@
5078 \advance\dimen@\XeTeXLinkMargin
5079 \setbox\tw@=\rlap{%
5080 \hb@xt@\XeTeXLinkMargin{%
5081 \hss
5082 \raise\dimen@\hbox{\XeTeXLink@space}%
5083 }%
5084 }%
5085 \dp\tw@=\dp\z@
5086 \ht\tw@=\ht\z@
5087 \copy\tw@
5088 \endgroup
5089 }%
5090 \else
5091 \newcommand*\XeTeXLinkBox}[1]{%
5092 \begingroup
5093 \leavevmode
5094 \sbox\z@{#1}%
5095 \copy\z@
5096 \endgroup
5097 }%
5098 \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.

```

5099 \def\hyper@link{\let\Hy@reserved@a\relax
5100 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5101 }
5102 % #1: type
5103 % #2: URL
5104 % #3: destination name
5105 % #4: text
5106 \def\hyper@link@[#1]#2#3#4{%
5107 \ltx@ifempty{#4}{% link text
5108 \Hy@Warning{Suppressing empty link}%

```

```

5109 }{%
5110   \begingroup
5111   \protected@edef\Hy@tempa{#2}%
5112   \edef\Hy@tempb{#3}%
5113   \ifx\Hy@tempa\ltx@empty
5114     \ifx\Hy@tempb\ltx@empty
5115       \Hy@Warning{Suppressing link with empty target}%
5116       \toks@{%
5117         \endgroup
5118         \ltx@secondoftwo
5119       }%
5120     \else
5121       \toks@{%
5122         \endgroup
5123         \hyper@link{#1}%
5124       }%
5125     \fi
5126   \else
5127     \toks@{%
5128       \endgroup
5129       \expandafter\hyper@readexternallink#2\{\{#1}%
5130     }%
5131   \fi
5132   \Hy@safe@activesfalse
5133   \toks@\expandafter{%
5134     \the\expandafter\toks@
5135     \expandafter{\Hy@tempb}{#4}%
5136   }%
5137   \the\toks@
5138 }%
5139 }

```

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.

```

5140 \def\hyper@readexternallink#1\|#2#3#4{%
5141   \begingroup
5142   \let\\\relax
5143   \expandafter\endgroup
5144   \expandafter\@hyper@\@readexternallink#1\{\{#2}\{#3}\{#4}%
5145 }
5146 \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.

```
5147 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5148 }
```

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

```
5149 \def\@pdftempwordfile{file}%
5150 \def\@pdftempwordrun{run}%
5151 \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:

```
5152 \ifx\#6\%
5153   \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5154 \else
5155   \ifx\#4\%
5156     \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5157   \else
```

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

```
5158   \def\@pdftempa{#4}%
5159   \ifx\@pdftempa\@pdftempwordfile
5160     \@hyper@linkfile#7\{#3}{#2}{#7}%
5161   \else
```

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

```
5162   \ifx\@pdftempa\@pdftempwordrun
5163     \ifHy@pdfa
5164       \Hy@Error{%
5165         PDF/A: Launch action is prohibited%
5166       }\@ehc
5167     \begingroup
5168       \leavevmode
5169       #2%
5170     \endgroup
5171   \else
5172     \@hyper@launch#7\{#3}{#2}%
5173   \fi
5174 \else
```

otherwise its a URL

```
5175     \hyper@linkurl{#3}{#7\ifx\#2\% \else\hyper@hash#2\fi}%
5176   \fi
5177 \fi
5178 \fi
5179 \fi
5180 }
```

By default, turn run: into file:

```
5181 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5182   \hyper@linkurl{#2}%
5183   \Hy@linkfileprefix
```

```

5184 #1%
5185 \ifx\\#3\\%
5186 \else
5187 \hyper@hash
5188 #3%
5189 \fi
5190 }%
5191 }

```

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

```

5192 \def\@hyper@linkfile file:#1\\#2#3#4{%
5193 %file url,link string, name, original uri
5194 \filename@parse{#1}%
5195 \ifx\filename@ext\relax
5196 \edef\filename@ext{\XR@ext}%
5197 \fi
5198 \def\use@file{\filename@area\filename@base.\filename@ext}%
5199 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5200 \hyper@linkfile{#2}{\use@file}{#3}%
5201 }{%
5202 \ifx\@baseurl\@empty
5203 \hyper@linkurl{#2}{%
5204 #4\ifx\\#3\\%
5205 }%
5206 \else
5207 \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
5208 \fi
5209 }%
5210 }

5211 \def\Hy@ifStringEndsWith#1#2{%
5212 \begingroup
5213 \edef\x{#1}%
5214 \@onelevel@sanitize\x
5215 \edef\x{.x$}%
5216 \edef\y{#2}%
5217 \@onelevel@sanitize\y
5218 \edef\y{.y$}%
5219 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5220 \endgroup
5221 \ifx\relax##2\relax
5222 \expandafter\ltx@secondoftwo
5223 \else
5224 \expandafter\ltx@firstoftwo
5225 \fi
5226 }%
5227 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5228 }

5229 \def\Hy@StringLocalhost{localhost}
5230 \@onelevel@sanitize\Hy@StringLocalhost
5231 \def\Hy@CleanupFile#1{%
5232 \edef#1{#1}%
5233 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5234 }

```

```

5235 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5236 \begingroup
5237 \toks@{\endgroup}%
5238 \def\x{#1}%
5239 \ifx\x\@empty
5240 \def\x{#2}%
5241 \ifx\x\@empty
5242 \toks@{\endgroup\def#5{/#3}}%
5243 \else
5244 \@onelevel@sanitize\x
5245 \ifx\x\Hy@StringLocalhost
5246 \toks@{\endgroup\def#5{/#3}}%
5247 \fi
5248 \fi
5249 \fi
5250 \the\toks@
5251 }

```

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.

```

5252 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5253 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5254 \ifx\#1\%
5255 #2\Hy@Warning{Ignoring empty anchor}%
5256 \else
5257 \def\anchor@spot{#2#3}%
5258 \let\put@me@back\@empty
5259 \ifx\relax#2\relax
5260 \else
5261 \ifHy@nesting
5262 \else
5263 \ifcat a\noexpand#2\relax
5264 \else
5265 \ifcat 0\noexpand#2 \relax
5266 \else
5267 % \typeout{Anchor start is not alphanumeric %
5268 % on input line\the\inputlineno%
5269 % }%
5270 \let\anchor@spot\@empty
5271 \def\put@me@back{#2#3}%
5272 \fi
5273 \fi
5274 \fi
5275 \fi
5276 \ifHy@activeanchor
5277 \anchor@spot
5278 \else
5279 \hyper@anchor{#1}%
5280 \fi

```

```

5281 \expandafter\put@me@back
5282 \fi
5283 \let\anchor@spot\@empty
5284 }
5285 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5286 \ifHy@destlabel

```

\hyper@newdestlabel

```

5287 \def\hyper@newdestlabel#1#2{%
5288 \begingroup
5289 \Hy@safe@activetrue
5290 \edef\x{\endgroup
5291 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5292 }%
5293 \x
5294 }%

```

\hyper@destlabel@hook

```

5295 \providecommand*\hyper@destlabel@hook{}%

```

\Hy@DestRename

```

5296 \newcommand*\Hy@DestRename}[2]{%
5297 \ltx@ifundefined{HyDL!#1}{%
5298 \begingroup
5299 \Hy@safe@activetrue
5300 \edef\dest@name{#1}%
5301 \edef\label@name{#2}%
5302 \hyper@destlabel@hook
5303 \Hy@IsNotEmpty{dest@name}{%
5304 \Hy@IsNotEmpty{label@name}{%
5305 \global\expandafter
5306 \let\csname HyDL!#1\endcsname\ltx@empty
5307 \if@filesw
5308 \protected@write\@auxout{}{%
5309 \string\hyper@newdestlabel
5310 {#1}%
5311 {\label@name}%
5312 }%
5313 \fi
5314 }%
5315 }%
5316 \endgroup
5317 }{}%
5318 }%

```

\HyperDestRename

```

5319 \newcommand*\HyperDestRename}[2]{%
5320 \AtBeginDocument{%
5321 \Hy@DestRename{#1}{#2}%
5322 }%

```

```

5323 }%
5324 \AtBeginDocument{%
5325   \let\HyperDestRename\Hy@DestRename
5326 }%

```

\Hy@IsNotEmpty

```

5327 \def\Hy@IsNotEmpty#1{%
5328   \ltx@ifundefined{#1}\ltx@gobble{%
5329     \expandafter\ifx\csname#1\endcsname\ltx@empty
5330     \expandafter\ltx@gobble
5331   \else
5332     \expandafter\ltx@firstofone
5333   \fi
5334 }%
5335 }%

5336 \ltx@GlobalAppendToMacro\label@hook{%
5337   \HyperDestRename\@currentHref\label@name
5338 }%

```

\HyperDestLabelReplace

```

5339 \def\HyperDestLabelReplace#1{%
5340   \ltx@ifundefined{HyDL@#1}{%
5341     #1%
5342   }{%
5343     \csname HyDL@#1\endcsname
5344   }%
5345 }%

```

\HyperDestNameFilter

```

5346 \let\HyperDestNameFilter\HyperDestLabelReplace

5347 \else

```

\hyper@newdestlabel

```

5348 \let\hyper@newdestlabel\ltx@gobbletwo

```

\HyperDestLabelReplace

```

5349 \let\HyperDestLabelReplace\ltx@firstofone

```

\HyperDestRename

```

5350 \let\HyperDestRename\ltx@gobbletwo

5351 \fi

5352 \Hy@DisableOption{destlabel}

```

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

```

5353 \AddToHook{include/before}
5354 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-
5355   label[2]{}}
5355 \AddToHook{begindocument}
5356 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-
5357   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.

```
5357 \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
```

```
5358 \def\HyField@NewFlag#1#2{%
5359   \lowercase{\HyField@NewOption{#2}}%
5360   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5361 }
```

```
\HyField@NewFlagOnly
```

```
5362 \def\HyField@NewFlagOnly#1#2{%
5363   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5364 }
```

```
\HyField@NewOption #1: option name
```

```
5365 \def\HyField@NewOption#1{%
5366   \expandafter\newif\csname ifFld@#1\endcsname
5367   \define@key{Field}{#1}[true]{%
5368     \lowercase{\Field@boolkey{##1}}{#1}%
5369   }%
5370 }
```

```
\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
```

```
5371 \def\HyField@NewBitsetFlag#1#2#3#4{%
5372   \begingroup
5373   \count@=#4\relax
5374   \advance\count@\m@ne
5375   \def\x###1{%
5376     \endgroup
5377     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5378     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
```



```

5379     \expandafter\edef\csname HyField@#3@##1\endcsname{%
5380         (\number#4) #2%
5381     }%
5382 \else
5383     \expandafter\edef\csname HyField@#3@##1\endcsname{%
5384         \csname HyField@#3@##1\endcsname
5385         /#2%
5386     }%
5387 \fi
5388 }%
5389 \expandafter\x\expandafter{\the\count@}%
5390 }

```

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

```

5391 \def\HyField@UseFlag#1#2{%
5392     \lowercase{\HyField@@UseFlag{#2}}{#1}%
5393 }

```

\HyField@@UseFlag

```

5394 \def\HyField@@UseFlag#1#2{%
5395     \bitsetSetValue{HyField@#2}{%
5396         \csname HyField@#2@#1\endcsname
5397     }{%
5398         \csname ifFld@#1\endcsname 1\else 0\fi
5399     }%
5400 }

```

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

```

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

```

\HyField@@SetFlag

```

5404 \def\HyField@@SetFlag#1#2{%
5405     \bitsetSetValue{HyField@#2}{%
5406         \csname HyField@#2@#1\endcsname
5407     }{1}%
5408 }

```

\HyField@PrintFlags

```

5409 \def\HyField@PrintFlags#1#2{%
5410     \ifHy@verbose
5411     \begingroup
5412         \let\Hy@temp\@empty
5413         \let\MessageBreak\relax
5414         \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5415         \bitsetGetSetBitList{HyField@#1}\do{%
5416             \edef\Hy@temp{%
5417                 \Hy@temp
5418                 \csname HyField@#1@\x\endcsname\MessageBreak
5419             }%
5420         }%
5421     \edef\x{\endgroup

```

```

5422 \noexpand\Hy@Info{%
5423   Field flags: %
5424   \expandafter\ifx\@car#1\@nil S\else/\fi
5425   #1 %
5426   \bitsetGetDec{HyField@#1} %
5427   (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5428   \Hy@temp
5429   for #2%
5430   }%
5431 } \x
5432 \fi
5433 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5434 \HyField@NewFlag{Ff}{ReadOnly}{1}
5435 \HyField@NewFlag{Ff}{Required}{2}
5436 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5437 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5438 \HyField@NewFlag{Ff}{Radio}{16}
5439 \HyField@NewFlag{Ff}{Pushbutton}{17}
5440 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5441 \HyField@NewFlag{Ff}{Multiline}{13}
5442 \HyField@NewFlag{Ff}{Password}{14}
5443 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5444 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5445 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5446 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5447 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5448 \HyField@NewFlag{Ff}{Combo}{18}
5449 \HyField@NewFlag{Ff}{Edit}{19}
5450 \HyField@NewFlag{Ff}{Sort}{20}
5451 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5452 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5453 \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.

```

5454 \newif\ifFld@popdown
5455 \define@key{Field}{popdown}{true}{%
5456   \lowercase{\Field@boolkey{#1}}{popdown}%
5457 }

```

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.

```

5458 \HyField@NewFlag{F}{Invisible}{1}
5459 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5460 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5461 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5462 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5463 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5464 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5465 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5466 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5467 \ifHy@pdfa
5468 \def\HyField@PDFAFIWarning#1#2{%
5469 \Hy@Warning{%
5470 PDF/A: Annotation flag `#1' must\MessageBreak
5471 be set to `#2'%
5472 }%
5473 }%
5474 \Fld@invisiblefalse
5475 \def\Fld@invisibletrue{%
5476 \HyField@PDFAFIWarning{invisible}{false}%
5477 }%
5478 \Fld@hiddenfalse
5479 \def\Fld@hiddentrue{%
5480 \HyField@PDFAFIWarning{hidden}{false}%
5481 }%
5482 \Fld@printtrue
5483 \def\Fld@printfalse{%
5484 \HyField@PDFAFIWarning{print}{true}%
5485 }%
5486 \Fld@nozoomtrue
5487 \def\Fld@nozoomfalse{%
5488 \HyField@PDFAFIWarning{nozoom}{true}%
5489 }%
5490 \Fld@norotatetrue
5491 \def\Fld@norotatefalse{%
5492 \HyField@PDFAFIWarning{norotate}{true}%
5493 }%
5494 \Fld@noviewfalse
5495 \def\Fld@noviewtrue{%
5496 \HyField@PDFAFIWarning{noview}{false}%
5497 }%
5498 \fi

```

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

```

5499 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5500 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5501 \HyField@NewFlag{Submit}{GetMethod}{4}
5502 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5503 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5504 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5505 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5506 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}

```

```

5507 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5508 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5509 \HyField@NewFlag{Submit}{ExclFKey}{12}
5510 \HyField@NewFlag{Submit}{EmbedForm}{14}

5511 \define@key{Field}{export}{%
5512   \lowercase{\def\Hy@temp{#1}}%
5513   \@ifundefined{Fld@export@\Hy@temp}{%
5514     \@onelevel@sanitize\Hy@temp
5515     \Hy@Error{%
5516       Unknown export format `'\Hy@temp'.\MessageBreak
5517       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5518     } \@ehc
5519   }{%
5520     \let\Fld@export\Hy@temp
5521   }%
5522 }
5523 \def\Fld@export{fdf}
5524 \@namedef{Fld@export@fdf}{0}%
5525 \@namedef{Fld@export@html}{1}%
5526 \@namedef{Fld@export@xfdf}{2}%
5527 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5528 \def\HyField@FlagsSubmit{%
5529   \bitsetReset{HyField@Submit}%
5530   \ifcase\@nameuse{Fld@export@\Fld@export} %
5531     % FDF
5532     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5533     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5534     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5535     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5536     \HyField@UseFlag{Submit}{CanonicalFormat}%
5537     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5538     \HyField@UseFlag{Submit}{ExclFKey}%
5539     \HyField@UseFlag{Submit}{EmbedForm}%
5540   \or % HTML
5541     \HyField@SetFlag{Submit}{ExportFormat}%
5542     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5543     \HyField@UseFlag{Submit}{GetMethod}%
5544     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5545     \HyField@UseFlag{Submit}{CanonicalFormat}%
5546   \or % XFDF
5547     \HyField@SetFlag{Submit}{XFDF}%
5548     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5549     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5550     \HyField@UseFlag{Submit}{CanonicalFormat}%
5551   \or % PDF
5552     \HyField@SetFlag{Submit}{SubmitPDF}%
5553     \HyField@UseFlag{Submit}{GetMethod}%
5554   \fi
5555   \HyField@PrintFlags{Submit}{submit button field}%

```

```

5556 \bitsetIsEmpty{HyField@Submit}{%
5557 \let\Fld@submitflags\ltx@empty
5558 }{%
5559 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5560 }%
5561 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5562 \def\HyField@FlagsAnnot#1{%
5563 \bitsetReset{HyField@F}%
5564 \HyField@UseFlag{F}{Invisible}%
5565 \HyField@UseFlag{F}{Hidden}%
5566 \HyField@UseFlag{F}{Print}%
5567 \HyField@UseFlag{F}{NoZoom}%
5568 \HyField@UseFlag{F}{NoRotate}%
5569 \HyField@UseFlag{F}{NoView}%
5570 \HyField@UseFlag{F}{Locked}%
5571 \HyField@UseFlag{F}{ToggleNoView}%
5572 \HyField@UseFlag{F}{LockedContents}%
5573 \HyField@PrintFlags{F}{#1}%
5574 \bitsetIsEmpty{HyField@F}{%
5575 \let\Fld@annotflags\ltx@empty
5576 }{%
5577 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5578 }%
5579 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5580 \def\HyField@FlagsPushButton{%
5581 \HyField@FlagsAnnot{push button field}%
5582 \bitsetReset{HyField@Ff}%
5583 \HyField@UseFlag{Ff}{ReadOnly}%
5584 \HyField@UseFlag{Ff}{Required}%
5585 \HyField@UseFlag{Ff}{NoExport}%
5586 \HyField@SetFlag{Ff}{PushButton}%
5587 \HyField@PrintFlags{Ff}{push button field}%
5588 \bitsetIsEmpty{HyField@Ff}{%
5589 \let\Fld@flags\ltx@empty
5590 }{%
5591 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5592 }%
5593 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

5594 \def\HyField@FlagsCheckBox{%
5595 \HyField@FlagsAnnot{check box field}%
5596 \bitsetReset{HyField@Ff}%

```

```

5597 \HyField@UseFlag{Ff}{ReadOnly}%
5598 \HyField@UseFlag{Ff}{Required}%
5599 \HyField@UseFlag{Ff}{NoExport}%
5600 \HyField@PrintFlags{Ff}{checkbox field}%
5601 \bitsetIsEmpty{HyField@Ff}{%
5602   \let\Fld@flags\ltx@empty
5603 }{%
5604   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5605 }%
5606 }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5607 \def\HyField@FlagsRadioButton{%
5608   \HyField@FlagsAnnot{radio button field}%
5609   \bitsetReset{HyField@Ff}%
5610   \HyField@UseFlag{Ff}{ReadOnly}%
5611   \HyField@UseFlag{Ff}{Required}%
5612   \HyField@UseFlag{Ff}{NoExport}%
5613   \HyField@UseFlag{Ff}{NoToggleToOff}%
5614   \HyField@SetFlag{Ff}{Radio}%
5615   \HyField@UseFlag{Ff}{RadiosInUnison}%
5616   \HyField@PrintFlags{Ff}{radio button field}%
5617   \bitsetIsEmpty{HyField@Ff}{%
5618     \let\Fld@flags\ltx@empty
5619   }{%
5620     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5621   }%
5622 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

5623 \def\HyField@FlagsText{%
5624   \HyField@FlagsAnnot{text field}%
5625   \bitsetReset{HyField@Ff}%
5626   \HyField@UseFlag{Ff}{ReadOnly}%
5627   \HyField@UseFlag{Ff}{Required}%
5628   \HyField@UseFlag{Ff}{NoExport}%
5629   \HyField@UseFlag{Ff}{Multiline}%
5630   \HyField@UseFlag{Ff}{Password}%
5631   \HyField@UseFlag{Ff}{FileSelect}%
5632   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5633   \HyField@UseFlag{Ff}{DoNotScroll}%
5634   \ifFld@comb
5635     \ifcase0\ifFld@multiline
5636       \else\ifFld@password
5637       \else\ifFld@fileselect
5638       \else 1\fi\fi\fi\relax
5639   \Hy@Error{%
5640     Field option `comb' cannot be used together with\MessageBreak
5641     `multiline', `password', or `fileselect'%

```

```

5642     }\@ehc
5643     \else
5644     \HyField@UseFlag{Ff}{Comb}%
5645     \fi
5646     \fi
5647     \HyField@UseFlag{Ff}{RichText}%
5648     \HyField@PrintFlags{Ff}{text field}%
5649     \bitsetIsEmpty{HyField@Ff}{%
5650     \let\Fld@flags\tx@empty
5651     }{%
5652     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5653     }%
5654 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

5655 \def\HyField@FlagsChoice{%
5656 \HyField@FlagsAnnot{choice field}%
5657 \bitsetReset{HyField@Ff}%
5658 \HyField@UseFlag{Ff}{ReadOnly}%
5659 \HyField@UseFlag{Ff}{Required}%
5660 \HyField@UseFlag{Ff}{NoExport}%
5661 \HyField@UseFlag{Ff}{Combo}%
5662 \ifFld@combo
5663 \HyField@UseFlag{Ff}{Edit}%
5664 \fi
5665 \HyField@UseFlag{Ff}{Sort}%
5666 \HyField@UseFlag{Ff}{MultiSelect}%
5667 \ifFld@combo
5668 \ifFld@edit
5669 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5670 \fi
5671 \fi
5672 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5673 \HyField@PrintFlags{Ff}{choice field}%
5674 \bitsetIsEmpty{HyField@Ff}{%
5675 \let\Fld@flags\tx@empty
5676 }{%
5677 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5678 }%
5679 }

```

## 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.

```

5680 \def\HyField@PDFChoices#1{%
5681 \begingroup
5682 \global\let\Fld@choices\tx@empty
5683 \let\HyTmp@optlist\tx@empty

```

```

5684 \let\HyTmp@optitem\relax
5685 \count@=0 %
5686 \kv@parse{#1}{%
5687   \Hy@pdfstringdef\kv@key\kv@key
5688   \ifx\kv@value\relax
5689   \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5690     \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5691   \else
5692     \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5693   \fi
5694 \else
5695   \Hy@pdfstringdef\kv@value\kv@value
5696   \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5697 \fi
5698 \edef\HyTmp@optlist{%
5699   \HyTmp@optlist
5700   \HyTmp@optitem{\the\count@}{\kv@key}0%
5701 }%
5702 \advance\count@ by 1 %
5703 \@gobbletwo
5704 }%
5705 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5706 \ifFld@multiselect
5707   \HyField@@PDFChoices{DV}\Fld@default
5708   \HyField@@PDFChoices{V}\Fld@value
5709 \else
5710   \ifx\Fld@default\relax
5711   \else
5712     \pdfstringdef\Hy@gtemp\Fld@default
5713     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5714   \fi
5715   \ifx\Fld@value\relax
5716   \else
5717     \pdfstringdef\Hy@gtemp\Fld@value
5718     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5719   \fi
5720 \fi
5721 \endgroup
5722 }

```

\HyField@@PDFChoices

```

5723 \def\HyField@@PDFChoices#1#2{%
5724   \ifx#2\relax
5725   \else
5726     \count@=0 %
5727     \def\HyTmp@optitem##1##2##3{%
5728       \def\HyTmp@key{##2}%
5729       \ifx\HyTmp@key\Hy@gtemp
5730         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5731           \HyTmp@optlist
5732           \HyTmp@optitem{##1}{##2}1%
5733         }%
5734       \let\HyTmp@found=Y%
5735     \else

```



```

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

```

### 19.3 Forms

\HyField@SetKeys

```

5784 \def\HyField@SetKeys{%
5785 \kvsetkeys{Field}%

```

```

5786 }

5787 \newif\ifFld@checked
5788 \newif\ifFld@disabled
5789 \Fld@checkedfalse
5790 \Fld@disabledfalse
5791 \newcount\Fld@menulength
5792 \newdimen\Fld@Width
5793 \newdimen\Fld@charsize
5794 \Fld@charsize=10\p@
5795 \def\Fld@maxlen{0}
5796 \def\Fld@align{0}
5797 \def\Fld@color{0 0 0 rg}
5798 \def\Fld@bcolor{1 1 1}
5799 \def\Fld@bordercolor{1 0 0}
5800 \def\Fld@bordersep{1\p@}
5801 \def\Fld@borderwidth{1}
5802 \def\Fld@borderstyle{S}
5803 \def\Fld@cbsymbol{4}
5804 \def\Fld@radiosymbol{H}
5805 \def\Fld@rotation{0}
5806 \def\Fld@ifnextchar[{\@Form}{\@Form[]}]
5807 \def\Fld@endForm{\endForm}
5808 \newif\ifForm@html
5809 \Form@htmlfalse
5810 \def\Fld@boolkey#1#2{%
5811   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5812 }
5813 \define@key{Form}{action}{%
5814   \hyper@normalise\Hy@DefFormAction{#1}%
5815 }
5816 \def\Fld@Hy@DefFormAction{\def\Fld@action}
5817 \def\Fld@enc@html{html}
5818 \define@key{Form}{encoding}{%
5819   \def\Fld@Hy@tempa{#1}%
5820   \ifx\Fld@Hy@tempa\enc@html
5821     \Form@htmltrue
5822     \def\Fld@export{html}%
5823   \else
5824     \Hy@Warning{%
5825       Form `encoding' key with \MessageBreak
5826       unknown value `#1'%
5827     }%
5828   \Form@htmlfalse
5829   \fi
5830 }
5831 \define@key{Form}{method}{%
5832   \lowercase{\def\Fld@Hy@temp{#1}}%
5833   \@ifundefined{Form@method@\Hy@temp}{%
5834     \@onelevel@sanitize\Fld@Hy@temp
5835     \Hy@Error{%
5836       Unknown method `#1'.\MessageBreak
5837       Known values are `post' and `get'%
5838     }\@ehc

```

```

5839 }{%
5840 \let\Form@method\Hy@temp
5841 \ifcase\@nameuse{Form@method@\Hy@temp} %
5842 \Fld@getmethodfalse
5843 \else
5844 \Fld@getmethodtrue
5845 \fi
5846 }%
5847 }
5848 \def\Form@method{}
5849 \@namedef{Form@method@post}{0}
5850 \@namedef{Form@method@get}{1}

5851 \newif\ifHyField@NeedAppearances
5852 \def\HyField@NeedAppearancesfalse{%
5853 \global\let\ifHyField@NeedAppearances\iffalse
5854 }
5855 \def\HyField@NeedAppearancetrue{%
5856 \global\let\ifHyField@NeedAppearances\iftrue
5857 }
5858 \HyField@NeedAppearancetrue
5859 \define@key{Form}{NeedAppearances}[true]{%
5860 \edef\Hy@tempa{#1}%
5861 \ifx\Hy@tempa\Hy@true
5862 \HyField@NeedAppearancetrue
5863 \else
5864 \ifx\Hy@tempa\Hy@false
5865 \HyField@NeedAppearancesfalse
5866 \else
5867 \Hy@Error{%
5868 Unexpected value ``\Hy@tempa'\MessageBreak
5869 of option `NeedAppearances' instead of\MessageBreak
5870 `true' or `false'%
5871 } \@ehc
5872 \fi
5873 \fi
5874 }
5875 \def\Field@boolkey#1#2{%
5876 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5877 }
5878 \ifHy@texht
5879 \newtoks\Field@toks
5880 \Field@toks={ }%
5881 \def\Field@addtoks#1#2{%
5882 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5883 \@processme
5884 }%
5885 \else
5886 \def\Hy@WarnHTMLFieldOption#1{%
5887 \Hy@Warning{%
5888 HTML field option `#1'\MessageBreak
5889 is ignored%
5890 }%
5891 }%
5892 \fi

```

```

5893 \def\Fld@checkequals#1=#2=#3\{\%
5894 \def\@currDisplay{#1}%
5895 \ifx\#2\%
5896 \def\@currValue{#1}%
5897 \else
5898 \def\@currValue{#2}%
5899 \fi
5900 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5901 }
5902 \define@key{Field}{loc}{%
5903 \def\Fld@loc{#1}%
5904 }
5905 \define@key{Field}{checked}[true]{%
5906 \lowercase{\Field@boolkey{#1}}{checked}%
5907 }
5908 \define@key{Field}{disabled}[true]{%
5909 \lowercase{\Field@boolkey{#1}}{disabled}%
5910 }
5911 \ifHy@texht
5912 \define@key{Field}{accesskey}{%
5913 \Field@addtoks{accesskey}{#1}%
5914 }%
5915 \define@key{Field}{tabkey}{%
5916 \Field@addtoks{tabkey}{#1}%
5917 }%
5918 \else
5919 \define@key{Field}{accesskey}{%
5920 \Hy@WarnHTMLFieldOption{accesskey}%
5921 }%
5922 \define@key{Field}{tabkey}{%
5923 \Hy@WarnHTMLFieldOption{tabkey}%
5924 }%
5925 \fi
5926 \define@key{Field}{name}{%
5927 \def\Fld@name{#1}%
5928 }
5929 \let\Fld@altname\relax
5930 \define@key{Field}{altname}{%
5931 \def\Fld@altname{#1}%
5932 }
5933 \let\Fld@mappingname\relax
5934 \define@key{Field}{mappingname}{%
5935 \def\Fld@mappingname{#1}%
5936 }
5937 \define@key{Field}{width}{%
5938 \def\Fld@width{#1}%
5939 \Field@Width#1\setbox0=\hbox{m}%
5940 }
5941 \define@key{Field}{maxlen}{%
5942 \def\Fld@maxlen{#1}%
5943 }
5944 \define@key{Field}{menulength}{%
5945 \Fld@menulength=#1\relax
5946 }

```

```

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

```

```

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

6034 \define@key{Field}{rotation}{%
6035   \def\Fld@rotation{#1}%
6036 }

6037 \define@key{Field}{backgroundcolor}{%
6038   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6039 }
6040 \define@key{Field}{bordercolor}{%
6041   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6042 }
6043 \define@key{Field}{color}{%
6044   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6045 }

6046 \let\Fld@onclick@code\ltx@empty
6047 \let\Fld@format@code\ltx@empty
6048 \let\Fld@validate@code\ltx@empty
6049 \let\Fld@calculate@code\ltx@empty
6050 \let\Fld@keystroke@code\ltx@empty
6051 \let\Fld@onfocus@code\ltx@empty
6052 \let\Fld@onblur@code\ltx@empty
6053 \let\Fld@onmousedown@code\ltx@empty

```

```

6054 \let\Fld@onmouseup@code\ltx@empty
6055 \let\Fld@onenter@code\ltx@empty
6056 \let\Fld@onexit@code\ltx@empty
6057 \def\Hy@temp#1{%
6058   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6059 }
6060 \def\Hy@@temp#1#2{%
6061   \ifHy@pdfa
6062     \define@key{Field}{#2}{%
6063       \Hy@Error{%
6064         PDF/A: Additional action `#2' is prohibited%
6065       } \@ehc
6066     }%
6067   \else
6068     \define@key{Field}{#2}{%
6069       \def#1{##1}%
6070     }%
6071   \fi
6072 }
6073 \Hy@temp{keystroke}
6074 \Hy@temp{format}
6075 \Hy@temp{validate}
6076 \Hy@temp{calculate}
6077 \Hy@temp{onfocus}
6078 \Hy@temp{onblur}
6079 \Hy@temp{onenter}
6080 \Hy@temp{onexit}

6081 \let\Fld@calculate@sortkey\ltx@empty
6082 \define@key{Field}{calculatesortkey}[1]{%
6083   \def\Fld@calculate@sortkey{#1}%
6084 }

6085 \ifHy@texht
6086   \def\Hy@temp#1{%
6087     \define@key{Field}{#1}{%
6088       \Field@addtoks{#1}{##1}%
6089     }%
6090   }%
6091 \else
6092   \def\Hy@temp#1{%
6093     \define@key{Field}{#1}{%
6094       \Hy@WarnHTMLFieldOption{#1}%
6095     }%
6096   }%
6097 \fi
6098 \Hy@temp{ondblclick}
6099 \Hy@temp{onmousedown}
6100 \Hy@temp{onmouseup}
6101 \Hy@temp{onmouseover}
6102 \Hy@temp{onmousemove}
6103 \Hy@temp{onmouseout}
6104 \Hy@temp{onkeydown}
6105 \Hy@temp{onkeyup}
6106 \Hy@temp{onselect}

```

```

6107 \Hy@temp{onchange}
6108 \Hy@temp{onkeypress}
6109 \ifHy@texht
6110 \define@key{Field}{onclick}{%
6111   \Field@addtoks{onclick}{#1}%
6112 }%
6113 \else
6114 \ifHy@pdfa
6115 \define@key{Field}{onclick}{%
6116   \Hy@Error{%
6117     PDF/A: Action `onclick' is prohibited%
6118   } \@ehc
6119 }%
6120 \else
6121 \define@key{Field}{onclick}{%
6122   \def\Fld@onclick@code{#1}%
6123 }%
6124 \fi
6125 \fi

6126 \DeclareRobustCommand\TextField{%
6127   \@ifnextchar[{\@TextField}{\@TextField[]}%
6128 }
6129 \DeclareRobustCommand\ChoiceMenu{%
6130   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6131 }
6132 \DeclareRobustCommand\CheckBox{%
6133   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6134 }
6135 \DeclareRobustCommand\PushButton{%
6136   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6137 }
6138 \DeclareRobustCommand\Gauge{%
6139   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6140 }
6141 \DeclareRobustCommand\Submit{%
6142   \@ifnextchar[{\@Submit}{\@Submit[]}%
6143 }
6144 \DeclareRobustCommand\Reset{%
6145   \@ifnextchar[{\@Reset}{\@Reset[]}%
6146 }
6147 \def\LayoutTextField#1#2{% label, field
6148   \def\Hy@temp{#1}%
6149   \ifx\Hy@temp\@empty
6150     #2%
6151   \else
6152     #1 #2%
6153   \fi
6154 }
6155 \def\LayoutChoiceField#1#2{% label, field
6156   \def\Hy@temp{#1}%
6157   \ifx\Hy@temp\@empty
6158     #2%
6159   \else
6160     #1 #2%

```



```

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

```

Default options for the types of \ChoiceMenu.

```

6208 \def\DefaultOptionsofListBox{print}
6209 \def\DefaultOptionsofComboBox{print,edit,sort}
6210 \def\DefaultOptionsofPopdownBox{print}
6211 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```
6212 \ifHy@hyperfigures
6213 \Hy@Info{Hyper figures ON}%
6214 \else
6215 \Hy@Info{Hyper figures OFF}%
6216 \fi
6217 \ifHy@nesting
6218 \Hy@Info{Link nesting ON}%
6219 \else
6220 \Hy@Info{Link nesting OFF}%
6221 \fi
6222 \ifHy@hyperindex
6223 \Hy@Info{Hyper index ON}%
6224 \else
6225 \Hy@Info{Hyper index OFF}%
6226 \fi
6227 \ifHy@backref
6228 \Hy@Info{backreferencing ON}%
6229 \else
6230 \Hy@Info{backreferencing OFF}%
6231 \fi
6232 \ifHy@colorlinks
6233 \Hy@Info{Link coloring ON}%
6234 \else
6235 \Hy@Info{Link coloring OFF}%
6236 \fi
6237 \ifHy@ocgcolorlinks
6238 \Hy@Info{Link coloring with OCG ON}%
6239 \else
6240 \Hy@Info{Link coloring with OCG OFF}%
6241 \fi
6242 \ifHy@pdfa
6243 \Hy@Info{PDF/A mode ON}%
6244 \else
6245 \Hy@Info{PDF/A mode OFF}%
6246 \fi
```

## 21 Low-level utility macros

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

```
6247 \edef\hyper@hash{\string#}
6248 \edef\hyper@tilde{\string~}
6249 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6250 \def\@currentHref{Doc-Start}
6251 \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.

```
6252 \Hy@AtBeginDocument{%
6253 \Hy@pdfstringtrue
6254 \PDF@SetupDoc
```

```

6255 \let\PDF@SetupDoc\@empty
6256 \Hy@DisableOption{pdfpagescrop}%
6257 \Hy@DisableOption{pdfpagemode}%
6258 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6259 \Hy@DisableOption{pdfdirection}%
6260 \Hy@DisableOption{pdfviewarea}%
6261 \Hy@DisableOption{pdfviewclip}%
6262 \Hy@DisableOption{pdfprintarea}%
6263 \Hy@DisableOption{pdfprintclip}%
6264 \Hy@DisableOption{pdfprintsclating}%
6265 \Hy@DisableOption{pdfduplex}%
6266 \Hy@DisableOption{pdfpicktraybypdfsize}%
6267 \Hy@DisableOption{pdfprintpagerange}%
6268 \Hy@DisableOption{pdfnumcopies}%
6269 \Hy@DisableOption{pdfstartview}%
6270 \Hy@DisableOption{pdfstartpage}%
6271 \Hy@DisableOption{pdftoolbar}%
6272 \Hy@DisableOption{pdfmenubar}%
6273 \Hy@DisableOption{pdfwindowui}%
6274 \Hy@DisableOption{pdfitwindow}%
6275 \Hy@DisableOption{pdfcenterwindow}%
6276 \Hy@DisableOption{pdfdisplaydoctitle}%
6277 \Hy@DisableOption{pdfpagelayout}%
6278 \Hy@DisableOption{pdflang}%
6279 \Hy@DisableOption{baseurl}%
6280 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6281 \Hy@pdfstringfalse
6282 }

```

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

```

6283 \@ifundefined{@kernel@ref}
6284 {\LetLtxMacro\NoHy@OrgRef\ref
6285 \DeclareRobustCommand*{\ref}{%
6286 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6287 }
6288 \LetLtxMacro\NoHy@OrgPageRef\pageref
6289 \DeclareRobustCommand*{\pageref}{%
6290 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6291 }{}

```

## 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.

```

6292 \def\NoHyper{%
6293 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6294 \def\hyper@anchor##1##2{##2\Hy@xspace@end}%
6295 \global\let\hyper@livelink\hyper@link
6296 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6297 \let\hyper@anchor\ltx@gobble

```

```

6298 \let\hyper@anchorstart\ltx@gobble
6299 \def\hyper@anchorend{\Hy@xspace@end}%
6300 \let\hyper@linkstart\ltx@gobbletwo
6301 \def\hyper@linkend{\Hy@xspace@end}%
6302 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6303 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6304 \let\Hy@backout\@gobble
6305 }
6306 \def\stop@hyper{%
6307 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6308 \let\Hy@backout\@gobble
6309 \let\hyper@@anchor\ltx@gobble
6310 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6311 \let\hyper@anchor\ltx@gobble
6312 \let\hyper@anchorstart\ltx@gobble
6313 \def\hyper@anchorend{\Hy@xspace@end}%
6314 \let\hyper@linkstart\ltx@gobbletwo
6315 \def\hyper@linkend{\Hy@xspace@end}%
6316 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6317 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6318 }
6319 \def\endNoHyper{%
6320 \global\let\hyper@link\hyper@livelink
6321 }
6322 </package>

```

## 23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

6323 (*nohyperref)
6324 \RequirePackage{letltxmacro}[2008/06/13]
6325 \let\hyper@@anchor\@gobble
6326 \def\hyper@link#1#2#3{#3}%
6327 \let\hyper@anchorstart\@gobble
6328 \let\hyper@anchorend\@empty
6329 \let\hyper@linkstart\@gobbletwo
6330 \let\hyper@linkend\@empty
6331 \def\hyper@linkurl#1#2{#1}%
6332 \def\hyper@linkfile#1#2#3{#1}%
6333 \def\hyper@link@[#1]#2#3{#3}%
6334 \let\PDF@SetupDoc\@empty
6335 \let\PDF@FinishDoc\@empty
6336 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6337 \def\Acrobatmenu#1#2{\leavevmode#2}
6338 \let\pdfstringdefDisableCommands\@gobbletwo
6339 \let\texorpdfstring\@firstoftwo

```

```

6340 \let\pdfbookmark\@undefined
6341 \newcommand\pdfbookmark[3][]{ }
6342 \let\phantomsection\@empty
6343 \let\hypersetup\@gobble
6344 \let\hyperbaseurl\@gobble
6345 \newcommand*\href[3][]{#3}
6346 \let\hyperdef\@gobbletwo
6347 \let\hyperlink\@gobble
6348 \let\hypertarget\@gobble
6349 \def\hyperref{%
6350   \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6351 }
6352 \long\def\@gobbleopt[#1]{ }
6353 \let\hyperpage\@empty

```

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

```

6354 \if@r\fmtversion{2022-06-01}
6355 }%
6356 {%
6357   \LetLtxMacro\NoHy@OrgRef\ref
6358   \DeclareRobustCommand*\ref}{%
6359     \ifstar\NoHy@OrgRef\NoHy@OrgRef
6360   }
6361   \LetLtxMacro\NoHy@OrgPageRef\pageref
6362   \DeclareRobustCommand*\pageref}{%
6363     \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6364   }%
6365 }
6366 </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}`

```

6367 (*package)
6368 \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.

```

6369 \if@filesw
6370   \immediate\write\@auxout{%
6371     \string\providecommand\string\HyperFirstAtBeginDocument{%
6372       \string\AtBeginDocument}^^J%
6373     \string\HyperFirstAtBeginDocument{%
6374       \string\ifx\string\hyper@anchor\string\@undefined^^J%
6375       \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6376       \string\gdef\string\newlabel\string#1\string#2{%
6377         \string\newlabelxx{\string#1}\string#2}^^J%
6378       \string\gdef\string\newlabelxx%

```

```

6379     \string#1\string#2\string#3\string#4\string#5\string#6{%
6380     \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.

```

6381     \string\AtEndDocument{%
6382     \string\ifx\string\hyper@anchor\string\@undefined^^J%
6383     \string\let\string\newlabel\string\oldnewlabel^^J%
6384     \string\fi%
6385     }^^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.

```

6386     \string\fi%
6387     }^^J%
6388     \string\global\string\let\string\hyper@last\relax^^J%
6389     \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6390     }%
6391     \fi
6392     \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.

```

6393     \ifx\hyper@last\@undefined
6394     \def\newlabel#1#2{\@newlabel r{#1}{#2}{-}{-}}%
6395     \fi
6396     }

```

## 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.

```

6397 \ifHy@pdfusetitle
6398 \let\HyOrg@title\title
6399 \let\HyOrg@author\author
6400 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6401 \def\Hy@scanopttitle[#1]{%
6402 \gdef\Hy@title{#1}%
6403 \HyOrg@title{#1}%
6404 }%
6405 \def\Hy@scantitle#1{%
6406 \gdef\Hy@title{#1}%
6407 \HyOrg@title{#1}%
6408 }%
6409 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6410 \def\Hy@scanoptauthor[#1]{%
6411 \gdef\Hy@author{#1}%
6412 \HyOrg@author{#1}%
6413 }%
6414 \def\Hy@scanauthor#1{%
6415 \gdef\Hy@author{#1}%

```

```

6416 \HyOrg@author{#1}%
6417 }%

```

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.

```

6418 \begingroup
6419 \def\process@me#1\@nil#2{%
6420 \expandafter\let\expandafter\x\csname @#2\endcsname
6421 \edef\y{\expandafter\strip@prefix\meaning\x}%
6422 \def\c##1##2\@nil{%
6423 \ifx\\##1\\%
6424 \else
6425 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6426 \expandafter{\x}%
6427 \fi
6428 }%
6429 \expandafter\c\y\relax#1\@nil
6430 }%
6431 \expandafter\process@me\string\@latex@\@nil{title}%
6432 \expandafter\process@me\string\@latex@\@nil{author}%
6433 \endgroup
6434 \fi
6435 \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>emoves its argument.

```

6436 \def\Hy@UseMaketitleString#1{%
6437 \ltx@ifundefined{Hy@#1}{-}{%
6438 \begingroup
6439 \let\Hy@saved@hook\pdfstringdefPreHook
6440 \pdfstringdefDisableCommands{%
6441 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6442 \let\newline\\%
6443 \def\and{; }%
6444 \let\thanks\@gobble%
6445 }%
6446 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6447 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6448 \csname Hy@#1\endcsname\@empty
6449 }%
6450 \fi
6451 \global\let\pdfstringdefPreHook\Hy@saved@hook
6452 \endgroup
6453 }%
6454 }

```

```

6455 \def\Hy@newline@title#1{ #1}
6456 \def\Hy@newline@author#1{, #1}
6457 \def\Hy@UseMaketitleInfos{%
6458 \Hy@UseMaketitleString{title}%
6459 \Hy@UseMaketitleString{author}%
6460 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```

6461 \RequirePackage{atbegshi}[2007/09/09]
6462 \let\Hy@EveryPageHook\ltx@empty
6463 \let\Hy@EveryPageBoxHook\ltx@empty
6464 \let\Hy@FirstPageHook\ltx@empty
6465 \AtBeginShipout{%
6466 \Hy@EveryPageHook
6467 \ifx\Hy@EveryPageBoxHook\ltx@empty
6468 \else
6469 \setbox\AtBeginShipoutBox=\vbox{%
6470 \offinterlineskip
6471 \Hy@EveryPageBoxHook
6472 \box\AtBeginShipoutBox
6473 }%
6474 \fi
6475 }
6476 \ltx@iffileloaded{hpdftex.def}{%
6477 \AtBeginShipout{%
6478 \Hy@FirstPageHook
6479 \global\let\Hy@FirstPageHook\ltx@empty
6480 }%
6481 }{%
6482 \AtBeginShipoutFirst{%
6483 \Hy@FirstPageHook
6484 }%
6485 }
6486 \g@addto@macro\Hy@FirstPageHook{%
6487 \PDF@FinishDoc
6488 \global\let\PDF@FinishDoc\ltx@empty
6489 }

```

### 27.1 PDF /PageLabels

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

```

6490 \ifHy@pdfpagelabels
6491 \begingroup\expandafter\expandafter\expandafter\endgroup
6492 \expandafter\ifx\csname thepage\endcsname\relax
6493 \Hy@pdfpagelabelsfalse
6494 \Hy@WarningNoLine{%
6495 Option `pdfpagelabels' is turned off\MessageBreak

```



```

6496     because \string\thepage\space is undefined%
6497   }%
6498   \csname fi\endcsname
6499   \csname iffalse\expandafter\endcsname
6500   \fi

```

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

```

6501   \def\thispdfpagelabel#1{%
6502     \gdef\HyPL@thisLabel{#1}%
6503   }%
6504   \global\let\HyPL@thisLabel\relax

```

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

```

6505   \let\HyPL@Labels\ltx@empty

```

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

```

6506   \newcount\Hy@abspage
6507   \Hy@abspage=0 %

```

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

```

6508   \def\HyPL@LastType{init}%
6509   \def\HyPL@LastNumber{0}%
6510   \let\HyPL@LastPrefix\ltx@empty

```

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

```

6511   \def\HyPL@arabic{D}%
6512   \def\HyPL@Roman{R}%
6513   \def\HyPL@roman{r}%
6514   \def\HyPL@Alph{A}%
6515   \def\HyPL@alph{a}%

6516   \let\HyPL@SlidesSetPage\ltx@empty
6517   \ltx@ifclassloaded{slides}{%
6518     \def\HyPL@SlidesSetPage{%
6519       \advance\c@page\ltx@one
6520       \ifnum\value{page}>\ltx@one
6521         \protected@edef\HyPL@SlidesOptionalPage{%
6522           \Hy@SlidesFormatOptionalPage{\thepage}%
6523         }%
6524       \else
6525         \let\HyPL@SlidesOptionalPage\ltx@empty
6526       \fi
6527       \advance\c@page-\ltx@one
6528     \def\HyPL@page{%
6529       \csname the\Hy@SlidesPage\endcsname
6530       \HyPL@SlidesOptionalPage
6531     }%
6532   }%
6533   }{}%

```

`\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.

```

6534 \def\HyPL@EveryPage{%
6535   \begingroup
6536   \ifx\HyPL@thisLabel\relax
6537     \let\HyPL@page\thepage
6538     \HyPL@SlidesSetPage
6539   \else
6540     \let\HyPL@page\HyPL@thisLabel
6541     \global\let\HyPL@thisLabel\relax
6542   \fi
6543   \let\HyPL@Type\relax
6544   \ifnum\c@page>0 %
6545     \ifx\HyPL@SlidesSetPage\ltx@empty
6546       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6547     \fi
6548   \fi
6549   \let\Hy@temp Y%
6550   \ifx\HyPL@Type\HyPL@LastType
6551   \else
6552     \let\Hy@temp N%
6553   \fi
6554   \ifx\HyPL@Type\relax
6555     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6556   \else
6557     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6558   \fi
6559   \ifx\HyPL@Prefix\HyPL@LastPrefix
6560   \else
6561     \let\Hy@temp N%
6562   \fi
6563   \if Y\Hy@temp
6564     \advance\c@page by -1 %
6565     \ifnum\HyPL@LastNumber=\the\c@page\relax
6566     \else
6567       \let\Hy@temp N%
6568     \fi
6569     \Hy@StepCount\c@page
6570   \fi
6571   \if N\Hy@temp
6572     \ifx\HyPL@Type\relax
6573       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6574     \else
6575       \HyPL@StorePageLabel{%
6576         \ifx\HyPL@Prefix\@empty
6577         \else
6578           /P(\HyPL@Prefix)%
6579         \fi
6580         /S/\csname HyPL\HyPL@Type\endcsname
6581         \ifnum\the\c@page=1 %
6582         \else
6583           \space/St \the\c@page
6584         \fi
6585       }%
6586     \fi
6587   \fi

```

```

6588 \xdef\HyPL@LastNumber{\the\c@page}%
6589 \global\let\HyPL@LastType\HyPL@Type
6590 \global\let\HyPL@LastPrefix\HyPL@Prefix
6591 \endgroup
6592 \Hy@GlobalStepCount\Hy@abspage
6593 }%

```

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

```

6594 \def\HyPL@CheckThePage#1\@nil{%
6595   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6596 }%

```

`\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 implementation 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`.

```

6597 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6598   \def\Hy@tempa{#4}%
6599   \def\Hy@tempb{\csname\endcsname\c@page}%
6600   \ifx\Hy@tempa\Hy@tempb
6601     \expandafter\ifx\csname HyPL#3\endcsname\relax
6602     \else
6603       \def\HyPL@Type{#3}%
6604       \def\HyPL@Prefix{#2}%
6605     \fi
6606   \else
6607     \begingroup
6608     \let\Hy@next\endgroup
6609     \let\HyPL@found\@undefined
6610     \def\arabic{\HyPL@Format{arabic}}%
6611     \def\Roman{\HyPL@Format{Roman}}%
6612     \def\roman{\HyPL@Format{roman}}%
6613     \def\Alph{\HyPL@Format{Alph}}%
6614     \def\alph{\HyPL@Format{alph}}%
6615     \protected@edef\Hy@temp{#1}%
6616     \ifx\HyPL@found\relax
6617       \toks@\expandafter{\Hy@temp}%
6618       \edef\Hy@next{\endgroup
6619         \noexpand\HyPL@@CheckThePage\the\toks@
6620         \noexpand\HyPL@found\relax\noexpand\@nil
6621       }%
6622     \fi
6623     \Hy@next
6624   \fi
6625 }%

```

`\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`.

```

6626 \def\HyPL@Format#1#2{%
6627   \ifx\HyPL@found\@undefined
6628     \expandafter\ifx\csname c@#2\endcsname\c@page

```

```

6629     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6630     \else
6631     \expandafter\noexpand\csname#1\endcsname{#2}%
6632     \fi
6633     \else
6634     \expandafter\noexpand\csname#1\endcsname{#2}%
6635     \fi
6636 }%

```

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

```

6637 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6638   \def\Hy@tempa{#3}%
6639   \def\Hy@tempb{\HyPL@found\relax}%
6640   \ifx\Hy@tempa\Hy@tempb
6641     \def\HyPL@Type{#2}%
6642     \def\HyPL@Prefix{#1}%
6643   \fi
6644 }%

```

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

```

6645 \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`.

```

6646 \def\HyPL@Useless{0<</S/D>>}%
6647 \@onelevel@sanitize\HyPL@Useless

```

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

```

6648 \def\HyPL@SetPageLabels{%
6649   \@onelevel@sanitize\HyPL@Labels
6650   \ifx\HyPL@Labels\@empty
6651     \else
6652     \ifx\HyPL@Labels\HyPL@Useless
6653       \else
6654       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6655     \fi
6656   \fi
6657 }%

```

```

6658 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6659 \fi

```

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

```

6660 \Hy@DisableOption{pdfpagelabels}

```

```

6661 </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`

```
6662 (*pdfTeX)
6663 \pdf@ifdraftmode{%
6664 \let\Hy@PutCatalog\ltx@gobble
6665 }{%
6666 \let\Hy@PutCatalog\pdfcatalog
6667 }
6668 (/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.

```
6669 (*vtex)
6670 \providecommand*\XR@ext}{pdf}
6671 \edef\Hy@VTeXversion{%
6672 \ifx\VTeXversion\@undefined
6673 \z@
6674 \else
6675 \ifx\VTeXversion\relax
6676 \z@
6677 \else
6678 \VTeXversion
6679 \fi
6680 \fi
6681 }
6682 \begingroup
6683 \ifnum\Hy@VTeXversion<660 %
6684 \gdef\Hy@PutCatalog#1{%
6685 \Hy@WarningNoLine{%
6686 VTeX 6.59g or above required for pdfpagelabels%
6687 }%
6688 }%
6689 \else
6690 \gdef\Hy@PutCatalog#1{%
6691 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6692 }%
6693 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6694 \ifx\#2\%
6695 \else
6696 \immediate\special{!pdfpagelabels #2}%
6697 \fi
6698 }%
6699 \fi
6700 \endgroup
6701 (/vtex)

6702 (*pdfTeX | vtex)
```

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

```
6703 \ifHy@pdfpagelabels
6704 \def\HyPL@StorePageLabel#1{%
6705 \toks@\expandafter{\HyPL@Labels}%
```

```

6706 \xdef\HyPL@Labels{%
6707 \the\toks@
6708 \the\Hy@abspage<<#1>>%
6709 }%
6710 }%

```

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.

```

6711 \RequirePackage{atveryend}[2009/12/07]%
6712 \AtVeryEndDocument{%
6713 \HyPL@SetPageLabels
6714 }%

6715 \fi
6716 </pdfTeX | vtex>

```

### 27.1.2 xetex

```

6717 <*xetex>
6718 \HyPsd@LoadUnicode
6719 \Hy@unicodetrue
6720 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6721 \else
6722 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6723 \fi
6724 \HyPsd@LoadStringEnc
6725 \define@key{Hyp}{unicode}[true]{%
6726 \Hy@boolkey{unicode}{#1}%
6727 \ifHy@unicode
6728 \else
6729 \Hy@Warning{%
6730 XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6731 option setting `unicode=false'%
6732 }%
6733 \Hy@unicodetrue
6734 \fi
6735 }
6736 \define@key{Hyp}{pdfencoding}{%
6737 \edef\HyPsd@temp{#1}%
6738 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6739 \let\HyPsd@pdfencoding\HyPsd@temp
6740 \else
6741 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6742 \let\HyPsd@pdfencoding\HyPsd@temp
6743 \else
6744 \Hy@Warning{%
6745 XeTeX driver only supports\MessageBreak
6746 `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6747 setting `pdfencoding=\HyPsd@temp'%
6748 }%
6749 \fi
6750 \fi
6751 }

```

```
6752 \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:

```
6753 \def\setpdfinkmargin#1{%
6754   \begingroup
6755   \setlength{\dimen@}{#1}%
6756   \special{dvipdfmx:config g \strip@pt\dimen@}%
6757   \endgroup}
6758 \</xetex>
```

set the pdf version

```
6759 \<dvipdfm | xetex>
6760 \special{pdf:majorversion \Hy@pdf@majorversion}
6761 \special{pdf:minorversion \Hy@pdf@minorversion}
6762 \</dvipdfm | xetex>
```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```
6763 \<pdfmarkbase>
6764 \begingroup
6765 \<ifundefined{headerps@out}{}{}%
6766 \toks@\expandafter{\Hy@FirstPageHook}%
6767 \xdef\Hy@FirstPageHook{%
6768   \noexpand\headerps@out{%
6769     systemdict /pdfmark known%
6770     {%
6771       userdict /?pdfmark systemdict /exec get put%
6772     }{%
6773       userdict /?pdfmark systemdict /pop get put %
6774       userdict /pdfmark systemdict /cleartomark get put%
6775     }%
6776     ifelse%
6777   }%
6778   \the\toks@
6779 }%
6780 }%
6781 \endgroup
6782 \</pdfmarkbase>
```

\Hy@PutCatalog

```
6783 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\<pdfm@mark{docview <<#1>>}}
6784 \<pdfmarkbase>
6785 \def\Hy@PutCatalog#1{%
6786   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6787 }
6788 \</pdfmarkbase>

6789 \<pdfmarkbase | dvipdfm | xetex>
6790 \ifHy@pdfpagelabels
```

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

```
6791 \def\HyPL@StorePageLabel#1{%
6792   \iffilesw
6793   \begingroup
6794   \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6795   \immediate\write\@mainaux{%
```

```

6796     \string\HyPL@Entry{\Hy@tempa}%
6797     }%
6798   \endgroup
6799   \fi
6800 }%

```

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.

```

6801 \Hy@AtBeginDocument{%
6802   \if@filesw
6803     \immediate\write\@mainaux{%
6804       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6805     }%
6806   \fi
6807   \ifx\HyPL@Labels\@empty
6808     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6809   \else
6810     \HyPL@SetPageLabels
6811   \fi
6812   \let\HyPL@Entry\@gobble
6813 }%

```

`\HyPL@Entry`

```

6814 \def\HyPL@Entry#1{%
6815   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6816     \HyPL@Labels
6817     #1%
6818   }%
6819 }%

6820 \fi
6821 </pdfmarkbase | dvipdfm | xetex>

6822 <*\packageEnd>

6823 \ifx\MaybeStopEarly\relax
6824 \else
6825   \Hy@stoppedearlytrue
6826   \expandafter\MaybeStopEarly
6827 \fi
6828 \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

```

6829 \def\Hy@CounterExists#1{%
6830   \begingroup\expandafter\expandafter\expandafter\endgroup
6831   \expandafter\ifx\csname c@#1\endcsname\relax
6832     \expandafter\@gobble
6833   \else
6834     \begingroup\expandafter\expandafter\expandafter\endgroup
6835     \expandafter\ifx\csname the#1\endcsname\relax
6836       \expandafter\expandafter\expandafter\@gobble
6837     \else
6838       \expandafter\expandafter\expandafter\@firstofone
6839     \fi
6840   \fi
6841 }
6842 \Hy@CounterExists{section}{%
6843   \providecommand\theHequation{\theHsection.\arabic{equation}}%
6844 }
6845 \providecommand\theHequation{\arabic{equation}}%
6846 \Hy@CounterExists{part}{%
6847   \providecommand\theHpart{\arabic{part}}%
6848 }
6849 \ltx@ifundefined{thechapter}{%
6850   \providecommand\theHsection   {\arabic{section}}%
6851   \providecommand\theHfigure    {\arabic{figure}}%
6852   \providecommand\theHtable     {\arabic{table}}%
6853 }{%
6854   \providecommand\theHchapter   {\arabic{chapter}}%
6855   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}%
6856   \providecommand\theHtable     {\theHchapter.\arabic{table}}%
6857   \providecommand\theHsection   {\theHchapter.\arabic{section}}%
6858 }
6859 \providecommand\theHsubsection  {\theHsection.\arabic{subsection}}
6860 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6861 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6862 \providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
6863 \providecommand\theHtheorem    {\theHsection.\arabic{theorem}}
6864 \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.

```

6865 \let\H@item\item
6866 \newcounter{Item}
6867 \def\theHItem{\arabic{Item}}

```

```

6868 \def\item{%
6869   \@hyper@itemfalse
6870   \if@nmbrrlist\@hyper@itemtrue\fi
6871   \H@item
6872 }

6873 \providecommand\theHenumi   {\theHItem}
6874 \providecommand\theHenumii  {\theHItem}
6875 \providecommand\theHenumiii {\theHItem}
6876 \providecommand\theHenumiv  {\theHItem}
6877 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6878 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6879 \@ifundefined{theHHmpfootnote}{%
6880   \let\theHHmpfootnote\theHHfootnote
6881 }-{}

```

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.

```

6882 \let\H@refstepcounter\refstepcounter
6883 \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`

```

6884 \newif\if@hyper@item
6885 \newif\if@skiphyperref
6886 \@hyper@itemfalse
6887 \@skiphyperreffalse
6888 \ExplSyntaxOn
6889 \def\refstepcounter#1{%
6890   \legacy_if:nF {Hy@pdfstring}
6891   {
6892     \H@refstepcounter{#1}%
6893     \bool_lazy_and:nnT
6894       { \l__hyp_target_create_bool }
6895       { ! \legacy_if_p:n{ @skiphyperref } }
6896     {
6897       \legacy_if:nTF { @hyper@item }
6898         {
6899           \stepcounter{Item}%
6900           \hyper@refstepcounter{Item}%
6901           \@hyper@itemfalse
6902         }
6903         {
6904           \hyper@refstepcounter{#1}%
6905         }
6906       }
6907   }
6908 }
6909 \ExplSyntaxOff
6910 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```
6911 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6912 \def\hyper@refstepcounter#1{%
6913   \HyCnt@ProvideTheHCounter{#1}%
6914   \hyper@makecurrent{#1}%
6915   \ifmeasuring@
6916   \else
6917     \Hy@raisedlink{%
6918       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6919     }%
6920   \fi
6921 }
```

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

```
6922 \def\HyCnt@ProvideTheHCounter#1{%
6923   \@ifundefined{theH#1}{%
6924     \expandafter\def\csname theH#1\endcsname{}%
6925     \def\Hy@temp{\@elt{#1}}%
6926     \ltx@onelevel@sanitize\Hy@temp
6927     \let\HyOrg@elt\@elt
6928     \edef\@elt{%
6929       \noexpand\HyCnt@LookForParentCounter
6930       \expandafter\noexpand\csname theH#1\endcsname
6931     }%
6932     \cl@@ckpt
6933     \let\@elt\HyOrg@elt
6934     \expandafter
6935     \ltx@LocalAppendToMacro\csname theH#1\endcsname
6936     \expandafter{%
6937       \expandafter\@arabic\csname c@#1\endcsname
6938     }%
6939   }{}%
6940 }
```

`\Hy@LookForParentCounter`

```
6941 \def\HyCnt@LookForParentCounter#1#2{%
6942   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6943   \ltx@ifundefined{cl@#2}{%
6944     }{%
6945     \ltx@onelevel@sanitize\Hy@temp@A
6946     \edef\Hy@temp@A{%
6947       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6948     }\Hy@temp@A
```

```

6949 \ifn@
6950 \ltx@ifundefined{theH#2}{%
6951 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6952 \expandafter{%
6953 \expandafter\@arabic\csname c@#2\endcsname.%
6954 }%
6955 }{%
6956 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6957 \expandafter{%
6958 \csname theH#2\endcsname.%
6959 }%
6960 }%
6961 \fi
6962 }%
6963 }

```

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`.

```

6964 \begingroup\expandafter\expandafter\expandafter\endgroup
6965 \expandafter\ifx\csname chapter\endcsname\relax
6966 \def\Hy@chapterstring{section}%
6967 \else
6968 \def\Hy@chapterstring{chapter}%
6969 \fi
6970 \def\Hy@appendixstring{appendix}
6971 \def\Hy@chapapp{\Hy@chapterstring}
6972 \ltx@ifundefined{appendix}{%
6973 }{%
6974 \let\HyOrg@appendix\appendix
6975 \def\Hy@AlphNoErr#1{%
6976 \ifnum\value{#1}>26 %
6977 Alph\number\value{#1}%
6978 \else
6979 \ifnum\value{#1}<1 %
6980 Alph\number\value{#1}%
6981 \else
6982 \Alph{#1}%
6983 \fi
6984 \fi
6985 }%
6986 \def\appendix{%
6987 \ltx@ifundefined{chapter}{%
6988 \gdef\theHsection{\Hy@AlphNoErr{section}}%
6989 }{%
6990 \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
6991 }%
6992 \xdef\Hy@chapapp{\Hy@appendixstring}%
6993 \HyOrg@appendix
6994 }%
6995 }

```

\Hy@Test@alph

```
6996 \def\Hy@Test@alph#1{%
6997   \ifcase#1\or
6998     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6999     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7000     u\or v\or w\or x\or y\or z%
7001   \else
7002     \@ctrerr
7003   \fi
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 }
```

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

```
7014 \NewHook{__hyp/target/setname }
7015 \define@key{Hyp}{next-anchor}{%
7016   \AddToHookNext{__hyp/target/setname}%
7017   {\Hy@MakeCurrentHref{#1}}%
7018 }
```

\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.

```
7019 \def\hyper@makecurrent#1{%
7020   \begingroup
7021   \Hy@safe@activestrue
7022   \edef\Hy@param{#1}%
7023   \ifx\Hy@param\Hy@chapterstring
7024     \let\Hy@param\Hy@chapapp
7025   \fi
7026   \ifHy@hypertextnames
7027     \let\@number\@firstofone
7028     \def\@fnsymbol##1{fnsymbol\number##1}%
7029     \def\@arabic##1{\number##1}%
7030     \ifx\@alph\Hy@Test@alph
7031     \else
7032       \def\@alph{alph\number}%
7033     \fi
7034     \ifx\@Alph\Hy@Test@Alph
7035     \else
7036       \def\@Alph{Alph\number}%
7037     \fi
7038     \ifHy@naturalnames
7039     \let\textlatin\@firstofone
```

```

7040     \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7041 \else
7042     \xdef\HyperGlobalCurrentHref{%
7043     \csname
7044     the%
7045     \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7046     #1%
7047     \endcsname
7048     }%
7049 \fi
7050 \xdef\HyperGlobalCurrentHref{%
7051 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7052 }%
7053 \else
7054 \Hy@GlobalStepCount\Hy@linkcounter
7055 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7056 \fi
7057 \endgroup
7058 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7059 \ifHy@localanchorname
7060 \let\@currentHref\HyperLocalCurrentHref
7061 \else
7062 \global\let\@currentHref\HyperGlobalCurrentHref
7063 \fi
7064 \UseHook{__hyp/target/setname}%
7065 }

```

`\Hy@MakeCurrentHref`

```

7066 \def\Hy@MakeCurrentHref#1{%
7067 \edef\HyperLocalCurrentHref{#1}%
7068 \@onelevel@sanitize\HyperLocalCurrentHref
7069 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7070 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7071 \ifHy@localanchorname
7072 \let\@currentHref\HyperLocalCurrentHref
7073 \else
7074 \global\let\@currentHref\HyperGlobalCurrentHref
7075 \fi
7076 }

```

`\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.

```

7077 \def\Hy@MakeCurrentHrefAuto#1{%
7078 \Hy@GlobalStepCount\Hy@linkcounter
7079 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7080 \UseHook{__hyp/target/setname}}

```

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

```

7081 \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.

```
7082 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
7083 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}
```

## 30 Package titlesec and titletoc support

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

Package titlesec support:

```
7084 \@ifpackageloaded{titlesec}{%
7085   \def\ttl@Hy@steplink#1{%
7086     \Hy@MakeCurrentHrefAuto{#1*}%
7087     \edef\ttl@Hy@saveanchor{%
7088       \noexpand\Hy@raisedlink{%
7089         \noexpand\hyper@anchorstart{\@currentHref}%
7090         \noexpand\hyper@anchorend
7091         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7092         \noexpand\ttl@Hy@PatchSaveWrite
7093       }%
7094     }%
7095   }%
7096   \def\ttl@Hy@PatchSaveWrite{%
7097     \begingroup
7098     \toks@\expandafter{\ttl@savewrite}%
7099     \edef\x{\endgroup
7100       \def\noexpand\ttl@savewrite{%
7101         \let\noexpand\@currentHref
7102         \noexpand\ttl@Hy@SavedCurrentHref
7103         \the\toks@
7104       }%
7105     }%
7106     \x
7107   }%
7108   \def\ttl@Hy@refstepcounter#1{%
7109     \let\ttl@b\Hy@raisedlink
7110     \def\Hy@raisedlink##1{%
7111       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7112     }%
7113     \refstepcounter{#1}%
7114     \let\Hy@raisedlink\ttl@b
7115   }%
7116 }{}
```

## 31 Package varioref support

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

```

7117 \@if@t@r\fmtversion{2021-11-15}
7118 {}%
7119 {
7120   \AtBeginDocument{%
7121     \def\Hy@varioref@undefined{{{??}{??}}{-}{-}}
7122     \@ifpackageloaded{varioref}{%
7123       \def\vref@pagenum#1#2{%
7124         \@ifundefined{r@#2}{%
7125           \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7126         }{}%
7127         \edef#1{\getpagerefnumber{#2}}%
7128       }%
7129     }{}
7130   }
7131 }

```

## 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

```

7132 \@ifpackageloaded{longtable}{%
7133   \begingroup
7134   \def\y{\LT@array}%
7135   \@ifundefined{scr@LT@array}{%
7136     \@ifundefined{adl@LT@array}{-}{\def\y{\adl@LT@array}}%
7137   }{\def\y{\scr@LT@array}}%
7138   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7139     \expandafter\endgroup
7140     \expandafter\def\y[#1]#2{%
7141       \H@refstepcounter{#1}%
7142       \hyper@makecurrent{table}%
7143       \let\Hy@LT@currentHref\@currentHref
7144       #2\@sharp###4%
7145     }%
7146   }%
7147   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7148   \begingroup
7149   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7150     \endgroup
7151     \def\LT@start{%
7152       #1%
7153       \ifvoid\LT@foot#2\fi
7154       \let\@currentHref\Hy@LT@currentHref
7155       \Hy@raisedlink{%
7156         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7157       }%
7158       #3%
7159     }%

```



```

7160 }%
7161 \expandafter\x\LT@start\@nil
7162 }{}

```

### 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`

```

7163 \let\new@refstepcounter\refstepcounter
7164 \let\H@equation\equation
7165 \let\H@endequation\endequation
7166 \@ifundefined{hyper@nopatch@mathenv}{%
7167   \@ifpackageloaded{amsmath}{%
7168     \long\def\Hy@temp{%
7169       \incr@eqnum
7170       \mathdisplay@push
7171       \st@rredfalse \global\@eqnswtrue
7172       \mathdisplay{equation}%
7173     }%
7174     \ifx\Hy@temp\equation
7175       \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7176         \csname iftrue\endcsname
7177     \else
7178       \long\def\equation{%
7179         \mathdisplay@push
7180         \st@rredfalse \global\@eqnswtrue
7181         \mathdisplay{equation}%
7182         \incr@eqnum
7183       }%
7184     \fi
7185   \fi
7186 }{}%
7187 \def\equation{%
7188   \let\refstepcounter\H@refstepcounter
7189   \H@equation
7190   \hyper@makecurrent{equation}%

```

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

```

7191   \mathopen{%
7192     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
7193   }%
7194   \let\refstepcounter\new@refstepcounter
7195 }{}%
7196 \def\endequation{%
7197   \ifx\Hy@raisedlink\ltx@empty
7198     \hyper@anchorend
7199   \else

```

```

7200     \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7201     \fi
7202     \H@endequation
7203   }%
7204 }
7205 }{}

```

My goodness, why can't L<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.

```

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

```

This is quite heavy-handed, but it works for now. If its an `eqnarray*` we need to disable the hyperref actions. There may well be a cleaner way to trap this. Bill Moss found this.

```

7232 \@namedef{eqnarray*}{%
7233   \protected\def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7234 }
7235 \@namedef{endeqnarray*}{%
7236   \nonumber\endeqnarray\@eqnstarfalse
7237 }

```

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

```

7238 \ltx@ifUndefined{subeqnarray}{-}{%
7239   \let\H@subeqnarray\subeqnarray
7240   \let\H@endsubeqnarray\endsubeqnarray
7241   \def\subeqnarray{%

```

```

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

```

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

```

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

```

Support for amsmath's subequations:

```

7270 \ifcsname subequations\endcsname
7271 \let\HyOrg@subequations\subequations
7272 \def\subequations{%
7273 \stepcounter{equation}%
7274 \protected@edef\theHparentequation{\theHequation}%
7275 \addtocounter{equation}{-1}%
7276 \HyOrg@subequations
7277 \def\theHequation{\theHparentequation\alph{equation}}%
7278 \ignorespaces
7279 }%
7280 \fi

```

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

```

7281 \Hy@AtBeginDocument{%
7282 \@ifpackageloaded{cleveref}{%
7283 \let\Hy@savedthm\@thm
7284 \def\@thm{\ifhmode\unskip\fi\Hy@savedthm}%
7285 }{%
7286 \@ifpackageloaded{amsthm}{%

```

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

```

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

7287 \def\Hy@temp#1#2#3{%
7288 \ifhmode\unskip\unskip\par\fi
7289 \normalfont
7290 \trivlist
7291 \let\thmheadnl\relax
7292 \let\thm@swap\@gobble
7293 \let\thm@indent\indent % indent
7294 \thm@headfont{\scshape}% heading font small caps
7295 \thm@notefont{\fontseries\mddefault\upshape}%
7296 \thm@headpunct{.}% add period after heading
7297 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7298 \thm@space@setup
7299 #1% style overrides
7300 \@topsep \thm@preskip % used by thm head
7301 \@topsepadd \thm@postskip % used by \@endparenv
7302 \def\@tempa{#2}\ifx\@empty\@tempa
7303 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7304 \else
7305 \refstepcounter{#2}%
7306 \def\@tempa{%
7307 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7308 }%
7309 \fi
7310 \@tempa
7311 }%
7312 \ifx\Hy@temp\@thm
7313 \def\@thm#1#2#3{%
7314 \ifhmode
7315 \unskip\unskip\par
7316 \fi
7317 \normalfont
7318 \trivlist
7319 \let\thmheadnl\relax
7320 \let\thm@swap\@gobble
7321 \let\thm@indent\indent % indent
7322 \thm@headfont{\scshape}% heading font small caps
7323 \thm@notefont{\fontseries\mddefault\upshape}%
7324 \thm@headpunct{.}% add period after heading
7325 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7326 \thm@space@setup
7327 #1% style overrides
7328 \@topsep \thm@preskip % used by thm head
7329 \@topsepadd \thm@postskip % used by \@endparenv
7330 \def\dth@counter{#2}%
7331 \ifx\@empty\dth@counter
7332 \def\@tempa{%
7333 \@oparg{\@begintheorem{#3}{}}}%
7334 }%
7335 \else
7336 \H@refstepcounter{#2}%
7337 \hyper@makecurrent{#2}%
7338 \let\Hy@dth@currentHref\@currentHref

```

```

7339     \def\@tempa{%
7340         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7341     }%
7342     \fi
7343     \@tempa
7344 }%
7345 \else
7346 \def\@thm#1#2#3{%
7347     \ifhmode
7348         \unskip\unskip\par
7349     \fi
7350     \normalfont
7351     \trivlist
7352     \let\thmheadnl\relax
7353     \let\thm@swap\@gobble
7354     \thm@notefont{\fontseries\mddefault\upshape}%
7355     \thm@headpunct{.}% add period after heading
7356     \thm@headsep 5\p@ plus\p@ minus\p@\relax
7357     \thm@space@setup
7358     #1% style overrides
7359     \@topsep \thm@preskip           % used by thm head
7360     \@topsepadd \thm@postskip      % used by \@endparenv
7361     \def\dth@counter{#2}%
7362     \ifx\@empty\dth@counter
7363         \def\@tempa{%
7364             \@oparg{\@begintheorem{#3}{}}{}%
7365         }%
7366     \else
7367         \H@refstepcounter{#2}%
7368         \hyper@makecurrent{#2}%
7369         \let\Hy@dth@currentHref\@currentHref
7370     \def\@tempa{%
7371         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7372     }%
7373     \fi
7374     \@tempa
7375 }%
7376 \fi
7377 \dth@everypar={%
7378     \@minipagefalse
7379     \global\@newlistfalse
7380     \@noperitemfalse
7381     \if@inlabel
7382         \global\@inlabelfalse
7383     \begingroup
7384         \setbox\z@\lastbox
7385         \ifvoid\z@
7386             \kern-\itemindent
7387         \fi
7388     \endgroup
7389     \ifx\@empty\dth@counter
7390     \else
7391         \Hy@raisedlink{%
7392             \hyper@anchorstart{%

```

```

7393     \ltx@ifundefined{Hy@dth@currentHref}%
7394     \@currentHref\Hy@dth@currentHref
7395     }\hyper@anchorend
7396   }%
7397   \fi
7398   \unhbox\@labels
7399   \fi
7400   \if@nobreak
7401     \@nobreakfalse \clubpenalty\@M
7402   \else
7403     \clubpenalty\@clubpenalty \everypar{ }%
7404   \fi
7405 }%
7406 }%

```

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

```

7407 {%
7408 \let\Hy@savedthm\@thm
7409 \def\@thm{\ifhmode\unskip\fi\Hy@savedthm}%
7410 }%
7411 }%
7412 }

```

## 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.

```

7413 \@ifundefined{hyper@nopatch@footnote}{%
7414 \ifHy@hyperfootnotes
7415   \newcounter{Hfootnote}%
7416   \let\H@@footnotetext\@footnotetext
7417   \let\H@@footnotemark\@footnotemark
7418   \def\@xfootnotenext[#1]{%
7419     \begingroup
7420       \csname c@\@mpfn\endcsname #1\relax
7421     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7422     \endgroup
7423     \ifx\@footnotetext\@mpfootnotetext
7424       \expandafter\H@\@mpfootnotetext
7425     \else
7426       \expandafter\H@\@footnotetext
7427     \fi
7428   }%
7429   \def\@xfootnotemark[#1]{%
7430     \begingroup
7431       \c@footnote #1\relax
7432     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7433     \endgroup
7434     \H@@@footnotemark

```

```

7435 }%
7436 \let\H@@mpfootnotetext\@mpfootnotetext
7437 \long\def\@mpfootnotetext#1{%
7438   \H@@mpfootnotetext{%
7439     \ifHy@nesting
7440       \expandafter\ltx@firstoftwo
7441     \else
7442       \expandafter\ltx@secondoftwo
7443     \fi
7444   {%
7445     \expandafter\hyper@@anchor\expandafter{%
7446       \Hy@footnote@currentHref
7447     }\ignorespaces #1}%
7448   }{%
7449     \Hy@raisedlink{%
7450       \expandafter\hyper@@anchor\expandafter{%
7451         \Hy@footnote@currentHref
7452       }\relax}%
7453     }\ignorespaces #1%
7454   }%
7455 }%
7456 }%
7457 \long\def\@footnotetext#1{%
7458   \H@@footnotetext{%
7459     \ifHy@nesting
7460       \expandafter\ltx@firstoftwo
7461     \else
7462       \expandafter\ltx@secondoftwo
7463     \fi
7464   {%
7465     \expandafter\hyper@@anchor\expandafter{%
7466       \Hy@footnote@currentHref
7467     }\ignorespaces #1}%
7468   }{%
7469     \Hy@raisedlink{%
7470       \expandafter\hyper@@anchor\expandafter{%
7471         \Hy@footnote@currentHref
7472       }\relax}%
7473   }%
7474   \let\@currentHref\Hy@footnote@currentHref
7475   \let\@currentlabelname\@empty
7476   \ignorespaces #1%
7477 }%
7478 }%
7479 }%

```

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.

```

7480 \def\@footnotemark{%
7481   \leavevmode
7482   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi

```

```

7483 \stepcounter{Hfootnote}%
7484 \global\let\Hy@saved@currentHref\@currentHref
7485 \hyper@makecurrent{Hfootnote}%
7486 \global\let\Hy@footnote@currentHref\@currentHref
7487 \global\let\@currentHref\Hy@saved@currentHref
7488 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7489 \@makefnmark
7490 \hyper@linkend
7491 \ifhmode\spacefactor\@x@sf\fi
7492 \relax
7493 }%

```

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

```

7494 \@ifpackageloaded{tabularx}{%
7495 \let\HyOrg@TX@endtabularx\TX@endtabularx
7496 \def\Hy@tabularx@hook{%
7497 \let\@footnotetext\H@footnotetext
7498 \let\@footnotemark\H@footnotemark
7499 \let\@mpfootnotetext\H@mpfootnotetext
7500 }%
7501 \begingroup
7502 \toks@\expandafter{\TX@endtabularx}%
7503 \xdef\Hy@gtemp{%
7504 \noexpand\Hy@tabularx@hook
7505 \the\toks@
7506 }%
7507 \endgroup
7508 \let\TX@endtabularx\Hy@gtemp
7509 }-}%

```

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

```

7510 \@ifpackageloaded{longtable}{%
7511 \CheckCommand{\LT@p@ftntext}[1]{%
7512 \edef\@tempa{%
7513 \the\LT@p@ftn
7514 \noexpand\footnotetext[\the\c@footnote]%
7515 }%
7516 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7517 }%
7518 \long\def\LT@p@ftntext#1{%
7519 \edef\@tempa{%
7520 \the\LT@p@ftn
7521 \begingroup
7522 \noexpand\c@footnote=\the\c@footnote\relax
7523 \noexpand\protected\xdef\noexpand\@thefnmark{%
7524 \noexpand\thempfn
7525 }%
7526 \noexpand\Hy@LT@footnotetext{%
7527 \Hy@footnote@currentHref
7528 }%
7529 }%

```



```

7530 \global\LT@p@ftn\expandafter{%
7531 \@tempa{#1}%
7532 \endgroup
7533 }%
7534 }%
7535 \long\def\Hy@LT@footnotetext#1#2{%
7536 \H@@footnotetext{%
7537 \ifHy@nesting
7538 \hyper@@anchor{#1}{#2}%
7539 \else
7540 \Hy@raisedlink{%
7541 \hyper@@anchor{#1}{\relax}%
7542 }%
7543 \def\@currentHref{#1}%
7544 \let\@currentlabelname\@empty
7545 #2%
7546 \fi
7547 }%
7548 }%
7549 }-}%

```

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

```

7550 \@ifpackageloaded{fancyvrb}{%
7551 \def\V@@footnotetext{%
7552 \insert\footins\bgroup
7553 \csname reset@font\endcsname
7554 \footnotesize
7555 \interlinepenalty\interfootnotelinepenalty
7556 \splittopskip\footnotesep
7557 \splitmaxdepth\dp\strutbox
7558 \floatingpenalty \@MM
7559 \hsize\columnwidth
7560 \@parboxrestore
7561 \def\@currentcounter{footnote}%
7562 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7563 \@makefn-text{}%
7564 \rule{\z@}{\footnotesep}%
7565 \bgroup
7566 \aftergroup\V@@@footnotetext
7567 \Hy@raisedlink{%
7568 \expandafter\hyper@@anchor\expandafter{%
7569 \Hy@footnote@currentHref
7570 }{\relax}%
7571 }%
7572 \let\@currentHref\Hy@footnote@currentHref
7573 \let\@currentlabelname\@empty
7574 \ignorespaces
7575 }%
7576 }-}%

```

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

```

7577 \def\Hy@temp#1{%
7578 \begingroup

```

```

7579   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7580   \endgroup
7581   \@footnotemark
7582 }%
7583 \ifx\Hy@temp\footref
7584   \def\footref#1{%
7585     \begingroup
7586     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7587     \endgroup
7588     \H@@footnotemark
7589   }%
7590 \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.

```

7591 \let\HyOrg@maketitle\maketitle
7592 \def\maketitle{%
7593   \let\Hy@saved@footnotemark\@footnotemark
7594   \let\Hy@saved@footnotetext\@footnotetext
7595   \let\@footnotemark\H@@footnotemark
7596   \let\@footnotetext\H@@footnotetext
7597   \@ifnextchar[\Hy@maketitle@optarg{% ]
7598     \HyOrg@maketitle
7599     \Hy@maketitle@end
7600   }%
7601 }%
7602 \def\Hy@maketitle@optarg[#1]{%
7603   \HyOrg@maketitle[#1]}%
7604   \Hy@maketitle@end
7605 }%
7606 \def\Hy@maketitle@end{%
7607   \ifx\@footnotemark\H@@footnotemark
7608     \let\@footnotemark\Hy@saved@footnotemark
7609     \fi
7610   \ifx\@footnotetext\H@@footnotetext
7611     \let\@footnotetext\Hy@saved@footnotetext
7612   \fi
7613 }%

```

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

```

7614 \def\realfootnote{%
7615   \@ifnextchar[\@xfootnote%]
7616     {\stepcounter{\@mpfn}%
7617     \protected@xdef\@thefnmark{\thempfn}%
7618     \H@@footnotemark\H@@footnotetext
7619   }%
7620 }%
7621 \fi
7622 }{}
7623 \Hy@DisableOption{hyperfootnotes}
7624 </packageEnd>
7625 <*check>

```

```

7626 \checklatex
7627 \checkcommand\def\@xfootnotenext[#1]{%
7628   \begingroup
7629     \csname c@\@mpfn\endcsname #1\relax
7630     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7631   \endgroup
7632   \@footnotetext
7633 }
7634 \checkcommand\def\@xfootnotemark[#1]{%
7635   \begingroup
7636     \c@footnote #1\relax
7637     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7638   \endgroup
7639   \@footnotemark
7640 }
7641 \checkcommand\def\@footnotemark{%
7642   \leavevmode
7643   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7644   \@makefnmark
7645   \ifhmode\spacefactor\@x@sf\fi
7646   \relax
7647 }
7648 </check>
7649 <*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.

```

7650 \def\caption{%
7651   \ifx\@capttype\@undefined
7652     \@latex@error{\noexpand\caption outside float}\@ehd
7653     \expandafter\@gobble
7654   \else
7655     \H@refstepcounter\@capttype
7656     \let\Hy@tempa\@caption
7657     \@ifundefined{float@caption}{%
7658       }{%
7659       \expandafter\ifx\csname @float@c@\@capttype\endcsname
7660         \float@caption
7661       \let\Hy@tempa\Hy@float@caption
7662       \fi
7663     }%
7664     \expandafter\@firstofone
7665     \fi
7666     {\@dblarg{\Hy@tempa\@capttype}}%
7667 }
7668 \long\def\@caption#1[#2]#3{%
7669   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7670     \csname iftrue\endcsname
7671     \global\let\@currentHref\hc@currentHref
7672   \else
7673     \hyper@makecurrent{\@capttype}%

```

```

7674 \fi
7675 \@ifundefined{NR@getttitle}{%
7676   \def\@currentlabelname{#2}%
7677 }{%
7678   \NR@getttitle{#2}%
7679 }%
7680 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7681   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7682 }%
7683 \begingroup
7684   \@parboxrestore
7685   \if@minipage
7686     \@setminipage
7687   \fi
7688   \normalsize
7689   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7690     \csname iftrue\endcsname
7691     \global\@capstartfalse
7692     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7693   \else
7694     \@makecaption{\csname fnum@#1\endcsname}{%
7695       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7696   \ifHy@nesting
7697     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7698   \else
7699     \Hy@raisedlink{%
7700       \expandafter\hyper@@anchor\expandafter{%
7701         \@currentHref
7702       }{\relax}%
7703     }%
7704     #3%
7705   \fi
7706 }%
7707 \fi
7708 \par
7709 \endgroup
7710 }

```

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’.

```

7711 \let\Hy@float@caption\@caption
7712 \newcommand{\HyNew@float@makebox}[1]{%
7713   \HyOrg@float@makebox{%
7714     #1\relax
7715     \ifx\Hy@float@currentHref\@undefined
7716     \else
7717       \expandafter\hyper@@anchor\expandafter{%
7718         \Hy@float@currentHref
7719       }{\relax}%
7720     \global\let\Hy@float@currentHref\@undefined

```

```

7721 \fi
7722 }%
7723 }%
7724 \@ifpackageloaded{float}{%
7725 \def\Hy@float@caption{%
7726 \ifx\Hy@float@currentHref\@undefined
7727 \hyper@makecurrent{\@capttype}%
7728 \global\let\Hy@float@currentHref\@currentHref
7729 \else
7730 \let\@currentHref\Hy@float@currentHref
7731 \fi
7732 \float@caption
7733 }%
7734 \let\HyOrg@float@makebox\float@makebox
7735 \let\float@makebox\HyNew@float@makebox
7736 }{}

7737 </packageEnd>
7738 < *check >
7739 \checklatex[1999/06/01 - 2000/06/01]
7740 \checkcommand\def\caption{%
7741 \ifx\@capttype\@undefined
7742 \@latex@error{\noexpand\caption outside float}\@ehd
7743 \expandafter\@gobble
7744 \else
7745 \refstepcounter\@capttype
7746 \expandafter\@firstofone
7747 \fi
7748 {\@dblarg{\@caption\@capttype}}}%
7749 }
7750 \checkcommand\long\def\@caption#1[#2]#3{%
7751 \par
7752 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7753 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
7754 }%
7755 \begingroup
7756 \@parboxrestore
7757 \if@minipage
7758 \@setminipage
7759 \fi
7760 \normalsize
7761 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7762 \endgroup
7763 }
7764 </check >
7765 < *packageEnd >

```

## 36 Bibliographic references

This is not very robust, since many styles redefine these things. The package used to redefine `\@citex` and the like; then we tried adding the `hyperref` call explicitly into the `.aux` file. Now we redefine `\bibcite`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or

all of *achemso* and *drftcite* may break.

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

```

7766 \def\hyper@natlinkstart#1{%
7767   \Hy@backout{#1}%
7768   \hyper@linkstart{cite}{cite.#1}%
7769   \def\hyper@nat@current{#1}%
7770 }
7771 \def\hyper@natlinkend{%
7772   \hyper@linkend
7773 }
7774 \def\hyper@natlinkbreak#1#2{%
7775   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7776 }
7777 \def\hyper@natanchorstart#1{%
7778   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7779 }
7780 \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.

```

7781 \ltx@ifundefined{NAT@parse}{%
7782   \providecommand*\@extra@binfo{}%
7783   \providecommand*\@extra@b@citeb{}%
7784   \def\bibcite#1#2{%
7785     \@newl@bel{b}{#1\@extra@binfo}{%
7786       \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
7787     }%
7788   }%
7789   \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.”.

```

7790 \let\Hy@bibcite\bibcite
7791 \begingroup
7792   \@ifundefined{bbl@cite@choice}{-%
7793     \g@addto@macro\bbl@cite@choice{%
7794       \let\bibcite\Hy@bibcite
7795     }%
7796   }%
7797 \endgroup

```

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

```

7798 \providecommand*\@BIBLABEL{\@biblabel}%
7799 \def\@lbibitem[#1]#2{%
7800   \@skiphyperreftrue
7801   \H@item[%
7802     \ifx\Hy@raisedlink\@empty
7803     \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7804     \@BIBLABEL{#1}%
7805     \hyper@anchorend

```

```

7806 \else
7807   \Hy@raisedlink{%
7808     \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7809   }%
7810   \@BIBLABEL{#1}%
7811 \fi
7812 \hfill
7813 ]%
7814 \@skiphypereffalse
7815 \if@filesw
7816 \begingroup
7817   \let\protect\noexpand
7818   \immediate\write\@auxout{%
7819     \string\bibcite{#2}{#1}%
7820   }%
7821 \endgroup
7822 \fi
7823 \ignorespaces
7824 }%

```

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

```

7825 \def\@bibitem#1{%
7826   \@skiphyperefftrue\H@item\@skiphypereffalse
7827   \Hy@raisedlink{%
7828     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7829   }%
7830 \if@filesw
7831 \begingroup
7832   \let\protect\noexpand
7833   \immediate\write\@auxout{%
7834     \string\bibcite{#1}{\the\value{\@listctr}}%
7835   }%
7836 \endgroup
7837 \fi
7838 \ignorespaces
7839 }%
7840 }{}

7841 </packageEnd>
7842 <*check>
7843 \checklatex
7844 \checkcommand\def\@lbibitem[#1]#2{%
7845   \item[\@biblabel{#1}\hfill]%
7846 \if@filesw
7847   {%
7848     \let\protect\noexpand
7849     \immediate\write\@auxout{%
7850       \string\bibcite{#2}{#1}%
7851     }%
7852   }%
7853 \fi
7854 \ignorespaces
7855 }
7856 \checkcommand\def\@bibitem#1{%

```

```

7857 \item
7858 \if@filesw
7859 \immediate\write\@auxout{%
7860 \string\bibcite{#1}{\the\value{\@listctr}}%
7861 }%
7862 \fi
7863 \ignorespaces
7864 }
7865 </check>
7866 <*packageEnd>

```

### 36.1 Package harvard

Override Peter Williams' Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to `\begin{document}`, because if `harvard.sty` is loaded and `html.sty` is present and detects `pdfTeX`, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7867 \ifpackageloaded{harvard}{%
7868 \Hy@AtBeginDocument{%
7869 \Hy@Info{*** compatibility with harvard **** }%
7870 \Hy@raiselinksfalse
7871 \def\harvardcite#1#2#3#4{%
7872 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
7873 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
7874 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
7875 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7876 }%
7877 \def\HAR@citetoaux#1{%
7878 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7879 \ifHy@backref
7880 \ifx\@empty\@currentlabel
7881 \else
7882 \@bsphack
7883 \if@filesw
7884 \protected@write\@auxout{}{%
7885 \string\@writefile{brf}{%
7886 \string\backcite{#1}{%
7887 {\thepage}{\@currentlabel}{\@currentHref}}%
7888 }%
7889 }%
7890 }%
7891 \fi
7892 \@esphack
7893 \fi
7894 \fi
7895 }%
7896 \def\harvarditem{%
7897 \@ifnextchar{\@harvarditem}{\@harvarditem[\null]}%
7898 }%
7899 \def\@harvarditem[#1]#2#3#4#5\par{%

```



```

7900 \item[]%
7901 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7902 \if@filesw
7903 \begingroup
7904 \def\protect##1{\string ##1\space}%
7905 \ifthenelse{\equal{#1}{\null}}%
7906 {\def\next{{#4}{#2}{#2}{#3}}}%
7907 {\def\next{{#4}{#2}{#1}{#3}}}%
7908 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7909 \endgroup
7910 \fi
7911 \protect\hspace*{-\labelwidth}%
7912 \protect\hspace*{-\labelsep}%
7913 \ignorespaces
7914 #5%
7915 \ifHy@backref
7916 \newblock
7917 \backref{\csname br@#4\endcsname}%
7918 \fi
7919 \par
7920 }%

```

`\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`:

```

7921 \long\def\HAR@checkcitations#1#2#3#4{%
7922 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7923 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7924 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7925 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7926 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7927 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7928 \else
7929 \@tempswatruue
7930 \fi
7931 \else
7932 \@tempswatruue
7933 \fi
7934 \else
7935 \@tempswatruue
7936 \fi
7937 }%
7938 }%

7939 }-{}

```

## 36.2 Package chicago

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

```
7940 \@ifpackageloaded{chicago}{%
```

```
\citeN
```

```
7941 \def\citeN{%
```

```

7942 \def\@citeseppen{-1000}%
7943 \def\@cite##1##2{##1}%
7944 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7945 \@citedata@opt
7946 }%

```

\shortciteN

```

7947 \def\shortciteN{%
7948 \def\@citeseppen{-1000}%
7949 \def\@cite##1##2{##1}%
7950 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7951 \@citedata@opt
7952 }%

```

\@citedata@opt

```

7953 \def\@citedata@opt{%
7954 \let\@cite@opt\@empty
7955 \@ifnextchar [{%
7956 \@tempswatruel
7957 \@citedatax@opt
7958 }{%
7959 \@tempswafalse
7960 \@citedatax[]%
7961 }%
7962 }%

```

\@citedatax@opt

```

7963 \def\@citedatax@opt[#1]{%
7964 \def\@cite@opt{, #1}%
7965 \@citedatax[{#1}]%
7966 }%

7967 }{}

```

## 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.

```

7968 \ltx@ifclassloaded{slides}{%
7969 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7970 \def\Hy@PageAnchorSlidesPlain{%
7971 \advance\c@page\ltx@one
7972 \edef\Hy@TempPageAnchor{%
7973 \noexpand\hyper@C@anchor{%
7974 page.\the\c@slide.\the\c@overlay.\the\c@note%
7975 \ifnum\c@page=\ltx@one
7976 \else
7977 .\the\c@page

```

```

7978     \fi
7979     }%
7980 }%
7981   \advance\c@page-\ltx@one
7982 }%
7983 \def\Hy@PageAnchorSlide{%
7984   \advance\c@page\ltx@one
7985   \ifnum\c@page>\ltx@one
7986     \ltx@ifundefined{theHpage}{%
7987       \protected@edef\Hy@TheSlideOptionalPage{%
7988         \Hy@SlidesFormatOptionalPage{theHpage}%
7989       }%
7990     }{%
7991       \protected@edef\Hy@TheSlideOptionalPage{%
7992         \Hy@SlidesFormatOptionalPage{theHpage}%
7993       }%
7994     }%
7995   \else
7996     \def\Hy@TheSlideOptionalPage{}%
7997   \fi
7998   \advance\c@page-\ltx@one
7999   \pdfstringdef\@the@H@page{%
8000     \csname
8001       the%
8002       \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8003       \Hy@SlidesPage
8004     \endcsname
8005     \Hy@TheSlideOptionalPage
8006   }%
8007   \ltx@gobblethree
8008 }%
8009 \def\Hy@SlidesPage{slide}%
8010 \g@addto@macro\slide{%
8011   \def\Hy@SlidesPage{slide}%
8012 }%
8013 \g@addto@macro\overlay{%
8014   \def\Hy@SlidesPage{overlay}%
8015 }%
8016 \g@addto@macro\note{%
8017   \def\Hy@SlidesPage{note}%
8018 }%
8019 }{%
8020 \def\Hy@PageAnchorSlidesPlain{}%
8021 \def\Hy@PageAnchorSlide{}%
8022 }
8023 \def\Hy@EveryPageAnchor{%
8024   \Hy@DistillerDestFix
8025   \ifHy@pageanchor
8026     \ifHy@hypertexnames
8027       \ifHy@plainpages
8028         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8029         \Hy@PageAnchorSlidesPlain
8030       \else
8031         \begingroup

```

```

8032     \let \@number \@firstofone
8033     \Hy@unicodedefalse
8034     \Hy@PageAnchorSlide
8035     \pdfstringdef \@the@H@page {\thepage}%
8036     \endgroup
8037     \EdefUnescapeString \@the@H@page {\@the@H@page}%
8038     \def \Hy@TempPageAnchor {\hyper@@anchor {page.\@the@H@page}}%
8039     \fi
8040   \else
8041     \Hy@GlobalStepCount \Hy@pagecounter
8042     \def \Hy@TempPageAnchor {%
8043       \hyper@@anchor {page.\the \Hy@pagecounter}%
8044     }%
8045     \fi
8046   \vbox to 0pt {%
8047     \kern \voffset
8048     \kern \topmargin
8049     \kern -1bp \relax
8050     \hbox to 0pt {%
8051       \kern \hoffset
8052       \kern \ifodd \value {page} %
8053         \oddsidemargin
8054       \else
8055         \evensidemargin
8056       \fi
8057       \kern -1bp \relax
8058       \Hy@TempPageAnchor \relax
8059     \hss
8060   }%
8061   \vss
8062 }%
8063 \fi
8064 }
8065 \g@addto@macro \Hy@EveryPageBoxHook {%
8066   \Hy@EveryPageAnchor
8067 }

```

## 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 tocf file.

```

8068 \providecommand \protected@file@percent {}
8069 \@ifundefined {hyper@nopatch@toc} {%
8070   \def \addcontentsline #1#2#3 {% toc extension, type, tag
8071     \begingroup
8072     \let \label \@gobble
8073     \ifx \@currentHref \@empty
8074       \Hy@Warning {%
8075         No destination for bookmark of \string \addcontentsline,%

```

```

8076     \MessageBreak destination is added%
8077     }%
8078     \phantomsection
8079 \fi
8080 \expandafter\ifx\csname tolevel@#2\endcsname\relax
8081 \begingroup
8082   \def\Hy@tempa{#1}%
8083   \ifx\Hy@tempa\Hy@bookmarkstype
8084     \Hy@WarningNoLine{%
8085       bookmark level for unknown #2 defaults to 0%
8086     }%
8087   \else
8088     \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8089   \fi
8090 \endgroup
8091 \expandafter\gdef\csname tolevel@#2\endcsname{0}%
8092 \fi
8093 \edef\Hy@toclevel{\csname tolevel@#2\endcsname}%
8094 \Hy@writebookmark{\csname the#2\endcsname}%
8095   {#3}%
8096   {\@currentHref}%
8097   {\Hy@toclevel}%
8098   {#1}%
8099 \ifHy@verbose
8100 \begingroup
8101   \def\Hy@tempa{#3}%
8102   \@onelevel@sanitize\Hy@tempa
8103   \let\temp@online\on@line
8104   \let\on@line\@empty
8105   \Hy@Info{%
8106     bookmark\temp@online:\MessageBreak
8107     thecounter {\csname the#2\endcsname}\MessageBreak
8108     text {\Hy@tempa}\MessageBreak
8109     reference {\@currentHref}\MessageBreak
8110     tolevel {\Hy@toclevel}\MessageBreak
8111     type {#1}%
8112   }%
8113 \endgroup
8114 \fi
8115 \addtocontents{#1}{%
8116 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8117 }%
8118 \endgroup
8119 }
8120 }{}

```

`\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:

```

8121 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8122 \protected\def\Hy@toclinkend{\hyper@linkend}
8123

```

```

8124 \@ifundefined{hyper@nopatch@toc}{%
8125   \def\contentsline#1#2#3#4{%
8126     \begingroup
8127       \Hy@safe@activestruel
8128     \edef\x{\endgroup
8129       \def\noexpand\Hy@tocdestname{#4}%
8130     }\x
8131     \ifx\Hy@tocdestname\ltx@empty
8132       \csname l@#1\endcsname{#2}{#3}%
8133     \else
8134       \ifcase\Hy@linktoc % none
8135         \csname l@#1\endcsname{#2}{#3}%
8136       \or % section
8137         \csname l@#1\endcsname{%
8138           \Hy@toclinkstart{#2}\Hy@toclinkend
8139         }{#3}%
8140       \or % page
8141         \def\Hy@temp{#3}%
8142         \ifx\Hy@temp\ltx@empty
8143           \csname l@#1\endcsname{#2}{#3}%
8144         \else
8145           \csname l@#1\endcsname{#2}{#3}{%
8146             \Hy@toclinkstart{#3}\Hy@toclinkend
8147           }%
8148         \fi
8149       \else % all
8150         \def\Hy@temp{#3}%
8151         \ifx\Hy@temp\ltx@empty
8152           \csname l@#1\endcsname{%
8153             \Hy@toclinkstart{#2}\Hy@toclinkend
8154           }{#3}%
8155         \else
8156           \csname l@#1\endcsname{%
8157             \Hy@toclinkstart{#2}\Hy@toclinkend
8158           }{#3}%
8159           \Hy@toclinkstart{#3}\Hy@toclinkend
8160         }%
8161         \fi
8162       \fi
8163     \fi
8164   }
8165 }{}

8166 \</packageEnd>
8167 \< *check>
8168 \checklatex
8169 \checkcommand\def\addcontentsline#1#2#3{%
8170   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8171 }
8172 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8173 \</check>
8174 \< *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.

```
8175 \@ifundefined{hyper@nopatch@counter}
8176 {
8177   \let\H@definecounter\@definecounter
8178   \def\@definecounter#1{%
8179     \H@definecounter{#1}%
8180     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8181   }
8182 }{}
```

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.

```
8183 \@ifundefined{hyper@nopatch@counter}
8184 {
8185   \let\H@newctr\@newctr
8186   \def\@newctr#1[#2]{%
8187     \H@newctr#1[#2]%
8188     \expandafter\gdef\csname theH#1\endcsname{%
8189       \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}}%
8190   }%
8191 }
8192 }{}
```

## 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.

```
8193 \@ifundefined{hyper@nopatch@amsmath@tag}
8194 {%
8195   \ifpackageloaded{amsmath}{%
8196     \def\Hy@make@anchor{%
8197       \Hy@MakeCurrentHrefAuto{AMS}%
8198       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8199     }%
8200     \def\Hy@make@df@tag@@#1{%
8201       \gdef\df@tag{%
8202         \maketag@@@{\Hy@make@anchor#1}%
8203         \def\@currentlabel{#1}%
8204       }%
8205     }%
8206     \def\Hy@make@df@tag@@@#1{%
8207       \gdef\df@tag{%
8208         \tagform@{\Hy@make@anchor#1}%

```

```

8209     \toks@\@xp{\p@equation{#1}}%
8210     \edef\@currentlabel{\the\toks@}%
8211     }%
8212   }%
8213   \let\HyOrg@make@df@tag@@\make@df@tag@@
8214   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8215   \let\make@df@tag@@\Hy@make@df@tag@@
8216   \let\make@df@tag@@@\Hy@make@df@tag@@@
8217   }{}
8218 }{}

```

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.

```

8219 \ifundefined{hyper@nopatch@counter}
8220 {
8221   \let\HyOrg@addtoreset\@addtoreset
8222   \def\@addtoreset#1#2{%
8223     \HyOrg@addtoreset{#1}{#2}%
8224     \expandafter\xdef\csname theH#1\endcsname{%
8225       \expandafter\noexpand
8226         \csname the\@ifundefined{theH#2}{H#2\endcsname
8227         .\noexpand\the\noexpand\value{#1}}%
8228     }%
8229   }
8230 }{}

```

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

```

8231 \</packageEnd>
8232 (*check)
8233 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8234 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8235   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8236     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8237       \@addtoreset{#2}{#3}%
8238       \@xp\xdef\csname the#2\endcsname{%
8239         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8240       }%
8241     }%
8242   }%

```



```

8243 }%
8244 
```

`/check`

```

8245 *packageEnd
8246 \@ifundefined{hyper@nopatch@counter}
8247 {
8248   \@ifpackageloaded{amsmath}{%
8249     \renewcommand*{\numberwithin}{3}[\arabic]{%
8250       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8251         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8252           \HyOrg@addtoreset{#2}{#3}%
8253           \@xp\xdef\csname the#2\endcsname{%
8254             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8255           }%
8256           \@xp\xdef\csname theH#2\endcsname{%
8257             \@xp\@nx
8258             \csname the\@ifundefined{theH#3}{}H#3\endcsname
8259             .\@nx#1{#2}%
8260           }%
8261         }%
8262       }%
8263     }%
8264   }{}
8265 }{}

```

## 41 Included figures

Simply intercept the low level graphics package macro.

```

8266 \ifHy@hyperfigures
8267   \let\Hy@Gin@setfile\Gin@setfile
8268   \def\Gin@setfile#1#2#3{%
8269     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8270   }%
8271 \fi
8272 \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.

```

8273 \ifHy@hyperindex
8274   \def\HyInd@ParenLeft{()%
8275   \def\HyInd@ParenRight{)%
8276   \def\hyperindexformat#1#2{%
8277     \let\HyOrg@hyperpage\hyperpage

```

```

8278 \let\hyperpage\@firstofone
8279 #1{\HyOrg@hyperpage{#2}}%
8280 \let\hyperpage\HyOrg@hyperpage
8281 }%
8282 \Hy@nextfalse
8283 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8284 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8285 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8286 \begingroup
8287 \lccode`|= \expandafter` \HyInd@EncapChar\relax
8288 \lccode`\/= `\\ \relax
8289 \lowercase{\endgroup
8290 \ifHy@next
8291 \let\HyInd@org@wrindex\@wrindex
8292 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8293 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8294 \ifx\|#3\%
8295 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8296 \else
8297 \HyInd@@@wrindex{#1}{#2}#3\%
8298 \fi
8299 }%
8300 \def\HyInd@@@wrindex#1#2#3#4\{\%
8301 \def\Hy@temp@A{#3}%
8302 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8303 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8304 \relax
8305 \HyInd@org@wrindex{#1}{%
8306 #2|hyperindexformat{/#3#4}%
8307 }%
8308 \else
8309 \ifx\|#4\%
8310 \ifx\Hy@temp@A\HyInd@ParenRight
8311 \HyInd@org@wrindex{#1}{#2|#3}%
8312 \else
8313 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8314 \fi
8315 \else
8316 \HyInd@org@wrindex{#1}{%
8317 #2|#3hyperindexformat{/#4}%
8318 }%
8319 \fi
8320 \fi
8321 }%
8322 \else
8323 \def\@wrindex#1{\@@wrindex#1||\}%
8324 \def\@@wrindex#1|#2|#3\{\%
8325 \if@filesw
8326 \ifx\|#2\%
8327 \protected@write\@indexfile{}{%
8328 \string\indexentry{#1|hyperpage}{\thepage}%
8329 }%
8330 \else
8331 \HyInd@@@wrindex{#1}#2\%

```

```

8332     \fi
8333     \fi
8334     \endgroup
8335     \@esphack
8336 }%
8337 \def\HyInd@@@wrindex#1#2#3\{\%
8338 \def\Hy@temp@A{#2}%
8339 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8340     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8341     \relax
8342     \protected@write\@indexfile{\%
8343     \string\indexentry{\%
8344     #1|hyperindexformat{/#2#3}%
8345     }\the page}%
8346 }%
8347 \else
8348 \ifx\#3\%
8349 \ifx\Hy@temp@A\HyInd@ParenRight
8350 \HyInd@DefKey{#1}%
8351 \ltx@ifundefined{HyInd@(\HyInd@key)}{\%
8352 \let\Hy@temp\ltx@empty
8353 }{\%
8354 \expandafter\let\expandafter\Hy@temp
8355 \csname HyInd@(\HyInd@key)\endcsname
8356 }%
8357 \protected@write\@indexfile{\%
8358 \string\indexentry{#1|#2\Hy@temp}\the page}%
8359 }%
8360 \else
8361 \protected@write\@indexfile{\%
8362 \string\indexentry{#1|#2hyperpage}\the page}%
8363 }%
8364 \HyInd@DefKey{#1}%
8365 \expandafter
8366 \gdef\csname HyInd@(\HyInd@key)\endcsname{\%
8367 hyperpage%
8368 }%
8369 \fi
8370 \else
8371 \protected@write\@indexfile{\%
8372 \string\indexentry{\%
8373 #1|#2hyperindexformat{/#3}%
8374 }\the page}%
8375 }%
8376 \ifx\Hy@temp@A\HyInd@ParenLeft
8377 \HyInd@DefKey{#1}%
8378 \expandafter
8379 \gdef\csname HyInd@(\HyInd@key)\endcsname{\%
8380 hyperindexformat{/#3}%
8381 }%
8382 \fi
8383 \fi
8384 \fi
8385 }%

```

```

8386 \def\HyInd@DefKey#1{%
8387 \begingroup
8388 \let\protect\@unexpandable@protect
8389 \edef\Hy@temp{#1}%
8390 \ltx@onelevel@sanitize\Hy@temp
8391 \global\let\HyInd@key\Hy@temp
8392 \endgroup
8393 }%
8394 \fi
8395 }%
8396 \fi
8397 \Hy@DisableOption{hyperindex}
8398 \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.

```
8399 \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.

```

8400 \def\hyperpage#1{%
8401 \HyInd@hyperpage#1\nohyperpage{ }\@nil
8402 }
8403 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8404 \HyInd@@hyperpage{#1}%
8405 #2%
8406 \def\Hy@temp{#3}%
8407 \ifx\Hy@temp\@empty
8408 \else
8409 \ltx@ReturnAfterFi{%
8410 \HyInd@hyperpage#3\@nil
8411 }%
8412 \fi
8413 }
8414 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8415 \def\@hyperpage#1--#2--#3\{%
8416 \ifx\#2\%
8417 \@commahyperpage{#1}%
8418 \else
8419 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8420 \fi
8421 }
8422 \def\@commahyperpage#1{\@commahyperpage#1, \}
8423 \def\@commahyperpage#1, #2,#3\{%
8424 \ifx\#2\%
8425 \HyInd@pagelink{#1}%
8426 \else
8427 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8428 \fi
8429 }

```

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

```
8430 \def\HyInd@pagelink#1{%
```

```

8431 \begingroup
8432 \toks@={}%
8433 \HyInd@removespaces#1 \@nil
8434 \endgroup
8435 }
8436 \def\HyInd@removespaces#1 #2\@nil{%
8437 \toks@=\expandafter{\the\toks@#1}%
8438 \ifx\#2\%
8439 \edef\x{\the\toks@}%
8440 \ifx\x\@empty
8441 \else
8442 \hyperlink{page.\the\toks@}{\the\toks@}%
8443 \fi
8444 \else
8445 \ltx@ReturnAfterFi{%
8446 \HyInd@removespaces#2\@nil
8447 }%
8448 \fi
8449 }

```

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.

```

8450 \ifHy@texht
8451 \expandafter\endinput
8452 \fi
8453 \let\real@setref\@setref
8454 \def\@setref#1#2#3{% csname, extract group, refname
8455 \ifx#1\relax
8456 \protect\G@refundefinedtrue
8457 \nfss@text{\reset@font\bfseries ??}%
8458 \@latex@warning{%
8459 Reference `#3' on page \thepage \space undefined%
8460 }%
8461 \else
8462 \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8463 \fi
8464 }

```

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

```

8465 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8466 \begingroup
8467 \toks0={\hyper@link{#5}{#4}}%
8468 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8469 \edef\x{\endgroup
8470 \the\toks0 {\the\toks1 }%
8471 }%
8472 \x
8473 }
8474 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8475 \ifx#1\relax
8476 \protect\G@refundefinedtrue
8477 \nfss@text{\reset@font\bfseries ??}%

```

```

8478 \latex@warning{%
8479   Reference `#3' on page \thepage \space undefined%
8480 }%
8481 \else
8482 \protect\hyper@@link
8483   {\expandafter\@fifthoffive#1}%
8484   {page.\expandafter\@secondoffive#1}%
8485   {\expandafter\@secondoffive#1}%
8486 \fi
8487 }

8488 \endpackage
8489 \check
8490 \checklatex
8491 \checkcommand\def\@setref#1#2#3{%
8492   \ifx#1\relax
8493     \protect\G@refundefinedtrue
8494     \nfss@text{\reset@font\bfseries ??}%
8495     \latex@warning{%
8496       Reference `#3' on page \thepage\space undefined%
8497     }%
8498   \else
8499     \expandafter#2#1\null
8500   \fi
8501 }
8502 \endcheck
8503 \endpackage

```

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

```

8504 \def\HyRef@StarSetRef#1{%
8505   \begingroup
8506   \Hy@safe@activetrue
8507   \let\protect\@unexpandable\protect
8508   \edef\x{#1}%
8509   \@onelevel@sanitize\x
8510   \edef\x{\endgroup
8511     \noexpand\HyRef@@StarSetRef
8512     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8513   }%
8514   \x
8515 }
8516 \def\HyRef@@StarSetRef#1#2#3{%
8517   \ifx#1\@undefined
8518     \let#1\relax
8519   \fi
8520   \real@setref#1#3{#2}%
8521 }
8522 \def\@refstar#1{%
8523   \HyRef@StarSetRef{#1}\@firstoffive
8524 }
8525 \def\@pagerefstar#1{%
8526   \HyRef@StarSetRef{#1}\@secondoffive
8527 }
8528 \def\@namerefstar#1{%

```

```

8529 \HyRef@StarSetRef{#1}\@thirdoffive
8530 }
8531 \def\@Refstar#1{%
8532 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8533 }%
8534 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8535 \MakeUppercase#1%
8536 }%
8537 \def\HyRef@Ref#1{%
8538 \hyperref[#{1}]{\Ref*{#1}}%
8539 }%
8540 \Hy@AtBeginDocument{%
8541 \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.

```

8542 \ifundefined{hyper@nopatch@varioref}
8543 {
8544 \renewcommand\Vref@star[2][]{%
8545 \begingroup
8546 \let\T@pageref\@pagerefstar
8547 \Ref*{#2}
8548 \vpageref[#{1}]{#2}%
8549 \endgroup
8550 }%
8551 \renewcommand\Vr@f[2][]{%
8552 \begingroup
8553 \let\T@pageref\@pagerefstar
8554 \hyperref[#{2}]{%
8555 \Ref*{#2}
8556 \vpageref[#{1}]{#2}%
8557 }%
8558 \endgroup
8559 }%
8560 \renewcommand\vr@f[2][]{%
8561 \begingroup
8562 \let\T@pageref\@pagerefstar
8563 \hyperref[#{2}]{%
8564 \ref*{#2}
8565 \vpageref[#{1}]{#2}%
8566 }%
8567 \endgroup
8568 }%
8569 \renewcommand\vref@star[2][]{%
8570 \begingroup
8571 \let\T@pageref\@pagerefstar
8572 \ref*{#2}
8573 \vpageref[#{1}]{#2}%
8574 \endgroup
8575 }%
8576 }{}%
8577 }{}%
8578 }

```

```

8579 \DeclareRobustCommand*\autopageref}{%
8580   \@ifstar{%
8581     \HyRef@autopagerefname\pageref*%
8582   }\HyRef@autopageref
8583 }
8584 \def\HyRef@autopageref#1{%
8585   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#{1}}}%
8586 }
8587 \def\HyRef@autopagerefname{%
8588   \ltx@ifundefined{pageautorefname}{%
8589     \ltx@ifundefined{pagename}{%
8590       \Hy@Warning{No autoref name for `page'}%
8591     }{%
8592       \pagename\nobreakspace
8593     }%
8594   }{%
8595     \pageautorefname\nobreakspace
8596   }%
8597 }

```

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

```

8598 \NewDocumentCommand\autoref{s}
8599   {\leavevmode
8600   \IfBooleanTF{#{1}}{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}}
8601 \def\HyRef@autoref#1#2{%
8602   \begingroup
8603   \Hy@safe@activetrue
8604   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#{2}}{#{1}}%
8605   \endgroup
8606 }
8607 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8608   \HyRef@ShowKeysRef{#{2}}%
8609   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8610   \edef\HyRef@thisref{%
8611     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8612   }%
8613   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8614   \Hy@safe@activesfalse
8615   #3{%
8616     \expandafter\@fifthoffive#1\@empty\@empty\@empty
8617   }{%
8618     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8619   }{%
8620     \HyRef@currentHtag
8621     \expandafter\@firstoffive#1\@empty\@empty\@empty
8622     \null
8623   }%
8624   \else
8625     \protect\G@refundefinedtrue
8626     \nfss@text{\reset@font\bfseries ??}%
8627     \@latex@warning{%
8628       Reference `#{2}' on page \thepage\space undefined%
8629     }%

```



```

8630 \fi
8631 }
8632 \def\HyRef@testreftype#1.#2\{\%
8633 \ltx@ifundefined{#1autorefname}\%
8634 \ltx@ifundefined{#1name}\%
8635 \HyRef@StripStar#1\*\*\@nil{#1}\%
8636 \ltx@ifundefined{\HyRef@name autorefname}\%
8637 \ltx@ifundefined{\HyRef@name name}\%
8638 \def\HyRef@currentHtag{\%
8639 \Hy@Warning{No autoref name for `#1'}\%
8640 }{\%
8641 \edef\HyRef@currentHtag{\%
8642 \expandafter\noexpand\csname\HyRef@name name\endcsname
8643 \noexpand~\%
8644 }{\%
8645 }{\%
8646 }{\%
8647 \edef\HyRef@currentHtag{\%
8648 \expandafter\noexpand
8649 \csname\HyRef@name autorefname\endcsname
8650 \noexpand~\%
8651 }{\%
8652 }{\%
8653 }{\%
8654 \edef\HyRef@currentHtag{\%
8655 \expandafter\noexpand\csname#1name\endcsname
8656 \noexpand~\%
8657 }{\%
8658 }{\%
8659 }{\%
8660 \edef\HyRef@currentHtag{\%
8661 \expandafter\noexpand\csname#1autorefname\endcsname
8662 \noexpand~\%
8663 }{\%
8664 }{\%
8665 }
8666 \def\HyRef@StripStar#1*\#\2\@nil#3{\%
8667 \def\HyRef@name{#2}\%
8668 \ifx\HyRef@name\HyRef@CaseStar
8669 \def\HyRef@name{#1}\%
8670 \else
8671 \def\HyRef@name{#3}\%
8672 \fi
8673 }
8674 \def\HyRef@CaseStar{*}\%
8675 \def\HyRef@currentHtag{\%

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8676 \let\HyRef@ShowKeysRef@gobble
8677 \def\HyRef@ShowKeysInit{\%
8678 \ifcsname SK@@label\endcsname
8679 \ifx\SK@ref\@empty
8680 \else

```

```

8681 \def\HyRef@ShowKeysRef{%
8682 \SK@\SK@@ref
8683 }%
8684 \fi
8685 \fi
8686 }
8687 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8688 \providecommand*\AMSautorefname{\equationautorefname}
8689 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8690 \providecommand*\Itemautorefname{\itemautorefname}
8691 \providecommand*\itemautorefname{item}
8692 \providecommand*\equationautorefname{Equation}
8693 \providecommand*\footnoteautorefname{footnote}
8694 \providecommand*\itemautorefname{item}
8695 \providecommand*\figureautorefname{Figure}
8696 \providecommand*\tableautorefname{Table}
8697 \providecommand*\partautorefname{Part}
8698 \providecommand*\appendixautorefname{Appendix}
8699 \providecommand*\chapterautorefname{chapter}
8700 \providecommand*\sectionautorefname{section}
8701 \providecommand*\subsectionautorefname{subsection}
8702 \providecommand*\subsubsectionautorefname{subsubsection}
8703 \providecommand*\paragraphautorefname{paragraph}
8704 \providecommand*\subparagraphautorefname{subparagraph}
8705 \providecommand*\FancyVerbLineautorefname{line}
8706 \providecommand*\theoremautorefname{Theorem}
8707 \providecommand*\pageautorefname{page}
8708 </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`.

```

8709 <*pdfTEX | dviPdfm | xetex | vtex | pdfmarkbase | dviwindo>
8710 \begingroup\expandafter\expandafter\expandafter\endgroup
8711 \expandafter\ifx\cSname pdf@escapestring\endcSname\relax
8712 \begingroup
8713 \catcode`|=0 %
8714 \@makeother`| %
8715 |@firstofone{ |endgroup
8716 |def|Hy@pstringdef#1#2{%
8717 |begingroup
8718 |edef~{|string~}%

```

```

8719     |xdef|Hy@gtemp{#2}%
8720   |endgroup
8721   |let#1|Hy@gtemp
8722   |@onelevel@sanitize#1%
8723   |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8724   |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8725   |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8726   }%
8727   |def|Hy@ExchangeBackslash#1\#2|@nil{%
8728     #1%
8729     |ifx|\#2|\%%
8730     |else
8731       \\\%
8732       |ltx@ReturnAfterFi{%
8733         |Hy@ExchangeBackslash#2|@nil
8734       }%
8735     |fi
8736   }%
8737 }%
8738 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8739   #1%
8740   \ifx\#2\%%
8741   \else
8742     \@backslashchar(%
8743     \ltx@ReturnAfterFi{%
8744       \Hy@ExchangeLeftParenthesis#2\@nil
8745     }%
8746   \fi
8747 }%
8748 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8749   #1%
8750   \ifx\#2\%%
8751   \else
8752     \@backslashchar)%
8753     \ltx@ReturnAfterFi{%
8754       \Hy@ExchangeRightParenthesis#2\@nil
8755     }%
8756   \fi
8757 }%
8758 \else
8759 \def\Hy@pstringdef#1#2{%
8760   \begingroup
8761   \edef~{\string~}%
8762   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8763   \endgroup
8764   \let#1\Hy@gtemp
8765 }%
8766 \fi
8767 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)

```

## 43.2 pdftex

```

8768 (*pdftex)
8769 \providecommand*\XR@ext}{pdf}

```

```

8770 \Hy@setbreaklinks{true}
8771 \def\HyPat@ObjRef{%
8772 [0-9]*[1-9][0-9]* 0 R%
8773 }

```

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

```

8774 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8775 \def\Hy@pdfminorversion{\pdfminorversion}%
8776 \ifHy@ocgcolorlinks
8777 \ifnum\Hy@pdfmajorminor@version<105 %
8778 \kvsetkeys{Hyp}{pdfversion=1.5}%
8779 \fi
8780 \fi
8781 \ifHy@setpdfversion
8782 \ifnum\Hy@pdf@majorminor@version<105 %
8783 \ltx@ifundefined{pdfobjcompresslevel}{%
8784 }{%
8785 \ifHy@verbose
8786 \Hy@InfoNoLine{%
8787 PDF object streams are disabled, because they are%
8788 \MessageBreak
8789 not supported in requested PDF version %
8790 \Hy@pdf@majorversion.\Hy@pdf@minorversion
8791 }%
8792 \fi
8793 \pdfobjcompresslevel=\ltx@zero
8794 }%
8795 \fi
8796 \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8797 \else
8798 \let\Hy@temp\ltx@empty
8799 \def\Hy@temp@A#1#2{%
8800 \ifnum#1>\ltx@zero
8801 \edef\Hy@temp{%
8802 \Hy@temp
8803 \space\space
8804 \the#1\space #2%
8805 \ifnum#1=\ltx@one\else s\fi
8806 \MessageBreak
8807 }%
8808 \fi
8809 }%
8810 \Hy@temp@A\pdflastobj{PDF object}%
8811 \Hy@temp@A\pdflastxform{form XObject}%
8812 \Hy@temp@A\pdflastximage{image XObject}%
8813 \Hy@temp@A\pdflastannot{annotation}%
8814 \ltx@ifundefined{pdflastlink}{%
8815 }{%

```

```

8816     \Hy@temp@A\pdfastlink{link}%
8817 }%
8818 \ifx\Hy@temp\ltx@empty
8819   \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8820   \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8821 \else
8822   \let\Hy@temp@A\ltx@empty
8823   \ifnum\Hy@pdf@majorminor@version=104 %
8824     \IfFileExists{pdf14.sty}{%
8825       \def\Hy@temp@A{%
8826         \MessageBreak
8827         Or \string\RequirePackage{pdf14} can be used%
8828         \MessageBreak
8829         before \string\documentclass\space as shortcut%
8830       }%
8831     }{}%
8832   \fi
8833   \Hy@WarningNoLine{%
8834     The PDF version number could not be set,\MessageBreak
8835     because some PDF objects are already written:%
8836     \MessageBreak
8837     \Hy@temp
8838     The version should be set as early as possible:%
8839     \MessageBreak
8840     \space\space
8841     \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8842     \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8843     \string\relax
8844     \ifnum\Hy@pdf@majorminor@version<105 %
8845       \ltx@ifundefined{pdfobjcompresslevel}{%
8846         }{%
8847           \MessageBreak
8848           \space\space
8849           \string\pdfobjcompresslevel=0\string\relax
8850         }%
8851       \fi
8852       \Hy@temp@A
8853     }%
8854   \fi
8855 \fi
8856 \PackageInfo{hyperref}{%
8857   \expandafter\string\Hy@pdfmajorversion.%
8858   \expandafter\string\Hy@pdfminorversion
8859   :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8860 }%
8861 \fi
8862 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8863 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8864 \Hy@DisableOption{pdfversion}%
8865 \ifHy@ocgcolorlinks
8866   \pdf@ifdraftmode{}{%
8867     \immediate\pdfobj{%
8868       <<%
8869       /Type/OCG%

```

```

8870     /Name(View)%
8871     /Usage<<%
8872     /Print<<%
8873         /PrintState/OFF%
8874     >>%
8875     /View<<%
8876         /ViewState/ON%
8877     >>%
8878     >>%
8879     >>%
8880 }%
8881 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8882 \immediate\pdfobj{%
8883     <<%
8884         /Type/OCG%
8885         /Name(Print)%
8886         /Usage<<%
8887         /Print<<%
8888             /PrintState/ON%
8889         >>%
8890         /View<<%
8891             /ViewState/OFF%
8892         >>%
8893     >>%
8894     >>%
8895 }%
8896 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8897 \immediate\pdfobj{%
8898     [%
8899     \OBJ@OCG@view\space\OBJ@OCG@print
8900     ]%
8901 }%
8902 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8903 \pdfcatalog{%
8904     /OCProperties<<%
8905         /OCGs \OBJ@OCGs
8906         /D<<%
8907             /OFF[\OBJ@OCG@print]%
8908             /AS[%
8909                 <<%
8910                     /Event/View%
8911                     /OCGs \OBJ@OCGs
8912                     /Category[/View]%
8913                 >>%
8914                 <<%
8915                     /Event/Print%
8916                     /OCGs \OBJ@OCGs
8917                     /Category[/Print]%
8918                 >>%
8919                 <<%
8920                     /Event/Export%
8921                     /OCGs \OBJ@OCGs
8922                     /Category[/Print]%
8923                 >>%

```

```

8924     ]%
8925     >>%
8926     >>%
8927     }%
8928     \begingroup
8929     \edef\x{\endgroup
8930     \pdfpageresources{%
8931     \the\pdfpageresources
8932     /Properties<<%
8933     /OCView \OBJ@OCG@view
8934     /OCPrint \OBJ@OCG@print
8935     >>%
8936     }%
8937     }%
8938     \x
8939 }%
8940 \Hy@AtBeginDocument{%
8941 \def\Hy@colorlink#1{%
8942 \begingroup
8943 \ifHy@ocgcolorlinks
8944 \def\Hy@ocgcolor{#1}%
8945 \setbox0=\hbox\bgroup\color@begingroup
8946 \else
8947 \HyColor@UseColor#1%
8948 \fi
8949 }%
8950 \def\Hy@endcolorlink{%
8951 \ifHy@ocgcolorlinks
8952 \color@endgroup\egroup
8953 \mbox{%
8954 \pdfliteral page{/OC/OCPrint BDC}%
8955 \rlap{\copy0}%
8956 \pdfliteral page{EMC/OC/OCView BDC}%
8957 \begingroup
8958 \expandafter\HyColor@UseColor\Hy@ocgcolor
8959 \box0 %
8960 \endgroup
8961 \pdfliteral page{EMC}%
8962 }%
8963 \fi
8964 \endgroup
8965 }%
8966 }%
8967 \else
8968 \Hy@DisableOption{ocgcolorlinks}%
8969 \fi

```

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

```

8970 \def\setpdfinkmargin#1{%
8971 \begingroup
8972 \setlength{\dimen@}{#1}%
8973 \expandafter\endgroup
8974 \expandafter\pdfinkmargin\the\dimen@\relax
8975 }

```

```

8976 \pdfinkmargin1pt %
First set up the default linking
8977 \providecommand*\@pdfview{XYZ}
First define the anchors:
8978 \Hy@WrapperDef\new@pdfink#1{%
8979   \ifhmode
8980     \@savsf\spacefactor
8981   \fi
8982   \Hy@SaveLastskip
8983   \Hy@VerboseAnchor{#1}%
8984   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8985   \Hy@DestName\Hy@pstringDest\@pdfview
8986   \Hy@RestoreLastskip
8987   \ifhmode
8988     \spacefactor\@savsf
8989   \fi
8990 }
8991 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```

8992 \def\Hy@DestName#1#2{%
8993   \pdfdest name{#1}#2\relax
8994 }

```

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.

```

8995 \providecommand*\@pdfborder{0 0 1}
8996 \providecommand*\@pdfborderstyle{}
8997 \def\Hy@undefinedname{UNDEFINED}
8998 \def\find@pdfink#1#2{%
8999   \leavevmode
9000   \protected@edef\Hy@testname{#2}%
9001   \ifx\Hy@testname\@empty
9002     \Hy@Warning{%
9003       Empty destination name,\MessageBreak
9004       using ` \Hy@undefinedname'%
9005     }%
9006     \let\Hy@testname\Hy@undefinedname
9007   \else
9008     \Hy@pstringdef\Hy@testname{%
9009       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9010     }%
9011   \fi
9012   \Hy@StartlinkName{%
9013     \ifHy@pdfa /F 4\fi
9014     \Hy@setpdfborder
9015     \Hy@setpdfhighlight
9016     \ifx\CurrentBorderColor\relax
9017     \else

```



```

9018 /C[\CurrentBorderColor]%
9019 \fi
9020 }\Hy@testname
9021 \expandafter\Hy@colorlink\csname @#1color\endcsname
9022 }
9023 \def\Hy@StartlinkName#1#2{%
9024 \pdfstartlink attr{#1}goto name{#2}\relax
9025 }
9026 \def\close@pdfink{%
9027 \Hy@endcolorlink
9028 \Hy@VerboseLinkStop
9029 \pdfendlink
9030 }
9031 \def\hyper@anchor#1{%
9032 \new@pdfink{#1}\anchor@spot\pdf@endanchor
9033 }
9034 \def\hyper@anchorstart#1{%
9035 \new@pdfink{#1}%
9036 \Hy@activeanchortrue
9037 }
9038 \def\hyper@anchorend{%
9039 \pdf@endanchor
9040 \Hy@activeanchorfalse
9041 }
9042 \def\hyper@linkstart#1#2{%
9043 \Hy@VerboseLinkStart{#1}{#2}%
9044 \ltx@ifundefined{#1bordercolor}{%
9045 \let\CurrentBorderColor\relax
9046 }{%
9047 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9048 }%
9049 \find@pdfink{#1}{#2}%
9050 }
9051 \def\hyper@linkend{\close@pdfink}
9052 \def\hyper@link#1#2#3{%
9053 \Hy@VerboseLinkStart{#1}{#2}%
9054 \ltx@ifundefined{#1bordercolor}{%
9055 \let\CurrentBorderColor\relax
9056 }{%
9057 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9058 }%
9059 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9060 \close@pdfink
9061 }
9062 \let\CurrentBorderColor\@linkbordercolor
9063 \def\hyper@linkurl#1#2{%
9064 \begingroup
9065 \Hy@pstringdef\Hy@pstringURI{#2}%
9066 \hyper@chars
9067 \leavevmode
9068 \pdfstartlink
9069 attr{%
9070 \Hy@setpdfborder
9071 \Hy@setpdfhighlight

```

```

9072     \ifx\@urlbordercolor\relax
9073     \else
9074     /C[\@urlbordercolor]%
9075     \fi
9076 }%
9077 user{%
9078 /Subtype/Link%
9079 \ifHy@pdfa /F 4\fi
9080 /A<<%
9081 /Type/Action%
9082 /S/URI%
9083 /URI(\Hy@pstringURI)%
9084 \ifHy@href@ismap
9085 /IsMap true%
9086 \fi
9087 \Hy@href@nextactionraw
9088 >>%
9089 }%
9090 \relax
9091 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9092 \close@pdfink
9093 \endgroup
9094 }
9095 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9096 \begingroup
9097 \def\Hy@pstringF{#2}%
9098 \Hy@CleanupFile\Hy@pstringF
9099 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9100 \Hy@pstringdef\Hy@pstringD{#3}%
9101 \Hy@MakeRemoteAction
9102 \leavevmode
9103 \pdfstartlink
9104 attr{%
9105 \Hy@setpdfborder
9106 \Hy@setpdfhighlight
9107 \ifx\@filebordercolor\relax
9108 \else
9109 /C[\@filebordercolor]%
9110 \fi
9111 }%
9112 user {%
9113 /Subtype/Link%
9114 \ifHy@pdfa /F 4\fi
9115 /A<<%
9116 /F(\Hy@pstringF)%
9117 /S/GoToR%
9118 \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}

9119     \ifx\|#3\|%
9120     /D[\Hy@href@page\@pdfremotestartview]%
9121     \else
9122     /D(\Hy@pstringD)%
9123     \fi
9124     \Hy@href@nextactionraw
9125     >>%
9126     }%
9127     \relax
9128     \Hy@colorlink\@filecolor#1\Hy@xspace@end
9129     \close@pdfink
9130 \endgroup
9131 }
9132 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9133 \begingroup
9134 \Hy@pstringdef\Hy@pstringF{#1}%
9135 \Hy@pstringdef\Hy@pstringP{#3}%
9136 \leavevmode
9137 \pdfstartlink
9138 attr{%
9139 \Hy@setpdfborder
9140 \Hy@setpdfhighlight
9141 \ifx\@runbordercolor\relax
9142 \else
9143 /C[\@runbordercolor]%
9144 \fi
9145 }%
9146 user {%
9147 /Subtype/Link%
9148 \ifHy@pdfa /F 4\fi
9149 /A<<%
9150 /F(\Hy@pstringF)%
9151 /S/Launch%
9152 \Hy@SetNewWindow
9153 \ifx\|#3\|%
9154 \else
9155 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9156 \fi
9157 \Hy@href@nextactionraw
9158 >>%
9159 }%
9160 \relax
9161 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9162 \close@pdfink
9163 \endgroup
9164 }

```

\PDF@SetupDox

```

9165 \def\PDF@SetupDoc{%
9166 \ifx\@pdfpagescrop\@empty
9167 \else
9168 \edef\process@me{%
9169 \pdfpagesattr={%
9170 /CropBox[\@pdfpagescrop]%
9171 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9172 \else
9173 ^^J\the\pdfpagesattr
9174 \fi
9175 }%
9176 }%
9177 \process@me
9178 \fi
9179 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9180 \pdfcatalog{%
9181 /PageMode/\@pdfpagemode
9182 \ifx\@baseurl\@empty
9183 \else
9184 /URI<</Base(\Hy@pstringB)>>%
9185 \fi
9186 }%
9187 \ifx\@pdfstartpage\@empty
9188 \else
9189 \ifx\@pdfstartview\@empty
9190 \else
9191 openaction goto page\@pdfstartpage{\@pdfstartview}%
9192 \fi
9193 \fi
9194 \edef\Hy@temp{%
9195 \ifHy@pdftoolbar\else /HideToolbar true\fi
9196 \ifHy@pdfmenubar\else /HideMenubar true\fi
9197 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9198 \ifHy@pdffitwindow /FitWindow true\fi
9199 \ifHy@pdfcenterwindow /CenterWindow true\fi
9200 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9201 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9202 \Hy@UseNameKey{Direction}\@pdfdirection
9203 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9204 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9205 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9206 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9207 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9208 \Hy@UseNameKey{Duplex}\@pdfduplex
9209 \ifx\@pdfpicktraybypdfsize\@empty
9210 \else
9211 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9212 \fi
9213 \ifx\@pdfprintpagerange\@empty
9214 \else
9215 /PrintPageRange[\@pdfprintpagerange]%
9216 \fi
9217 \ifx\@pdfnumcopies\@empty
9218 \else

```

```

9219     /NumCopies \@pdfnumcopies
9220     \fi
9221 }%
9222 \pdfcatalog{%
9223     \ifx\Hy@temp\@empty
9224     \else
9225         /ViewerPreferences<<\Hy@temp>>%
9226     \fi
9227     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9228     \ifx\@pdflang\relax
9229     \else
9230         /Lang(\@pdflang)%
9231     \fi
9232 }%
9233 }

```

\PDF@FinishDoc

```

9234 \def\PDF@FinishDoc{%
9235     \pdf@ifdraftmode{}{%
9236         \Hy@UseMaketitleInfos
9237         \HyInfo@GenerateAddons
9238         \pdfinfo{%
9239             /Author(\@pdfauthor)%
9240             /Title(\@pdftitle)%
9241             /Subject(\@pdfsubject)%
9242             /Creator(\@pdfcreator)%
9243             \ifx\@pdfcreationdate\@empty
9244             \else
9245                 /CreationDate(\@pdfcreationdate)%
9246             \fi
9247             \ifx\@pdfmoddate\@empty
9248             \else
9249                 /ModDate(\@pdfmoddate)%
9250             \fi
9251             \ifx\@pdfproducer\relax
9252             \else
9253                 /Producer(\@pdfproducer)%
9254             \fi
9255             /Keywords(\@pdfkeywords)%
9256             \ifx\@pdftrapped\@empty
9257             \else
9258                 /Trapped/\@pdftrapped
9259             \fi
9260             \HyInfo@Addons
9261         }%
9262     }%
9263     \Hy@DisableOption{pdfauthor}%
9264     \Hy@DisableOption{pdftitle}%
9265     \Hy@DisableOption{pdfsubject}%
9266     \Hy@DisableOption{pdfcreator}%
9267     \Hy@DisableOption{addtopdfcreator}%
9268     \Hy@DisableOption{pdfcreationdate}%
9269     \Hy@DisableOption{pdfmoddate}%
9270     \Hy@DisableOption{pdfproducer}%

```

```

9271 \Hy@DisableOption{pdfkeywords}%
9272 \Hy@DisableOption{pdftrapped}%
9273 \Hy@DisableOption{pdfinfo}%
9274 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpage-`  
`transition` is used. First previous `/Trans` entries are removed. If a new `/Trans`  
key exists, it is appended to `\pdfpageattr`.

```

9275 \def\hyper@pagetransition{%
9276 \ifx\@pdfpagetransition\relax
9277 \else
9278 \expandafter\Hy@RemoveTransPageAttr
9279 \the\pdfpageattr^^J/Trans{}>>\END
9280 \ifx\@pdfpagetransition\@empty
9281 \else
9282 \edef\@processme{%
9283 \global\pdfpageattr{%
9284 \the\pdfpageattr
9285 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9286 }%
9287 }%
9288 \@processme
9289 \fi
9290 \fi
9291 }

```

`\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.

```

9292 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9293 \ifx\#2\%
9294 \global\pdfpageattr{#1}%
9295 \else
9296 \Hy@RemoveTransPageAttr#1#4\END
9297 \fi
9298 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpage-`  
`duration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key  
exists, it is appended to `\pdfpageattr`.

```

9299 \def\hyper@pageduration{%
9300 \ifx\@pdfpageduration\relax
9301 \else
9302 \expandafter
9303 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9304 \ifx\@pdfpageduration\@empty
9305 \else
9306 \edef\@processme{%
9307 \global\pdfpageattr{%
9308 \the\pdfpageattr
9309 ^^J/Dur \@pdfpageduration\space

```

```

9310     }%
9311     }%
9312     \@processme
9313     \fi
9314     \fi
9315 }

```

`\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.

```

9316 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9317   \ifx\#2\%
9318     \global\pdfpageattr{#1}%
9319   \else
9320     \Hy@RemoveDurPageAttr#1#4\END
9321   \fi
9322 }

9323 \pdf@ifdraftmode{ }{%
9324   \g@addto@macro\Hy@EveryPageHook{%
9325     \hyper@pagetransition
9326     \hyper@pageduration
9327   }%
9328 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9329 </pdfTeX>
9330 (*pdfTeX | xetex)
9331 \Hy@AtBeginDocument{%
9332   \ifHy@setpagesize
9333     \expandafter\@firstofone
9334   \else
9335     \expandafter\@gobble
9336   \fi
9337 }%
9338 \@ifclassloaded{seminar}{%
9339 (*pdfTeX)
9340   \setlength{\pdfhorigin}{1truein}%
9341   \setlength{\pdfvorigin}{1truein}%
9342 </pdfTeX>
9343   \ifportrait
9344     \ifdim\paperwidth=\z@
9345     \else
9346       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9347     \fi
9348     \ifdim\paperheight=\z@
9349     \else
9350       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9351     \fi
9352   \else
9353     \ifdim\paperheight=\z@
9354     \else

```

```

9355     \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9356     \fi
9357     \ifdim\paperwidth=\z@
9358     \else
9359     \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9360     \fi
9361     \fi
9362 }{%
9363     \ifnum\mag=\@m
9364     \ifdim\stockwidth>\z@
9365     \ifdim\stockheight>\z@
9366     \setlength{\pdfpagewidth}{\stockwidth}%
9367     \setlength{\pdfpageheight}{\stockheight}%
9368     \else
9369     \ifdim\paperwidth>\z@
9370     \ifdim\paperheight>\z@
9371     \setlength{\pdfpagewidth}{\paperwidth}%
9372     \setlength{\pdfpageheight}{\paperheight}%
9373     \fi
9374     \fi
9375     \fi
9376     \else
9377     \ifdim\stockwidth=\z@
9378     \ifdim\paperwidth>\z@
9379     \ifdim\paperheight>\z@
9380     \setlength{\pdfpagewidth}{\paperwidth}%
9381     \setlength{\pdfpageheight}{\paperheight}%
9382     \fi
9383     \fi
9384     \fi
9385     \fi
9386     \fi
9387 }%
9388 }%
9389 \Hy@DisableOption{setpagesize}%
9390 }
9391 </pdftex | xetex>
9392 < *pdftex>
9393 \def\Acrobatmenu#1#2{%
9394 \Hy@Acrobatmenu{#1}{#2}{%
9395 \leavevmode
9396 \EdefEscapeName\Hy@temp@menu{#1}%
9397 \pdfstartlink
9398 attr{%
9399 \Hy@setpdfborder
9400 \Hy@setpdfhighlight
9401 \ifx\@menubordercolor\relax
9402 \else
9403 /C[\@menubordercolor]%
9404 \fi
9405 }%
9406 user{%
9407 /Subtype/Link%
9408 \ifHy@pdfa /F 4\fi

```



```

9409     /A<<%
9410     /S/Named%
9411     /N/\Hy@temp@menu
9412     \Hy@href@nextactionraw
9413     >>%
9414     }%
9415     \relax
9416     \Hy@colorlink\@menucolor#2%
9417     \close@pdflink
9418     }%
9419 }

```

### 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.

```

9420 </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.

```

9421 ⟨*hypertex⟩
9422 \providecommand*{\XR@ext}{dvi}
9423 \let\PDF@FinishDoc\ltx@empty
9424 \def\PDF@SetupDoc{%
9425   \ifx\@baseurl\@empty
9426   \else
9427     \special{html:<base href="\@baseurl">}%
9428   \fi
9429 }
9430 \Hy@WrapperDef\hyper@anchor#1{%
9431   \Hy@SaveLastskip
9432   \Hy@VerboseAnchor{#1}%
9433   \begingroup
9434     \let\protect=\string
9435     \hyper@chars
9436     \special{html:<a name=%
9437       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9438   \endgroup
9439   \Hy@activeanchortrue
9440   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9441   \special{html:</a>}%
9442   \Hy@activeanchorfalse
9443   \Hy@RestoreLastskip
9444 }
9445 \Hy@WrapperDef\hyper@anchorstart#1{%
9446   \Hy@SaveLastskip
9447   \Hy@VerboseAnchor{#1}%
9448   \begingroup
9449     \hyper@chars
9450     \special{html:<a name=%
9451       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9452   \endgroup
9453   \Hy@activeanchortrue
9454 }
9455 \def\hyper@anchorend{%
9456   \special{html:</a>}%
9457   \Hy@activeanchorfalse
9458   \Hy@RestoreLastskip
9459 }
9460 \def\@urltype{url}
9461 \def\hyper@linkstart#1#2{%
9462   \Hy@VerboseLinkStart{#1}{#2}%
9463   \expandafter\Hy@colorlink\csname @#1color\endcsname
9464   \def\Hy@tempa{#1}%
9465   \ifx\Hy@tempa\@urltype
9466     \special{html:<a href=\hyper@quote#2\hyper@quote>}%

```

```

9467 \else
9468 \begingroup
9469 \hyper@chars
9470 \special{html:<a href=%
9471 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote}>%
9472 \endgroup
9473 \fi
9474 }
9475 \def\hyper@linkend{%
9476 \special{html:</a>}}%
9477 \Hy@endcolorlink
9478 }
9479 \def\hyper@linkfile#1#2#3{%
9480 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9481 }
9482 \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.

```

9483 \leavevmode
9484 \ifHy@raiselinks
9485 \Hy@SaveSpaceFactor
9486 \Hy@SaveSavedSpaceFactor
9487 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9488 \Hy@RestoreSavedSpaceFactor
9489 \@linkdim\dp\@tempboxa
9490 \lower\@linkdim\hbox{%
9491 \hyper@chars
9492 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9493 }%
9494 \Hy@colorlink\@urlcolor
9495 \Hy@RestoreSpaceFactor
9496 #1%
9497 \Hy@SaveSpaceFactor
9498 \@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).

```

9499 \advance\@linkdim by -6.5\p@
9500 \raise\@linkdim\hbox{\special{html:</a>}}%
9501 \Hy@endcolorlink
9502 \Hy@RestoreSpaceFactor
9503 \else
9504 \begingroup
9505 \hyper@chars
9506 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9507 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9508 \special{html:</a>}}%
9509 \Hy@endcolorlink
9510 \endgroup
9511 \fi
9512 }

```

Very poor implementation of `\hyper@link` without considering #1.

```
9513 \def\hyper@link#1#2#3{%
9514 \Hy@VerboseLinkStart{#1}{#2}%
9515 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
9516 }

9517 \def\hyper@image#1#2{%
9518 \begingroup
9519 \hyper@chars
9520 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9521 \endgroup
9522 }
9523 </hypertex>
9524 <*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`,  $\LaTeX$  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.

```
9525 \providecommand*\XR@ext}{dvi}
9526 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9527 \Hy@WrapperDef\hyper@anchor#1{%
9528 \Hy@SaveLastskip
9529 \Hy@VerboseAnchor{#1}%
9530 \begingroup
9531 \let\protect=\string
9532 \special{mark: #1}%
9533 \endgroup
9534 \Hy@activeanchortrue
9535 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9536 \Hy@activeanchorfalse
9537 \Hy@RestoreLastskip
9538 }
9539 \Hy@WrapperDef\hyper@anchorstart#1{%
9540 \Hy@SaveLastskip
9541 \Hy@VerboseAnchor{#1}%
9542 \special{mark: #1}%
9543 \Hy@activeanchortrue
9544 }
9545 \def\hyper@anchorend{%
9546 \Hy@activeanchorfalse
9547 \Hy@RestoreLastskip
9548 }
9549 \def\hyper@linkstart#1#2{%
```

```

9550 \Hy@VerboseLinkStart{#1}{#2}%
9551 \expandafter\Hy@colorlink\csname @#1color\endcsname
9552 \special{button: %
9553   10000000 %
9554   \number\baselineskip\space
9555   #2%
9556 }%
9557 }
9558 \def\hyper@linkend{%
9559 \Hy@endcolorlink
9560 }
9561 \def\hyper@link#1#2#3{%
9562 \Hy@VerboseLinkStart{#1}{#2}%
9563 \leavevmode
9564 \ifHy@raiselinks
9565   \Hy@SaveSpaceFactor
9566   \Hy@SaveSavedSpaceFactor
9567   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9568   \Hy@RestoreSavedSpaceFactor
9569   \@linkdim\dp\@tempboxa
9570   \lower\@linkdim\hbox{%
9571     \special{button: %
9572       \number\wd\@tempboxa\space
9573       \number\ht\@tempboxa\space
9574       #2%
9575     }%
9576     \expandafter\Hy@colorlink\csname @#1color\endcsname
9577     \Hy@RestoreSpaceFactor
9578     #3\Hy@xspace@end
9579     \Hy@SaveSpaceFactor
9580     \Hy@endcolorlink
9581   }%
9582   \@linkdim\ht\@tempboxa
9583   \advance\@linkdim by -6.5\p@
9584   \raise\@linkdim\hbox{}}%
9585   \Hy@RestoreSpaceFactor
9586 \else
9587 \special{button: %
9588   \number\wd\@tempboxa\space
9589   \number\ht\@tempboxa\space
9590   #2%
9591 }%
9592 \expandafter\Hy@colorlink\csname @#1color\endcsname
9593 #3\Hy@xspace@end
9594 \Hy@endcolorlink
9595 \fi
9596 }
9597 \def\hyper@linkurl#1#2{%
9598 \begingroup
9599 \hyper@chars
9600 \leavevmode
9601 \ifHy@raiselinks
9602   \Hy@SaveSpaceFactor
9603   \Hy@SaveSavedSpaceFactor

```

```

9604 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9605 \Hy@RestoreSavedSpaceFactor
9606 \@linkdim\dp\@tempboxa
9607 \lower\@linkdim\hbox{%
9608 \special{button: %
9609 \number\wd\@tempboxa\space
9610 \number\ht\@tempboxa\space
9611 launch: \wwwbrowser\space
9612 #2%
9613 }%
9614 \Hy@colorlink\@urlcolor
9615 \Hy@RestoreSpaceFactor
9616 #1\Hy@xspace@end
9617 \Hy@SaveSpaceFactor
9618 \Hy@endcolorlink
9619 }%
9620 \@linkdim\ht\@tempboxa
9621 \advance\@linkdim by -6.5\p@
9622 \raise\@linkdim\hbox{}%
9623 \Hy@RestoreSpaceFactor
9624 \else
9625 \special{button: %
9626 \number\wd\@tempboxa\space
9627 \number\ht\@tempboxa\space
9628 launch: \wwwbrowser\space
9629 #2%
9630 }%
9631 \Hy@colorlink\@urlcolor
9632 #1\Hy@xspace@end
9633 \Hy@endcolorlink
9634 \fi
9635 \endgroup
9636 }
9637 \def\hyper@linkfile#1#2#3{%
9638 \begingroup
9639 \hyper@chars
9640 \leavevmode
9641 \ifHy@raiselinks
9642 \Hy@SaveSpaceFactor
9643 \Hy@SaveSavedSpaceFactor
9644 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9645 \Hy@RestoreSavedSpaceFactor
9646 \@linkdim\dp\@tempboxa
9647 \lower\@linkdim\hbox{%
9648 \special{button: %
9649 \number\wd\@tempboxa\space
9650 \number\ht\@tempboxa\space
9651 #3,%
9652 file: #2%
9653 }%
9654 \Hy@colorlink\@filecolor
9655 \Hy@RestoreSpaceFactor
9656 #1\Hy@xspace@end
9657 \Hy@SaveSpaceFactor

```

```

9658     \Hy@endcolorlink
9659   }%
9660   \@linkdim\ht\@tempboxa
9661   \advance\@linkdim by -6.5\p@
9662   \raise\@linkdim\hbox{}%
9663   \Hy@RestoreSpaceFactor
9664   \else
9665     \special{button: %
9666       \number\wd\@tempboxa\space
9667       \number\ht\@tempboxa\space
9668       #3,%
9669       file: #2%
9670     }%
9671     \Hy@colorlink\@filecolor
9672     #1\Hy@xspace@end
9673     \Hy@endcolorlink
9674   \fi
9675 \endgroup
9676 }
9677 \HyInfo@AddonUnsupportedtrue
9678 \def\PDF@FinishDoc{%
9679   \Hy@UseMaketitleInfos
9680   \HyInfo@TrappedUnsupported
9681   \special{PDF: Keywords \@pdfkeywords}%
9682   \special{PDF: Title \@pdftitle}%
9683   \special{PDF: Creator \@pdfcreator}%
9684   \ifx\@pdfcreationdate\@empty
9685     \else
9686     \special{PDF: CreationDate \@pdfcreationdate}%
9687   \fi
9688   \ifx\@pdfmoddate\@empty
9689     \else
9690     \special{PDF: ModDate \@pdfmoddate}%
9691   \fi
9692   \special{PDF: Author \@pdfauthor}%
9693   \ifx\@pdfproducer\relax
9694     \else
9695     \special{PDF: Producer \@pdfproducer}%
9696   \fi
9697   \special{PDF: Subject \@pdfsubject}%
9698   \Hy@DisableOption{pdfauthor}%
9699   \Hy@DisableOption{pdftitle}%
9700   \Hy@DisableOption{pdfsubject}%
9701   \Hy@DisableOption{pdfcreator}%
9702   \Hy@DisableOption{addtopdfcreator}%
9703   \Hy@DisableOption{pdfcreationdate}%
9704   \Hy@DisableOption{pdfcreationdate}%
9705   \Hy@DisableOption{pdfmoddate}%
9706   \Hy@DisableOption{pdfproducer}%
9707   \Hy@DisableOption{pdfkeywords}%
9708   \Hy@DisableOption{pdftrapped}%
9709   \Hy@DisableOption{pdfinfo}%
9710 }
9711 \def\PDF@SetupDoc{%

```

```

9712 \ifx\@baseurl\@empty
9713 \else
9714 \special{PDF: Base \@baseurl}%
9715 \fi
9716 \ifx\@pdfpagescrop\@empty\else
9717 \special{PDF: BBox \@pdfpagescrop}%
9718 \fi
9719 \def\Hy@temp{}%
9720 \ifx\@pdfstartpage\@empty
9721 \else
9722 \ifx\@pdfstartview\@empty
9723 \else
9724 \edef\Hy@temp{%
9725   ,Page=\@pdfstartpage
9726   ,View=\@pdfstartview
9727 }%
9728 \fi
9729 \fi
9730 \edef\Hy@temp{%
9731 \noexpand\pdfmark{%
9732   pdfmark=/DOCVIEW,%
9733   PageMode=/\@pdfpagemode
9734   \Hy@temp
9735 }%
9736 }%
9737 \Hy@temp
9738 \ifx\@pdfpagescrop\@empty
9739 \else
9740 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9741 \fi
9742 \edef\Hy@temp{%
9743 \ifHy@pdftoolbar\else /HideToolbar true\fi
9744 \ifHy@pdfmenubar\else /HideMenubar true\fi
9745 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9746 \ifHy@pdffitwindow /FitWindow true\fi
9747 \ifHy@pdfcenterwindow /CenterWindow true\fi
9748 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9749 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9750 \Hy@UseNameKey{Direction}\@pdfdirection
9751 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9752 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9753 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9754 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9755 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9756 \Hy@UseNameKey{Duplex}\@pdfduplex
9757 \ifx\@pdfpicktraybypdfsize\@empty
9758 \else
9759 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9760 \fi
9761 \ifx\@pdfprintpagerange\@empty
9762 \else
9763 /PrintPageRange[\@pdfprintpagerange]%
9764 \fi
9765 \ifx\@pdfnumcopies\@empty

```



```

9766 \else
9767 /NumCopies \@pdfnumcopies
9768 \fi
9769 }%
9770 \pdfmark{pdfmark=/PUT,%
9771 Raw={%
9772 \string{Catalog\string}<<%
9773 \ifx\Hy@temp\@empty
9774 \else
9775 /ViewerPreferences<<\Hy@temp>>%
9776 \fi
9777 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9778 \ifx\@pdflang\relax
9779 \else
9780 /Lang(\@pdflang)%
9781 \fi
9782 >>%
9783 }%
9784 }%
9785 }
9786 </dviwindo>
9787 <*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.

```

9788 \special{dvipdfmx:config C 0x0010}
9789 \providecommand*\XR@ext}{pdf}
9790 \Hy@setbreaklinks{true}
9791 \def\HyPat@ObjRef{%
9792 @[\^ ]+%
9793 }
9794 \newsavebox{\pdfm@box}
9795 \def\@pdfm@mark#1{\special{pdf:#1}}
9796 \Hy@WrapperDef\@pdfm@dest#1{%
9797 \Hy@SaveLastskip
9798 \Hy@VerboseAnchor{#1}%
9799 \begingroup
9800 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9801 \def\x{XYZ}%
9802 \ifx\x\@pdfview
9803 \def\x{XYZ @xpos @ypos null}%
9804 \else
9805 \def\x{FitH}%
9806 \ifx\x\@pdfview
9807 \def\x{FitH @ypos}%
9808 \else
9809 \def\x{FitBH}%
9810 \ifx\x\@pdfview
9811 \def\x{FitBH @ypos}%

```

```

9812     \else
9813     \def\x{FitV}%
9814     \ifx\x\@pdfview
9815     \def\x{FitV @xpos}%
9816     \else
9817     \def\x{FitBV}%
9818     \ifx\x\@pdfview
9819     \def\x{FitBV @xpos}%
9820     \else
9821     \def\x{Fit}%
9822     \ifx\x\@pdfview
9823     \let\x\@pdfview
9824     \else
9825     \def\x{FitB}%
9826     \ifx\x\@pdfview
9827     \let\x\@pdfview
9828     \else
9829     \def\x{FitR}%
9830     \ifx\x\@pdfview
9831     \Hy@Warning{'pdfview=FitR' is not supported}%
9832     \def\x{XYZ @xpos @ypos null}%
9833     \else
9834     \@onelevel@sanitize\@pdfview
9835     \Hy@Warning{%
9836     Unknown value '\@pdfview' for pdfview%
9837     }%
9838     \def\x{XYZ @xpos @ypos null}%
9839     \fi
9840     \fi
9841     \fi
9842     \fi
9843     \fi
9844     \fi
9845     \fi
9846     \fi
9847     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9848 \endgroup
9849 \Hy@RestoreLastskip
9850 }
9851 \providecommand*\@pdfview{XYZ}
9852 \providecommand*\@pdfborder{0 0 1}
9853 \providecommand*\@pdfborderstyle{}
9854 \def\hyper@anchor#1{%
9855 \@pdfm@dest{#1}%
9856 }
9857 \def\hyper@anchorstart#1{%
9858 \Hy@activeanchortrue
9859 \@pdfm@dest{#1}%
9860 }
9861 \def\hyper@anchorend{%
9862 \Hy@activeanchorfalse
9863 }
9864 \newcounter{Hy@AnnotLevel}

```

```

9865 \ifHy@ocgcolorlinks
9866 \def\OBJ@OCG@view{@OCG@view}%
9867 \@pdfm@mark{%
9868   obj \OBJ@OCG@view <<%
9869     /Type/OCG%
9870     /Name(View)%
9871     /Usage<<%
9872     /Print<<%
9873     /PrintState/OFF%
9874     >>%
9875     /View<<%
9876     /ViewState/ON%
9877     >>%
9878     >>%
9879     >>%
9880   }%
9881 \@pdfm@mark{close \OBJ@OCG@view}%
9882 \def\OBJ@OCG@print{@OCG@print}%
9883 \@pdfm@mark{%
9884   obj \OBJ@OCG@print <<%
9885     /Type/OCG%
9886     /Name(Print)%
9887     /Usage<<%
9888     /Print<<%
9889     /PrintState/ON%
9890     >>%
9891     /View<<%
9892     /ViewState/OFF%
9893     >>%
9894     >>%
9895     >>%
9896   }%
9897 \@pdfm@mark{close \OBJ@OCG@print}%
9898 \def\OBJ@OCGs{@OCGs}%
9899 \@pdfm@mark{%
9900   obj \OBJ@OCGs [%
9901     \OBJ@OCG@view\space\OBJ@OCG@print
9902   ]%
9903 }%
9904 \@pdfm@mark{close \OBJ@OCGs}%
9905 \@pdfm@mark{%
9906   put @catalog <<%
9907     /OCProperties<<%
9908     /OCGs \OBJ@OCGs
9909     /D<<%
9910     /OFF[\OBJ@OCG@print]%
9911     /AS[%
9912     <<%
9913       /Event/View%
9914       /OCGs \OBJ@OCGs
9915       /Category[/View]%
9916     >>%
9917     <<%
9918     /Event/Print%

```

```

9919         /OCGs \OBJ@OCGs
9920         /Category[/Print]%
9921     >>%
9922     <<%
9923         /Event/Export%
9924         /OCGs \OBJ@OCGs
9925         /Category[/Print]%
9926     >>%
9927     ]%
9928     >>%
9929     >>%
9930     >>%
9931     }%
9932 \AtBeginShipout{%
9933     \setbox\AtBeginShipoutBox=\hbox{%
9934     \copy\AtBeginShipoutBox
9935     \@pdfm@mark{%
9936     put @resources <<%
9937     /Properties<<%
9938     /OCView \OBJ@OCG@view
9939     /OCPrint \OBJ@OCG@print
9940     >>%
9941     >>%
9942     }%
9943     }%
9944     }%
9945 \Hy@AtBeginDocument{%
9946     \def\Hy@colorlink#1{%
9947     \begingroup
9948     \ifHy@ocgcolorlinks
9949     \def\Hy@ocgcolor{#1}%
9950     \setbox0=\hbox\bgroup\color@begingroup
9951     \else
9952     \HyColor@UseColor#1%
9953     \fi
9954     }%
9955     \def\Hy@endcolorlink{%
9956     \ifHy@ocgcolorlinks
9957     \color@endgroup\egroup
9958     \mbox{%
9959     \@pdfm@mark{content /OC/OCPrint BDC}%
9960     \rlap{\copy0}%
9961     \@pdfm@mark{content EMC/OC/OCView BDC}%
9962     \begingroup
9963     \expandafter\HyColor@UseColor\Hy@ocgcolor
9964     \box0 %
9965     \endgroup
9966     \@pdfm@mark{content EMC}%
9967     }%
9968     \fi
9969     \endgroup
9970     }%
9971     }%
9972 \else

```

```

9973 \Hy@DisableOption{ocgcolorlinks}%
9974 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9975 \def\Hy@BeginAnnot#1{%
9976   \global\advance\c@Hy@AnnotLevel\@ne
9977   \ifnum\c@Hy@AnnotLevel=\@ne
9978     #1%
9979   \fi
9980 }
9981 \def\Hy@endAnnot{%
9982   \ifnum\value{Hy@AnnotLevel}=\@ne
9983     \Hy@endcolorlink
9984     \@pdfm@mark{eann}%
9985   \fi
9986   \global\advance\c@Hy@AnnotLevel\m@ne
9987 }

9988 \def\Hy@undefinedname{UNDEFINED}
9989 \def\hyper@linkstart#1#2{%
9990   \Hy@VerboseLinkStart{#1}{#2}%
9991   \leavevmode
9992   \Hy@BeginAnnot{%
9993     \protected@edef\Hy@testname{#2}%
9994     \ifx\Hy@testname\@empty
9995       \Hy@Warning{%
9996         Empty destination name,\MessageBreak
9997         using ` \Hy@undefinedname'%
9998       }%
9999     \let\Hy@testname\Hy@undefinedname
10000   \else
10001     \Hy@pstringdef\Hy@testname{%
10002       \expandafter\HyperDestNameFilter\expandafter{%
10003         \Hy@testname
10004       }%
10005     }%
10006   \fi
10007   \@pdfm@mark{%
10008     bann<<%
10009     /Type/Annot%
10010     /Subtype/Link%
10011     \ifHy@pdfa /F 4\fi
10012     \Hy@setpdfborder
10013     \Hy@setpdfhighlight
10014     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10015     \else
10016       /C[\csname @#1bordercolor\endcsname]%
10017     \fi
10018     /A<<%
10019     /S/GoTo%
10020     /D(\Hy@testname)%
10021     \Hy@href@nextactionraw
10022     >>%
10023     >>%

```

```

10024 }%
10025 \expandafter\Hy@colorlink\csmame @#1color\endcsmame
10026 }%
10027 }
10028 \def\hyper@linkend{\Hy@EndAnnot}%
10029 \def\hyper@link#1#2#3{%
10030 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10031 }
10032 \def\hyper@linkfile#1#2#3{%
10033 \leavevmode
10034 \Hy@BeginAnnot{%
10035 \def\Hy@pstringF{#2}%
10036 \Hy@CleanupFile\Hy@pstringF
10037 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10038 \Hy@pstringdef\Hy@pstringD{#3}%
10039 \Hy@MakeRemoteAction
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\@filebordercolor\relax
10048 \else
10049 /C[\@filebordercolor]%
10050 \fi
10051 /A<<%
10052 /S/GoToR%
10053 /F(\Hy@pstringF)%
10054 /D%
10055 \ifx\#3\%
10056 [\Hy@href@page\@pdfremotestartview]%
10057 \else
10058 (\Hy@pstringD)%
10059 \fi
10060 \Hy@SetNewWindow
10061 \Hy@href@nextactionraw
10062 >>%
10063 >>%
10064 }%
10065 \Hy@colorlink\@filecolor
10066 }%
10067 #1\Hy@xspace@end
10068 \Hy@EndAnnot
10069 }
10070 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10071 \leavevmode
10072 \Hy@BeginAnnot{%
10073 \Hy@pstringdef\Hy@pstringF{#1}%
10074 \Hy@pstringdef\Hy@pstringP{#3}%
10075 \@pdfm@mark{%
10076 bann<<%
10077 /Type/Annot%

```

```

10078 /Subtype/Link%
10079 \ifHy@pdfa /F 4\fi
10080 \Hy@setpdfborder
10081 \Hy@setpdfhighlight
10082 \ifx\@runbordercolor\relax
10083 \else
10084 /C[\@runbordercolor]%
10085 \fi
10086 /A<<%
10087 /F(\Hy@pstringF)%
10088 /S/Launch%
10089 \Hy@SetNewWindow
10090 \ifx\#3\%
10091 \else
10092 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10093 \fi
10094 \Hy@href@nextactionraw
10095 >>%
10096 >>%
10097 }%
10098 \Hy@colorlink\@runcolor
10099 }%
10100 #2\Hy@xspace@end
10101 \Hy@EndAnnot
10102 }
10103 \def\hyper@linkurl#1#2{%
10104 \leavevmode
10105 \Hy@BeginAnnot{%
10106 \Hy@pstringdef\Hy@pstringURI{#2}%
10107 \@pdfm@mark{%
10108 bann<<%
10109 /Type/Annot%
10110 /Subtype/Link%
10111 \ifHy@pdfa /F 4\fi
10112 \Hy@setpdfborder
10113 \Hy@setpdfhighlight
10114 \ifx\@urlbordercolor\relax
10115 \else
10116 /C[\@urlbordercolor]%
10117 \fi
10118 /A<<%
10119 /S/URI%
10120 /URI(\Hy@pstringURI)%
10121 \ifHy@href@ismap
10122 /IsMap true%
10123 \fi
10124 \Hy@href@nextactionraw
10125 >>%
10126 >>%
10127 }%
10128 \Hy@colorlink\@urlcolor
10129 }%
10130 #1\Hy@xspace@end
10131 \Hy@EndAnnot

```

```

10132 }
10133 \def\Acrobatmenu#1#2{%
10134 \Hy@Acrobatmenu{#1}{#2}{%
10135 \Hy@BeginAnnot{%
10136 \EdefEscapeName\Hy@temp@menu{#1}%
10137 \@pdfm@mark{%
10138 bann<<%
10139 /Type/Annot%
10140 /Subtype/Link%
10141 \ifHy@pdfa /F 4\fi
10142 \Hy@setpdfborder
10143 \Hy@setpdfhighlight
10144 \ifx\@menubordercolor\relax
10145 \else
10146 /C[\@menubordercolor]%
10147 \fi
10148 /A<<%
10149 /S/Named%
10150 /N/\Hy@temp@menu
10151 \Hy@href@nextactionraw
10152 >>%
10153 >>%
10154 }%
10155 \Hy@colorlink\@menucolor
10156 }%
10157 #2\Hy@xspace@end
10158 \Hy@endAnnot
10159 }%
10160 }
10161
10162 \def\PDF@FinishDoc{%
10163 \Hy@UseMaketitleInfos
10164 \Hy@Info@GenerateAddons
10165 \@pdfm@mark{%
10166 docinfo<<%
10167 /Title(\@pdftitle)%
10168 /Subject(\@pdfsubject)%
10169 /Creator(\@pdfcreator)%
10170 \ifx\@pdfcreationdate\@empty
10171 \else
10172 /CreationDate(\@pdfcreationdate)%
10173 \fi
10174 \ifx\@pdfmoddate\@empty
10175 \else
10176 /ModDate(\@pdfmoddate)%
10177 \fi
10178 /Author(\@pdfauthor)%
10179 \ifx\@pdfproducer\relax
10180 \else
10181 /Producer(\@pdfproducer)%
10182 \fi
10183 /Keywords(\@pdfkeywords)%
10184 \ifx\@pdftrapped\@empty
10185 \else

```



```

10186     /Trapped/\@pdftrapped
10187     \fi
10188     \HyInfo@Addons
10189     >>%
10190 }%
10191 \Hy@DisableOption{pdfauthor}%
10192 \Hy@DisableOption{pdftitle}%
10193 \Hy@DisableOption{pdfsubject}%
10194 \Hy@DisableOption{pdfcreator}%
10195 \Hy@DisableOption{addtopdfcreator}%
10196 \Hy@DisableOption{pdfcreationdate}%
10197 \Hy@DisableOption{pdfcreationdate}%
10198 \Hy@DisableOption{pdfmoddate}%
10199 \Hy@DisableOption{pdfproducer}%
10200 \Hy@DisableOption{pdfkeywords}%
10201 \Hy@DisableOption{pdftrapped}%
10202 \Hy@DisableOption{pdfinfo}%
10203 }

10204 \def\PDF@SetupDoc{%
10205 \edef\Hy@temp{%
10206   \ifHy@pdftoolbar\else /HideToolbar true\fi
10207   \ifHy@pdfmenubar\else /HideMenubar true\fi
10208   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10209   \ifHy@pdfwindow /FitWindow true\fi
10210   \ifHy@pdfcenterwindow /CenterWindow true\fi
10211   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10212   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10213   \Hy@UseNameKey{Direction}\@pdfdirection
10214   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10215   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10216   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10217   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10218   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10219   \Hy@UseNameKey{Duplex}\@pdfduplex
10220   \ifx\@pdfpicktraybypdfsize\@empty
10221   \else
10222     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10223   \fi
10224   \ifx\@pdfprintpagerange\@empty
10225   \else
10226     /PrintPageRange[\@pdfprintpagerange]%
10227   \fi
10228   \ifx\@pdfnumcopies\@empty
10229   \else
10230     /NumCopies \@pdfnumcopies
10231   \fi
10232 }%
10233 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10234 \@pdfm@mark{%
10235 docview<<%
10236   \ifx\@pdfstartpage\@empty
10237   \else
10238     \ifx\@pdfstartview\@empty
10239     \else

```

```

10240     /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10241     \fi
10242 \fi
10243 \ifx\@baseurl\@empty
10244 \else
10245   /URI<</Base(\Hy@pstringB)>>%
10246 \fi
10247 /PageMode/\@pdfpagemode
10248 \ifx\Hy@temp\@empty
10249 \else
10250   /ViewerPreferences<<\Hy@temp>>%
10251 \fi
10252 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10253 \ifx\@pdflang\relax
10254 \else
10255   /Lang(\@pdflang)%
10256 \fi
10257 >>%
10258 }%
10259 \ifx\@pdfpagescrop\@empty
10260 \else
10261   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10262 \fi
10263 }
10264 </dvi/pdfm | xetex>
10265 < *dvi/pdfm | xetex>

```

\hyper@pagetransition

```

10266 \def\hyper@pagetransition{%
10267 \ifx\@pdfpagetransition\relax
10268 \else
10269 \ifx\@pdfpagetransition\@empty
10270 \else
10271 \special{pdf:put @thispage %
10272 <</Trans<</S/\@pdfpagetransition>>>>%
10273 }%
10274 \fi
10275 \fi
10276 }

```

\hyper@pageduration

```

10277 \def\hyper@pageduration{%
10278 \ifx\@pdfpageduration\relax
10279 \else
10280 \ifx\@pdfpageduration\@empty
10281 \else
10282 \special{pdf:put @thispage %
10283 <</Dur \@pdfpageduration>>%
10284 }%
10285 \fi
10286 \fi
10287 }

10288 \g@addto@macro\Hy@EveryPageBoxHook{%

```

```

10289 \hyper@pagetransition
10290 \hyper@pageduration
10291 }
10292 </dviptfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10293 < *dvipdfm >
10294 \AtBeginShipoutFirst{%
10295   \ifHy@setpagesize
10296     \begingroup
10297     \ifnum\mag=\@m
10298       \ifdim\stockwidth>\z@
10299         \ifdim\stockheight>\z@
10300           \special{papersize=\the\stockwidth,\the\stockheight}%
10301         \else
10302           \ifdim\paperwidth>\z@
10303             \ifdim\paperheight>\z@
10304               \special{papersize=\the\paperwidth,\the\paperheight}%
10305             \fi
10306           \fi
10307         \fi
10308       \else
10309         \ifdim\stockwidth=\z@
10310           \ifdim\paperwidth>\z@
10311             \ifdim\paperheight>\z@
10312               \special{papersize=\the\paperwidth,\the\paperheight}%
10313             \fi
10314           \fi
10315         \fi
10316       \fi
10317     \fi
10318   \endgroup
10319 \fi
10320 \Hy@DisableOption{setpagesize}%
10321 }
10322 </dviptfm >

```

## 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.

```

10323 < *vtexhtml >
10324 \providecommand*\XR@ext}{htm}
10325 \RequirePackage{vtexhtml}
10326 \newif\if@Localurl
10327 \let\PDF@FinishDoc\ltx@empty
10328 \def\PDF@SetupDoc{%
10329   \ifx\@baseurl\@empty
10330     \else
10331       \special{!direct <base href="\@baseurl">}%
10332     \fi
10333 }

```

```

10334 \def\@urltype{url}
10335 \def\hyper@link#1#2#3{%
10336   \Hy@VerboseLinkStart{#1}{#2}%
10337   \leavevmode
10338   \special{!direct <a href=%
10339     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10340   #3\Hy@xspace@end
10341   \special{!direct </a>}%
10342 }
10343 \def\hyper@linkurl#1#2{%
10344   \begingroup
10345   \hyper@chars
10346   \leavevmode
10347   \MathBSuppress=1\relax
10348   \special{!direct <a href=%
10349     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10350   #1\Hy@xspace@end
10351   \MathBSuppress=0\relax
10352   \special{!direct </a>}%
10353   \endgroup
10354 }
10355 \def\hyper@linkfile#1#2#3{%
10356   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
10357 }
10358 \def\hyper@linkstart#1#2{%
10359   \Hy@VerboseLinkStart{#1}{#2}%
10360   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10361     \@Localurltrue
10362     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10363   \else
10364     \@Localurlfalse
10365     \begingroup
10366     \hyper@chars
10367     \special{!aref \HyperDestNameFilter{#2}}%
10368     \endgroup
10369   \fi
10370 }
10371 \def\hyper@linkend{%
10372   \if@Localurl
10373     \special{!endaref}%
10374   \else
10375     \special{!direct </a>}%
10376   \fi
10377 }
10378 \Hy@WrapperDef\hyper@anchorstart#1{%
10379   \Hy@SaveLastskip
10380   \Hy@VerboseAnchor{#1}%
10381   \begingroup
10382   \hyper@chars
10383   \special{!aname #1}%
10384   \special{!direct <a name=%
10385     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10386   \endgroup
10387   \Hy@activeanchortrue

```

```

10388 }
10389 \def\hyper@anchorend{%
10390 \special{!direct </a>}%
10391 \Hy@activeanchorfalse
10392 \Hy@RestoreLastskip
10393 }
10394 \Hy@WrapperDef\hyper@anchor#1{%
10395 \Hy@SaveLastskip
10396 \Hy@VerboseAnchor{#1}%
10397 \begingroup
10398 \let\protect=\string
10399 \hyper@chars
10400 \leavevmode
10401 \special{!aname #1}%
10402 \special{!direct <a name=%
10403 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10404 \endgroup
10405 \Hy@activeanchortrue
10406 \bgroup\anchor@spot\egroup
10407 \special{!direct </a>}%
10408 \Hy@activeanchorfalse
10409 \Hy@RestoreLastskip
10410 }
10411 \def\@Form[#1]{%
10412 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10413 }
10414 \let\@endForm\ltx@empty
10415 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10416 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10417 }
10418 \def\@TextField[#1]#2{% parameters, label
10419 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10420 }
10421 \def\@CheckBox[#1]#2{% parameters, label
10422 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10423 }
10424 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10425 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10426 }
10427 \def\@PushButton[#1]#2{% parameters, label
10428 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10429 }
10430 \def\@Reset[#1]#2{%
10431 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10432 }
10433 \def\@Submit[#1]#2{%
10434 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10435 }
10436 </vtxhtml>
10437 <*vtx>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

10438 \ifcsname mediaheight\endcsname
10439 \ifHy@setpagesize
10440   \providecommand*\VTeXInitMediaSize{%
10441     \ifnum\mag=\@m
10442       \ifdim\stockwidth>\z@
10443         \ifdim\stockheight>\z@
10444           \setlength\mediaheight\stockheight
10445           \setlength\mediawidth\stockwidth
10446         \else
10447           \ifdim\paperwidth>\z@
10448             \ifdim\paperheight>\z@
10449               \setlength\mediaheight\paperheight
10450               \setlength\mediawidth\paperwidth
10451             \fi
10452           \fi
10453         \fi
10454       \else
10455         \ifdim\stockwidth=\z@
10456           \ifdim\paperwidth>\z@
10457             \ifdim\paperheight>\z@
10458               \setlength\mediaheight\paperheight
10459               \setlength\mediawidth\paperwidth
10460             \fi
10461           \fi
10462         \fi
10463       \fi
10464     \fi
10465   }%
10466 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10467 \fi
10468 \Hy@DisableOption{setpagesize}%
10469 \fi

```

Older versions of VTeX require xyz in lower case.

```

10470 \providecommand*\@pdfview{xyz}
10471 \providecommand*\@pdfborder{0 0 1}
10472 \providecommand*\@pdfborderstyle{}
10473 \let\CurrentBorderColor\@linkbordercolor
10474 \Hy@WrapperDef\hyper@anchor#1{%
10475   \Hy@SaveLastskip
10476   \Hy@VerboseAnchor{#1}%
10477   \begingroup
10478     \let\protect=\string
10479     \hyper@chars
10480     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10481   \endgroup
10482   \Hy@activeanchortrue
10483   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10484   \Hy@activeanchorfalse
10485   \Hy@RestoreLastskip
10486 }
10487 \Hy@WrapperDef\hyper@anchorstart#1{%
10488   \Hy@SaveLastskip
10489   \Hy@VerboseAnchor{#1}%
10490   \begingroup

```

```

10491 \hyper@chars
10492 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10493 \endgroup
10494 \Hy@activeanchortrue
10495 }
10496 \def\hyper@anchorend{%
10497 \Hy@activeanchorfalse
10498 \Hy@RestoreLastskip
10499 }
10500 \def\@urltype{url}
10501 \def\Hy@undefinedname{UNDEFINED}
10502 \def\hyper@linkstart#1#2{%
10503 \Hy@VerboseLinkStart{#1}{#2}%
10504 \Hy@pstringdef\Hy@pstringURI{#2}%
10505 \expandafter\Hy@colorlink\csname @#1color\endcsname
10506 \ltx@ifundefined{#@1bordercolor}{%
10507 \let\CurrentBorderColor\relax
10508 }{%
10509 \edef\CurrentBorderColor{%
10510 \csname @#1bordercolor\endcsname
10511 }%
10512 }%
10513 \def\Hy@tempa{#1}%
10514 \ifx\Hy@tempa\@urltype
10515 \special{!%
10516 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10517 \ifHy@href@ismap
10518 /IsMap true%
10519 \fi
10520 \Hy@href@nextactionraw
10521 >;%
10522 a=<%
10523 \ifHy@pdfa /F 4\fi
10524 \Hy@setpdfborder
10525 \ifx\CurrentBorderColor\relax
10526 \else
10527 /C [\CurrentBorderColor]%
10528 \fi
10529 >%
10530 }%
10531 \else
10532 \protected@edef\Hy@testname{#2}%
10533 \ifx\Hy@testname\@empty
10534 \Hy@Warning{%
10535 Empty destination name,\MessageBreak
10536 using `\'Hy@undefinedname'%
10537 }%
10538 \let\Hy@testname\Hy@undefinedname
10539 \fi
10540 \special{!%
10541 aref \expandafter\HyperDestNameFilter
10542 \expandafter{\Hy@testname};%
10543 a=<%
10544 \ifHy@pdfa /F 4\fi

```

```

10545     \Hy@setpdfborder
10546     \ifx\CurrentBorderColor\relax
10547     \else
10548         /C [\CurrentBorderColor]%
10549     \fi
10550     >%
10551     }%
10552 \fi
10553 }
10554 \def\hyper@linkend{%
10555     \special{!endaref}%
10556     \Hy@endcolorlink
10557 }
10558 \def\hyper@linkfile#1#2#3{%
10559     \leavevmode
10560     \def\Hy@pstringF{#2}%
10561     \Hy@CleanupFile\Hy@pstringF
10562     \special{!%
10563         aref <%
10564         \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi
10565         f=\Hy@pstringF>#3;%
10566         a=<%
10567         \ifHy@pdfa /F 4\fi
10568         \Hy@setpdfborder
10569         \ifx\@filebordercolor\relax
10570         \else
10571             /C [\@filebordercolor]%
10572         \fi
10573         >%
10574     }%
10575     \Hy@colorlink\@filecolor
10576     #1\Hy@xspace@end
10577     \Hy@endcolorlink
10578     \special{!endaref}%
10579 }
10580 \def\hyper@linkurl#1#2{%
10581     \begingroup
10582     \Hy@pstringdef\Hy@pstringURI{#2}%
10583     \hyper@chars
10584     \leavevmode
10585     \special{!%
10586         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10587         \ifHy@href@ismap
10588             /IsMap true%
10589         \fi
10590         \Hy@href@nextactionraw
10591         >,%
10592         a=<%
10593         \ifHy@pdfa /F 4\fi
10594         \Hy@setpdfborder
10595         \ifx\@urlbordercolor\relax
10596         \else
10597             /C [\@urlbordercolor]%
10598         \fi

```



```

10599 >%
10600 }%
10601 \Hy@colorlink\@urlcolor
10602 #1\Hy@xspace@end
10603 \Hy@endcolorlink
10604 \special{!endaref}%
10605 \endgroup
10606 }
10607 \def\hyper@link#1#2#3{%
10608 \Hy@VerboseLinkStart{#1}{#2}%
10609 \ltx@ifundefined{#1bordercolor}{%
10610 \let\CurrentBorderColor\relax
10611 }{%
10612 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10613 }%
10614 \leavevmode
10615 \protected@edef\Hy@testname{#2}%
10616 \ifx\Hy@testname\@empty
10617 \Hy@Warning{%
10618 Empty destination name,\MessageBreak
10619 using '\Hy@undefinedname'%
10620 }%
10621 \let\Hy@testname\Hy@undefinedname
10622 \fi
10623 \special{!%
10624 aref \expandafter\HyperDestNameFilter
10625 \expandafter{\Hy@testname};%
10626 a=<%
10627 \ifHy@pdfa /F 4\fi
10628 \Hy@setpdfborder
10629 \ifx\CurrentBorderColor\relax
10630 \else
10631 /C [\CurrentBorderColor]%
10632 \fi
10633 >%
10634 }%
10635 \expandafter
10636 \Hy@colorlink\csname @#1color\endcsname
10637 #3\Hy@xspace@end
10638 \Hy@endcolorlink
10639 \special{!endaref}%
10640 }
10641 \def\hyper@image#1#2{%
10642 \hyper@linkurl{#2}{#1}%
10643 }
10644 \def\@hyper@launch run:#1\#2#3{%
10645 \Hy@pstringdef\Hy@pstringF{#1}%
10646 \Hy@pstringdef\Hy@pstringP{#3}%
10647 \leavevmode
10648 \special{!aref %
10649 <u=%
10650 /Type/Action%
10651 /S/Launch%
10652 /F(\Hy@pstringF)%

```

```

10653 \Hy@SetNewWindow
10654 \ifx\|#3\|%
10655 \else
10656 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10657 \fi
10658 \Hy@href@nextactionraw
10659 >:%
10660 a=<%
10661 \ifHy@pdfa /F 4\fi
10662 \Hy@setpdfborder
10663 \ifx\@runbordercolor\relax
10664 \else
10665 /C[\@runbordercolor]%
10666 \fi
10667 >%
10668 }%
10669 \Hy@colorlink\@runcolor
10670 #2\Hy@xspace@end
10671 \Hy@endcolorlink
10672 \special{!endaref}%
10673 }
10674 \def\Acrobatmenu#1#2{%
10675 \EdefEscapeName\Hy@temp@menu{#1}%
10676 \Hy@Acrobatmenu{#1}{#2}{%
10677 \special{!%
10678 aref <u=/S /Named /N /\Hy@temp@menu>;%
10679 a=<%
10680 \ifHy@pdfa /F 4\fi
10681 \Hy@setpdfborder
10682 \ifx\@menubordercolor\relax
10683 \else
10684 /C[\@menubordercolor]%
10685 \fi
10686 >%
10687 }%
10688 \Hy@colorlink\@menucolor
10689 #2\Hy@xspace@end
10690 \Hy@endcolorlink
10691 \special{!endaref}%
10692 }%
10693 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for  $\text{V}\text{T}\text{E}\text{X}$  7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

10694 \ifnum\Hy@VTeXversion<702 %
10695 \else
10696 \def\hyper@pagetransition{%
10697 \ifx\@pdfpagetransition\relax
10698 \else
10699 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10700 \else

```

```

10701     \hvtex@parse@trans\@pdfpagetransition
10702     \fi
10703     \fi
10704 }%

```

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:

```

10705 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10706 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10707 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10708 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10709 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10710 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10711 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10712 \def\hvtex@par@dimension{/Dm}%
10713 \def\hvtex@par@direction{/Di}%
10714 \def\hvtex@par@duration{/D}%
10715 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10716 \def\hvtex@gettoken{%
10717   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10718 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10719 \def\hvtex@gettoken@#1 #2\@nil{%
10720   \edef\hvtex@token{#1}%
10721   \edef\hvtex@buffer{#2}%
10722 }%
10723 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10724 \let\hvtex@trans@code\@empty
10725 \let\hvtex@param@dimension\@empty
10726 \let\hvtex@param@direction\@empty

```

```

10727 \let\hvtex@param@duration\@empty
10728 \let\hvtex@param@motion\@empty
10729 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10730 \hvtex@gettoken
10731 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10732 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10733 \else
10734 \hvtex@gettoken
10735 \fi
10736 \fi
10737 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10738 \hvtex@trans@params
10739 }%

```

Reentrant macro to parse optional parameters.

```

10740 \def\hvtex@trans@params{%
10741 \ifx\hvtex@buffer\@empty
10742 \else
10743 \hvtex@gettoken
10744 \let\hvtex@trans@par\hvtex@token
10745 \ifx\hvtex@buffer\@empty
10746 \else
10747 \hvtex@gettoken
10748 \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.

```

10749 \let\hvtex@param@duration\hvtex@token
10750 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10751 \expandafter\edef\expandafter\hvtex@param@motion
10752 \expandafter{\expandafter\@gobble\hvtex@token}%
10753 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

10754 \expandafter\edef\expandafter\hvtex@param@dimension
10755 \expandafter{\expandafter\@gobble\hvtex@token}%
10756 \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).

```

10757 \let\hvtex@param@direction\hvtex@token
10758 \fi\fi\fi\fi
10759 \fi
10760 \fi
10761 \ifx\hvtex@buffer\@empty
10762 \let\next\hvtex@produce@trans
10763 \else
10764 \let\next\hvtex@trans@params
10765 \fi

```

```

10766 \next
10767 }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10768 \def\hvtex@produce@trans{%
10769 \let\vtex@trans@special\@empty
10770 \if S\hvtex@trans@code
10771 \edef\vtex@trans@special{\hvtex@trans@code
10772 \hvtex@param@dimension\hvtex@param@motion}%
10773 \else\if B\hvtex@trans@code
10774 \edef\vtex@trans@special{%
10775 \hvtex@trans@code\hvtex@param@dimension
10776 }%
10777 \else\if X\hvtex@trans@code
10778 \edef\vtex@trans@special{%
10779 \hvtex@trans@code\hvtex@param@motion
10780 }%
10781 \else\if W\hvtex@trans@code
10782 \edef\vtex@trans@special{%
10783 \hvtex@trans@code\hvtex@param@direction
10784 }%
10785 \else\if D\hvtex@trans@code
10786 \let\vtex@trans@special\hvtex@trans@code
10787 \else\if R\hvtex@trans@code
10788 \let\vtex@trans@special\hvtex@trans@code
10789 \else\if G\hvtex@trans@code
10790 \edef\vtex@trans@special{%
10791 \hvtex@trans@code\hvtex@param@direction
10792 }%
10793 \fi\fi\fi\fi\fi\fi
10794 \ifx\vtex@trans@special\@empty
10795 \else
10796 \ifx\hvtex@param@duration\@empty
10797 \else
10798 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10799 \multiply\dimen@\@m
10800 \edef\vtex@trans@special{%
10801 \vtex@trans@special,\strip@pt\dimen@
10802 }%
10803 \fi

```

And all the mess is just for this.

```

10804 \special{!trans \vtex@trans@special}%
10805 \fi
10806 }%
10807 \def\hyper@pageduration{%
10808 \ifx\@pdfpageduration\relax
10809 \else
10810 \ifx\@pdfpageduration\@empty
10811 \special{!duration-}%
10812 \else
10813 \special{!duration \@pdfpageduration}%

```

```

10814   \fi
10815   \fi
10816 }%
10817 \g@addto@macro\Hy@EveryPageBoxHook{%
10818   \hyper@pagetransition
10819   \hyper@pageduration
10820 }%
10821 \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

```

10822 \ifx\@pdfproducer\relax
10823   \def\@pdfproducer{VTeX}%
10824   \ifnum\Hy@VTeXversion>\z@
10825     \count@\VTeXversion
10826     \divide\count@ 100 %
10827     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10828     \multiply\count@ -100 %
10829     \advance\count@\VTeXversion
10830     \edef\@pdfproducer{%
10831       \@pdfproducer
10832       .\ifnum\count@<10 0\fi\the\count@
10833     \ifx\VTeXOS\@undefined\else
10834       \ifnum\VTeXOS>0 %
10835         \ifnum\VTeXOS<6 %
10836           \space(%
10837           \ifcase\VTeXOS
10838             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10839           \fi
10840         )%
10841       \fi
10842     \fi
10843     \space
10844     \ifnum\OpMode=\@one PDF\else PS\fi
10845     \space backend%
10846     \ifx\gexmode\@undefined\else
10847       \ifnum\gexmode>\z@\space with GeX\fi
10848     \fi
10849   \fi
10850 }%
10851 \fi
10852 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
a	<b>Author</b>	String
b	<b>CropBox</b>	String
c	<b>Creator</b>	String
k	<b>Keywords</b>	String
l	<b>PageLayout</b>	PS
p	<b>PageMode</b>	PS
r	<b>Producer</b>	String
s	<b>Subject</b>	String
t	<b>Title</b>	String
u	<b>URI</b>	PS
v	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<<.>>> (yuck; no choice).

```

10853 \def\PDF@SetupDoc{%
10854   \ifx\@pdfpagescrop\@empty
10855   \else
10856     \special{!pdfinfo b=<\@pdfpagescrop>}%
10857   \fi
10858   \ifx\@pdfstartpage\@empty
10859   \else
10860     \ifx\@pdfstartview\@empty
10861     \else
10862       \special{!onopen Page\@pdfstartpage}%
10863     \fi
10864   \fi
10865   \special{!pdfinfo p=</\@pdfpagemode>}%
10866   \ifx\@baseurl\@empty
10867   \else
10868     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10869   \fi
10870   \special{!pdfinfo v=<<<%
10871     \ifHy@pdftoolbar\else /HideToolbar true\fi
10872     \ifHy@pdfmenubar\else /HideMenubar true\fi
10873     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10874     \ifHy@pdfwindow /FitWindow true\fi
10875     \ifHy@pdfcenterwindow /CenterWindow true\fi
10876     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10877     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10878     \Hy@UseNameKey{Direction}\@pdfdirection
10879     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10880     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10881     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10882     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10883     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10884     \Hy@UseNameKey{Duplex}\@pdfduplex
10885     \ifx\@pdfpicktraybypdfsize\@empty
10886     \else
10887       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10888     \fi
10889     \ifx\@pdfprintpagerange\@empty
10890     \else
10891       /PrintPageRange[\@pdfprintpagerange]%
10892     \fi

```

```

10893 \ifx\@pdfnumcopies\@empty
10894 \else
10895 /NumCopies \@pdfnumcopies
10896 \fi
10897 >>>}%
10898 \ifx\@pdfpagelayout\@empty
10899 \else
10900 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10901 \fi
10902 }%
10903 \HyInfo@AddonUnsupportedtrue
10904 \define@key{Hyp}{pdfcreationdate}{%
10905 \Hy@Warning{%
10906 VTeX does not support pdfcreationdate.\MessageBreak
10907 Therefore its setting is ignored%
10908 }%
10909 }
10910 \define@key{Hyp}{pdfmoddate}{%
10911 \Hy@Warning{%
10912 VTeX does not support pdfmoddate.\MessageBreak
10913 Therefore its setting is ignored%
10914 }%
10915 }
10916 \def\PDF@FinishDoc{%
10917 \Hy@UseMaketitleInfos
10918 \HyInfo@TrappedUnsupported
10919 \special{!pdfinfo a=<\@pdfauthor>}%
10920 \special{!pdfinfo t=<\@pdftitle>}%
10921 \special{!pdfinfo s=<\@pdfsubject>}%
10922 \special{!pdfinfo c=<\@pdfcreator>}%
10923 \ifx\@pdfproducer\relax
10924 \else
10925 \special{!pdfinfo r=<\@pdfproducer>}%
10926 \fi
10927 \special{!pdfinfo k=<\@pdfkeywords>}%
10928 \Hy@DisableOption{pdfauthor}%
10929 \Hy@DisableOption{pdftitle}%
10930 \Hy@DisableOption{pdfsubject}%
10931 \Hy@DisableOption{pdfcreator}%
10932 \Hy@DisableOption{addtopdfcreator}%
10933 \Hy@DisableOption{pdfcreationdate}%
10934 \Hy@DisableOption{pdfcreationdate}%
10935 \Hy@DisableOption{pdfmoddate}%
10936 \Hy@DisableOption{pdfproducer}%
10937 \Hy@DisableOption{pdfkeywords}%
10938 \Hy@DisableOption{pdftrapped}%
10939 \Hy@DisableOption{pdfinfo}%
10940 }
10941 </vtx>

```



### 43.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```
/showpage {  
  //showpage  
  clippath stroke erasepage  
} bind def
```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```
10942 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
10943 <packageEnd>\providecommand*\Hy@DistillerDestFix{}  
10944 <*pdfmark | dviwindo>  
10945 \def\Hy@DistillerDestFix{%  
10946   \begingroup  
10947     \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
10948   \ifnum \@ifundefined{OpMode}{0}{%  
10949     \@ifundefined{gexmode}{0}{%  
10950       \ifnum\gexmode>0 \OpMode\else 0\fi  
10951     }>1 %  
10952   \def\x##1{%  
10953     \immediate\special{!=##1}}%  
10954   }%  
10955   \fi  
10956   \x{%  
10957     /product where{%  
10958       pop %  
10959       product(Distiller)search{%  
10960         pop pop pop %  
10961         version(.)search{%  
10962           exch pop exch pop%  
10963           (3011)eq{%  
10964             gsave %  
10965             newpath 0 0 moveto closepath clip%  
10966             /Courier findfont 10 scalefont setfont %  
10967             72 72 moveto(.)show %  
10968             grestore%  
10969           }if%  
10970         }{pop}ifelse%  
10971       }{pop}ifelse%  
10972     }if%  
10973   }%  
10974 \endgroup  
10975 }  
10976 </pdfmark | dviwindo>
```

### 43.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

`\@pdfproducer` for document information  
`\literalps@out` PostScript output  
`\headerps@out` PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S start of anchor, link or rect  
#1 H.A end of anchor, argument=baselineskip in pt  
#1 H.L end of link, argument=baselineskip in pt  
H.R end of rect  
H.B raw rect code

```

10977 (*pdfmark)
10978 \Hy@breaklinks@unsupported
10979 \def\HyPat@ObjRef{%
10980 \[~{}]+\}%
10981 }
10982 \Hy@WrapperDef\hyper@anchor#1{%
10983 \Hy@SaveLastskip
10984 \Hy@VerboseAnchor{#1}%
10985 \begingroup
10986 \pdfmark[\anchor@spot]{%
10987 pdfmark=/DEST,%
10988 linktype=anchor,%
10989 View=/\@pdfview \@pdfviewparams,%
10990 DestAnchor={#1}%
10991 }%
10992 \endgroup
10993 \Hy@RestoreLastskip
10994 }
10995 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}
10996 \Hy@WrapperDef\hyper@anchorstart#1{%
10997 \Hy@SaveLastskip
10998 \Hy@VerboseAnchor{#1}%
10999 \literalps@out{H.S}%
11000 \Hy@AllowHyphens
11001 \xdef\hyper@currentanchor{#1}%
11002 \Hy@activeanchortrue
11003 }
11004 \def\hyper@anchorend{%
11005 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11006 \pdfmark{%
11007 pdfmark=/DEST,%
11008 linktype=anchor,%
11009 View=/\@pdfview \@pdfviewparams,%
11010 DestAnchor=\hyper@currentanchor,%
11011 }%
11012 \Hy@activeanchorfalse
11013 \Hy@RestoreLastskip
11014 }
11015 \def\hyper@linkstart#1#2{%
11016 \Hy@VerboseLinkStart{#1}{#2}%
11017 \ifHy@breaklinks
11018 \else
11019 \leavevmode

```

```

11020 \ifmmode
11021 \def\Hy@LinkMath{${}%
11022 \else
11023 \let\Hy@LinkMath\ltx@empty
11024 \fi
11025 \Hy@SaveSpaceFactor
11026 \hbox\bgroup
11027 \Hy@RestoreSpaceFactor
11028 \Hy@LinkMath
11029 \fi
11030 \expandafter\Hy@colorlink\csname @#1color\endcsname
11031 \literalps@out{H.S}%
11032 \Hy@AllowHyphens
11033 \xdef\hyper@currentanchor{#2}%
11034 \gdef\hyper@currentlinktype{#1}%
11035 }
11036 \def\hyper@linkend{%
11037 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11038 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11039 \let\Hy@tempcolor\relax
11040 }{%
11041 \edef\Hy@tempcolor{%
11042 \csname @\hyper@currentlinktype bordercolor\endcsname
11043 }%
11044 }%
11045 \pdfmark{%
11046 pdfmark=/ANN,%
11047 linktype=link,%
11048 Subtype=/Link,%
11049 PDFAFlags=4,%
11050 Dest=\hyper@currentanchor,%
11051 AcroHighlight=\@pdfhighlight,%
11052 Border=\@pdfborder,%
11053 BorderStyle=\@pdfborderstyle,%
11054 Color=\Hy@tempcolor,%
11055 Raw=H.B%
11056 }%
11057 \Hy@endcolorlink
11058 \ifHy@breaklinks
11059 \else
11060 \Hy@LinkMath
11061 \Hy@SaveSpaceFactor
11062 \egroup
11063 \Hy@RestoreSpaceFactor
11064 \fi
11065 }

```

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.

```

11066 \begingroup
11067 \catcode`P=12 %
11068 \catcode`T=12 %
11069 \lowercase{\endgroup

```

```

11070 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11071 }
11072 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

#### \hyper@pagetransition

```

11073 \def\hyper@pagetransition{%
11074 \ifx\@pdfpagetransition\relax
11075 \else
11076 \ifx\@pdfpagetransition\@empty
11077 % 1. Does an old entry have to be deleted?
11078 % 2. If 1=yes, how to delete?
11079 \else
11080 \pdfmark{%
11081 pdfmark=/PUT,%
11082 Raw={%
11083 \string{ThisPage\string}%
11084 <</Trans << /S /\@pdfpagetransition\space >> >>%
11085 }%
11086 }%
11087 \fi
11088 \fi
11089 }

```

#### \hyper@pageduration

```

11090 \def\hyper@pageduration{%
11091 \ifx\@pdfpageduration\relax
11092 \else
11093 \ifx\@pdfpageduration\@empty
11094 % 1. Does an old entry have to be deleted?
11095 % 2. If 1=yes, how to delete?
11096 \else
11097 \pdfmark{%
11098 pdfmark=/PUT,%
11099 Raw={%
11100 \string{ThisPage\string}%
11101 <</Dur \@pdfpageduration>>%
11102 }%
11103 }%
11104 \fi
11105 \fi
11106 }

11107 \g@addto@macro\Hy@EveryPageBoxHook{%
11108 \hyper@pagetransition
11109 \hyper@pageduration
11110 }

11111 \def\hyper@image#1#2{%
11112 \hyper@linkurl{#2}{#1}%
11113 }
11114 \def\Hy@undefinedname{UNDEFINED}
11115 \def\hyper@link#1#2#3{%
11116 \Hy@VerboseLinkStart{#1}{#2}%
11117 \ltx@ifundefined{#1bordercolor}{%
11118 \let\Hy@tempcolor\relax

```

```

11119 }{%
11120 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11121 }%
11122 \begingroup
11123 \protected@edef\Hy@testname{#2}%
11124 \ifx\Hy@testname\@empty
11125 \Hy@Warning{%
11126 Empty destination name,\MessageBreak
11127 using '\Hy@undefinedname'%
11128 }%
11129 \let\Hy@testname\Hy@undefinedname
11130 \fi
11131 \pdfmark[#{#3}]{%
11132 Color=\Hy@tempcolor,%
11133 linktype={#1},%
11134 AcroHighlight=\@pdfhighlight,%
11135 Border=\@pdfborder,%
11136 BorderStyle=\@pdfborderstyle,%
11137 pdfmark=/ANN,%
11138 Subtype=/Link,%
11139 PDFAFlags=4,%
11140 Dest=\Hy@testname
11141 }%
11142 \endgroup
11143 }
11144 \newtoks\pdf@docset
11145 \def\PDF@FinishDoc{%
11146 \Hy@UseMaketitleInfos
11147 \Hy@Info@GenerateAddons
11148 \let\Hy@temp\@empty
11149 \ifx\@pdfcreationdate\@empty
11150 \else
11151 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11152 \fi
11153 \ifx\@pdfmoddate\@empty
11154 \else
11155 \expandafter\def\expandafter\Hy@temp\expandafter{%
11156 \Hy@temp
11157 ModDate=\@pdfmoddate,%
11158 }%
11159 \fi
11160 \ifx\@pdfproducer\relax
11161 \else
11162 \expandafter\def\expandafter\Hy@temp\expandafter{%
11163 \Hy@temp
11164 Producer=\@pdfproducer,%
11165 }%
11166 \fi
11167 \expandafter
11168 \pdfmark\expandafter{%
11169 \Hy@temp
11170 pdfmark=/DOCINFO,%
11171 Title=\@pdftitle,%
11172 Subject=\@pdfsubject,%

```

```

11173   Creator=\@pdfcreator,%
11174   Author=\@pdfauthor,%
11175   Keywords=\@pdfkeywords,%
11176   Trapped=\@pdftrapped
11177 }%
11178 \ifx\HyInfo@Addons\@empty
11179 \else
11180   \pdfmark{%
11181     pdfmark=/DOCINFO,%
11182     Raw={\HyInfo@Addons}%
11183   }%
11184 \fi
11185 \Hy@DisableOption{pdfauthor}%
11186 \Hy@DisableOption{pdftitle}%
11187 \Hy@DisableOption{pdfsubject}%
11188 \Hy@DisableOption{pdfcreator}%
11189 \Hy@DisableOption{addtopdfcreator}%
11190 \Hy@DisableOption{pdfcreationdate}%
11191 \Hy@DisableOption{pdfcreationdate}%
11192 \Hy@DisableOption{pdfmoddate}%
11193 \Hy@DisableOption{pdfproducer}%
11194 \Hy@DisableOption{pdfkeywords}%
11195 \Hy@DisableOption{pdftrapped}%
11196 \Hy@DisableOption{pdfinfo}%
11197 }
11198 \def\PDF@SetupDoc{%
11199   \def\Hy@temp{}%
11200   \ifx\@pdfstartpage\@empty
11201   \else
11202     \ifx\@pdfstartview\@empty
11203     \else
11204       \edef\Hy@temp{%
11205         ,Page=\@pdfstartpage
11206         ,View=\@pdfstartview
11207       }%
11208     \fi
11209   \fi
11210   \edef\Hy@temp{%
11211     \noexpand\pdfmark{%
11212       pdfmark=/DOCVIEW,%
11213       PageMode=/\@pdfpagemode
11214       \Hy@temp
11215     }%
11216   }%
11217   \Hy@temp
11218   \ifx\@pdfpagescrop\@empty
11219   \else
11220     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11221   \fi
11222   \edef\Hy@temp{%
11223     \ifHy@pdftoolbar\else /HideToolbar true\fi
11224     \ifHy@pdfmenubar\else /HideMenubar true\fi
11225     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11226     \ifHy@pdffitwindow /FitWindow true\fi

```

```

11227 \ifHy@pdfcenterwindow /CenterWindow true\fi
11228 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11229 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11230 \Hy@UseNameKey{Direction}\@pdfdirection
11231 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11232 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11233 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11234 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11235 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11236 \Hy@UseNameKey{Duplex}\@pdfduplex
11237 \ifx\@pdfpicktraybypdfsize\@empty
11238 \else
11239 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11240 \fi
11241 \ifx\@pdfprintpagerange\@empty
11242 \else
11243 /PrintPageRange[\@pdfprintpagerange]%
11244 \fi
11245 \ifx\@pdfnumcopies\@empty
11246 \else
11247 /NumCopies \@pdfnumcopies
11248 \fi
11249 }%
11250 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11251 \pdfmark{%
11252 pdfmark=/PUT,%
11253 Raw={%
11254 \string{Catalog\string}<<%
11255 \ifx\Hy@temp\@empty
11256 \else
11257 /ViewerPreferences<<\Hy@temp>>%
11258 \fi
11259 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11260 \ifx\@pdflang\relax
11261 \else
11262 /Lang(\@pdflang)%
11263 \fi
11264 \ifx\@baseurl\@empty
11265 \else
11266 /URI<</Base(\Hy@pstringB)>>%
11267 \fi
11268 >>%
11269 }%
11270 }%
11271 }
11272 </pdfmark>
11273 (*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.

```

11274 \newif\ifHy@pdfmarkerror
11275 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11276 \def\pdfmark@[#1]#2{%
11277   \Hy@pdfmarkerrorfalse
11278   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11279   \@processme
11280   \let\pdf@type\relax
11281   \let\pdf@objdef\ltx@empty
11282   \kvsetkeys{PDF}{#2}%
11283   \ifHy@pdfmarkerror
11284   \else
11285     \ifx\pdf@type\relax
11286       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11287       \ifx\#1\%
11288         \else
11289           \pdf@rect{#1}%
11290           \fi
11291         \else
11292           \ifx\#1\%
11293             \literalps@out{%
11294               [%
11295                 \ifx\pdf@objdef\ltx@empty
11296                 \else
11297                   /_objdef\string{\pdf@objdef\string}%
11298                 \fi
11299                 \the\pdf@toks\space\pdf@type\space pdfmark%
11300               ]%
11301             \else
11302               \ltx@ifundefined{@\pdf@linktype color}{%
11303                 \Hy@colorlink\@linkcolor
11304               }{%
11305                 \expandafter\Hy@colorlink
11306                 \csname @\pdf@linktype color\endcsname
11307               }%
11308             \pdf@rect{#1}%
11309             \literalps@out{%
11310               [%
11311                 \ifx\pdf@objdef\ltx@empty
11312                 \else
11313                   /_objdef\string{\pdf@objdef\string}%
11314                 \fi
11315                 \the\pdf@toks\space\pdf@type\space pdfmark%
11316               ]%
11317                 \Hy@endcolorlink
11318             \fi
11319           \fi
11320         \fi
11321 }

```

The complicated bit is working out the right enclosing rectangle of some piece of  $\TeX$  text, needed by the `/Rect` key. This solution originates with Toby Thain ([toby@netspace.net.au](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}
```

```
11322 \newsavebox{\pdf@box}  
11323 \providecommand*{\Hy@setouterhbox}{\sbox}  
11324 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}  
11325 \def\Hy@DEST{/DEST}  
11326 \def\pdf@rect#1{%  
11327   \begingroup  
11328     \chardef\x=1 %  
11329     \def\Hy@temp{#1}%  
11330     \ifx\Hy@temp\ltx@empty  
11331       \chardef\x=0 %  
11332     \else  
11333       \def\y{\anchor@spot}%  
11334       \ifx\Hy@temp\y  
11335         \def\y{\relax}%  
11336       \ifx\anchor@spot\y  
11337         \chardef\x=0 %  
11338       \fi  
11339     \fi  
11340   \fi  
11341 \expandafter\endgroup  
11342 \ifcase\x  
11343   \literalps@out{H.S}%  
11344   \literalps@out{H.R}%  
11345 \else  
11346   \leavevmode  
11347   \Hy@SaveSpaceFactor  
11348   \ifmmode  
11349     \def\Hy@LinkMath{$}%  
11350   \else  
11351     \let\Hy@LinkMath\ltx@empty  
11352   \fi  
11353 \ifHy@breaklinks  
11354   \Hy@setouterhbox\pdf@box{%  
11355     \Hy@RestoreSpaceFactor  
11356     \Hy@LinkMath  
11357     \Hy@AllowHyphens#1\Hy@xspace@end  
11358     \Hy@LinkMath  
11359     \Hy@SaveSpaceFactor  
11360   }%  
11361 \else  
11362   \sbox\pdf@box{%  
11363     \Hy@RestoreSpaceFactor  
11364     \Hy@LinkMath  
11365     #1\Hy@xspace@end  
11366     \Hy@LinkMath  
11367     \Hy@SaveSpaceFactor
```

```

11368 }%
11369 \fi
11370 \dimen@\ht\pdf@box
11371 \ifdim\dp\pdf@box=\z@
11372 \literalps@out{H.S}%
11373 \else
11374 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11375 \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...).

```

11376 \ifHy@breaklinks
11377 \ifhmode
11378 \Hy@breaklinksunhbox\pdf@box
11379 \else
11380 \box\pdf@box
11381 \fi
11382 \else
11383 \expandafter\box\pdf@box
11384 \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

11385 \ifdim\dimen@=\z@
11386 \literalps@out{H.R}%
11387 \else
11388 \raise\dimen@\hbox{\literalps@out{H.R}}%
11389 \fi
11390 \Hy@RestoreSpaceFactor
11391 \fi
11392 \ifx\pdf@type\Hy@DEST
11393 \else
11394 \pdf@addtoksx{H.B}%
11395 \fi
11396 }

```

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.

```

11397 \newtoks\pdf@toks
11398 \newtoks\pdf@defaulttoks
11399 \pdf@defaulttoks={}%
11400 \def\pdf@addtoks#1#2{%
11401 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11402 \@processme
11403 }
11404 \def\pdf@addtoksx#1{%
11405 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11406 \@processme
11407 }
11408 \def\PDFdefaults#1{%

```

```

11409 \pdf@defaulttoks={#1}%
11410 }
This is the list of allowed keys. See the Acrobat manual for an explanation.
11411 % what is the type of pdfmark?
11412 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11413 % what is the link type?
11414 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11415 \def\pdf@linktype{link}
11416 % named object?
11417 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11418 \let\pdf@objdef\ltx@empty
11419 % parameter is a stream of PDF
11420 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11421 % parameter is a name
11422 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11423 % parameter is a array
11424 \define@key{PDF}{Border}{%
11425 \edef\Hy@temp{#1}%
11426 \ifx\Hy@temp\@empty
11427 \else
11428 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11429 \fi
11430 }
11431 \let\Hy@BorderArrayPatch\@empty
11432 % parameter is a dictionary
11433 \define@key{PDF}{BorderStyle}{%
11434 \edef\Hy@temp{#1}%
11435 \ifx\Hy@temp\@empty
11436 \else
11437 \pdf@addtoks{<<#1>>}{BS}%
11438 \fi
11439 }
11440 % parameter is a array
11441 \define@key{PDF}{Color}{%
11442 \ifx\relax#1\relax
11443 \else
11444 \pdf@addtoks{[#1]}{Color}% hash-ok
11445 \fi
11446 }
11447 % parameter is a string
11448 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11449 % parameter is a integer
11450 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11451 % parameter is a array
11452 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11453 % parameter is a string
11454 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11455 % parameter is a string or file
11456 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11457 % parameter is a destination
11458 \define@key{PDF}{Dest}{%
11459 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11460 \ifx\Hy@pstringDest\@empty
11461 \Hy@pdfmarkerrortrue

```

```

11462 \Hy@Warning{Destination with empty name ignored}%
11463 \else
11464 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11465 \fi
11466 }
11467 \define@key{PDF}{DestAnchor}{%
11468 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11469 \ifx\Hy@pstringDest\@empty
11470 \Hy@pdfmarkerrortrue
11471 \Hy@Warning{Destination with empty name ignored}%
11472 \else
11473 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11474 \fi
11475 }
11476 % parameter is a string
11477 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11478 % parameter is a string
11479 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11480 % parameter is a int
11481 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11482 \define@key{PDF}{PDFAFlags}{%
11483 \ifHy@pdfa
11484 \pdf@addtoks{#1}{F}%
11485 \fi
11486 }
11487 % parameter is a name
11488 \define@key{PDF}{AcroHighlight}{%
11489 \begingroup
11490 \edef\x{#1}%
11491 \expandafter\endgroup\ifx\x\@empty
11492 \else
11493 \pdf@addtoks{#1}{H}%
11494 \fi
11495 }
11496 % parameter is a string
11497 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11498 % parameter is a string
11499 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11500 % parameter is a string
11501 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11502 % parameter is a string
11503 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11504 % parameter is a Boolean
11505 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11506 % parameter is a integer or name
11507 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11508 % parameter is a name
11509 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11510 % parameter is a string
11511 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11512 % parameter is a array
11513 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11514 % parameter is a integer
11515 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}

```

```

11516 % parameter is a name
11517 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11518 % parameter is a string
11519 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
11520 % parameter is a string
11521 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
11522 % parameter is a string
11523 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
11524 % parameter is an array
11525 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
11526 % parameter is a string
11527 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11528 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
11529 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
11530 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
11531 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11532 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
11533 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
11534 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
11535 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11536 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
11537 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11538 \define@key{PDF}{Trapped}{%
11539   \edef\Hy@temp{#1}%
11540   \ifx\Hy@temp\@empty
11541     \else
11542       \pdf@addtoks{/#1}{Trapped}%
11543     \fi
11544   }
11545
11546 </pdfmarkbase>
11547 (*pdfmark)
11548 \def\Acrobatmenu#1#2{%
11549   \EdefEscapeName\Hy@temp@menu{#1}%
11550   \Hy@Acrobatmenu{#1}{#2}{%
11551     \pdfmark{#2}{%
11552       linktype=menu,%
11553       pdfmark=/ANN,%
11554       AcroHighlight=\@pdfhighlight,%
11555       Border=\@pdfborder,%
11556       BorderStyle=\@pdfborderstyle,%
11557       Color=\@menubordercolor,%
11558       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11559       Subtype=/Link,%
11560       PDFAFlags=4%
11561     }%
11562   }%
11563 }

```

And now for some useful examples:

```

11564 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@{}}
11565 \def\PDFNextPage@[#1]#2{%
11566   \pdfmark{#2}{%

```

```

11567   #1,%
11568   Border=\@pdfborder,%
11569   BorderStyle=\@pdfborderstyle,%
11570   Color=.2 .1 .5,%
11571   pdfmark=/ANN,%
11572   Subtype=/Link,%
11573   PDFAFlags=4,%
11574   Page=/Next%
11575 }%
11576 }
11577 \def\PDFPreviousPage{%
11578   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11579 }
11580 \def\PDFPreviousPage@[#1]#2{%
11581   \pdfmark[#{#2}]{%
11582     #1,%
11583     Border=\@pdfborder,%
11584     BorderStyle=\@pdfborderstyle,%
11585     Color=.4 .4 .1,%
11586     pdfmark=/ANN,%
11587     Subtype=/Link,%
11588     PDFAFlags=4,%
11589     Page=/Prev%
11590 }%
11591 }
11592 \def\PDFOpen#1{%
11593   \pdfmark{#1,pdfmark=/DOCVIEW}%
11594 }

```

This will only work if you use Distiller 2.1 or higher.

```

11595 \def\hyper@linkurl#1#2{%
11596   \begingroup
11597   \Hy@pstringdef\Hy@pstringURI{#2}%
11598   \hyper@chars
11599   \leavevmode
11600   \pdfmark[#{#1}]{%
11601     pdfmark=/ANN,%
11602     linktype=url,%
11603     AcroHighlight=\@pdfhighlight,%
11604     Border=\@pdfborder,%
11605     BorderStyle=\@pdfborderstyle,%
11606     Color=\@urlbordercolor,%
11607     Action={<<%
11608       /Subtype/URI%
11609       /URI(\Hy@pstringURI)%
11610       \ifHy@href@ismap
11611         /IsMap true%
11612       \fi
11613     >>},%
11614     Subtype=/Link,%
11615     PDFAFlags=4%
11616   }%
11617   \endgroup
11618 }
11619 \def\hyper@linkfile#1#2#3{%

```

```

11620 \begingroup
11621 \def\Hy@pstringF{#2}%
11622 \Hy@CleanupFile\Hy@pstringF
11623 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11624 \Hy@pstringdef\Hy@pstringD{#3}%
11625 \Hy@MakeRemoteAction
11626 \leavevmode
11627 \pdfmark[#{#1}]{%
11628 pdfmark=/ANN,%
11629 Subtype=/Link,%
11630 PDFAFlags=4,%
11631 AcroHighlight=\@pdfhighlight,%
11632 Border=\@pdfborder,%
11633 BorderStyle=\@pdfborderstyle,%
11634 linktype=file,%
11635 Color=\@filebordercolor,%
11636 Action={%
11637 <<%
11638 /S/GoToR%
11639 \Hy@SetNewWindow
11640 /F(\Hy@pstringF)%
11641 /D%
11642 \ifx\#3\%
11643 [\Hy@href@page\@pdfremotestartview]%
11644 \else
11645 (\Hy@pstringD)cvn%
11646 \fi
11647 \Hy@href@nextactionraw
11648 >>%
11649 }%
11650 }%
11651 \endgroup
11652 }
11653 \def\@hyper@launch run:#{1}\#2#3{%
11654 \begingroup
11655 \Hy@pstringdef\Hy@pstringF{#1}%
11656 \Hy@pstringdef\Hy@pstringP{#3}%
11657 \leavevmode
11658 \pdfmark[#{#2}]{%
11659 pdfmark=/ANN,%
11660 Subtype=/Link,%
11661 PDFAFlags=4,%
11662 AcroHighlight=\@pdfhighlight,%
11663 Border=\@pdfborder,%
11664 BorderStyle=\@pdfborderstyle,%
11665 linktype=run,%
11666 Color=\@runbordercolor,%
11667 Action={%
11668 <<%
11669 /S/Launch%
11670 \Hy@SetNewWindow
11671 /F(\Hy@pstringF)%
11672 \ifx\#3\%
11673 \else

```

```

11674      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11675      \fi
11676      \Hy@href@nextactionraw
11677      >>%
11678      }%
11679      }%
11680 \endgroup
11681 }
11682 </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.

```

11683 (*dvips)
11684 \providecommand*\XR@ext}{pdf}
11685 \let\Hy@raisedlink\ltx@empty
11686 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11687 \def\headerps@out#1{\special{! #1}}%
11688 \input{pdfmark.def}%
11689 \ifx\@pdfproducer\relax
11690 \def\@pdfproducer{dvips + Distiller}%
11691 \fi
11692 \providecommand*\@pdfborder{0 0 1}
11693 \providecommand*\@pdfborderstyle{}
11694 \providecommand*\@pdfview{XYZ}
11695 \providecommand*\@pdfviewparams{ H.V}
11696 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11697 \g@addto@macro\Hy@FirstPageHook{%
11698 \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.

```

11699 /DvipsToPDF{72.27 mul Resolution div} def%
11700 /PDFToDvips{72.27 div Resolution mul} def%
11701 /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.

```

11702   product (Ghostscript) search {pop pop pop revision 927 gt}%
11703   {pop false} ifelse%
11704   {%
11705     /BorderArrayPatch{} def%
11706   }%
11707   {%
11708     /BorderArrayPatch{%
11709       [exch{%
11710         dup dup type/integertype eq exch type/realttype eq or%
11711         {BPToDvips}if%
11712       }forall]%
11713     }def%
11714   } 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.

```

11715   /HyperBorder {1 PDFToDvips} def%
11716   /H.V {pdf@hoff pdf@voff null} def%
11717   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

H.S (start of anchor, link, or rect) stores the  $x$  and  $y$  coordinates of the current point, in PDF coordinates

```

11718   /H.S {%
11719     currentpoint %
11720     HyperBorder add /pdf@lly exch def %
11721     dup DvipsToPDF 72 add /pdf@hoff exch def %
11722     HyperBorder sub /pdf@llx exch def%
11723   } 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`

```

11724   /H.L {%
11725     2 sub dup%
11726     /HyperBasePt exch def %
11727     PDFToDvips /HyperBaseDvips exch def %
11728     currentpoint %
11729     HyperBaseDvips sub /pdf@ury exch def%
11730     /pdf@urx exch def%
11731   } def%
11732   /H.A {%
11733     H.L %
11734   % |pdf@voff| = the distance from the top of the page to a point

```

```

11735 % |\baselineskip| above the current point in PDF coordinates
11736   currentpoint exch pop %
11737   vsize 72 sub exch DvipsToPDF %
11738   HyperBasePt sub % baseline skip
11739   sub /pdf@voff exch def%
11740 } def%
11741 /H.R {%
11742   currentpoint %
11743   HyperBorder sub /pdf@ury exch def %
11744   HyperBorder add /pdf@urx exch def %
11745 % |/pdf@voff| = the distance from the top of the page to the current point, in
11746 % PDF coordinates
11747   currentpoint exch pop vsize 72 sub %
11748   exch DvipsToPDF sub /pdf@voff exch def%
11749 } def%
11750 }%
11751 }
11752 \AtBeginShipoutFirst{%
11753   \ifHy@setpagesize
11754     \begingroup
11755       \ifnum\mag=\@m
11756         \ifdim\stockwidth>\z@
11757           \ifdim\stockheight>\z@
11758             \special{papersize=\the\stockwidth,\the\stockheight}%
11759           \else
11760             \ifdim\paperwidth>\z@
11761               \ifdim\paperheight>\z@
11762                 \special{papersize=\the\paperwidth,\the\paperheight}%
11763             \fi
11764           \fi
11765         \fi
11766       \else
11767         \ifdim\stockwidth=\z@
11768           \ifdim\paperwidth>\z@
11769             \ifdim\paperheight>\z@
11770               \special{papersize=\the\paperwidth,\the\paperheight}%
11771             \fi
11772           \fi
11773         \fi
11774       \fi
11775     \endgroup
11776   \fi
11777 }
11778 \Hy@DisableOption{setpagesize}%
11779 }

11780 \def\setpdfinkmargin#1{%
11781   \begingroup
11782     \setlength{\dimen@}{#1}%
11783     \literalps@out{%
11784       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11785     }%
11786   \endgroup
11787 }

```

11788 </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.

```
11789 (*vtexpdfmark)
11790 \providecommand*\XR@ext}{pdf}
11791 \let\Hy@raisedlink\ltx@empty
11792 \def\literalps@out#1{\special{pS:#1}}%
11793 \def\headerps@out#1{\immediate\special{pS:#1}}%
11794 \input{pdfmark.def}%
11795 \ifx\@pdfproducer\relax
11796   \ifnum\OpMode=\@ne
11797     \def\@pdfproducer{VTeX}%
11798   \else
11799     \def\@pdfproducer{VTeX + Distiller}%
11800   \fi
11801 \fi
11802 \providecommand*\@pdfborder{0 0 1}
11803 \providecommand*\@pdfborderstyle{}
11804 \providecommand*\@pdfview{XYZ}
11805 \providecommand*\@pdfviewparams{ H.V}
11806 \g@addto@macro\Hy@FirstPageHook{%
11807   \headerps@out{%
11808     /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.

```
11809   /HyperBorder {1} def%
11810   /H.V {pdf@hoff pdf@voff null} def%
11811   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```
11812   /H.S {%
11813     currentpoint %
11814     HyperBorder sub%
11815     /pdf@lly exch def %
11816     dup 72 add /pdf@hoff exch def %
11817     HyperBorder sub%
11818     /pdf@llx exch def%
11819   } def%
```

The  $x$  and  $y$  coordinates of the current point, minus the  $\backslash\text{baselineskip}$ :  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```
11820   /H.L {%
11821     2 sub%
11822     /HyperBasePt exch def %
11823     currentpoint %
```

```

11824   HyperBasePt add HyperBorder add%
11825   /pdf@ury exch def %
11826   HyperBorder add%
11827   /pdf@urx exch def%
11828   } def%
11829   /H.A {%
11830     H.L %
11831     currentpoint exch pop %
11832     vsize 72 sub exch %
11833     HyperBasePt add add%
11834     /pdf@voff exch def%
11835   } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11836   /H.R {%
11837     currentpoint %
11838     HyperBorder add%
11839     /pdf@ury exch def %
11840     HyperBorder add%
11841     /pdf@urx exch def %
11842     currentpoint exch pop vsize 72 sub add%
11843     /pdf@voff exch def%
11844   } def%
11845 }%
11846 }

11847 \def\setpdfinkmargin#1{%
11848   \begingroup
11849   \setlength{\dimen@}{#1}%
11850   \literalps@out{%
11851     /HyperBorder{\strip@pt\dimen@}def%
11852   }%
11853   \endgroup
11854 }

11855 </vtexpdfmark>

```

### 43.11 Textures

```

11856 (*textures)
11857 \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.

```

11858 \begingroup
11859   \obeylines %
11860   \gdef\Hy@ps@CR{\noexpand
11861   }%
11862 \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`.

```
11863 \def\literalps@out#1{%
11864   \special{postscript 0 0 transform}%
11865   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11866 }%
11867 %
```

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.

```
11868 \def\headerps@out#1{%
11869   \special{%
11870     prepostscript TeXdict begin\Hy@ps@CR
11871     #1\Hy@ps@CR
11872     end%
11873   }%
11874 }%
11875 %
```

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.

```
11876 \g@addto@macro\Hy@FirstPageHook{%
11877   \headerps@out{%
11878     /betterpdfmark {%
11879       systemdict begin %
11880         dup /BP eq%
11881         {cleartomark gsave nulldevice []}%
11882         {dup /EP eq%
11883          {cleartomark cleartomark grestore}%
11884          {cleartomark}%
11885          ifelse%
11886        }ifelse %
11887       end%
11888     }def\Hy@ps@CR
11889     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11890   }% end of \headerps@out
11891 }% end of \AtBeginShipoutFirst
11892 %
11893 \input{pdfmark.def}%
11894 %
11895 \ifx\@pdfproducer\relax
11896   \def\@pdfproducer{Textures + Distiller}%
11897 \fi
```

```

11898 \providecommand*\@pdfborder{0 0 1}
11899 \providecommand*\@pdfborderstyle{}
11900 \providecommand*\@pdfview{XYZ}
11901 \providecommand*\@pdfviewparams{ H.V}
11902 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. The `Rect` pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

11903 \Hy@AtBeginDocument{%
11904 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11905 /vsize {\Hy@pageheight} def%
11906 /DvipsToPDF {} def%
11907 /PDFToDvips {} def%
11908 /BPToDvips {} def%
11909 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11910 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11911 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11912 /H.S {%
11913 currentpoint %
11914 HyperBorder add /pdf@lly exch def %
11915 dup DvipsToPDF 72 add /pdf@hoff exch def %
11916 HyperBorder sub /pdf@llx exch def%
11917 } def\Hy@ps@CR
11918 /H.L {%
11919 2 sub %
11920 PDFToDvips /HyperBase exch def %
11921 currentpoint %
11922 HyperBase sub /pdf@ury exch def%
11923 /pdf@urx exch def%
11924 } def\Hy@ps@CR
11925 /H.A {%
11926 H.L %
11927 currentpoint exch pop %
11928 vsize 72 sub exch DvipsToPDF %
11929 HyperBase sub % baseline skip
11930 sub /pdf@voff exch def%
11931 } def\Hy@ps@CR
11932 /H.R {%
11933 currentpoint %
11934 HyperBorder sub /pdf@ury exch def %
11935 HyperBorder add /pdf@urx exch def %
11936 currentpoint exch pop vsize 72 sub %
11937 exch DvipsToPDF sub /pdf@voff exch def%
11938 } def\Hy@ps@CR
11939 }%
11940 }

11941 \def\setpdfinkmargin#1{%
11942 \begingroup

```

```

11943 \setlength{\dimen@}{#1}%
11944 \literalps@out{%
11945   /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11946 }%
11947 \endgroup
11948 }

11949 \Hy@AtBeginDocument{%
11950 \ifHy@colorlinks
11951   \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11952 \fi
11953 }

```

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.

```

11954 \expandafter\let\expandafter\keepPDF@SetupDoc
11955 \csname PDF@SetupDoc\endcsname
11956 \def\PDF@SetupDoc{%
11957   \ifx\@baseurl\@empty
11958   \else
11959     \special{html:<base href="\@baseurl">}%
11960   \fi
11961   \keepPDF@SetupDoc
11962 }

11963 \Hy@WrapperDef\hyper@anchor#1{%
11964   \Hy@SaveLastskip
11965   \Hy@VerboseAnchor{#1}%
11966   \begingroup
11967     \let\protect=\string
11968     \special{html:<a name=%
11969       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11970   \endgroup
11971   \Hy@activeanchortrue
11972   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11973   \special{html:</a>}%
11974   \Hy@activeanchorfalse
11975   \Hy@RestoreLastskip
11976 }

11977 \Hy@WrapperDef\hyper@anchorstart#1{%
11978   \Hy@SaveLastskip
11979   \Hy@VerboseAnchor{#1}%
11980   \begingroup
11981     \hyper@chars
11982     \special{html:<a name=%
11983       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11984   \endgroup
11985   \Hy@activeanchortrue
11986 }

11987 \def\hyper@anchorend{%
11988   \special{html:</a>}%
11989   \Hy@activeanchorfalse
11990   \Hy@RestoreLastskip
11991 }

11992 \def\@urltype{url}

```

```

11993 \def\hyper@linkstart#1#2{%
11994 \Hy@VerboseLinkStart{#1}{#2}%
11995 \expandafter\Hy@colorlink\csname @#1color\endcsname
11996 \def\Hy@tempa{#1}%
11997 \ifx\Hy@tempa\urltype
11998 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11999 \else
12000 \begingroup
12001 \hyper@chars
12002 \special{%
12003 html:<a href=%
12004 \hyper@quote#\Hy@HyperDestNameFilter{#2}\hyper@quote>%
12005 }%
12006 \endgroup
12007 \fi
12008 }
12009 \def\hyper@linkend{%
12010 \special{html:</a>}%
12011 \Hy@endcolorlink
12012 }
12013 \def\hyper@linkfile#1#2#3{%
12014 \hyper@linkurl{#1}{%
12015 \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
12016 }%
12017 }
12018 \def\hyper@linkurl#1#2{%
12019 \leavevmode
12020 \ifHy@raiselinks
12021 \Hy@SaveSpaceFactor
12022 \Hy@SaveSavedSpaceFactor
12023 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12024 \Hy@RestoreSavedSpaceFactor
12025 \@linkdim\dp\@tempboxa
12026 \lower\@linkdim\hbox{%
12027 \hyper@chars
12028 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12029 }%
12030 \Hy@colorlink\@urlcolor
12031 \Hy@RestoreSpaceFactor
12032 #1\Hy@xspace@end
12033 \Hy@SaveSpaceFactor
12034 \@linkdim\ht\@tempboxa
12035 \advance\@linkdim by -6.5\p@
12036 \raise\@linkdim\hbox{\special{html:</a>}}%
12037 \Hy@endcolorlink
12038 \Hy@RestoreSpaceFactor
12039 \else
12040 \begingroup
12041 \hyper@chars
12042 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12043 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12044 \special{html:</a>}%
12045 \Hy@endcolorlink
12046 \endgroup

```



```

12047 \fi
12048 }
Very poor implementation of \hyper@link without considering #1.
12049 \def\hyper@link#1#2#3{%
12050 \Hy@VerboseLinkStart{#1}{#2}%
12051 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12052 }
12053 \def\hyper@image#1#2{%
12054 \begingroup
12055 \hyper@chars
12056 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12057 \endgroup
12058 }
12059 </textures>

```

### 43.12 dvipsone

```

12060 % \subsection{dvipsone driver}
12061 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12062 % |\special| commands.
12063 (*dvipsone)
12064 \providecommand*\XR@ext}{pdf}
12065 \let\Hy@raisedlink\ltx@empty
12066 \providecommand*\@pdfborder{0 0 1}
12067 \providecommand*\@pdfborderstyle{}
12068 \def\literalps@out#1{\special{ps:#1}}%
12069 \def\headerps@out#1{\special{headertext=#1}}%
12070 \input{pdfmark.def}%
12071 \HyInfo@AddonUnsupportedtrue
12072 \def\PDF@FinishDoc{%
12073 \Hy@UseMaketitleInfos
12074 \HyInfo@TrappedUnsupported
12075 \special{PDF: Keywords \@pdfkeywords}%
12076 \special{PDF: Title \@pdftitle}%
12077 \special{PDF: Creator \@pdfcreator}%
12078 \ifx\@pdfcreationdate\@empty
12079 \else
12080 \special{PDF: CreationDate \@pdfcreationdate}%
12081 \fi
12082 \ifx\@pdfmoddate\@empty
12083 \else
12084 \special{PDF: ModDate \@pdfmoddate}%
12085 \fi
12086 \special{PDF: Author \@pdfauthor}%
12087 \ifx\@pdfproducer\relax
12088 \else
12089 \special{PDF: Producer \@pdfproducer}%
12090 \fi
12091 \special{PDF: Subject \@pdfsubject}%
12092 \Hy@DisableOption{pdfauthor}%
12093 \Hy@DisableOption{pdftitle}%
12094 \Hy@DisableOption{pdfsubject}%
12095 \Hy@DisableOption{pdfcreator}%

```

```

12096 \Hy@DisableOption{addtopdfcreator}%
12097 \Hy@DisableOption{pdfcreationdate}%
12098 \Hy@DisableOption{pdfcreationdate}%
12099 \Hy@DisableOption{pdfmoddate}%
12100 \Hy@DisableOption{pdfproducer}%
12101 \Hy@DisableOption{pdfkeywords}%
12102 \Hy@DisableOption{pdftrapped}%
12103 \Hy@DisableOption{pdfinfo}%
12104 }
12105 \def\PDF@SetupDoc{%
12106 \def\Hy@temp{}%
12107 \ifx\@pdfstartpage\@empty
12108 \else
12109 \ifx\@pdfstartview\@empty
12110 \else
12111 \edef\Hy@temp{%
12112 ,Page=\@pdfstartpage
12113 ,View=\@pdfstartview
12114 }%
12115 \fi
12116 \fi
12117 \edef\Hy@temp{%
12118 \noexpand\pdfmark{%
12119 pdfmark=/DOCVIEW,%
12120 PageMode=/\@pdfpagemode
12121 \Hy@temp
12122 }%
12123 }%
12124 \Hy@temp
12125 \ifx\@pdfpagescrop\@empty
12126 \else
12127 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12128 \fi
12129 \edef\Hy@temp{%
12130 \ifHy@pdftoolbar\else /HideToolbar true\fi
12131 \ifHy@pdfmenubar\else /HideMenubar true\fi
12132 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12133 \ifHy@pdffitwindow /FitWindow true\fi
12134 \ifHy@pdfcenterwindow /CenterWindow true\fi
12135 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12136 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12137 \Hy@UseNameKey{Direction}\@pdfdirection
12138 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12139 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12140 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12141 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12142 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12143 \Hy@UseNameKey{Duplex}\@pdfduplex
12144 \ifx\@pdfpicktraybypdfsize\@empty
12145 \else
12146 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12147 \fi
12148 \ifx\@pdfprintpagerange\@empty
12149 \else

```

```

12150 /PrintPageRange{\@pdfprintpagerange}%
12151 \fi
12152 \ifx\@pdfnumcopies\@empty
12153 \else
12154 /NumCopies \@pdfnumcopies
12155 \fi
12156 }%
12157 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12158 \pdfmark{%
12159 pdfmark=/PUT,%
12160 Raw={%
12161 \string{Catalog\string}<<%
12162 \ifx\Hy@temp\@empty
12163 \else
12164 /ViewerPreferences<<\Hy@temp>>%
12165 \fi
12166 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12167 \ifx\@pdflang\relax
12168 \else
12169 /Lang(\@pdflang)%
12170 \fi
12171 \ifx\@baseurl\@empty
12172 \else
12173 /URI<</Base(\Hy@pstringB)>>%
12174 \fi
12175 >>%
12176 }%
12177 }%
12178 }
12179 \providecommand*\@pdfview{XYZ}
12180 \providecommand*\@pdfviewparams{ %
12181 gsave revscl currentpoint grestore %
12182 72 add exch pop null exch null%
12183 }
12184 \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  $\TeX$ .

```

12185 \g@addto@macro\Hy@FirstPageHook{%
12186 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12187 /DvipsToPDF { 65781 div } def%
12188 /PDFToDvips { 65781 mul } def%
12189 /BPToDvips{65781 mul}def%
12190 /HyperBorder { 1 PDFToDvips } def%
12191 /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.

```

12192 /BorderArrayPatch{%

```

```

12193 [exch{%
12194   dup dup type/integertype eq exch type/realttype eq or%
12195   {BPToDvips}if%
12196 }forall]%
12197 }def%
12198 /H.S {%
12199   currentpoint %
12200   HyperBorder add /pdf@lly exch def %
12201   dup DvipsToPDF 72 add /pdf@hoff exch def %
12202   HyperBorder sub /pdf@llx exch def%
12203 } def%
12204 /H.L {%
12205   2 sub %
12206   PDFToDvips /HyperBase exch def %
12207   currentpoint %
12208   HyperBase sub /pdf@ury exch def%
12209   /pdf@urx exch def%
12210 } def%
12211 /H.A {%
12212   H.L %
12213   currentpoint exch pop %
12214   HyperBase sub % baseline skip
12215   DvipsToPDF /pdf@voff exch def%
12216 } def%
12217 /H.R {%
12218   currentpoint %
12219   HyperBorder sub /pdf@ury exch def %
12220   HyperBorder add /pdf@urx exch def %
12221   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12222 } def%
12223 }%
12224 }

12225 \def\setpdfinkmargin#1{%
12226   \begingroup
12227   \setlength{\dimen@}{#1}%
12228   \literalps@out{%
12229     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12230   }%
12231   \endgroup
12232 }

12233 </dvipsone>

```

### 43.13 TeX4ht

```

12234 (*tex4ht)
12235 \providecommand*\XR@ext}{html}
12236 \let\Hy@raisedlink\ltx@empty
12237 \@ifpackageloaded{tex4ht}{%
12238   \Hy@InfoNoLine{tex4ht is already loaded}%
12239 }{%
12240   \RequirePackage[htex4ht]{tex4ht}%
12241 }
12242 \hyperlinkfileprefix{}
12243 \let\PDF@FinishDoc\ltx@empty

```

```

12244 \def\PDF@SetupDoc{%
12245   \ifx\@baseurl\@empty
12246   \else
12247     \special{t4ht=<base href="\@baseurl">}%
12248   \fi
12249 }
12250 \Hy@WrapperDef\hyper@anchor#1{%
12251   \Hy@SaveLastskip
12252   \Hy@VerboseAnchor{#1}%
12253   \begingroup
12254     \let\protect=\string
12255     \special{t4ht=<a name=%
12256       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12257   \endgroup
12258   \Hy@activeanchortrue
12259   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12260   \special{t4ht=</a>}%
12261   \Hy@activeanchorfalse
12262   \Hy@RestoreLastskip
12263 }
12264 \Hy@WrapperDef\hyper@anchorstart#1{%
12265   \Hy@SaveLastskip
12266   \Hy@VerboseAnchor{#1}%
12267   \begingroup
12268     \hyper@chars\special{t4ht=<a name=%
12269       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12270   \endgroup
12271   \Hy@activeanchortrue
12272 }
12273 \def\hyper@anchorend{%
12274   \special{t4ht=</a>}%
12275   \Hy@activeanchorfalse
12276   \Hy@RestoreLastskip
12277 }
12278 \def\@urltype{url}
12279 \def\hyper@linkstart#1#2{%
12280   \Hy@VerboseLinkStart{#1}{#2}%
12281   \expandafter\Hy@colorlink\csname @#1color\endcsname
12282   \def\Hy@tempa{#1}%
12283   \ifx\Hy@tempa\@urltype
12284     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12285   \else
12286     \begingroup
12287       \hyper@chars
12288       \special{t4ht=<a href=%
12289         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12290     \endgroup
12291   \fi
12292 }
12293 \def\hyper@linkend{%
12294   \special{t4ht=</a>}%
12295   \Hy@endcolorlink
12296 }
12297 \def\hyper@linkfile#1#2#3{%

```

```

12298 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
12299 }
12300 \def\hyper@linkurl#1#2{%
12301 \leavevmode
12302 \ifHy@raiselinks
12303 \Hy@SaveSpaceFactor
12304 \Hy@SaveSavedSpaceFactor
12305 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12306 \Hy@RestoreSavedSpaceFactor
12307 \@linkdim\dp\@tempboxa
12308 \lower\@linkdim\hbox{%
12309 \begingroup
12310 \hyper@chars
12311 \special{%
12312 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12313 }%
12314 \endgroup
12315 }%
12316 \Hy@colorlink\@urlcolor
12317 \Hy@RestoreSpaceFactor
12318 #1\Hy@xspace@end
12319 \Hy@SaveSpaceFactor
12320 \Hy@endcolorlink
12321 \@linkdim\ht\@tempboxa
12322 \advance\@linkdim by -6.5\p@
12323 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12324 \Hy@RestoreSpaceFactor
12325 \else
12326 \begingroup
12327 \hyper@chars
12328 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12329 \Hy@colorlink\@urlcolor
12330 #1\Hy@xspace@end
12331 \Hy@endcolorlink
12332 \special{t4ht=</a>}%
12333 \endgroup
12334 \fi
12335 }

```

Poor implementation of \hyper@link without considering #1.

```

12336 \def\hyper@link#1#2#3{%
12337 \Hy@VerboseLinkStart{#1}{#2}%
12338 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
12339 }
12340 \def\hyper@image#1#2{%
12341 \begingroup
12342 \hyper@chars
12343 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12344 \endgroup
12345 }
12346 \let\autoref\ref
12347 \ifx \rEflLiNK \UnDef
12348 \def\rEflLiNK #1#2{#2}%
12349 \fi
12350 \let\backref\tx@gobble

```

```

Fix for tex4ht.
12351 \AtBeginDocument{%
12352   \expandafter
12353   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12354   \expandafter\def\csname Make:Label\endcsname#1#2{%
12355     \ifhmode
12356       \Hy@SaveSpaceFactor
12357     \else
12358       \global\Hy@SavedSpaceFactor=1000 %
12359     \fi
12360     \Hy@OrgMakeLabel{#1}{%
12361       \Hy@RestoreSpaceFactor
12362       #2\Hy@xspace@end%
12363       \Hy@SaveSpaceFactor
12364     }%
12365     \Hy@RestoreSpaceFactor
12366   }%
12367 }
12368 </tex4ht>
12369 <#*tex4htcfg>
12370 \IfFileExists{\jobname.cfg}{\endinput}{}
12371 \Preamble{html}
12372   \begin{document}%
12373 \EndPreamble
12374 \def\TeX{TeX}
12375 \def\OMEGA{Omega}
12376 \def\LaTeX{LaTeX}
12377 \def\LaTeXe{LaTeX2e}
12378 \def\eTeX{e-TeX}
12379 \def\MF{Metafont}
12380 \def\MP{MetaPost}
12381 </tex4htcfg>

```

## 44 Driver-specific form support

### 44.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```

12382 <#*pdfmark>
12383 \long\def\@Form[#1]{%
12384 \g@addto@macro\Hy@FirstPageHook{%
12385   \headerps@out{%
12386     [%
12387     /_objdef{pdfDocEncoding}%
12388     /type/dict%
12389     /OBJ pdfmark%
12390     [%
12391     {pdfDocEncoding}%
12392     <<%
12393     /Type/Encoding%
12394     /Differences[%
12395     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12396     /tilde %
12397     39/quotesingle %

```

12398 96/grave %  
12399 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12400 /fraction/guilsingleft/guilsingright/minus/perthousand%  
12401 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12402 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12403 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12404 160/Euro %  
12405 164/currency %  
12406 166/brokenbar %  
12407 168/dieresis/copyright/ordfeminine %  
12408 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12409 /twosuperior/threesuperior/acute/mu %  
12410 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12411 188/onequarter/onehalf/threequarters %  
12412 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12413 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12414 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12415 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12416 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12417 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12418 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12419 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%  
12420 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12421 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12422 ]%  
12423 >>%  
12424 /PUT pdfmark%  
12425 [%  
12426 /\_objdef{ZaDb}%  
12427 /type/dict%  
12428 /OBJ pdfmark%  
12429 [%  
12430 {ZaDb}%  
12431 <<%  
12432 /Type/Font%  
12433 /Subtype/Type1%  
12434 /Name/ZaDb%  
12435 /BaseFont/ZapfDingbats%  
12436 >>%  
12437 /PUT pdfmark%  
12438 [%  
12439 /\_objdef{Helv}%  
12440 /type/dict%  
12441 /OBJ pdfmark%  
12442 [%  
12443 {Helv}%  
12444 <<%  
12445 /Type/Font%  
12446 /Subtype/Type1%  
12447 /Name/Helv%  
12448 /BaseFont/Helvetica%  
12449 /Encoding{pdfDocEncoding}%  
12450 >>%  
12451 /PUT pdfmark%



12452 [%  
12453 /\_objdef{aform}%  
12454 /type/dict%  
12455 /OBJ pdfmark%  
12456 [%  
12457 /\_objdef{afields}%  
12458 /type/array%  
12459 /OBJ pdfmark%  
12460 [%  
12461 /\_objdef{corder}%  
12462 /type/array%  
12463 /OBJ pdfmark%  
12464 {%  
12465 [%  
12466 /BBox[0 0 100 100]%  
12467 /\_objdef{Check}%  
12468 /BP pdfmark %  
12469 1 0 0 setrgbcolor%  
12470 /ZapfDingbats 80 selectfont %  
12471 20 20 moveto%  
12472 (4)show%  
12473 [/EP pdfmark%  
12474 [%  
12475 /BBox[0 0 100 100]%  
12476 /\_objdef{Cross}%  
12477 /BP pdfmark %  
12478 1 0 0 setrgbcolor%  
12479 /ZapfDingbats 80 selectfont %  
12480 20 20 moveto%  
12481 (8)show%  
12482 [/EP pdfmark%  
12483 [%  
12484 /BBox[0 0 250 100]%  
12485 /\_objdef{Submit}%  
12486 /BP pdfmark %  
12487 0.6 setgray %  
12488 0 0 250 100 rectfill %  
12489 1 setgray %  
12490 2 2 moveto %  
12491 2 98 lineto %  
12492 248 98 lineto %  
12493 246 96 lineto %  
12494 4 96 lineto %  
12495 4 4 lineto %  
12496 fill %  
12497 0.34 setgray %  
12498 248 98 moveto %  
12499 248 2 lineto %  
12500 2 2 lineto %  
12501 4 4 lineto %  
12502 246 4 lineto %  
12503 246 96 lineto %  
12504 fill%  
12505 /Helvetica 76 selectfont %

```

12506 0 setgray %
12507 8 22.5 moveto%
12508 (Submit)show%
12509 [/EP pdfmark%
12510 [%
12511 /BBox[0 0 250 100]%
12512 /_objdef{SubmitP}%
12513 /BP pdfmark %
12514 0.6 setgray %
12515 0 0 250 100 rectfill %
12516 0.34 setgray %
12517 2 2 moveto %
12518 2 98 lineto %
12519 248 98 lineto %
12520 246 96 lineto %
12521 4 96 lineto %
12522 4 4 lineto %
12523 fill %
12524 1 setgray %
12525 248 98 moveto %
12526 248 2 lineto %
12527 2 2 lineto %
12528 4 4 lineto %
12529 246 4 lineto %
12530 246 96 lineto %
12531 fill%
12532 /Helvetica 76 selectfont %
12533 0 setgray %
12534 10 20.5 moveto%
12535 (Submit)show%
12536 [/EP pdfmark%
12537 } ?pdfmark%
12538 [%
12539 {aform}%
12540 <<%
12541 /Fields{afields}%
12542 /DR<<%
12543 /Font<<%
12544 /ZaDb{ZaDb}%
12545 /Helv{Helv}%
12546 >>%
12547 >>%
12548 /DA(/Helv 10 Tf 0 g)%
12549 /CO{corder}%
12550 \ifHy@pdfa
12551 \else
12552 \ifHyField@NeedAppearances
12553 /NeedAppearances true%
12554 \fi
12555 \fi
12556 >>%
12557 /PUT pdfmark%
12558 [%
12559 {Catalog}%

```

```

12560 <<%
12561   /AcroForm{aform}%
12562 >>%
12563 /PUT pdfmark%
12564 }}%
12565 \kvsetkeys{Form}{#1}%
12566 }
12567 \let\@endForm\ltx@empty
12568 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12569 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12570 }

12571 \newcount\HyField@AnnotCount
12572 \HyField@AnnotCount=\z@
12573 \def\HyField@AdvanceAnnotCount{%
12574 \global\advance\HyField@AnnotCount\@ne
12575 }
12576 \def\HyField@TheAnnotCount{%
12577 \the\HyField@AnnotCount
12578 }

12579 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12580 \def\HyField@AddToFields#1{%
12581 \pdfmark{%
12582 pdfmark=/APPEND,%
12583 Raw={%
12584 \string{afields\string}%
12585 \string{#1\HyField@TheAnnotCount\string}%
12586 }%
12587 }%
12588 \ifx\Fld@calculate@code\ltx@empty
12589 \else
12590 \pdfmark{%
12591 pdfmark=/APPEND,%
12592 Raw={%
12593 \string{corder\string}%
12594 \string{#1\HyField@TheAnnotCount\string}%
12595 }%
12596 }%
12597 \fi
12598 }

12599 \def\@TextField[#1]#2{% parameters, label
12600 \def\Fld@name{#2}%
12601 \let\Fld@default\ltx@empty
12602 \let\Fld@value\@empty
12603 \def\Fld@width{\DefaultWidthofText}%
12604 \def\Fld@height{%
12605 \ifFld@multiline
12606 \DefaultHeightofTextMultiline
12607 \else
12608 \DefaultHeightofText
12609 \fi
12610 }%
12611 \begingroup
12612 \expandafter\HyField@SetKeys\expandafter{%

```

```

12613 \DefaultOptionsofText,#1%
12614 }%
12615 \HyField@FlagsText
12616 \ifFld@hidden\def\Fld@width{1sp}\fi
12617 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12618 \HyField@AdvanceAnnotCount
12619 \LayoutTextField{#2}{%
12620 \leavevmode
12621 \Hy@escapeform\PDFForm@Text
12622 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12623 pdfmark=/ANN,%
12624 objdef=text\HyField@TheAnnotCount,%
12625 Raw={\PDFForm@Text}%
12626 }%
12627 }%
12628 \HyField@AddToFields{text}%
12629 \endgroup
12630 }
12631 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12632 \def\Fld@name{#2}%
12633 \let\Fld@default\relax
12634 \let\Fld@value\relax
12635 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12636 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12637 \begingroup
12638 \Fld@menulength=0 %
12639 \@tempdima\z@
12640 \@for\@curropt:=#3\do{%
12641 \expandafter\Fld@checkequals\@curropt==\%
12642 \Hy@StepCount\Fld@menulength
12643 \settowidth{\@tempdimb}{\@currDisplay}%
12644 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12645 }%
12646 \advance\@tempdima by 15\p@
12647 \begingroup
12648 \HyField@SetKeys{#1}%
12649 \edef\x{\endgroup
12650 \noexpand\expandafter
12651 \noexpand\HyField@SetKeys
12652 \noexpand\expandafter{%
12653 \expandafter\noexpand\cname DefaultOptionsof%
12654 \ifFld@radio
12655 Radio%
12656 \else
12657 \ifFld@combo
12658 \ifFld@popdown
12659 PopdownBox%
12660 \else
12661 ComboBox%
12662 \fi
12663 \else
12664 ListBox%
12665 \fi
12666 \fi

```

```

12667     \endcsname
12668   }%
12669 } \x
12670 \HyField@SetKeys{#1}%
12671 \ifFld@hidden\def\Fld@width{1sp}\fi
12672 \ifx\Fld@value\relax
12673   \let\Fld@value\Fld@default
12674 \fi
12675 \LayoutChoiceField{#2}{%
12676   \ifFld@radio
12677     \HyField@FlagsRadioButton
12678     \@@Radio{#3}%
12679   \else
12680     \begingroup
12681     \HyField@FlagsChoice
12682     \ifdim\Fld@width<\@tempdima
12683       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12684       \edef\Fld@width{\the\@tempdima}%
12685     \fi
12686     \ifFld@combo
12687     \else
12688       \@tempdima=\the\Fld@menulength\Fld@charsize
12689       \advance\@tempdima by \Fld@borderwidth bp %
12690       \advance\@tempdima by \Fld@borderwidth bp %
12691       \edef\Fld@height{\the\@tempdima}%
12692     \fi
12693     \@@ListBox{#3}%
12694   \endgroup
12695 \fi
12696 }%
12697 \endgroup
12698 }
12699 \def\@@Radio#1{%
12700   \Fld@listcount=0 %
12701   \EdefEscapeName\Fld@default{\Fld@default}%
12702   \@for\@curropt:=#1\do{%
12703     \expandafter\Fld@checkequals\@curropt==\%
12704     \EdefEscapeName\@currValue{\@currValue}%
12705     \Hy@StepCount\Fld@listcount
12706     \@currDisplay\space
12707     \Hy@escapeform\PDFForm@Radio
12708     \ifnum\Fld@listcount=1 %
12709       \HyField@AdvanceAnnotCount
12710     \fi
12711     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12712       pdfmark=/ANN,%
12713       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12714       Raw={%
12715         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12716       }%
12717   } % deliberate space between radio buttons
12718   \ifnum\Fld@listcount=1 %
12719     \HyField@AddToFields{radio}%
12720   \fi

```

```

12721 }%
12722 }
12723 \newcount\Fld@listcount
12724 \def\@@ListBox#1{%
12725 \HyField@PDFChoices{#1}%
12726 \Hy@escapeform\PDFForm@List
12727 \HyField@AdvanceAnnotCount
12728 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12729 pdfmark=/ANN,%
12730 objdef=list\HyField@TheAnnotCount,%
12731 Raw={\PDFForm@List}%
12732 }%
12733 \HyField@AddToFields{list}%
12734 }
12735 \def\@PushButton[#1]#2{% parameters, label
12736 \def\Fld@name{#2}%
12737 \begingroup
12738 \expandafter\HyField@SetKeys\expandafter{%
12739 \DefaultOptionsofPushButton,#1%
12740 }%
12741 \ifHy@pdfa
12742 \Hy@Error{%
12743 PDF/A: Push button with JavaScript is prohibited%
12744 } \@ehc
12745 \LayoutPushButtonField{%
12746 \leavevmode
12747 \MakeButtonField{#2}%
12748 }%
12749 \else
12750 \HyField@FlagsPushButton
12751 \ifFld@hidden\def\Fld@width{1sp}\fi
12752 \HyField@AdvanceAnnotCount
12753 \LayoutPushButtonField{%
12754 \leavevmode
12755 \Hy@escapeform\PDFForm@Push
12756 \pdfmark[\MakeButtonField{#2}]{%
12757 pdfmark=/ANN,%
12758 objdef=push\HyField@TheAnnotCount,%
12759 Raw={\PDFForm@Push}%
12760 }%
12761 }%
12762 \HyField@AddToFields{push}%
12763 \fi
12764 \endgroup
12765 }
12766 \def\@Submit[#1]#2{%
12767 \def\Fld@width{\DefaultWidthofSubmit}%
12768 \def\Fld@height{\DefaultHeightofSubmit}%
12769 \begingroup
12770 \expandafter\HyField@SetKeys\expandafter{%
12771 \DefaultOptionsofSubmit,#1%
12772 }%
12773 \HyField@FlagsPushButton
12774 \HyField@FlagsSubmit

```

```

12775 \ifFld@hidden\def\Fld@width{1sp}\fi
12776 \Hy@escapeform\PDFForm@Submit
12777 \HyField@AdvanceAnnotCount
12778 \pdfmark[\MakeButtonField{#2}]{%
12779 pdfmark=/ANN,%
12780 objdef=submit\HyField@TheAnnotCount,%
12781 Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12782 }%
12783 \HyField@AddToFields{submit}%
12784 \endgroup
12785 }
12786 \def\@Reset[#1]#2{%
12787 \def\Fld@width{\DefaultWidthofReset}%
12788 \def\Fld@height{\DefaultHeightofReset}%
12789 \begingroup
12790 \expandafter\HyField@SetKeys\expandafter{%
12791 \DefaultOptionsofReset,#1%
12792 }%
12793 \leavevmode
12794 \ifHy@pdfa
12795 \Hy@Error{%
12796 PDF/A: Reset action is prohibited%
12797 } \@ehc
12798 \MakeButtonField{#2}%
12799 \else
12800 \HyField@FlagsPushButton
12801 \ifFld@hidden\def\Fld@width{1sp}\fi
12802 \Hy@escapeform\PDFForm@Reset
12803 \HyField@AdvanceAnnotCount
12804 \pdfmark[\MakeButtonField{#2}]{%
12805 pdfmark=/ANN,%
12806 objdef=reset\HyField@TheAnnotCount,%
12807 Raw={\PDFForm@Reset}%
12808 }%
12809 \HyField@AddToFields{reset}%
12810 \fi
12811 \endgroup
12812 }%
12813 \def\@CheckBox[#1]#2{% parameters, label
12814 \def\Fld@name{#2}%
12815 \def\Fld@default{0}%
12816 \begingroup
12817 \def\Fld@width{\DefaultWidthofCheckBox}%
12818 \def\Fld@height{\DefaultHeightofCheckBox}%
12819 \expandafter\HyField@SetKeys\expandafter{%
12820 \DefaultOptionsofCheckBox,#1%
12821 }%
12822 \HyField@FlagsCheckBox
12823 \ifFld@hidden\def\Fld@width{1sp}\fi
12824 \HyField@AdvanceAnnotCount
12825 \LayoutCheckField{#2}{%
12826 \leavevmode
12827 \Hy@escapeform\PDFForm@Check
12828 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%

```

```

12829     pdfmark=/ANN,%
12830     objdef=check\HyField@TheAnnotCount,%
12831     Raw={\PDFForm@Check}%
12832   }%
12833 }%
12834 \HyField@AddToFields{check}%
12835 \endgroup
12836 }
12837 </pdfmark>

```

## 44.2 HyperTeX

```

12838 (*hypertex)
12839 \def\@Form[#1]{%
12840 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12841 }
12842 \let\@endForm\ltx@empty
12843 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12844 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12845 }
12846 \def\@TextField[#1]#2{% parameters, label
12847 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12848 }
12849 \def\@CheckBox[#1]#2{% parameters, label
12850 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12851 }
12852 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12853 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12854 }
12855 \def\@PushButton[#1]#2{% parameters, label
12856 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12857 }
12858 \def\@Reset[#1]#2{%
12859 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12860 }
12861 \def\@Submit[#1]#2{%
12862 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12863 }
12864 </hypertex>

```

## 44.3 TeX4ht

```

12865 (*tex4ht)
12866 \def\@Form[#1]{%
12867 \kvsetkeys{Form}{#1}%
12868 \HCode{<form action="\Form@action" method="\Form@method">%
12869 }
12870 \def\@endForm{\HCode{</form>}}
12871 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12872 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12873 }
12874 \def\@TextField[#1]#2{% parameters, label
12875 \let\Hy@reserved@a\@empty
12876 \def\Fld@name{#2}%
12877 \let\Fld@default\ltx@empty

```



```

12878 \bgroup
12879 \Field@toks={ }%
12880 \kvsetkeys{Field}{#1}%
12881 \HCode{<label for="\Fld@name">#2</label>}%
12882 \ifFld@password
12883 \@@PasswordField
12884 \else
12885 \@@TextField
12886 \fi
12887 \egroup
12888 }
12889 \def\@@PasswordField{%
12890 \HCode{%
12891 <input type="password" %
12892 id="\Fld@name" %
12893 name="\Fld@name" %
12894 \ifFld@hidden type="hidden" \fi
12895 value="\Fld@default" %
12896 \the\Field@toks
12897 >%
12898 }%
12899 }
12900 \def\@@TextField{%
12901 \ifFld@multiline
12902 \HCode{<textarea %
12903 \ifFld@readonly readonly \fi
12904 id="\Fld@name" %
12905 name="\Fld@name" %
12906 \ifFld@hidden type="hidden" \fi
12907 \the\Field@toks>%
12908 }%
12909 \Fld@default
12910 \HCode{</textarea>}%
12911 \else
12912 \HCode{<input type="text" %
12913 \ifFld@readonly readonly \fi
12914 id="\Fld@name" %
12915 name="\Fld@name" %
12916 \ifFld@hidden type="hidden" \fi
12917 value="\Fld@default" %
12918 \the\Field@toks>%
12919 }%
12920 \fi
12921 }
12922 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12923 \def\Fld@name{#2}%
12924 \let\Fld@default\tx@empty
12925 \let\Hy@reserved@a\relax
12926 \begingroup
12927 \expandafter\Fld@findlength#3\%
12928 \Field@toks={ }%
12929 \kvsetkeys{Field}{#1}%
12930 #2%
12931 \ifFld@radio

```

```

12932     \expandafter\@@Radio#3\}%
12933     \else
12934     \expandafter\@@Menu#3\}%
12935     \fi
12936 \endgroup
12937 }
12938 \def\Fld@findlength#1\{%
12939 \Fld@menulength=0 %
12940 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12941 }
12942 \def\@@Menu#1\{%
12943 \HCode{<select size="\the\Fld@menulength" %
12944     name="\Fld@name" %
12945     \the\Field@toks>%
12946 }%
12947 \@for\@curropt:=#1\do{%
12948     \expandafter\Fld@checkequals\@curropt==\}%
12949     \HCode{<option %
12950         \ifx\@curropt\Fld@default selected \fi
12951         value="\@currValue">\@currDisplay</option>%
12952     }%
12953 }%
12954 \HCode{</select>}%
12955 }
12956 \def\@@Radio#1\{%
12957 \@for\@curropt:=#1\do{%
12958     \expandafter\Fld@checkequals\@curropt==\}%
12959     \HCode{<input type="radio" %
12960         \ifx\@curropt\Fld@default checked \fi
12961         name="\Fld@name" %
12962         value="\@currValue" %
12963         \the\Field@toks>%
12964     }%
12965     \@currDisplay
12966 }%
12967 }
12968 \def\@PushButton[#1]#2{% parameters, label
12969 \def\Fld@name{#2}%
12970 \bgroup
12971 \Field@toks={ }%
12972 \kvsetkeys{Field}{#1}%
12973 \HCode{<input type="button" %
12974     name="\Fld@name" %
12975     value="#2" %
12976     \the\Field@toks>%
12977 }%
12978 \HCode{</button>}%
12979 \egroup
12980 }
12981 \def\@Submit[#1]#2{%
12982 \HCode{<button type="submit">#2</button>}%
12983 }
12984 \def\@Reset[#1]#2{%
12985 \HCode{<button type="reset">#2</button>}%

```

```

12986 }
12987 \def\@CheckBox[#1]#2{% parameters, label
12988 \let\Hy@reserved@a\@empty
12989 \def\Fld@name{#2}%
12990 \def\Fld@default{0}%
12991 \bgroup
12992 \Field@toks={ }%
12993 \kvsetkeys{Field}{#1}%
12994 \HCode{<input type="checkbox" %
12995 \ifFld@checked checked \fi
12996 \ifFld@disabled disabled \fi
12997 \ifFld@readonly readonly \fi
12998 name="\Fld@name" %
12999 \ifFld@hidden type="hidden" \fi
13000 value="\Fld@default" %
13001 \the\Fld@toks>%
13002 #2%
13003 }%
13004 \egroup
13005 }
13006 </tex4ht>

```

#### 44.4 pdfTeX

```

13007 (*pdfTeX)
13008 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13009 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13010 }
13011 \def\MakeFieldObject#1#2{\sbox0{#1}%
13012 \immediate\pdfxform0 %
13013 \expandafter\edef\csname #2Object\endcsname{%
13014 \the\pdfastxform\space 0 R%
13015 }%
13016 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
13017 }%
13018 \let\HyField@afields\ltx@empty
13019 \let\HyField@cofields\ltx@empty
13020 \@ifundefined{pdfastlink}
13021 {%
13022 \let\HyField@AddToFields\relax
13023 \PackageInfo{hyperref}{%
13024 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13025 \MessageBreak
13026 Adobe Reader/Acrobat accepts an empty /Field array,%
13027 \MessageBreak
13028 but other PDF viewers might complain%
13029 }}%
13030 {%
13031 \let\HyField@AuxAddToFields\ltx@gobble
13032 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13033 \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.

```

13034 \def\HyField@ABD@AuxAddToCoFields#1#2{%

```

```

13035 \begingroup
13036 \Hy@safe@activestru e
13037 \let\ltx@secondoftwo\relax
13038 \ifx\HyField@cofields\ltx@empty
13039 \xdef\HyField@cofields{%
13040 \ltx@secondoftwo{#1}{ #2 0 R}%
13041 }%
13042 \else
13043 \let\ltx@secondoftwo\relax
13044 \def\HyField@AddCoField##1##2###3{%
13045 \ifx##1\ltx@empty
13046 \ltx@secondoftwo{#1}{ #2 0 R}%
13047 \expandafter\ltx@gobble
13048 \else
13049 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13050 \ltx@secondoftwo{#1}{ #2 0 R}%
13051 \ltx@secondoftwo{##2}{##3}%
13052 \expandafter\expandafter\expandafter\ltx@gobble
13053 \else
13054 \ltx@secondoftwo{##2}{##3}%
13055 \fi
13056 \fi
13057 \HyField@AddCoField
13058 }%
13059 \xdef\HyField@cofields{%
13060 \expandafter\HyField@AddCoField
13061 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13062 }%
13063 \fi
13064 \endgroup
13065 }%
13066 \Hy@AtBeginDocument{%
13067 \if@filesw
13068 \immediate\write\@mainaux{%
13069 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13070 }%
13071 \immediate\write\@mainaux{%
13072 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13073 }%
13074 \fi
13075 \let\HyField@AfterAuxOpen\@firstofone
13076 \def\HyField@AuxAddToFields#1{%
13077 \xdef\HyField@afields{%
13078 \ifx\HyField@afields\@empty
13079 \else
13080 \HyField@afields
13081 \space
13082 \fi
13083 #1 0 R%
13084 }%
13085 }%
13086 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13087 }%
13088 \def\HyField@AddToFields{%

```

```

13089 \expandafter\HyField@@AddToFields\expandafter{%
13090 \the\pdfastlink
13091 }%
13092 \ifx\Fld@calculate@code\ltx@empty
13093 \else
13094 \begingroup
13095 \Hy@safe@activetrue
13096 \edef\Hy@temp{%
13097 \endgroup
13098 \if@filesw
13099 \write\@mainaux{%
13100 \string\HyField@AuxAddToCoFields{%
13101 \Fld@calculate@sortkey
13102 }{%
13103 \the\pdfastlink
13104 }%
13105 }%
13106 \fi
13107 }%
13108 \Hy@temp
13109 \fi
13110 }%
13111 \def\HyField@@AddToFields#1{%
13112 \HyField@AfterAuxOpen{%
13113 \if@filesw
13114 \write\@mainaux{%
13115 \string\HyField@AuxAddToFields{#1}%
13116 }%
13117 \fi
13118 }%
13119 }%
13120 }
13121 \def\@Form[#1]{%
13122 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13123 \kvsetkeys{Form}{#1}%
13124 \pdf@ifdraftmode{}{%
13125 \Hy@FormObjects
13126 \ifnum\pdftexversion>13 %
13127 \pdfrefobj\OBJ@pdfdocencoding
13128 \pdfrefobj\OBJ@ZaDb
13129 \pdfrefobj\OBJ@Helv
13130 \fi
13131 \AtVeryEndDocument{%
13132 \immediate\pdfobj{%
13133 <<%
13134 /Fields[\HyField@afields]%
13135 \ifx\HyField@cofields\ltx@empty
13136 \else
13137 /CO[\romannumeral-`Q\HyField@cofields]%
13138 \fi
13139 /DR<<%
13140 /Font<<%
13141 /ZaDb \OBJ@ZaDb\space 0 R%
13142 /Helv \OBJ@Helv\space 0 R%

```

```

13143     >>%
13144 >>%
13145 /DA(/Helv 10 Tf 0 g)%
13146 \ifHy@pdfa
13147 \else
13148 \ifHyField@NeedAppearances
13149 /NeedAppearances true%
13150 \fi
13151 \fi
13152 >>%
13153 }%
13154 \edef\OBJ@acroform{\the\pdfastobj}%
13155 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13156 }%
13157 }%
13158 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13159 \begingroup
13160 \fontfamily{pzd}%
13161 \fontencoding{U}%
13162 \fontseries{m}%
13163 \fontshape{n}%
13164 \selectfont
13165 \char123 %
13166 \endgroup
13167 }{Ding}%
13168 \MakeFieldObject{%
13169 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13170 }{Submit}%
13171 \MakeFieldObject{%
13172 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13173 }{SubmitP}%
13174 }
13175 \let\@endForm\ltx@empty
13176 \let\HyAnn@AbsPageLabel\ltx@empty
13177 \let\Fld@pageobjref\ltx@empty
13178 \ltx@ifUndefined{pdfpageref}{%
13179 }{%
13180 \ltx@ifpackageloaded{zref-abspage}{%
13181 \newcount\HyAnn@Count
13182 \HyAnn@Count=\ltx@zero
13183 \def\HyAnn@AbsPageLabel{%
13184 \global\advance\HyAnn@Count by\ltx@one
13185 \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13186 \zref@refused{HyAnn@\the\HyAnn@Count}%
13187 }%
13188 \def\Fld@pageobjref{%
13189 \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13190 }{%
13191 \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13192 /P \pdfpageref
13193 \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13194 \space 0 R%
13195 }%

```

```

13196     }%
13197   }%
13198 }%
13199 }{%
13200 }%
13201 }

13202 \def\@TextField[#1]#2{% parameters, label
13203   \def\Fld@name{#2}%
13204   \let\Fld@default\ltx@empty
13205   \let\Fld@value\@empty
13206   \def\Fld@width{\DefaultWidthofText}%
13207   \def\Fld@height{%
13208     \ifFld@multiline
13209       \DefaultHeightofTextMultiline
13210     \else
13211       \DefaultHeightofText
13212     \fi
13213   }%
13214   \begingroup
13215     \expandafter\HyField@SetKeys\expandafter{%
13216       \DefaultOptionsofText,#1%
13217     }%
13218     \PDFForm@Name
13219     \HyField@FlagsText
13220     \ifFld@hidden\def\Fld@width{1sp}\fi
13221     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13222     \LayoutTextField{#2}{%
13223       \leavevmode
13224       \HyAnn@AbsPageLabel
13225       \Hy@escapeform\PDFForm@Text
13226       \pdfstartlink user {\PDFForm@Text}\relax
13227       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13228       \HyField@AddToFields
13229     }%
13230   \endgroup
13231 }

13232 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13233   \def\Fld@name{#2}%
13234   \let\Fld@default\relax
13235   \let\Fld@value\relax
13236   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13237   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13238   \begingroup
13239     \Fld@menulength=0 %
13240     \@tempdima\z@
13241     \@for\@curropt:=#3\do{%
13242       \expandafter\Fld@checkequals\@curropt==\%
13243       \Hy@StepCount\Fld@menulength
13244       \settowidth{\@tempdimb}{\@currDisplay}%
13245       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13246     }%
13247     \advance\@tempdima by 15\p@
13248     \begingroup
13249     \HyField@SetKeys{#1}%

```

```

13250 \edef\x{\endgroup
13251 \noexpand\expandafter
13252 \noexpand\HyField@SetKeys
13253 \noexpand\expandafter{%
13254 \expandafter\noexpand\csname DefaultOptionsof%
13255 \ifFld@radio
13256 Radio%
13257 \else
13258 \ifFld@combo
13259 \ifFld@popdown
13260 PopdownBox%
13261 \else
13262 ComboBox%
13263 \fi
13264 \else
13265 ListBox%
13266 \fi
13267 \fi
13268 \endcsname
13269 }%
13270 }\x
13271 \HyField@SetKeys{#1}%
13272 \PDFForm@Name
13273 \ifFld@hidden\def\Fld@width{1sp}\fi
13274 \ifx\Fld@value\relax
13275 \let\Fld@value\Fld@default
13276 \fi
13277 \LayoutChoiceField{#2}{%
13278 \ifFld@radio
13279 \HyField@FlagsRadioButton
13280 \@@Radio{#3}%
13281 \else
13282 \begingroup
13283 \HyField@FlagsChoice
13284 \ifdim\Fld@width<\@tempdima
13285 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13286 \edef\Fld@width{\the\@tempdima}%
13287 \fi
13288 \ifFld@combo
13289 \else
13290 \@tempdima=\the\Fld@menulength\Fld@charsize
13291 \advance\@tempdima by \Fld@borderwidth bp %
13292 \advance\@tempdima by \Fld@borderwidth bp %
13293 \edef\Fld@height{\the\@tempdima}%
13294 \fi
13295 \@@ListBox{#3}%
13296 \endgroup
13297 \fi
13298 }%
13299 \endgroup
13300 }
13301 \def\@@Radio#1{%
13302 \Fld@listcount=0 %
13303 \EdefEscapeName\Fld@default{\Fld@default}%

```



```

13304 \@for\@curropt:=#1\do{%
13305 \expandafter\Fld@checkequals\@curropt==\%
13306 \EdefEscapeName\@currValue{\@currValue}%
13307 \Hy@StepCount\Fld@listcount
13308 \@currDisplay\space
13309 \leavevmode
13310 \HyAnn@AbsPageLabel
13311 \Hy@escapeform\PDFForm@Radio
13312 \pdfstartlink user {%
13313 \PDFForm@Radio
13314 /AP<<%
13315 /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.

```

13316 \/\@currValue\space \DingObject
13317 >>%
13318 >>%
13319 }%
13320 \relax
13321 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13322 \ifnum\Fld@listcount=1 %
13323 \HyField@AddToFields
13324 \fi
13325 \space % deliberate space between radio buttons
13326 }%
13327 }
13328 \newcount\Fld@listcount
13329 \def\@@Listbox#1{%
13330 \HyField@PDFChoices{#1}%
13331 \leavevmode
13332 \HyAnn@AbsPageLabel
13333 \Hy@escapeform\PDFForm@List
13334 \pdfstartlink user {\PDFForm@List}\relax
13335 \MakeChoiceField{\Fld@width}{\Fld@height}%
13336 \pdfendlink
13337 \HyField@AddToFields
13338 }
13339 \def\@PushButton[#1]#2{% parameters, label
13340 \def\Fld@name{#2}%
13341 \begingroup
13342 \expandafter\HyField@SetKeys\expandafter{%
13343 \DefaultOptionsofPushButton,#1%
13344 }%
13345 \PDFForm@Name
13346 \ifHy@pdfa
13347 \Hy@Error{%
13348 PDF/A: Push button with JavaScript is prohibited%
13349 }\@ehc
13350 \LayoutPushButtonField{%
13351 \leavevmode
13352 \MakeButtonField{#2}%
13353 }%

```

```

13354 \else
13355 \HyField@FlagsPushButton
13356 \ifFld@hidden\def\Fld@width{1sp}\fi
13357 \LayoutPushButtonField{%
13358 \leavevmode
13359 \HyAnn@AbsPageLabel
13360 \Hy@escapeform\PDFForm@Push
13361 \pdfstartlink user {\PDFForm@Push}\relax
13362 \MakeButtonField{#2}%
13363 \pdfendlink
13364 \HyField@AddToFields
13365 }%
13366 \fi
13367 \endgroup
13368 }
13369 \def\@Submit[#1]#2{%
13370 \def\Fld@width{\DefaultWidthofSubmit}%
13371 \def\Fld@height{\DefaultHeightofSubmit}%
13372 \begingroup
13373 \expandafter\HyField@SetKeys\expandafter{%
13374 \DefaultOptionsofSubmit,#1%
13375 }%
13376 \HyField@FlagsPushButton
13377 \HyField@FlagsSubmit
13378 \ifFld@hidden\def\Fld@width{1sp}\fi
13379 \leavevmode
13380 \HyAnn@AbsPageLabel
13381 \Hy@escapeform\PDFForm@Submit
13382 \pdfstartlink user {%
13383 \PDFForm@Submit
13384 /AP<</N \SubmitObject/D \SubmitPObject>>%
13385 }%
13386 \relax
13387 \MakeButtonField{#2}%
13388 \pdfendlink
13389 \HyField@AddToFields
13390 \endgroup
13391 }
13392 \def\@Reset[#1]#2{%
13393 \def\Fld@width{\DefaultWidthofReset}%
13394 \def\Fld@height{\DefaultHeightofReset}%
13395 \begingroup
13396 \expandafter\HyField@SetKeys\expandafter{%
13397 \DefaultOptionsofReset,#1%
13398 }%
13399 \leavevmode
13400 \ifHy@pdfa
13401 \Hy@Error{%
13402 PDF/A: Reset action is prohibited%
13403 }\@ehc
13404 \MakeButtonField{#2}%
13405 \else
13406 \HyField@FlagsPushButton
13407 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13408 \HyAnn@AbsPageLabel
13409 \Hy@escapeform\PDFForm@Reset
13410 \pdfstartlink user {\PDFForm@Reset}\relax
13411 \MakeButtonField{#2}%
13412 \pdfendlink
13413 \HyField@AddToFields
13414 \fi
13415 \endgroup
13416 }
13417 \def\@CheckBox[#1]#2{% parameters, label
13418 \def\Fld@name{#2}%
13419 \def\Fld@default{0}%
13420 \begingroup
13421 \def\Fld@width{\DefaultWidthofCheckBox}%
13422 \def\Fld@height{\DefaultHeightofCheckBox}%
13423 \expandafter\HyField@SetKeys\expandafter{%
13424 \DefaultOptionsofCheckBox,#1%
13425 }%
13426 \PDFForm@Name
13427 \HyField@FlagsCheckBox
13428 \ifFld@hidden\def\Fld@width{1sp}\fi
13429 \LayoutCheckField{#2}{%
13430 \leavevmode
13431 \HyAnn@AbsPageLabel
13432 \Hy@escapeform\PDFForm@Check
13433 \pdfstartlink user {\PDFForm@Check}\relax
13434 \MakeCheckField{\Fld@width}{\Fld@height}%
13435 \pdfendlink
13436 \HyField@AddToFields
13437 }%
13438 \endgroup
13439 }
13440 \def\Hy@FormObjects{%
13441 \pdfobj {%
13442 <<%
13443 /Type/Encoding%
13444 /Differences%
13445 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13446 /ring/tilde %
13447 39/quotesingle %
13448 96/grave %
13449 128/bullet/dagger/daggerdbl/ellipsis/emdash/enddash/florin%
13450 /fraction/guilsingleft/guilsingright/minus/perthousand%
13451 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13452 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13453 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13454 160/Euro %
13455 164/currency %
13456 166/brokenbar %
13457 168/dieresis/copyright/ordfeminine %
13458 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13459 /twosuperior/threesuperior/acute/mu %
13460 183/periodcentered/cedilla/onesuperior/ordmasculine %
13461 188/onequarter/onehalf/threequarters %

```

```

13462     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13463     /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13464     /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13465     /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13466     /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13467     /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13468     /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13469     /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13470     /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13471     /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13472   ]%
13473   >>%
13474 }%
13475 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13476 \pdfobj{%
13477   <<%
13478     /Type/Font%
13479     /Subtype/Type1%
13480     /Name/ZaDb%
13481     /BaseFont/ZapfDingbats%
13482   >>%
13483 }%
13484 \xdef\OBJ@ZaDb{\the\pdfastobj}%
13485 \pdfobj{%
13486   <<%
13487     /Type/Font%
13488     /Subtype/Type1%
13489     /Name/Helv%
13490     /BaseFont/Helvetica%
13491     /Encoding \OBJ@pdfdocencoding\space 0 R%
13492   >>%
13493 }%
13494 \xdef\OBJ@Helv{\the\pdfastobj}%
13495 \global\let\Hy@FormObjects\relax
13496 }
13497 </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.

```
13498 <*dvipdfm | xetex>
```

\@Gauge

```

13499 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13500   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13501 }

```

\@Form

```

13502 \def\@Form[#1]{%
13503   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13504   \kvsetkeys{Form}{#1}%
13505   \Hy@FormObjects
13506   \@pdfm@mark{obj @afields []}%

```

```

13507 \@pdfm@mark{obj @corder []}%
13508 \@pdfm@mark{%
13509   obj @aform <<%
13510     /Fields @afields%
13511     /DR<<%
13512     /Font<<%
13513     /ZaDb @OBJZaDb%
13514     /Helv @OBJHelv%
13515     >>%
13516     >>%
13517     /DA(/Helv 10 Tf 0 g)%
13518     /CO @corder%
13519     \ifHy@pdfa
13520     \else
13521     \ifHyField@NeedAppearances
13522     /NeedAppearances true%
13523     \fi
13524     \fi
13525     >>%
13526   }%
13527 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13528 }

```

\@endForm

```
13529 \let\@endForm\ltx@empty
```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13530 \def\dvipdfm@setdim{%
13531   height \the\ht\pdfm@box\space
13532   width \the\wd\pdfm@box\space
13533   depth \the\dp\pdfm@box\space
13534 }

```

\HyField@AnnotCount

```

13535 \newcount\HyField@AnnotCount
13536 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13537 \def\HyField@AdvanceAnnotCount{%
13538   \global\advance\HyField@AnnotCount\@ne
13539 }

```

\HyField@TheAnnotCount

```

13540 \def\HyField@TheAnnotCount{%
13541   \the\HyField@AnnotCount
13542 }

```

\Fld@pageobjref

```
13543 \def\Fld@pageobjref{/P @thispage}%
```

\HyField@AddToFields

```

13544 \def\HyField@AddToFields#1{%
13545   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%

```

```

13546 \ifx\Fld@calculate@code\ltx@empty
13547 \else
13548 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13549 \fi
13550 }

```

#### \@TextField

```

13551 \def\@TextField[#1]#2{% parameters, label
13552 \def\Fld@name{#2}%
13553 \let\Fld@default\ltx@empty
13554 \let\Fld@value\@empty
13555 \def\Fld@width{\DefaultWidthofText}%
13556 \def\Fld@height{%
13557 \ifFld@multiline
13558 \DefaultHeightofTextMultiline
13559 \else
13560 \DefaultHeightofText
13561 \fi
13562 }%
13563 \begingroup
13564 \expandafter\HyField@SetKeys\expandafter{%
13565 \DefaultOptionsofText,#1%
13566 }%
13567 \PDFForm@Name
13568 \HyField@FlagsText
13569 \ifFld@hidden\def\Fld@width{1sp}\fi
13570 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13571 \setbox\pdfm@box=\hbox{%
13572 \MakeTextField{\Fld@width}{\Fld@height}%
13573 }%
13574 \HyField@AdvanceAnnotCount
13575 \LayoutTextField{#2}{%
13576 \leavevmode
13577 \Hy@escapeform\PDFForm@Text
13578 \@pdfm@mark{%
13579 ann @text\HyField@TheAnnotCount\space
13580 \dvi@pdfm@setdim << \PDFForm@Text >>%
13581 }%
13582 }%
13583 \unhbox\pdfm@box
13584 \HyField@AddToFields{text}%
13585 % record in @afields array
13586 \endgroup
13587 }

```

#### \@ChoiceMenu

```

13588 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13589 \def\Fld@name{#2}%
13590 \let\Fld@default\relax
13591 \let\Fld@value\relax
13592 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13593 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13594 \begingroup
13595 \Fld@menulength=0 %

```

```

13596 \@tempdima\z@
13597 \@for\@curropt:=#3\do{%
13598 \expandafter\Fld@checkequals\@curropt==\%
13599 \Hy@StepCount\Fld@menulength
13600 \settowidth{\@tempdimb}{\@currDisplay}%
13601 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13602 }%
13603 \advance\@tempdima by 15\p@
13604 \begingroup
13605 \HyField@SetKeys{#1}%
13606 \edef\x{\endgroup
13607 \noexpand\expandafter
13608 \noexpand\HyField@SetKeys
13609 \noexpand\expandafter{%
13610 \expandafter\noexpand\csname DefaultOptionsof%
13611 \ifFld@radio
13612 Radio%
13613 \else
13614 \ifFld@combo
13615 \ifFld@popdown
13616 PopdownBox%
13617 \else
13618 ComboBox%
13619 \fi
13620 \else
13621 ListBox%
13622 \fi
13623 \fi
13624 \endcsname
13625 }%
13626 }\x
13627 \HyField@SetKeys{#1}%
13628 \PDFForm@Name
13629 \ifFld@hidden\def\Fld@width{1sp}\fi
13630 \ifx\Fld@value\relax
13631 \let\Fld@value\Fld@default
13632 \fi
13633 \LayoutChoiceField{#2}{%
13634 \ifFld@radio
13635 \HyField@FlagsRadioButton
13636 \@@Radio{#3}%
13637 \else
13638 \begingroup
13639 \HyField@FlagsChoice
13640 \ifdim\Fld@width<\@tempdima
13641 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13642 \edef\Fld@width{\the\@tempdima}%
13643 \fi
13644 \ifFld@combo
13645 \else
13646 \@tempdima=\the\Fld@menulength\Fld@charsize
13647 \advance\@tempdima by \Fld@borderwidth bp %
13648 \advance\@tempdima by \Fld@borderwidth bp %
13649 \edef\Fld@height{\the\@tempdima}%

```

```

13650     \fi
13651     \@@ListBox{#3}%
13652     \endgroup
13653     \fi
13654     }%
13655 \endgroup
13656 }

```

#### \@@Radio

```

13657 \def\@@Radio#1{%
13658   \Fld@listcount=0 %
13659   \EdefEscapeName\Fld@default{\Fld@default}%
13660   \setbox\pdfm@box=\hbox{%
13661     \MakeRadioField{\Fld@width}{\Fld@height}%
13662   }%
13663   \@for\@curropt:=#1\do{%
13664     \expandafter\Fld@checkequals\@curropt==\%
13665     \EdefEscapeName\@currValue{\@currValue}%
13666     \Hy@StepCount\Fld@listcount
13667     \@currDisplay\space
13668     \leavevmode
13669     \Hy@escapeform\PDFForm@Radio
13670     \ifnum\Fld@listcount=1 %
13671       \HyField@AdvanceAnnotCount
13672     \fi
13673     \@pdfm@mark{%
13674       ann %
13675       \ifnum\Fld@listcount=1 %
13676         @radio\HyField@TheAnnotCount%
13677       \space
13678     \fi
13679     \dvipdfm@setdim
13680     <<%
13681     \PDFForm@Radio
13682     /AP<</N<</\@currValue /null>>>>%
13683     >>%
13684   }%
13685   \unhcopy\pdfm@box\space% deliberate space between radio buttons
13686   \ifnum\Fld@listcount=1 %
13687     \HyField@AddToFields{radio}%
13688   \fi
13689 }%
13690 }

```

#### \Fld@listcount

```

13691 \newcount\Fld@listcount

```

#### \@@ListBox

```

13692 \def\@@ListBox#1{%
13693   \HyField@PDFChoices{#1}%
13694   \setbox\pdfm@box=\hbox{%
13695     \MakeChoiceField{\Fld@width}{\Fld@height}%
13696   }%
13697   \leavevmode

```



```

13698 \Hy@escapeform\PDFForm@List
13699 \HyField@AdvanceAnnotCount
13700 \@pdfm@mark{%
13701   ann @list\HyField@TheAnnotCount\space
13702   \dvipdfm@setdim
13703   <<\PDFForm@List>>%
13704 }%
13705 \unhbox\pdfm@box
13706 \HyField@AddToFields{list}%
13707 }

```

#### \@PushButton

```

13708 \def\@PushButton[#1]#2{% parameters, label
13709 \def\Fld@name{#2}%
13710 \begingroup
13711 \expandafter\HyField@SetKeys\expandafter{%
13712   \DefaultOptionsofPushButton,#1%
13713 }%
13714 \PDFForm@Name
13715 \ifHy@pdfa
13716 \Hy@Error{%
13717   PDF/A: Push button with JavaScript is prohibited%
13718 } \@ehc
13719 \LayoutPushButtonField{%
13720   \leavevmode
13721   \MakeButtonField{#2}%
13722 }%
13723 \else
13724 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13725 \HyField@FlagsPushButton
13726 \ifFld@hidden\def\Fld@width{1sp}\fi
13727 \HyField@AdvanceAnnotCount
13728 \LayoutPushButtonField{%
13729   \leavevmode
13730   \Hy@escapeform\PDFForm@Push
13731   \@pdfm@mark{%
13732     ann @push\HyField@TheAnnotCount\space
13733     \dvipdfm@setdim
13734     <<\PDFForm@Push>>%
13735   }%
13736 }%
13737 \unhbox\pdfm@box
13738 \HyField@AddToFields{push}%
13739 \fi
13740 \endgroup
13741 }

```

#### \@Submit

```

13742 \def\@Submit[#1]#2{%
13743 \def\Fld@width{\DefaultWidthofSubmit}%
13744 \def\Fld@height{\DefaultHeightofSubmit}%
13745 \begingroup
13746 \expandafter\HyField@SetKeys\expandafter{%
13747   \DefaultOptionsofSubmit,#1%

```

```

13748 }%
13749 \HyField@FlagsPushButton
13750 \HyField@FlagsSubmit
13751 \ifFld@hidden\def\Fld@width{1sp}\fi
13752 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13753 \leavevmode
13754 \Hy@escapeform\PDFForm@Submit
13755 \HyField@AdvanceAnnotCount
13756 \@pdfm@mark{%
13757   ann @submit\HyField@TheAnnotCount\space
13758   \dviPDFForm@setdim
13759   <<\PDFForm@Submit>>%
13760 }%
13761 \unhbox\pdfm@box%
13762 \HyField@AddToFields{submit}%
13763 \endgroup
13764 }

```

#### \@Reset

```

13765 \def\@Reset[#1]#2{%
13766   \def\Fld@width{\DefaultWidthofReset}%
13767   \def\Fld@height{\DefaultHeightofReset}%
13768   \begingroup
13769   \expandafter\HyField@SetKeys\expandafter{%
13770     \DefaultOptionsofReset,#1%
13771   }%
13772   \leavevmode
13773   \ifHy@pdfa
13774     \Hy@Error{%
13775       PDF/A: Reset action is prohibited%
13776     }\@ehc
13777     \MakeButtonField{#2}%
13778   \else
13779     \HyField@FlagsPushButton
13780     \ifFld@hidden\def\Fld@width{1sp}\fi
13781     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13782     \Hy@escapeform\PDFForm@Reset
13783     \HyField@AdvanceAnnotCount
13784     \@pdfm@mark{%
13785       ann @reset\HyField@TheAnnotCount\space
13786     \dviPDFForm@setdim
13787     <<\PDFForm@Reset>>%
13788   }%
13789   \unhbox\pdfm@box
13790   \HyField@AddToFields{reset}%
13791   \fi
13792 \endgroup
13793 }

```

#### \@CheckBox

```

13794 \def\@CheckBox[#1]#2{% parameters, label
13795   \def\Fld@name{#2}%
13796   \def\Fld@default{0}%
13797   \begingroup

```

```

13798 \def\Fld@width{\DefaultWidthofCheckBox}%
13799 \def\Fld@height{\DefaultHeightofCheckBox}%
13800 \expandafter\HyField@SetKeys\expandafter{%
13801 \DefaultOptionsofCheckBox,#1%
13802 }%
13803 \PDFForm@Name
13804 \HyField@FlagsCheckBox
13805 \ifFld@hidden\def\Fld@width{1sp}\fi
13806 \setbox\pdfm@box=\hbox{%
13807 \MakeCheckField{\Fld@width}{\Fld@height}%
13808 }%
13809 \HyField@AdvanceAnnotCount
13810 \LayoutCheckField{#2}{%
13811 \leavevmode
13812 \Hy@escapeform\PDFForm@Check
13813 \@pdfm@mark{%
13814 ann @check\HyField@TheAnnotCount\space
13815 \dvi pdfm@setdim
13816 <<\PDFForm@Check>>%
13817 }%
13818 \unhbox\pdfm@box
13819 \HyField@AddToFields{check}%
13820 }%
13821 \endgroup
13822 }

13823 \def\Hy@FormObjects{%
13824 \@pdfm@mark{obj @OBJpdfdocencoding%
13825 <<%
13826 /Type/Encoding%
13827 /Differences[%
13828 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13829 39/quotesingle %
13830 96/grave %
13831 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13832 /fraction/guilsingleft/guilsingright/minus/perthousand%
13833 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13834 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13835 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13836 160/Euro %
13837 164/currency %
13838 166/brokenbar %
13839 168/dieresis/copyright/ordfeminine %
13840 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13841 /twosuperior/threesuperior/acute/mu %
13842 183/periodcentered/cedilla/onesuperior/ordmasculine %
13843 188/onequarter/onehalf/threequarters %
13844 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13845 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13846 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13847 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13848 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13849 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13850 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%

```

```

13851      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13852      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13853      /thorn/ydieresis%
13854      ]%
13855      >>%
13856      }%
13857      \@pdfm@mark{obj @OBJZaDb%
13858      <<%
13859      /Type/Font%
13860      /Subtype/Type1%
13861      /Name/ZaDb%
13862      /BaseFont/ZapfDingbats%
13863      >>%
13864      }%
13865      \@pdfm@mark{obj @OBJHelv%
13866      <<%
13867      /Type/Font%
13868      /Subtype/Type1%
13869      /Name/Helv%
13870      /BaseFont/Helvetica%
13871      /Encoding @OBJpdfdocencoding%
13872      >>%
13873      }%
13874      \global\let\Hy@FormObjects\relax
13875      }
13876      </dvi-pdfm | xetex>

```

## 44.6 Common forms part

```

13877 (*pdfform)

\Fld@pageobjref
13878 \providecommand*{\Fld@pageobjref}{}

\Hy@escapestring
13879 \@ifundefined{pdf@escapestring}
13880 {%
13881   \let\Hy@escapestring\@firstofone
13882   \def\Hy@escapeform#1{%
13883     \ifHy@pdfescapeform
13884       \def\Hy@escapestring###1{%
13885         \noexpand\Hy@escapestring{\noexpand###1}%
13886       }%
13887       \edef\Hy@temp{#1}%
13888       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13889     \def\Hy@escapestring###1{%
13890       \@ifundefined{Hy@esc@\string###1}{%
13891         ###1%
13892         \ThisShouldNotHappen
13893       }{%
13894         \csname Hy@esc@\string###1\endcsname
13895       }%
13896     }%
13897   \else

```

```

13898   \let\Hy@escapestring\@firstofone
13899   \fi
13900 }%
13901 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13902   \ifx\|#3\|
13903     \else
13904       \expandafter
13905       \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13906       \ltx@ReturnAfterFi{%
13907         \Hy@@escapeform#3\@nil
13908       }%
13909     \fi
13910 }%
13911 }{%
13912 \def\Hy@escapeform#1{%
13913   \ifHy@pdfescapeform
13914     \let\Hy@escapestring\pdfescapestring
13915   \else
13916     \let\Hy@escapestring\@firstofone
13917   \fi
13918 }%
13919 \Hy@escapeform{}%
13920 }

```

#### \PDFForm@Name

```

13921 \def\PDFForm@Name{%
13922   \PDFForm@@Name\Fld@name
13923   \ifx\Fld@altname\relax
13924     \else
13925     \PDFForm@@Name\Fld@altname
13926   \fi
13927   \ifx\Fld@mappingname\relax
13928     \else
13929     \PDFForm@@Name\Fld@mappingname
13930   \fi
13931 }

```

#### \PDFForm@@Name

```

13932 \def\PDFForm@@Name#1{%
13933   \begingroup
13934   \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13935     \ifHy@unicode
13936       \Hy@unicodedefalse
13937     \fi
13938   \fi
13939   \pdfstringdef\Hy@gtemp#1%
13940 \endgroup
13941 \let#1\Hy@gtemp
13942 }

```

#### \Fld@additionalactions

```

13943 \def\Fld@@additionalactions{%
K input (keystroke) format

```

```

13944 \ifx\Fld@keystroke@code\@empty
13945 \else
13946 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13947 \fi

F display format
13948 \ifx\Fld@format@code\@empty
13949 \else
13950 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13951 \fi

V validation
13952 \ifx\Fld@validate@code\@empty
13953 \else
13954 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13955 \fi

C calculation
13956 \ifx\Fld@calculate@code\@empty
13957 \else
13958 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13959 \fi

Fo receiving the input focus
13960 \ifx\Fld@onfocus@code\@empty
13961 \else
13962 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13963 \fi

Bl loosing the input focus (blurred)
13964 \ifx\Fld@onblur@code\@empty
13965 \else
13966 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13967 \fi

D pressing the mouse button (down)
13968 \ifx\Fld@onmousedown@code\@empty
13969 \else
13970 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13971 \fi

U releasing the mouse button (up)
13972 \ifx\Fld@onmouseup@code\@empty
13973 \else
13974 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13975 \fi

E cursor enters the annotation's active area.
13976 \ifx\Fld@onenter@code\@empty
13977 \else
13978 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13979 \fi

X cursor exits the annotation's active area.
13980 \ifx\Fld@onexit@code\@empty
13981 \else
13982 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13983 \fi

```

```

13984 }
13985 \def\Fld@additionalactions{%
13986 \if-\Fld@@additionalactions-%
13987 \else
13988 \ifHy@pdfa
13989 \else
13990 /AA<<\Fld@@additionalactions>>%
13991 \fi
13992 \fi
13993 }

```

#### \Fld@annotnames

```

13994 \def\Fld@annotnames{%
13995 /T(\Fld@name)%
13996 \ifx\Fld@altname\relax
13997 \else
13998 /TU(\Fld@altname)%
13999 \fi
14000 \ifx\Fld@mappingname\relax
14001 \else
14002 /TM(\Fld@mappingname)%
14003 \fi
14004 }

```

#### \PDFForm@Check

```

14005 \def\PDFForm@Check{%
14006 /Subtype/Widget%
14007 \Fld@annotflags
14008 \Fld@pageobjref
14009 \Fld@annotnames
14010 /FT/Btn%
14011 \Fld@flags
14012 /Q \Fld@align
14013 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14014 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
14015 /MK<<%
14016 \ifnum\Fld@rotation=\z@
14017 \else
14018 /R \Fld@rotation
14019 \fi
14020 \ifx\Fld@bordercolor\relax
14021 \else
14022 /BC[\Fld@bordercolor]%
14023 \fi
14024 \ifx\Fld@bcolor\relax
14025 \else
14026 /BG[\Fld@bcolor]%
14027 \fi
14028 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14029 >>%
14030 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14031 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14032 /H/P%
14033 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi

```

```
14034 \Fld@additionalactions
14035 }
```

#### \PDFForm@Push

```
14036 \ifHy@pdfa
14037 \else
14038 \def\PDFForm@Push{%
14039 /Subtype/Widget%
14040 \Fld@annotflags
14041 \Fld@pageobjref
14042 \Fld@annotnames
14043 /FT/Btn%
14044 \Fld@flags
14045 /H/P%
14046 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14047 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14048 \ifx\Fld@bordercolor\relax\else 1\fi
14049 \space
14050 \else
14051 /MK<<%
14052 \ifnum\Fld@rotation=\z@
14053 \else
14054 /R \Fld@rotation
14055 \fi
14056 \ifx\Fld@bordercolor\relax
14057 \else
14058 /BC[\Fld@bordercolor]%
14059 \fi
14060 >>%
14061 \fi
14062 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14063 \Fld@additionalactions
14064 }%
14065 \fi
```

#### \PDFForm@List

```
14066 \def\PDFForm@List{%
14067 /Subtype/Widget%
14068 \Fld@annotflags
14069 \Fld@pageobjref
14070 \Fld@annotnames
14071 /FT/Ch%
14072 \Fld@flags
14073 /Q \Fld@align
14074 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14075 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14076 \ifx\Fld@bordercolor\relax\else 1\fi
14077 \ifx\Fld@bcolor\relax \else 1\fi
14078 \space
14079 \else
14080 /MK<<%
14081 \ifnum\Fld@rotation=\z@
14082 \else
14083 /R \Fld@rotation
```



```

14084     \fi
14085     \ifx\Fld@bordercolor\relax
14086     \else
14087       /BC[\Fld@bordercolor]%
14088     \fi
14089     \ifx\Fld@bcolor\relax
14090     \else
14091       /BG[\Fld@bcolor]%
14092     \fi
14093     >>%
14094     \fi
14095     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14096     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14097     \Fld@choices
14098     \Fld@additionalactions
14099 }

```

#### \PDFForm@Radio

```

14100 \def\PDFForm@Radio{%
14101   /Subtype/Widget%
14102   \Fld@annotflags
14103   \Fld@pageobjref
14104   \Fld@annotnames
14105   /FT/Btn%
14106   \Fld@flags
14107   /H/P%
14108   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14109   /MK<<%
14110     \ifnum\Fld@rotation=\z@
14111     \else
14112       /R \Fld@rotation
14113     \fi
14114     \ifx\Fld@bordercolor\relax
14115     \else
14116       /BC[\Fld@bordercolor]%
14117     \fi
14118     \ifx\Fld@bcolor\relax
14119     \else
14120       /BG[\Fld@bcolor]%
14121     \fi
14122     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14123     >>%
14124     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14125     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14126     \ifx\Fld@default\@empty
14127       /V/Off%
14128       /DV/Off%
14129     \else
14130       /V/\Fld@default
14131       /DV/\Fld@default
14132     \fi
14133     \Fld@additionalactions
14134 }

```

\PDFForm@Text

```
14135 \def\PDFForm@Text{%
14136 /Subtype/Widget%
14137 \Fld@annotflags
14138 \Fld@pageobjref
14139 \Fld@annotnames
14140 /FT/Tx%
14141 \Fld@flags
14142 /Q \Fld@align
14143 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14144 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14145     \ifx\Fld@bordercolor\relax\else 1\fi
14146     \ifx\Fld@bcolor\relax \else 1\fi
14147     \space
14148 \else
14149 /MK<<%
14150     \ifnum\Fld@rotation=\z@
14151     \else
14152     /R \Fld@rotation
14153     \fi
14154     \ifx\Fld@bordercolor\relax
14155     \else
14156     /BC[\Fld@bordercolor]%
14157     \fi
14158     \ifx\Fld@bcolor\relax
14159     \else
14160     /BG[\Fld@bcolor]%
14161     \fi
14162 >>%
14163 \fi
14164 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14165     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14166 /DV(\Hy@escapestring{\Fld@default})%
14167 /V(\Hy@escapestring{\Fld@value})%
14168 \Fld@additionalactions
14169 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14170 }
```

\PDFForm@Submit

```
14171 \def\PDFForm@Submit{%
14172 /Subtype/Widget%
14173 \Fld@annotflags
14174 \Fld@pageobjref
14175 \Fld@annotnames
14176 /FT/Btn%
14177 \Fld@flags
14178 /H/P%
14179 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14180 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14181     \ifx\Fld@bordercolor\relax\else 1\fi
14182     \space
14183 \else
14184 /MK<<%
14185     \ifnum\Fld@rotation=\z@
```

```

14186 \else
14187 /R \Fld@rotation
14188 \fi
14189 \ifx\Fld@bordercolor\relax
14190 \else
14191 /BC[\Fld@bordercolor]%
14192 \fi
14193 >>%
14194 \fi
14195 /A<<%
14196 /S/SubmitForm%
14197 /F<<%
14198 /FS/URL%
14199 /F(\Hy@escapestring{\Form@action})%
14200 >>%
14201 \Fld@submitflags
14202 >>%
14203 \Fld@additionalactions
14204 }

```

#### \PDFForm@Reset

```

14205 \ifHy@pdfa
14206 \else
14207 \def\PDFForm@Reset{%
14208 /Subtype/Widget%
14209 \Fld@annotflags
14210 \Fld@pageobjref
14211 \Fld@annotnames
14212 /FT/Btn%
14213 \Fld@flags
14214 /H/P%
14215 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14216 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14217 \ifx\Fld@bordercolor\relax\else 1\fi
14218 \space
14219 \else
14220 /MK<<%
14221 \ifnum\Fld@rotation=\z@
14222 \else
14223 /R \Fld@rotation
14224 \fi
14225 \ifx\Fld@bordercolor\relax
14226 \else
14227 /BC[\Fld@bordercolor]%
14228 \fi
14229 % /CA (Clear)
14230 % /AC (Done)
14231 >>%
14232 \fi
14233 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14234 /A<</S/ResetForm>>%
14235 \Fld@additionalactions
14236 }%
14237 \fi

```

```
14238 </pdfform>
14239 <*packageEnd>
```

## 45 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\LaTeX$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
14240 \def\phantomsection{%
14241   \Hy@MakeCurrentHrefAuto{section*}%
14242   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14243 }
14244 </packageEnd>
```

### 45.1 Bookmarks

```
14245 <*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.

```
14246 \def\Hy@writebookmark#1#2#3#4#5{%
14247   % section number, text, label, level, file
14248   \ifx\WriteBookmarks\relax%
14249   \else
14250     \ifnum#4>\Hy@bookmarksdepth\relax
14251     \else
14252       \@writetorep{#1}{#2}{#3}{#4}{#5}%
14253     \fi
14254   \fi
14255 }
14256 \def\Hy@currentbookmarklevel{0}
14257 \def\Hy@numberline#1{#1 }
```

```

14258 \def\@@writetorep#1#2#3#4#5{%
14259   \begingroup
14260     \edef\Hy@tempa{#5}%
14261     \ifx\Hy@tempa\Hy@bookmarkstype
14262       \edef\Hy@level{#4}%
14263       \ifx\Hy@levelcheck Y%
14264         \@tempcnta\Hy@level\relax
14265         \advance\@tempcnta by -1 %
14266         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14267           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14268           \advance\@tempcnta by 1 %
14269           \Hy@Warning{%
14270             Difference (\the\@tempcnta) between bookmark levels is %
14271             greater \MessageBreak than one, level fixed%
14272           }%
14273           \@tempcnta\Hy@currentbookmarklevel
14274           \advance\@tempcnta by 1 %
14275           \edef\Hy@level{\the\@tempcnta}%
14276         \fi
14277       \else
14278         \global\let\Hy@levelcheck Y%
14279       \fi
14280       \global\let\Hy@currentbookmarklevel\Hy@level
14281       \@tempcnta\Hy@level\relax
14282       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14283       \advance\@tempcnta by -1 %
14284       \edef\Hy@tempa{#3}%
14285       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14286       \ifx\Hy@tempa\Hy@tempb
14287         \Hy@Warning{%
14288           The anchor of a bookmark and its parent's must not%
14289           \MessageBreak be the same. Added a new anchor%
14290         }%
14291       \phantomsection
14292     \fi
14293     \ifHy@bookmarksnumbered
14294       \let\numberline\Hy@numberline
14295       \let\booknumberline\Hy@numberline
14296       \let\partnumberline\Hy@numberline
14297       \let\chapternumberline\Hy@numberline
14298     \else
14299       \let\numberline\@gobble
14300       \let\booknumberline\@gobble
14301       \let\partnumberline\@gobble
14302       \let\chapternumberline\@gobble
14303     \fi
14304     \pdfstringdef\Hy@tempa{#2}%
14305     \HyPsd@SanitizeForOutFile\Hy@tempa
14306     \if@filesw
14307       \stepcounter{bookmark@seq@number}%
14308       \@ifundefined{@outlinefile}{%
14309         }{%
14310           \protected@write\@outlinefile}{%
14311             \protect\BOOKMARK

```

```

14312      [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14313      {\Hy@tempa}{\Hy@tempb}%
14314      \@percentchar\space\thebookmark@seq@number
14315      }%
14316      }%
14317      \fi
14318      \fi
14319      \endgroup
14320      }
14321      \newcounter{bookmark@seq@number}

14322      \begingroup
14323      \lccode`(`=`{%
14324      \lccode`)`=`}%
14325      \lccode`1`=\z@
14326      \lccode`2`=\z@
14327      \lccode`3`=\z@
14328      \lccode`5`=\z@
14329      \lccode`7`=\z@
14330      \lccode`\#`=\z@
14331      \lccode`\` `=\z@
14332      \lccode`\{`=\z@
14333      \lccode`\}`=\z@
14334      \lowercase{%
14335      \endgroup
14336      \def\HyPsd@SanitizeForOutFile#1{%
14337      \@onelevel@sanitize\Hy@tempa
14338      \escapechar`\\%
14339      \edef\Hy@tempa{%
14340      \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14341      }%
14342      \edef\Hy@tempa{%
14343      \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14344      }%
14345      }%
14346      \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14347      #1%
14348      \ifx\\#2\\%
14349      \expandafter\ltx@gobble
14350      \else
14351      \expandafter\ltx@firstofone
14352      \fi
14353      {%
14354      \string\173%
14355      \HyPsd@SanitizeOut@BraceLeft#2\@nil
14356      }%
14357      }%
14358      \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14359      #1%
14360      \ifx\\#2\\%
14361      \expandafter\ltx@gobble
14362      \else
14363      \expandafter\ltx@firstofone
14364      \fi
14365      {%

```

```

14366   \string\175%
14367   \HyPsd@SanitizeOut@BraceRight#2\@nil
14368   }%
14369 }%
14370 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14371 \newcommand{\currentpdfbookmark}{%
14372   \pdfbookmark[\Hy@currentbookmarklevel]%
14373 }
14374 \newcommand{\subpdfbookmark}{%
14375   \@tempcnta\Hy@currentbookmarklevel
14376   \Hy@StepCount\@tempcnta
14377   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14378 }
14379 \newcommand{\belowpdfbookmark}[2]{%
14380   \@tempcnta\Hy@currentbookmarklevel
14381   \Hy@StepCount\@tempcnta
14382   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14383   \advance\@tempcnta by -1 %
14384   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14385 }

```

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.

```

14386 \renewcommand\pdfbookmark[3][0]{%
14387   \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
14388   \hyper@anchorstart{#3.#1}\hyper@anchorend
14389 }
14390 \def\BOOKMARK{%
14391   \@ifnextchar{\@BOOKMARK}{\@BOOKMARK[1][-]}%
14392 }
14393 \def\@BOOKMARK[#1]{%
14394   \@ifnextchar{\@BOOKMARK[{#1}]}{\@BOOKMARK[{#1}][-]}%
14395 }

```

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`

```

14396 \RequirePackage{rerunfilecheck}[2009/12/10]
14397 \def\Hy@OutlineRerunCheck{%
14398   \RerunFileCheck{\jobname.out}{%
14399     \immediate\closeout\@outlinefile
14400   }{%
14401     Rerun to get outlines right\MessageBreak
14402     or use package `bookmark'%
14403   }%
14404 }

```

### 45.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto: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.

```
14405 <*vtex>
```

```
14406 \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.

```
14407 \begingroup
14408 \catcode\`=12 %
14409 \ifnum\Hy@VTeXversion<650 %
14410 \catcode\`=12 %
14411 \gdef\hv@pdf@char#1#2#3{%
14412 \char
14413 \ifcase'#1#2#3 %
14414 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14415 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14416 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14417 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14418 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14419 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14420 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14421 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14422 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14423 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14424 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14425 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14426 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14427 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14428 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14429 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14430 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14431 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14432 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14433 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14434 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14435 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14436 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14437 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14438 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14439 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14440 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14441 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14442 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14443 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14444 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14445 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14446 \fi
14447 }%
```



```

14448 \else
14449 \gdef\hv@pdf@char{\char'}%
14450 \fi
14451 \endgroup

```

#### \@@BOOKMARK

```

14452 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14453 \expandafter\edef\csname @count@#3\endcsname{%
14454 \the\@serial@counter
14455 }%
14456 \edef\@mycount{\the\@serial@counter}%
14457 \Hy@StepCount\@serial@counter
14458 \edef\@parcount{%
14459 \expandafter\ifx\csname @count@#5\endcsname\relax
14460 0%
14461 \else
14462 \csname @count@#5\endcsname
14463 \fi
14464 }%
14465 \immediate\special{%
14466 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14467 s=\ifx#2-c\else o\fi,t=#4%
14468 }%
14469 }%

```

#### \ReadBookmarks

```

14470 \def\ReadBookmarks{%
14471 \begingroup
14472 \def\0{\hv@pdf@char 0}%
14473 \def\1{\hv@pdf@char 1}%
14474 \def\2{\hv@pdf@char 2}%
14475 \def\3{\hv@pdf@char 3}%
14476 \def\({}%
14477 \def\)}%
14478 \def\do##1{%
14479 \ifnum\catcode`##1=\active
14480 \@makeother##1%
14481 \else
14482 \ifnum\catcode`##1=6 %
14483 \@makeother##1%
14484 \fi
14485 \fi
14486 }%
14487 \dospecials
14488 \Hy@safe@activestrue
14489 \InputIfFileExists{jobname.out}{}{}%
14490 \endgroup
14491 \ifx\WriteBookmarks\relax
14492 \else
14493 \if@filesw
14494 \newwrite\@outlinefile
14495 \Hy@OutlineRerunCheck
14496 \immediate\openout\@outlinefile=jobname.out\relax
14497 \fi

```

```

14498 \fi
14499 }

14500 </vtex>
14501 (*!vtex)
14502 \def\ReadBookmarks{%
14503 \pdf@ifdraftmode{}{%
14504 \begingroup
14505 \def\do###1{%
14506 \ifnum\catcode`###1=\active
14507 \@makeother###1%
14508 \else
14509 \ifnum\catcode`###1=6 %
14510 \@makeother###1%
14511 \fi
14512 \fi
14513 }%
14514 \dospecials
14515 \Hy@safe@activetrue
14516 \escapechar=`\%
14517 \def@@@BOOKMARK[##1][##2]##3##4##5{%
14518 \calc@bm@number{##5}%
14519 }%
14520 \InputIfFileExists{jobname.out}{-}{-}%
14521 \ifx\WriteBookmarks\relax
14522 \global\let\WriteBookmarks\relax
14523 \fi
14524 \def@@@BOOKMARK[##1][##2]##3##4##5{%
14525 \def\Hy@temp{##4}%
14526 (*pdfTeX)
14527 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14528 \Hy@OutlineName{}\Hy@pstringName{%
14529 ##2\check@bm@number{##3}}%
14530 }{%
14531 \expandafter\strip@prefix\meaning\Hy@temp
14532 }%
14533 </pdfTeX>
14534 (*pdfmark)
14535 \pdfmark{%
14536 pdfmark=/OUT,%
14537 Count={##2\check@bm@number{##3}},%
14538 Dest={##3},%
14539 Title=\expandafter\strip@prefix\meaning\Hy@temp
14540 }%
14541 </pdfmark>
14542 (*dvipdfm|xetex)
14543 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14544 \@pdfm@mark{%
14545 outline \ifHy@DvipdfmxOutlineOpen
14546 [%
14547 \ifnum##21>\z@
14548 \else
14549 -%
14550 \fi

```

```

14551         | %
14552         \fi
14553         ##1<<%
14554         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14555         /A<<%
14556         /S/GoTo%
14557         /D(\Hy@pstringName)%
14558         >>%
14559         >>%
14560     }%
14561 </dvipdfm | xetex>
14562 }%
14563 \begingroup
14564 \def\WriteBookmarks{0}%
14565 \InputIfFileExists{jobname.out}{-}{-}%
14566 \endgroup
14567 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14568 \endgroup
14569 }%
14570 \ifx\WriteBookmarks\relax
14571 \else
14572 \if@filesw
14573 \newwrite\@outlinefile
14574 \Hy@OutlineRerunCheck
14575 \immediate\openout\@outlinefile=jobname.out\relax
14576 \fi
14577 \fi
14578 }
14579 (*pdfTeX)
14580 \def\Hy@OutlineName#1#2#3#4{%
14581 \pdfoutline goto name{#2}count#3{#4}%
14582 }
14583 </pdfTeX>
14584 \def\check@bm@number#1{%
14585 \expandafter\ifx\csname B_#1\endcsname\relax
14586 0%
14587 \else
14588 \csname B_#1\endcsname
14589 \fi
14590 }
14591 \def\calc@bm@number#1{%
14592 \@tempcnta=\check@bm@number{#1}\relax
14593 \advance\@tempcnta by 1 %
14594 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14595 }
14596 </!vtex>
14597 \ifHy@implicit
14598 \else
14599 \expandafter\endinput
14600 \fi
14601 </outlines>
14602 (*outlines | hypertex)
14603 \newlength\Hy@SectionHShift

```

```

14604 \def\Hy@SectionAnchorHref#1{%
14605   \ifx\protect\@typeset@protect
14606     \Hy@@SectionAnchor{#1}%
14607   \fi
14608 }
14609 \DeclareRobustCommand*\Hy@@SectionAnchor}[1]{%
14610   \leavevmode
14611   \hbox to Opt{%
14612     \kern-\Hy@SectionHShift
14613     \Hy@raisedlink{%
14614       \hyper@anchorstart{#1}\hyper@anchorend
14615     }%
14616     \hss
14617   }%
14618 }
14619 \@ifundefined{hyper@nopatch@sectioning}
14620 {
14621   \let\H@old@ssect\@ssect
14622   \def\@ssect#1#2#3#4#5{%
14623     \Hy@MakeCurrentHrefAuto{section*}%
14624     \setlength{\Hy@SectionHShift}{#1}%
14625     \begingroup
14626       \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14627       \toks\tw@\expandafter{%
14628         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14629         #5%
14630       }%
14631       \edef\x{\endgroup
14632         \the\toks@\the\toks\tw@}%
14633     }\x
14634 }
14635 \let\H@old@schapter\@schapter
14636 \def\@schapter#1{%
14637   \begingroup
14638     \let\@mkboth\@gobbletwo
14639     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14640     \Hy@raisedlink{%
14641       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14642     }%
14643   \endgroup
14644   \H@old@schapter{#1}%
14645 }

```

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:

```

14646 \ltx@ifundefined{@chapter}{-}{%
14647   \let\Hy@org@chapter\@chapter
14648   \def\@chapter{%
14649     \def\Hy@next{%
14650       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14651       \Hy@raisedlink{%
14652         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14653       }%

```

```

14654 }%
14655 \ifnum\c@secnumdepth>\m@ne
14656 \ltx@ifundefined{if@mainmatter}%
14657 \iftrue{\csname if@mainmatter\endcsname}%
14658 \let\Hy@next\relax
14659 \fi
14660 \fi
14661 \Hy@next
14662 \Hy@org@chapter
14663 }%
14664 }

14665 \let\H@old@part\@part
14666 \@ifundefined{chapter}
14667 {\let\Hy@secnum@part\z@}
14668 {\let\Hy@secnum@part\m@ne}
14669 \def\@part{%
14670 \ifnum\Hy@secnum@part>\c@secnumdepth
14671 \phantomsection
14672 \fi
14673 \H@old@part
14674 }

14675 \let\H@old@spart\@spart
14676 \def\@spart#1{%
14677 \Hy@MakeCurrentHrefAuto{part*}%
14678 \Hy@raisedlink{%
14679 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14680 }%
14681 \H@old@spart{#1}%
14682 }

14683 \let\H@old@sect\@sect
14684 \def\@sect#1#2#3#4#5#6[#7]#8{%
14685 \ifnum #2>\c@secnumdepth
14686 \expandafter\@firstoftwo
14687 \else
14688 \expandafter\@secondoftwo
14689 \fi
14690 {%
14691 \Hy@MakeCurrentHrefAuto{section*}%
14692 \setlength{\Hy@SectionHShift}{#3}%
14693 \begingroup
14694 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14695 \toks\tw@\expandafter{%
14696 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14697 #8%
14698 }%
14699 \edef\x{\endgroup
14700 \the\toks@\the\toks\tw@}%
14701 }\x
14702 }{%
14703 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14704 }%
14705 }
14706 }-{}

```

```

14707 </outlines | hypertex>
14708 (*outlines)

14709 \expandafter\def\csname Parent-4\endcsname{}
14710 \expandafter\def\csname Parent-3\endcsname{}
14711 \expandafter\def\csname Parent-2\endcsname{}
14712 \expandafter\def\csname Parent-1\endcsname{}
14713 \expandafter\def\csname Parent0\endcsname{}
14714 \expandafter\def\csname Parent1\endcsname{}
14715 \expandafter\def\csname Parent2\endcsname{}
14716 \expandafter\def\csname Parent3\endcsname{}
14717 \expandafter\def\csname Parent4\endcsname{}

14718 </outlines>

```

## 46 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 46.1 PD1 encoding

```

14719 (*pd1enc)
14720 \DeclareFontEncoding{PD1}{}{}

Accents
14721 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14722 \DeclareTextAccent{\'}{PD1}{\textacute}
14723 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14724 \DeclareTextAccent{\~}{PD1}{\texttilde}
14725 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14726 \DeclareTextAccent{\r}{PD1}{\textring}
14727 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14728 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14729 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14730 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14731 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14732 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14733 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14734 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14735 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14736 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14737 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14738 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14739 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14740 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14741 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14742 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14743 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14744 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14745 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14746 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14747 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14748 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}

```

```

14749 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciidieresis}
14750 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14751 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14752 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14753 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14754 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14755 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14756 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14757 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14758 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14759 \DeclareTextCommand{\newtie}{PD1}[1]{%
14760 \TextSymbolUnavailable{\newtie{#1}}#1%
14761 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14762 % U+0009 (CHARACTER TABULATION)
14763 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14764 % U+000A (LINE FEED)
14765 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14766 % U+000D (CARRIAGE RETURN)
14767 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14768 % U+02D8 BREVE; breve
14769 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14770 % U+02C7 CARON; caron
14771 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14772 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14773 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14774 % U+02D9 DOT ABOVE; dotaccent
14775 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14776 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14777 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14778 % U+02DB OGONEK; ogonek
14779 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14780 % U+02DA RING ABOVE; ring
14781 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14782 % U+02DC SMALL TILDE; ilde, *tilde
14783 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14784 % U+0022 QUOTATION MARK; quotedbl

14785 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022

14786 % U+0023 NUMBER SIGN; numbersign

14787 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14788 % U+0024 DOLLAR SIGN; dollar

14789 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14790 % U+0025 PERCENT SIGN; percent

14791 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14792 % U+0026 AMPERSAND; ampersand

14793 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14794 % U+0028 LEFT PARENTHESIS; parenleft  
14795 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
14796 % U+0029 RIGHT PARENTHESIS; parenright  
14797 \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  
14798 % U+002E FULL STOP; period  
14799 \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  
14800 % U+003C LESS-THAN SIGN; less  
14801 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
\075: U+003D EQUALS SIGN; equal  
14802 % U+003E GREATER-THAN SIGN; greater  
14803 \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  
14804 % U+005C REVERSE SOLIDUS; backslash  
14805 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
14806 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
14807 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
\135: U+005D RIGHT SQUARE BRACKET; bracketright  
14808 % U+005E CIRCUMFLEX ACCENT; asciicircum  
14809 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
14810 % U+005F LOW LINE; underscore  
14811 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
14812 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
14813 % U+0060 GRAVE ACCENT; grave  
14814 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
\141: U+0061 LATIN SMALL LETTER A; a  
...  
\150: U+0068 LATIN SMALL LETTER H; h  
14815 % U+0069 LATIN SMALL LETTER I; i  
14816 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
\152: U+006A LATIN SMALL LETTER J; j  
...  
\172: U+007A LATIN SMALL LETTER Z; z  
14817 % U+007B LEFT CURLY BRACKET; braceleft  
14818 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B



14819 % U+007C VERTICAL LINE; \*bar, verticalbar  
14820 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
14821 % U+007D RIGHT CURLY BRACKET; braceright  
14822 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
14823 % U+007E TILDE; asciitilde  
14824 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
14825 % U+2022 BULLET; bullet  
14826 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
14827 % U+2020 DAGGER; dagger  
14828 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
14829 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
14830 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
14831 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
14832 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
14833 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
14834 % U+2014 EM DASH; emdash  
14835 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
14836 % U+2013 EN DASH; endash  
14837 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
14838 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
14839 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
14840 % U+2044 FRACTION SLASH; fraction  
14841 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
14842 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
14843 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
14844 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
14845 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
14846 % U+2212 MINUS SIGN; minus  
14847 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
14848 % U+2030 PER MILLE SIGN; perthousand  
14849 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
14850 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
14851 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
14852 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
14853 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
14854 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
14855 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
14856 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
14857 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
14858 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
14859 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
14860 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
14861 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
14862 % U+2122 TRADE MARK SIGN; trademark  
14863 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
14864 % U+FB01 LATIN SMALL LIGATURE FI; fi  
14865 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
14866 % U+FB02 LATIN SMALL LIGATURE FL; fl  
14867 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
14868 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14869 \DeclareTextCommand{\L}{PD1}{\225}% U+0141

14870 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
14871 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
14872 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14873 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
14874 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14875 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
14876 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
14877 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
14878 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
14879 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14880 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
14881 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14882 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
14883 % U+0153 LATIN SMALL LIGATURE OE; oe  
14884 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
14885 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14886 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
14887 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
14888 \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.

14889 % U+20AC EURO SIGN; \*Euro, euro  
14890 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
14891 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
14892 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
14893 % U+00A2 CENT SIGN; cent  
14894 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
14895 % U+00A3 POUND SIGN; sterling  
14896 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
14897 % U+00A4 CURRENCY SIGN; currency  
14898 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
14899 % U+00A5 YEN SIGN; yen  
14900 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
14901 % U+00A6 BROKEN BAR; brokenbar  
14902 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
14903 % U+00A7 SECTION SIGN; section  
14904 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
14905 % U+00A8 DIAERESIS; dieresis  
14906 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
14907 % U+00A9 COPYRIGHT SIGN; copyright  
14908 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
14909 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
14910 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
14911 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft  
14912 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
14913 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB  
14914 % U+00AC NOT SIGN; logicalnot  
14915 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
14916 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.

14917 % U+00AE REGISTERED SIGN; registered  
14918 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
14919 % U+00AF MACRON; \*macron, overscore

14920 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
14921 % U+00B0 DEGREE SIGN; degree  
14922 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
14923 % U+00B1 PLUS-MINUS SIGN; plusminus  
14924 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
14925 % U+00B2 SUPERSCRIPT TWO; twosuperior  
14926 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
14927 % U+00B3 SUPERSCRIPT THREE; threesuperior  
14928 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
14929 % U+00B4 ACUTE ACCENT; acute  
14930 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
14931 % U+00B5 MICRO SIGN; mu, mul  
14932 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
14933 % U+00B6 PILCROW SIGN; paragraph  
14934 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
14935 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
14936 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
14937 % U+00B8 CEDILLA; cedilla  
14938 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
14939 % U+00B9 SUPERSCRIPT ONE; onesuperior  
14940 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
14941 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
14942 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
14943 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright  
14944 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
14945 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB  
14946 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
14947 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
14948 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
14949 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
14950 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
14951 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
14952 % U+00BF INVERTED QUESTION MARK; questiondown  
14953 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
14954 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
14955 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
14956 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
14957 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
14958 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
14959 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
14960 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
14961 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
14962 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
14963 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
14964 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14965 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
14966 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14967 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
14968 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14969 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
14970 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14971 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
14972 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14973 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

14974 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14975 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
14976 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14977 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
14978 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14979 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
14980 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14981 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
14982 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14983 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
14984 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14985 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
14986 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14987 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
14988 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
14989 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14990 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
14991 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14992 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
14993 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14994 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
14995 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14996 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
14997 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14998 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
14999 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15000 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15001 % U+00D7 MULTIPLICATION SIGN; multiply  
15002 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15003 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15004 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15005 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15006 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
15007 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15008 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15009 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15010 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15011 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15012 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15013 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15014 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15015 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15016 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15017 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15018 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15019 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15020 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15021 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
15022 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15023 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15024 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15025 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15026 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15027 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3

15028 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15029 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15030 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15031 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15032 % U+00E6 LATIN SMALL LETTER AE; ae  
15033 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15034 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15035 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15036 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15037 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15038 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15039 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15040 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15041 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15042 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15043 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15044 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15045 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15046 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15047 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15048 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15049 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15050 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15051 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15052 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15053 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15054 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15055 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15056 % U+00F0 LATIN SMALL LETTER ETH; eth  
15057 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15058 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15059 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15060 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15061 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15062 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15063 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15064 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15065 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15066 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15067 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15068 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15069 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15070 % U+00F7 DIVISION SIGN; divide  
15071 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15072 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15073 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15074 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15075 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15076 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15077 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15078 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15079 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
15080 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15081 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC

```

15082 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15083 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15084 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15085 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15086 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15087 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15088 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
15089 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15090 \DeclareTextCommand{\SS}{PD1}{SS}%
15091 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15092 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15093 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15094 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15095 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15096 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15097 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15098 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15099 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15100 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15101 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15102 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15103 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15104 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15105 \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).

```

15106 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15107 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15108 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15109 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15110 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15111 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15112 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15113 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15114 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15115 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15116 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15117 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15118 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15119 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

15120 </pd1enc>

```

## 46.2 PU encoding

```

15121 <*puenc>
15122 \DeclareFontEncoding{PU}{}{}

```

### 46.2.1 NFSS2 accents

15123 % U+0300 COMBINING GRAVE ACCENT; gravecmb, \*gravecomb  
15124 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300  
15125 % U+0301 COMBINING ACUTE ACCENT; acutecmb, \*acutecomb  
15126 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301  
15127 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb  
15128 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302  
15129 % U+0303 COMBINING TILDE; tildecmb, \*tildecmb  
15130 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303  
15131 % U+0304 COMBINING MACRON; macroncmb  
15132 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304  
15133 % U+0306 COMBINING BREVE; brevecmb  
15134 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
15135 \ifx\CYRDZE\@undefined \else  
15136 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
15137 \fi  
15138 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
15139 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
15140 % U+0308 COMBINING DIAERESIS; dieresiscmb  
15141 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
15142 % U+030A COMBINING RING ABOVE; ringcmb  
15143 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
15144 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
15145 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
15146 % U+030C COMBINING CARON; caroncmb  
15147 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
15148 (/puenc)  
15149 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
15150 (puextra)\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
15151 (\*puenc)  
15152 \ifx\CYRDZE\@undefined \else  
15153 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
15154 \fi  
15155 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
15156 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311  
15157 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
15158 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
15159 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
15160 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-  
laut (tipa)  
15161 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324  
15162 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
15163 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325  
15164 % U+0327 COMBINING CEDILLA; cedillacmb  
15165 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
15166 % U+0328 COMBINING OGONEK; ogonekcmb  
15167 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
15168 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
15169 % \textsubcircum (tipa)  
15170 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D  
15171 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
15172 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E  
15173 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
15174 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330  
15175 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

15176 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
15177 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
15178 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
15179 % U+20DD COMBINING ENCLOSING CIRCLE  
15180 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

Double accents.

15181 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304  
15182 \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.

15183 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%  
15184 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%  
15185 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%  
15186 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%  
15187 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%  
15188 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%  
15189 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%  
15190 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%  
15191 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%  
15192 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%  
15193 (/puenc)  
15194 (puextra)\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%  
15195 (\*puenc)  
15196 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%  
15197 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%  
15198 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%  
15199 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311  
15200 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324  
15201 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%  
15202 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircumlow}%  
15203 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E  
15204 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}%  
15205 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%  
15206 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%  
15207 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%  
15208 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%  
15209 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%  
15210 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U  
15211 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U  
15212 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%  
15213 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%  
15214 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%  
15215 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%  
15216 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%  
15217 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%  
15218 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%  
15219 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%  
15220 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%  
15221 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%  
15222 (/puenc)  
15223 (puextra)\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%



15224 (\*puenc)  
15225 \DeclareTextCompositeCommand{\=} {PU}{\ }{\textasciimacron}%  
15226 \DeclareTextCompositeCommand{\H} {PU}{\ }{\texthungarumlaut}%  
15227 \DeclareTextCompositeCommand{\k} {PU}{\ }{\textogonek}%  
15228 \DeclareTextCompositeCommand{\textinvbreve} {PU}{\ }{\{\ \83\021\}}% U+0311  
15229 \DeclareTextCompositeCommand{\textsubumlaut} {PU}{\ }{\{\ \83\044\}}% U+0324  
15230 \DeclareTextCompositeCommand{\textsubring} {PU}{\ }{\textringlow}%  
15231 \DeclareTextCompositeCommand{\textsubcircum} {PU}{\ }{\textcircumlown}%  
15232 \DeclareTextCompositeCommand{\textsubbreve} {PU}{\ }{\{\ \83\056\}}% U+032E  
15233 \DeclareTextCompositeCommand{\textsubtilde} {PU}{\ }{\texttildelow}%  
15234 \DeclareTextCompositeCommand{\b} {PU}{\ }{\textmacronbelow}%  
15235 \DeclareTextCompositeCommand{\d} {PU}{\ }{\textdotbelow}%  
15236 \DeclareTextCompositeCommand{\t} {PU}{\ }{\texttie}%  
15237 \DeclareTextCompositeCommand{\newtie} {PU}{\ }{\textnewtie}%  
15238 \DeclareTextCompositeCommand{\textcircled} {PU}{\ }{\textbigcircle}%  
15239 \DeclareTextCompositeCommand{\textacutemacron} {PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304  
15240 \DeclareTextCompositeCommand{\textgravemacron} {PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

Accents for capitals (see encoding TS1)

15241 \DeclareTextCommand{\capitalcedilla} {PU}[1]{\c{#1}}%  
15242 \DeclareTextCommand{\capitalogonek} {PU}[1]{\k{#1}}%  
15243 \DeclareTextCommand{\capitalgrave} {PU}[1]{\`{#1}}%  
15244 \DeclareTextCommand{\capitalacute} {PU}[1]{\'{#1}}%  
15245 \DeclareTextCommand{\capitalcircumflex} {PU}[1]{\^{#1}}%  
15246 \DeclareTextCommand{\capitaltilde} {PU}[1]{\~{#1}}%  
15247 \DeclareTextCommand{\capitaldieresis} {PU}[1]{\"{#1}}%  
15248 \DeclareTextCommand{\capitalhungarumlaut} {PU}[1]{\H{#1}}%  
15249 \DeclareTextCommand{\capitalring} {PU}[1]{\r{#1}}%  
15250 \DeclareTextCommand{\capitalcaron} {PU}[1]{\v{#1}}%  
15251 \DeclareTextCommand{\capitalbreve} {PU}[1]{\u{#1}}%  
15252 \DeclareTextCommand{\capitalmacron} {PU}[1]{\={#1}}%  
15253 \DeclareTextCommand{\capitaldotaccent} {PU}[1]{\.\{#1}}%  
15254 \DeclareTextCommand{\capitaltie} {PU}[1]{\t{#1}}%  
15255 \DeclareTextCommand{\capitalnewtie} {PU}[1]{\newtie{#1}}%

#### 46.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

15256 % U+0009 (CHARACTER TABULATION)  
15257 \DeclareTextCommand{\textHT} {PU}{\80\011}% U+0009  
15258 % U+000A (LINE FEED)  
15259 \DeclareTextCommand{\textLF} {PU}{\80\012}% U+000A  
15260 % U+000D (CARRIAGE RETURN)  
15261 \DeclareTextCommand{\textCR} {PU}{\80\015}% U+000D  
\80\040: U+0020 SPACE; space, spacehackarabic  
\80\041: U+0021 EXCLAMATION MARK; exclam  
15262 % U+0022 QUOTATION MARK; quotedbl  
15263 \DeclareTextCommand{\textquotedbl} {PU}{"}% \80\042 U+0022  
15264 % U+0023 NUMBER SIGN; numbersign  
15265 \DeclareTextCommand{\textnumbersign} {PU}{\80\043}% U+0023  
15266 % U+0024 DOLLAR SIGN; dollar  
15267 \DeclareTextCommand{\textdollar} {PU}{\80\044}% U+0024  
15268 %\* \textdollar -> \mathdollar  
15269 %\* \textdollar -> \EyesDollar (marvosym)  
15270 % U+0025 PERCENT SIGN; percent

15271 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
15272 % U+0026 AMPERSAND; ampersand  
15273 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
15274 %\* \textampersand -> \binampersand (stmaryrd)  
15275 %\* \textampersand -> \with (cml)  
15276 % U+0027 APOSTROPHE; quotesingle  
15277 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
15278 % U+0028 LEFT PARENTHESIS; parenleft  
15279 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
15280 % U+0029 RIGHT PARENTHESIS; parenright  
15281 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
15282 % U+002A ASTERISK; asterisk; (?)  
15283 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A  
15284 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)  
15285 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%\* U+002B  
15286 % U+002C COMMA; comma; \MVComma (marvosym)  
15287 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%\* U+002C  
15288 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)  
15289 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%\* U+002D  
15290 % U+002E FULL STOP; period; \MVPeriod (marvosym)  
15291 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%\* U+002E  
15292 % U+002F SOLIDUS; slash; \MVDivision (marvosym)  
15293 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%\* U+002F  
15294 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)  
15295 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%\* U+0030  
15296 % U+0031 DIGIT ONE; one; \MVOne (marvosym)  
15297 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%\* U+0031  
15298 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)  
15299 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%\* U+0032  
15300 % U+0033 DIGIT THREE; three; \MVThree (marvosym)  
15301 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%\* U+0033  
15302 % U+0034 DIGIT FOUR; four; \MVFfour (marvosym)  
15303 \DeclareTextCommand{\textMVFfour}{PU}{\80\064}%\* U+0034  
15304 % U+0035 DIGIT FIVE; five; \MVFfive (marvosym)  
15305 \DeclareTextCommand{\textMVFfive}{PU}{\80\065}%\* U+0035  
15306 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
15307 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
15308 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
15309 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
15310 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
15311 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
15312 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
15313 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039  
  
\80\072: U+003A COLON; colon  
\80\073: U+003B SEMICOLON; semicolon  
  
15314 % U+003C LESS-THAN SIGN; less  
15315 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
  
\80\075: U+003D EQUALS SIGN; equal  
  
15316 % U+003E GREATER-THAN SIGN; greater  
15317 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
  
\80\077: U+003F QUESTION MARK; question  
  
15318 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)

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15319 \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
15320 % U+005C REVERSE SOLIDUS; backslash
15321 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
15322 % U+005E CIRCUMFLEX ACCENT; asciicircum
15323 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15324 % U+005F LOW LINE; underscore
15325 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15326 %* \textunderscore -> \mathunderscore (LaTeX)
15327 % U+0060 GRAVE ACCENT; grave
15328 \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
15329 % U+0069 LATIN SMALL LETTER I; i
15330 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
15331 \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
15332 % U+007B LEFT CURLY BRACKET; braceleft
15333 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
15334 % U+007C VERTICAL LINE; *bar, verticalbar
15335 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
15336 %* \textbar -> \textvline (tipa)
15337 % U+007D RIGHT CURLY BRACKET; braceright
15338 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
15339 % U+007E TILDE; asciitilde
15340 \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
15341 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15342 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
15343 % U+00A2 CENT SIGN; cent
15344 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
15345 % U+00A3 POUND SIGN; sterling
15346 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
15347 %* \textsterling -> \mathsterling (LaTeX)
15348 %* \textsterling -> \pounds (LaTeX)
15349 % U+00A4 CURRENCY SIGN; currency
15350 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15351 % U+00A5 YEN SIGN; yen
15352 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15353 % U+00A6 BROKEN BAR; brokenbar
15354 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6

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15355 %\* \textbrokenbar -> \brokenvert (wasysym)  
15356 % U+00A7 SECTION SIGN; section  
15357 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
15358 %\* \textsection -> \mathsection (LaTeX)  
15359 %\* \textsection -> \S (LaTeX)  
15360 % U+00A8 DIAERESIS; dieresis  
15361 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
15362 % U+00A9 COPYRIGHT SIGN; copyright  
15363 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
15364 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15365 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
15366 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft  
15367 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
15368 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB  
15369 % U+00AC NOT SIGN; logicalnot  
15370 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
15371 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
15372 % U+00AE REGISTERED SIGN; registered  
15373 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
15374 % U+00AF MACRON; \*macron, overscore  
15375 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
15376 % U+00B0 DEGREE SIGN; degree  
15377 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
15378 % U+00B1 PLUS-MINUS SIGN; plusminus  
15379 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
15380 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15381 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
15382 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15383 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
15384 % U+00B4 ACUTE ACCENT; acute  
15385 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
15386 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
15387 % U+00B5 MICRO SIGN; mu, mu1  
15388 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15389 % U+00B6 PILCROW SIGN; paragraph  
15390 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15391 %\* \textparagraph -> \mathparagraph (LaTeX)  
15392 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15393 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
15394 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
15395 %\* \textperiodcentered -> \Squaredot (marvosym)  
15396 % U+00B8 CEDILLA; cedilla  
15397 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15398 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15399 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
15400 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15401 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
15402 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright  
15403 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
15404 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB  
15405 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15406 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15407 % U+00BD VULGAR FRACTION ONE HALF; onehalf

15408 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15409 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15410 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15411 % U+00BF INVERTED QUESTION MARK; questiondown  
15412 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15413 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15414 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15415 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15416 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15417 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15418 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15419 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15420 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15421 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15422 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15423 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15424 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15425 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15426 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15427 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15428 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15429 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15430 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15431 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15432 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15433 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15434 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15435 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15436 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15437 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15438 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15439 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15440 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15441 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15442 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15443 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15444 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15445 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15446 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15447 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15448 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15449 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15450 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15451 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15452 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15453 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15454 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15455 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15456 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15457 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15458 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15459 % U+00D7 MULTIPLICATION SIGN; multiply  
15460 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15461 %\* \textmultiply -> \vartimes (stmaryrd)

15462 %\* \textmultiply -> \MVMultiplication (marvosym)  
15463 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15464 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15465 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15466 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
15467 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15468 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15469 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15470 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15471 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15472 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15473 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15474 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15475 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15476 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15477 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15478 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15479 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15480 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15481 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
15482 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15483 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15484 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15485 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15486 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15487 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15488 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15489 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15490 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15491 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15492 % U+00E6 LATIN SMALL LETTER AE; ae  
15493 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15494 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15495 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15496 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15497 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
15498 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15499 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15500 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15501 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15502 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15503 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15504 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15505 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
15506 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\354}% U+00EC  
15507 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15508 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15509 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED  
15510 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15511 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15512 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15513 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15514 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15515 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\357}% U+00EF

15516 % U+00F0 LATIN SMALL LETTER ETH; eth  
15517 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15518 %\* \dh -> \eth (wsuipa, phonetic)  
15519 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15520 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
15521 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15522 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
15523 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15524 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
15525 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15526 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
15527 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15528 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
15529 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15530 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
15531 % U+00F7 DIVISION SIGN; divide  
15532 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
15533 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15534 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
15535 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15536 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
15537 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15538 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
15539 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15540 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
15541 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15542 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
15543 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15544 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
15545 % U+00FE LATIN SMALL LETTER THORN; thorn;  
15546 % \th, \thorn (wasysym), \textthorn (tipa)  
15547 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
15548 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
15549 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15550 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 46.2.4 Latin Extended-A: U+0080 to U+017F

15551 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
15552 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
15553 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
15554 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
15555 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
15556 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
15557 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
15558 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
15559 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
15560 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
15561 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
15562 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
15563 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
15564 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
15565 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
15566 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107

15567 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
15568 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108  
15569 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
15570 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109  
15571 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
cent  
15572 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
15573 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15574 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15575 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15576 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15577 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15578 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15579 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15580 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15581 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15582 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15583 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15584 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15585 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15586 % \textcrd (tipa)  
15587 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15588 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15589 %\* \textcrd -> \crossd (wsuipa)  
15590 % An alternate glyph with the stroke through the bowl:  
15591 %\* \textcrd -> \textbard (tipa)  
15592 %\* \textcrd -> \bard (wsuipa)  
15593 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15594 \DeclareTextCompositeCommand{=} {PU}{E}{\81\022}% U+0112  
15595 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15596 \DeclareTextCompositeCommand{=} {PU}{e}{\81\023}% U+0113  
15597 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15598 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15599 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15600 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15601 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15602 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15603 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15604 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15605 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15606 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15607 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15608 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15609 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15610 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15611 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15612 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15613 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15614 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15615 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15616 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15617 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15618 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15619 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve



15620 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15621 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
15622 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15623 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15624 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15625 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
15626 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15627 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15628 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15629 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15630 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
15631 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15632 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
15633 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15634 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15635 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
15636 \DeclareTextCommand{\texthbar}{PU}{\81\047}%\* U+0127  
15637 %\* \texthbar -> \textcrh (tipa)  
15638 %\* \texthbar -> \crossh (wsuipa)  
15639 %\* \texthbar -> \planck (phonetic)  
15640 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15641 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15642 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15643 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15644 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
15645 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15646 \DeclareTextCompositeCommand{\=} {PU}{I}{\81\052}% U+012A  
15647 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15648 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B  
15649 \DeclareTextCompositeCommand{\=} {PU}{\i}{\81\053}% U+012B  
15650 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15651 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15652 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
15653 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15654 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
15655 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15656 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15657 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15658 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15659 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
15660 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15661 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15662 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15663 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
15664 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15665 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
15666 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15667 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
15668 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
15669 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
15670 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
15671 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

15672 `\DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}`% U+0135  
 15673 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 15674 `\DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}`% U+0136  
 15675 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 15676 `\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`.

15677 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 15678 `\DeclareTextCommand{\textkra}{PU}{\81\070}`% U+0138  
 15679 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 15680 `\DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}`% U+0139  
 15681 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 15682 `\DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}`% U+013A  
 15683 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 15684 `\DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}`% U+013B  
 15685 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 15686 `\DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}`% U+013C  
 15687 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 15688 `\DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}`% U+013D  
 15689 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 15690 `\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`.

15691 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
 15692 `\DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}`% U+013F  
 15693 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 15694 `\DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}`% U+0140  
 15695 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 15696 `\DeclareTextCommand{\L}{PU}{\81\101}`% U+0141  
 15697 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 15698 `\DeclareTextCommand{\l}{PU}{\81\102}`% U+0142  
 15699 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 15700 `\DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}`% U+0143  
 15701 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 15702 `\DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}`% U+0144  
 15703 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
 15704 `\DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}`% U+0145  
 15705 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 15706 `\DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}`% U+0146  
 15707 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 15708 `\DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}`% U+0147  
 15709 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 15710 `\DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}`% U+0148  
 15711 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 15712 `\DeclareTextCommand{\textnapostrophe}{PU}{\81\111}`% U+0149  
 15713 % U+014A LATIN CAPITAL LETTER ENG; Eng

15714 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15715 % U+014B LATIN SMALL LETTER ENG; eng  
15716 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15717 %\* \ng -> \eng (wsuipa)  
15718 %\* \ng -> \engma (phonetic)  
15719 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15720 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C  
15721 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15722 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D  
15723 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15724 \DeclareTextCompositeCommand{\u} {PU}{O}{\81\116}% U+014E  
15725 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15726 \DeclareTextCompositeCommand{\u} {PU}{o}{\81\117}% U+014F  
15727 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
cute, Ohungarumlaut  
15728 \DeclareTextCompositeCommand{\H} {PU}{O}{\81\120}% U+0150  
15729 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
15730 \DeclareTextCompositeCommand{\H} {PU}{o}{\81\121}% U+0151  
15731 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15732 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
15733 % U+0153 LATIN SMALL LIGATURE OE; oe  
15734 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
15735 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
15736 \DeclareTextCompositeCommand{\'} {PU}{R}{\81\124}% U+0154  
15737 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
15738 \DeclareTextCompositeCommand{\'} {PU}{r}{\81\125}% U+0155  
15739 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
15740 \DeclareTextCompositeCommand{\c} {PU}{R}{\81\126}% U+0156  
15741 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
15742 \DeclareTextCompositeCommand{\c} {PU}{r}{\81\127}% U+0157  
15743 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
15744 \DeclareTextCompositeCommand{\v} {PU}{R}{\81\130}% U+0158  
15745 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
15746 \DeclareTextCompositeCommand{\v} {PU}{r}{\81\131}% U+0159  
15747 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
15748 \DeclareTextCompositeCommand{\'} {PU}{S}{\81\132}% U+015A  
15749 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
15750 \DeclareTextCompositeCommand{\'} {PU}{s}{\81\133}% U+015B  
15751 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
15752 \DeclareTextCompositeCommand{\^} {PU}{S}{\81\134}% U+015C  
15753 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
15754 \DeclareTextCompositeCommand{\^} {PU}{s}{\81\135}% U+015D  
15755 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
15756 \DeclareTextCompositeCommand{\c} {PU}{S}{\81\136}% U+015E  
15757 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
15758 \DeclareTextCompositeCommand{\c} {PU}{s}{\81\137}% U+015F  
15759 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15760 \DeclareTextCompositeCommand{\v} {PU}{S}{\81\140}% U+0160  
15761 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15762 \DeclareTextCompositeCommand{\v} {PU}{s}{\81\141}% U+0161  
15763 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent

15764 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
15765 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
15766 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
15767 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
15768 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
15769 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
15770 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
15771 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
15772 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
15773 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
15774 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
15775 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
15776 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
15777 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
15778 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
15779 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
15780 \DeclareTextCompositeCommand{\=} {PU}{U}{\81\152}% U+016A  
15781 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
15782 \DeclareTextCompositeCommand{\=} {PU}{u}{\81\153}% U+016B  
15783 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
15784 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
15785 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
15786 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
15787 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
15788 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
15789 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
15790 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
15791 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
15792 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
15793 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
15794 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
15795 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
15796 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
15797 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
15798 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
15799 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
15800 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
15801 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
15802 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
15803 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
15804 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
15805 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
15806 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
15807 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15808 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
15809 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
15810 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
15811 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
15812 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
15813 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
15814 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
15815 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent

15816 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
15817 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15818 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
15819 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15820 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
15821 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
15822 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

#### 46.2.5 Latin Extended-B: U+0180 to U+024F

15823 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
15824 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
15825 %\* \textcrb -> \crossb (wsuipa)  
15826 % An alternate glyph with the stroke through the bowl:  
15827 %\* \textcrb -> \textbarb (tipa)  
15828 %\* \textcrb -> \barb (wsuipa)  
15829 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausaB (pho-  
netic)  
15830 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
15831 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
15832 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
15833 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausaD (pho-  
netic)  
15834 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%\* U+018A  
15835 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
15836 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
15837 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
15838 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15839 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
15840 %\* \textflorin -> \Florin (marvosym)  
15841 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
15842 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
15843 %\* \texthvlig -> \hv (wsuipa)  
15844 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausaK (pho-  
netic)  
15845 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%\* U+0198  
15846 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
15847 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
15848 %\* \texthtk -> \hausak (phonetic)  
15849 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
15850 % \textbarl (tipa), \barl (wsuipa)  
15851 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
15852 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
15853 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
15854 % \textcrlambda (tipa)  
15855 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
15856 %\* \textcrlambda -> \crossnilambda (wsuipa)  
15857 %\* \textcrlambda -> \barlambda (phonetic)  
15858 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
15859 %\* \textcrlambda -> \lambdash (txfonts/pxfonts)  
15860 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nletright-  
long;  
15861 % \textnrleg (tipx)  
15862 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
15863 %\* \textPUnrleg -> \textnrleg (tipx)

15864 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
15865 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
15866 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
15867 % \textlhookt (tipa)  
15868 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
15869 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
15870 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
15871 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
15872 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
15873 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
15874 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
15875 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
15876 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
15877 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
15878 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
15879 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
15880 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
15881 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
tal;  
15882 % \textpipe (tipa)  
15883 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
15884 %\* \textpipe -> \textpipevar (tipx)  
15885 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
15886 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
15887 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
15888 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
15889 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
BLE BAR;  
15890 % clickalveolar; \textdoublebarpipe (tipa)  
15891 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
15892 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
15893 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
15894 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
15895 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
15896 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
15897 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
15898 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
15899 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
15900 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
15901 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
15902 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
15903 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
15904 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
15905 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
15906 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
15907 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
15908 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
15909 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
15910 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
15911 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
15912 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
15913 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
15914 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
15915 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5

15916 %\* \textgslash -> \textcrg (tipa)  
15917 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
15918 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
15919 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
15920 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
15921 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
15922 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
15923 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
15924 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
15925 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
15926 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
15927 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
15928 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
15929 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
15930 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15931 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
15932 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
15933 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
15934 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
15935 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
15936 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
15937 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
15938 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
15939 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
15940 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
15941 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
15942 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
15943 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
15944 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
15945 % \*Oslashacute, Ostrokeacut  
15946 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
15947 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
15948 % \*oslashacute, ostrokeacute  
15949 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
15950 </puenc>  
15951 <\*puextra>  
15952 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
15953 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
15954 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
15955 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
15956 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
15957 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
15958 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
15959 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
15960 </puextra>  
15961 <\*puenc>  
15962 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
15963 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
15964 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-  
breve  
15965 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
15966 </puenc>  
15967 <\*puextra>

15968 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
15969 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
15970 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
15971 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15972 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
15973 </puextra>  
15974 (\*puenc)  
15975 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
breve  
15976 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
15977 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
breve  
15978 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
15979 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
15980 </puenc>  
15981 (\*puextra)<\/p>
<p>
15982 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
15983 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
15984 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
15985 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
15986 </puextra>  
15987 (\*puenc)<\/p>
<p>
15988 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinverted-  
edbreve  
15989 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
15990 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
breve  
15991 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
15992 </puenc>  
15993 (\*puextra)<\/p>
<p>
15994 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
15995 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
15996 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
15997 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
15998 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
15999 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
16000 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
16001 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
16002 </puextra>  
16003 (\*puenc)<\/p>
<p>
16004 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinverted-  
edbreve  
16005 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
16006 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
breve  
16007 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
16008 % U+021E LATIN CAPITAL LETTER H WITH CARON  
16009 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
16010 % U+021F LATIN SMALL LETTER H WITH CARON  
16011 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
16012 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
16013 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
16014 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
16015 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225<\/p>
<\/p>



16016 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
16017 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
16018 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
16019 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
16020 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
16021 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
16022 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
16023 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
16024 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
16025 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
16026 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
16027 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
16028 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
16029 \DeclareTextCompositeCommand{\=} {PU}{Y}{\82\062}% U+0232  
16030 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
16031 \DeclareTextCompositeCommand{\=} {PU}{y}{\82\063}% U+0233  
16032 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
16033 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
16034 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
16035 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
16036 % U+0237 LATIN SMALL LETTER DOTLESS J  
16037 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
16038 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
16039 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
16040 %\* \textPUdblig -> \textdblig (tipx)  
16041 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
16042 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
16043 %\* \textPUqplig -> \textqplig (tipx)  
16044 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
16045 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
16046 %\* \textslashc -> \textcentoldstyle (textcomp)  
16047 % With bar instead of stroke:  
16048 %\* \textslashc -> \textbarc (tipa)

#### 46.2.6 IPA Extensions: U+0250 to U+02AF

16049 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
16050 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
16051 %\* \textturna -> \inva (wasysym)  
16052 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
16053 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
16054 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
16055 %\* \textscripta -> \vara (phonetic)  
16056 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
16057 % \textturnscripta (tipa)  
16058 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
16059 %\* \textturnscripta -> \invscripta (wsuipa)  
16060 %\* \textturnscripta -> \rotvara (phonetic)  
16061 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
16062 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
16063 %\* \texthtb -> \hookb (wsuipa)  
16064 %\* \texthtb -> \hausab (phonetic)  
16065 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
16066 % \textopeno (tipa), \openo (wasysym)  
16067 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254

16068 %\* \textopeno -> \varopeno (phonetic)  
16069 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16070 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16071 %\* \textctc -> \curlyc (wsuipa)  
16072 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16073 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256  
16074 %\* \textrtaild -> \taild (wsuipa)  
16075 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16076 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16077 %\* \texthtd -> \hookd (wsuipa)  
16078 %\* \texthtd -> \hausad (phonetic)  
16079 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16080 % \textreve (tipa), \reve (wsuipa)  
16081 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258  
16082 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16083 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16084 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259  
16085 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16086 % \textrhookschwa (tipa)  
16087 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16088 %\* \textrhookschwa -> \er (wsuipa)  
16089 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16090 % \niepsilon (wsuipa)  
16091 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B  
16092 %\* \textniepsilon -> \epsi (phonetic)  
16093 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16094 % \textrepepsilon (tipa), \revepsilon (wsuipa)  
16095 \DeclareTextCommand{\textrepepsilon}{PU}{\82\134}% U+025C  
16096 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16097 % \textrhookrepepsilon (tipa)  
16098 \DeclareTextCommand{\textrhookrepepsilon}{PU}{\82\135}% U+025D  
16099 %\* \textrhookrepepsilon -> \hookrepepsilon (wsuipa)  
16100 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16101 % \textcloserepepsilon (tipa)  
16102 \DeclareTextCommand{\textcloserepepsilon}{PU}{\82\136}% U+025E  
16103 %\* \textcloserepepsilon -> \closedrepepsilon (wsuipa)  
16104 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16105 % \textbardotlessj (tipa)  
16106 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16107 %\* \textbardotlessj -> \barj (phonetic)  
16108 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16109 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16110 %\* \texthtg -> \hookg (wsuipa)  
16111 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16112 % \textscriptg (tipa), \scriptg (wsuipa)  
16113 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261  
16114 %\* \textscriptg -> \varg (phonetic)  
16115 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16116 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262  
16117 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;

16118 % \ipagamma (wsuipa), \vod (phonetic)  
16119 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16120 %\* \textipagamma -> \vod (pnonetic)  
16121 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16122 % \babygamma (wsuipa)  
16123 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16124 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16125 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16126 %\* \textturnh -> \invh (wsuipa)  
16127 %\* \textturnh -> \udesc (phonetic)  
16128 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16129 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16130 %\* \texthth -> \hookh (wsuipa)  
16131 %\* \texthth -> \voicedh (phonetic)  
16132 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-  
ththeng (tipa)  
16133 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16134 %\* \texththeng -> \hookheng (wsuipa)  
16135 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16136 % \textbari (tipa), \bari (wsuipa)  
16137 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16138 %\* \textbari -> \ibar (phonetic)  
16139 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16140 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16141 %\* \textniiota -> \vari (phonetic)  
16142 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16143 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16144 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16145 % \textltilde (tipa)  
16146 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16147 %\* \textltilde -> \tildel (wsuipa)  
16148 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16149 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16150 %\* \textbeltl -> \latfric (wsuipa)  
16151 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16152 % lhookretroflex; \textrtaill (tipa)  
16153 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16154 %\* \textrtaill -> \taill (wsuipa)  
16155 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16156 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16157 %\* \textlyoghlig -> \lz (wsuipa)  
16158 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16159 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16160 %\* \textturnm -> \invm (wsuipa)  
16161 %\* \textturnm -> \rotm (phonetic)  
16162 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16163 % \textturnmrleg (tipa)  
16164 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16165 %\* \textturnmrleg -> \legm (wsuipa)  
16166 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16167 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16168 %\* \textltailm -> \labdentalnas (wsuipa)  
16169 %\* \textltailm -> \emgma (phonetic)

16170 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
tailn (tipa)  
16171 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16172 %\* \textltailn -> \nj (wsuipa)  
16173 %\* \textltailn -> \enya (phonetic)  
16174 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16175 % nhookretroflex; \textrtailn (tipa)  
16176 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16177 %\* \textrtailn -> \tailn (wsuipa)  
16178 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16179 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16180 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16181 % LATIN CAPITAL LETTER BARRED O; obarred;  
16182 % \textbaro (tipa), \baro (wsuipa)  
16183 % But \baro from stmaryrd is different!  
16184 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
16185 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoeelig (tipa)  
16186 \DeclareTextCommand{\textscoeelig}{PU}{\82\166}% U+0276  
16187 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16188 % \textcloseomega (tipa)  
16189 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16190 %\* \textcloseomega -> \closedniomega (wsuipa)  
16191 %\* \textcloseomega -> \varomega (phonetic)  
16192 % U+0278 LATIN SMALL LETTER PHI; philatin; \nipher (wsuipa)  
16193 \DeclareTextCommand{\textnipher}{PU}{\82\170}%\* U+0278  
16194 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16195 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16196 %\* \textturnr -> \invr (wsuipa)  
16197 %\* \textturnr -> \rotr (phonetic)  
16198 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16199 % rlonglegturned; \textturnrlongleg (tipa)  
16200 \DeclareTextCommand{\textturnrlongleg}{PU}{\82\172}% U+027A  
16201 %\* \textturnrlongleg -> \invleg (wsuipa)  
16202 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
16203 % \textturnrrtail (tipa)  
16204 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16205 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16206 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-  
gleg (tipa)  
16207 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
16208 %\* \textlongleg -> \leg (wsuipa)  
16209 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
16210 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16211 %\* \textrtailr -> \tailr (wsuipa)  
16212 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16213 % \textfishhook (tipa)  
16214 \DeclareTextCommand{\textfishhook}{PU}{\82\176}% U+027E  
16215 %\* \textfishhook -> \flapr (wsuipa)  
16216 %\* \textfishhook -> \flap (phonetic)  
16217 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfish-  
hookreversed;  
16218 % \textlhtlongi (tipa)  
16219 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16220 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)

16221 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16222 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16223 % \textinvscr (tipa), \invscr (wsuipa)  
16224 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16225 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)  
16226 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282  
16227 %\* \textrtails -> \tails (wsuipa)  
16228 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16229 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16230 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16231 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16232 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16233 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-  
versed;  
16234 % \textvibyi (tipa)  
16235 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16236 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16237 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16238 %\* \textctesh -> \curlyesh (wsuipa)  
16239 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16240 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16241 %\* \textturnt -> \clickt (wsuipa)  
16242 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16243 % \texttrtailt (tipa)  
16244 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
16245 %\* \texttrtailt -> \tailt (wsuipa)  
16246 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16247 % \textbaru (tipa), \baru (wsuipa)  
16248 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16249 %\* \textbaru -> \ubar (phonetic)  
16250 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16251 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16252 %\* \textniupsilon -> \rotOmega (phonetic)  
16253 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16254 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16255 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16256 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16257 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16258 %\* \textturnv -> \invv (wsuipa)  
16259 %\* \textturnv -> \pwedge (phonetic)  
16260 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16261 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16262 %\* \textturnw -> \invw (wsuipa)  
16263 %\* \textturnw -> \rotw (phonetic)  
16264 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16265 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
16266 %\* \textturny -> \invy (wsuipa)  
16267 %\* \textturny -> \roty (phonetic)  
16268 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16269 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
16270 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;

16271 % \textrtailz (tipa)  
16272 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
16273 %\* \textrtailz -> \tailz (wsuipa)  
16274 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16275 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16276 %\* \textctz -> \curlyz (wsuipa)  
16277 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16278 % \textyogh (tipa), \yogh (wsuipa)  
16279 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16280 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
16281 % ezhcurl; \textctyogh (tipa)  
16282 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
16283 %\* \textctyogh -> \curlyyogh (wsuipa)  
16284 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16285 % \textglotstop (tipa), \glotstop (wsuipa)  
16286 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16287 %\* \textglotstop -> \ejective (wsuipa)  
16288 %\* \textglotstop -> \glottal (phonetic)  
16289 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16290 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16291 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16292 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16293 %\* \textrevglotstop -> \reveject (wsuipa)  
16294 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16295 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16296 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16297 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16298 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16299 %\* \textstretchc -> \clickc (wsuipa)  
16300 %\* \textstretchc -> \textstretchcvar (tipx)  
16301 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16302 % \textbullseye (tipa)  
16303 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16304 %\* \textbullseye -> \clickb (wsuipa)  
16305 %\* \textbullseye -> \textObullseye (tipx)  
16306 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16307 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16308 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16309 % \textcloseepsilon (tipa)  
16310 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
16311 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16312 % \texthtscg (tipa)  
16313 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16314 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16315 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16316 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-tail;  
\textcdj (tipa)  
16317 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16318 %\* \textctj -> \textctjvar (tipx)  
16319 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16320 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16321 %\* \textturnk -> \textturnsck (tipx)  
16322 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)

16323 \DeclareTextCommand{\textsc1}{PU}{\82\237}% U+029F  
 16324 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 16325 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 16326 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
 stroke;  
 16327 % \textbarglotstop (tipa)  
 16328 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 16329 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16330 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
 versed;  
 16331 % \textbarrevglotstop (tipa)  
 16332 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16333 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16334 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16335 %\* \textdzlig -> \dz (wsupipa)  
 16336 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
 lig (tipa)  
 16337 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16338 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16339 % \textdctzlig (tipa)  
 16340 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16341 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16342 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16343 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16344 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16345 %\* \texttshlig -> \tesh (wsuipa)  
 16346 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16347 % \texttctclig (tipa)  
 16348 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16349 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16350 % \textlhtlongy (tipa)  
 16351 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16352 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16353 % \textvibyy (tipa)  
 16354 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

#### 46.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16355 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16356 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
 16357 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16358 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16359 % \textraiseglotstop (tipa)  
 16360 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16361 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16362 % \textlptr (tipa)  
 16363 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16364 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16365 % \textrptr (tipa)  
 16366 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16367 % U+02C7 CARON; caron  
 16368 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16369 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticalinmod;  
 16370 % \textprimstress (tipa)  
 16371 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8

16372 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; `verticallinelowmod`;  
16373 % `\textsecstress` (tipa)  
16374 `\DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC`  
16375 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; `colontriangularmod`;  
16376 % `\textlengthmark` (tipa)  
16377 `\DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0`  
16378 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; `colontriangularhalfmod`;  
16379 % `\texthalflength` (tipa)  
16380 `\DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1`  
16381 % U+02D8 BREVE; `breve`  
16382 `\DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8`  
16383 % U+02D9 DOT ABOVE; `dotaccent`  
16384 `\DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9`  
16385 % U+02DA RING ABOVE; `ring`  
16386 `\DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA`  
16387 % U+02DB OGONEK; `ogonek`  
16388 `\DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB`  
16389 % U+02DC SMALL TILDE; `ilde`, `*tilde`  
16390 `\DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC`  
16391 % U+02DD DOUBLE ACUTE ACCENT; `hungarumlaut`  
16392 `\DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD`  
16393 `\DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD`  
16394 % U+02F3 MODIFIER LETTER LOW RING  
16395 `\DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3`  
16396 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
16397 `\DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5`  
16398 % U+02F7 MODIFIER LETTER LOW TILDE  
16399 `\DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7`  
16400 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; `\textopencorner` (tipa)  
16401 `\DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9`  
16402 % U+02FA MODIFIER LETTER END HIGH TONE; `\textcorner` (tipa)  
16403 `\DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA`

#### 46.2.8 Combining Diacritical Marks: U+0300 to U+036F

16404 % U+030F COMBINING DOUBLE GRAVE ACCENT; `dblgravecmb`  
16405 `\DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F`  
16406 % U+0311 COMBINING INVERTED BREVE; `breveinvertedcmb`  
16407 `\DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311`  
16408 % U+0323 COMBINING DOT BELOW; `dotbelowcmb`, `*dotbelowcomb`  
16409 `\DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323`  
16410 % U+0331 COMBINING MACRON BELOW; `macronbelowcmb`  
16411 `\DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331`  
16412 % U+0361 COMBINING DOUBLE INVERTED BREVE; `breveinverteddoublecmb`  
16413 `\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.

16414 `\ifx\textBeta\@undefined \else`  
16415 `\input{puenc-greekbasic.def}`  
16416 `\fi`  
16417 `\end{puenc}`  
16418 `\end{pugreek}`



16419 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
16420 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
16421 \DeclareTextCommand{\textdexiakeraia}{PU}{\83\164}% U+0374  
16422 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
16423 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
16424 \DeclareTextCommand{\textaristerikeraia}{PU}{\83\165}% U+0375  
16425 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanon  
16426 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
16427 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonon  
16428 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
16429 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonon  
16430 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
16431 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonon  
16432 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
16433 % U+038C GREEK CAPITAL LETTEROMICRON WITH TONOS; Omicrontonon  
16434 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
16435 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonon  
16436 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
16437 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonon  
16438 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
16439 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
16440 % iotadieresis  
16441 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
16442 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
16443 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
16444 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
16445 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
16446 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
16447 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
16448 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
16449 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
16450 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
16451 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
16452 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
16453 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
16454 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
16455 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
16456 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
16457 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
16458 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
16459 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
16460 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
16461 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
16462 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
16463 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
16464 % U+039C GREEK CAPITAL LETTER MU; Mu  
16465 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
16466 % U+039D GREEK CAPITAL LETTER NU; Nu  
16467 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
16468 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
16469 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
16470 % U+039F GREEK CAPITAL LETTEROMICRON; Omicron

16471 `\DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F`  
16472 `% U+03A0 GREEK CAPITAL LETTER PI; Pi`  
16473 `\DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0`  
16474 `% U+03A1 GREEK CAPITAL LETTER RHO; Rho`  
16475 `\DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1`  
16476 `% U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)`  
16477 `\DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3`  
16478 `% U+03A4 GREEK CAPITAL LETTER TAU; Tau`  
16479 `\DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4`  
16480 `% U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)`  
16481 `\DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5`  
16482 `% U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)`  
16483 `\DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6`  
16484 `% U+03A7 GREEK CAPITAL LETTER CHI; Chi`  
16485 `\DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7`  
16486 `% U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)`  
16487 `\DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8`  
16488 `% U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;`  
16489 `% \Omega (LaTeX)`  
16490 `\DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9`  
16491 `% U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis`  
16492 `\DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA`  
16493 `\DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA`  
16494 `% U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-`  
16495 `silondieresis`  
16495 `\DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB`  
16496 `% U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos`  
16497 `\DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC`  
16498 `% U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilontonos`  
16499 `\DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD`  
16500 `% U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos`  
16501 `\DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE`  
16502 `% U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos`  
16503 `\DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF`  
16504 `% U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA`  
16505 `% AND TONOS; upsilondieresis`  
16506 `\DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0`  
16507 `% U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)`  
16508 `\DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1`  
16509 `% U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)`  
16510 `\DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2`  
16511 `% U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)`  
16512 `\DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3`  
16513 `% U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)`  
16514 `\DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4`  
16515 `% U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)`  
16516 `\DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5`  
16517 `% U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)`  
16518 `\DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6`  
16519 `% U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)`  
16520 `\DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7`  
16521 `% U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)`  
16522 `\DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8`  
16523 `% U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)`

16524 `\DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9`  
16525 `% U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)`  
16526 `\DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA`  
16527 `% U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)`  
16528 `\DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB`  
16529 `% U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)`  
16530 `\DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC`  
16531 `% U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)`  
16532 `\DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD`  
16533 `% U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)`  
16534 `\DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE`  
16535 `% U+03BF GREEK SMALL LETTEROMICRON; omicron`  
16536 `\DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF`  
16537 `% U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)`  
16538 `\DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0`  
16539 `% U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)`  
16540 `\DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1`  
16541 `% U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal`  
16542 `\DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2`  
16543 `% U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)`  
16544 `\DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3`  
16545 `% U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)`  
16546 `\DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4`  
16547 `% U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)`  
16548 `\DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5`  
16549 `% U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)`  
16550 `\DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6`  
16551 `% U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)`  
16552 `\DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7`  
16553 `% U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)`  
16554 `\DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8`  
16555 `% U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)`  
16556 `\DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9`  
16557 `% U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis`  
16558 `\DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA`  
16559 `% U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-`  
`silondieresis`  
16560 `\DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB`  
16561 `% U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos`  
16562 `\DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC`  
16563 `% U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos`  
16564 `\DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD`  
16565 `\DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD`  
16566 `% U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos`  
16567 `\DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE`  
16568 `% U+03D8 GREEK LETTER ARCHAIC KOPPA;`  
16569 `\DeclareTextCommand{\textQoppa}{PU}{\83\330}% U+03D8`  
16570 `% U+03D9 GREEK SMALL LETTER ARCHAIC KOPPA;`  
16571 `\DeclareTextCommand{\textqoppa}{PU}{\83\331}% U+03D9`  
16572 `% U+03DA GREEK LETTER STIGMA; Stigmagreek`  
16573 `\DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA`  
16574 `\DeclareTextCommand{\textStigma}{PU}{\83\332}% U+03DA`  
16575 `% U+03DB GREEK SMALL LETTER STIGMA`  
16576 `\DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB`

```

16577 \DeclareTextCommand{\textstigma}{PU}{\83\333}% U+03DB
16578 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16579 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16580 \DeclareTextCommand{\textDigamma}{PU}{\83\334}% U+03DC
16581 % U+03DD GREEK SMALL LETTER DIGAMMA
16582 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16583 \DeclareTextCommand{\textdigamma}{PU}{\83\335}% U+03DD
16584 %* \textdigammagreek -> \digamma (AmS)
16585 % U+03DE GREEK LETTER KOPPA; Koppagreek
16586 \DeclareTextCommand{\textKoppa}{PU}{\83\336}% U+03DE
16587 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16588 % U+03DF GREEK SMALL LETTER KOPPA
16589 \DeclareTextCommand{\textkoppa}{PU}{\83\337}% U+03DF
16590 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16591 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16592 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16593 \DeclareTextCommand{\textSampi}{PU}{\83\340}% U+03E0
16594 % U+03E1 GREEK SMALL LETTER SAMPI
16595 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16596 \DeclareTextCommand{\textsampi}{PU}{\83\341}% U+03E1
16597 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16598 % \backepsilon (AmS)
16599 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6
16600 (/pugreek)

```

#### 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.

```

16601 (*puenc)
16602 \ifx\CYRDZE\@undefined \else
16603 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16604 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16605 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
16606 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16607 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16608 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16609 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16610 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16611 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16612 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
16613 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16614 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16615 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16616 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16617 % Icyrillic, *afii10055
16618 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16619 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
16620 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16621 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
16622 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16623 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16624 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16625 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

```

16626 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16627 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16628 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16629 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16630 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16631 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16632 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16633 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
16634 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16635 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16636 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16637 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16638 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16639 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16640 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16641 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16642 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16643 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16644 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16645 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16646 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16647 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16648 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16649 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16650 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16651 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16652 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16653 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16654 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16655 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16656 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16657 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16658 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16659 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16660 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16661 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
16662 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
16663 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
16664 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
16665 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16666 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16667 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16668 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16669 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16670 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16671 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16672 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16673 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16674 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16675 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
16676 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16677 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16678 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
16679 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423

16680 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16681 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16682 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
16683 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16684 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16685 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16686 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16687 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16688 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16689 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16690 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16691 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16692 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16693 % Hardsigncyrillic, \*afii10044  
16694 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16695 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16696 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16697 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16698 % Softsigncyrillic, \*afii10046  
16699 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16700 % U+042D CYRILLIC CAPITAL LETTER E; Eversedcyrillic, \*afii10047  
16701 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16702 % U+042E CYRILLIC CAPITAL LETTER YU; IUCyrillic, \*afii10048  
16703 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16704 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
16705 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16706 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16707 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16708 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16709 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16710 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16711 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16712 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16713 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16714 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16715 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16716 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16717 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16718 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
16719 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
16720 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16721 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
16722 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
16723 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
16724 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
16725 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
16726 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
16727 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
16728 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
16729 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
16730 \DeclareTextCommand{\cyrll}{PU}{\84\073}% U+043B  
16731 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
16732 \DeclareTextCommand{\cyrml}{PU}{\84\074}% U+043C  
16733 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic

16734 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
16735 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
16736 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
16737 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
16738 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
16739 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
16740 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
16741 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
16742 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441  
16743 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
16744 \DeclareTextCommand{\cyr{t}}{PU}{\84\102}% U+0442  
16745 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
16746 \DeclareTextCommand{\cyr{u}}{PU}{\84\103}% U+0443  
16747 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
16748 \DeclareTextCommand{\cyr{f}}{PU}{\84\104}% U+0444  
16749 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
16750 \DeclareTextCommand{\cyr{h}}{PU}{\84\105}% U+0445  
16751 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
16752 \DeclareTextCommand{\cyr{c}}{PU}{\84\106}% U+0446  
16753 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
16754 \DeclareTextCommand{\cyr{ch}}{PU}{\84\107}% U+0447  
16755 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
16756 \DeclareTextCommand{\cyr{sh}}{PU}{\84\110}% U+0448  
16757 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
16758 \DeclareTextCommand{\cyr{shch}}{PU}{\84\111}% U+0449  
16759 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
16760 \DeclareTextCommand{\cyr{hrdsn}}{PU}{\84\112}% U+044A  
16761 %\* \cyr{hrdsn} -> \hardsign (tipa)  
16762 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
16763 \DeclareTextCommand{\cyr{ery}}{PU}{\84\113}% U+044B  
16764 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
16765 \DeclareTextCommand{\cyr{sftsn}}{PU}{\84\114}% U+044C  
16766 %\* \cyr{sftsn} -> \softsign (tipa)  
16767 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
16768 \DeclareTextCommand{\cyr{erev}}{PU}{\84\115}% U+044D  
16769 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
16770 \DeclareTextCommand{\cyr{yu}}{PU}{\84\116}% U+044E  
16771 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
16772 \DeclareTextCommand{\cyr{ya}}{PU}{\84\117}% U+044F  
16773 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
16774 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450  
16775 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
16776 \DeclareTextCommand{\cyr{yo}}{PU}{\84\121}% U+0451  
16777 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
16778 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
16779 \DeclareTextCommand{\cyr{dje}}{PU}{\84\122}% U+0452  
16780 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
16781 \DeclareTextCompositeCommand{\'}{PU}{\cyr{g}}{\84\123}% U+0453  
16782 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
16783 \DeclareTextCommand{\cyr{ie}}{PU}{\84\124}% U+0454  
16784 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
16785 \DeclareTextCommand{\cyr{dze}}{PU}{\84\125}% U+0455  
16786 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;

16787 % \*afii10103, icyrillic  
16788 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
16789 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
16790 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
16791 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457  
16792 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
16793 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
16794 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
16795 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
16796 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
16797 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
16798 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
16799 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
16800 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
16801 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
16802 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
16803 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
16804 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
16805 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
16806 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
16807 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
16808 \DeclareTextCommand{\cyrdze}{PU}{\84\137}% U+045F  
16809 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
16810 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
16811 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
16812 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
16813 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
16814 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
16815 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
16816 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
16817 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
16818 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
16819 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
16820 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
16821 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
16822 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
16823 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
16824 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
16825 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
16826 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
16827 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
otifiedcyrillic  
16828 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
16829 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
16830 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
16831 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
16832 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
16833 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
16834 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
16835 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
cyrillic  
16836 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D



16837 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
16838 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
16839 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
16840 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
16841 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
16842 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
16843 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
16844 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
16845 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
16846 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
16847 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
16848 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
16849 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
16850 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
16851 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
16852 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
16853 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
16854 % GRAVE ACCENT; Izhitsadblgravecyrillic  
16855 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
16856 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
16857 % GRAVE ACCENT; izhitsadblgravecyrillic  
16858 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
16859 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
16860 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
16861 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
16862 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
16863 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
16864 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
16865 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
16866 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
16867 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
16868 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
16869 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
16870 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
16871 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
16872 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
16873 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
16874 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
16875 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
16876 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
16877 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
16878 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
16879 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
16880 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-cyrilliccmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-

acyrilliccmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
16881 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
16882 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
16883 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
16884 \DeclareTextCommand{\cyrishrtasc}{PU}{\84\213}% U+048B  
16885 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
16886 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
16887 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
16888 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
16889 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
16890 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
16891 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
16892 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
16893 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
cyrillic, \*afii10050  
16894 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
16895 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
upturncyrillic  
16896 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
16897 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
16898 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
16899 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
16900 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
16901 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
16902 % Ghemiddlehookcyrillic  
16903 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
16904 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
16905 % ghemiddlehookcyrillic  
16906 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
16907 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
16908 % Zhedescendercyrillic  
16909 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
16910 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
16911 % zhedescendercyrillic  
16912 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
16913 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
16914 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
16915 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
16916 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
16917 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
16918 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
16919 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
16920 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
16921 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
dercyrillic  
16922 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
16923 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;

16924 % Kavertikalstrokecyrillic  
16925 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
16926 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
16927 % kavertikalstrokecyrillic  
16928 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
16929 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
16930 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
16931 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
16932 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
16933 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
16934 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
16935 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
16936 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
16937 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
16938 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
16939 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
16940 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
16941 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
16942 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
16943 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
16944 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
16945 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
16946 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
16947 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
16948 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
16949 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
16950 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
16951 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
16952 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
16953 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
16954 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
16955 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
16956 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
16957 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
16958 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
16959 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
16960 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
16961 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
16962 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
16963 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
16964 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
16965 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
16966 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
16967 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic

16968 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
16969 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
straightstrokecyrillic  
16970 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
16971 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-  
dercyrillic  
16972 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
16973 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
dercyrillic  
16974 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
16975 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
16976 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
16977 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
16978 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
16979 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
16980 % Chedescendercyrillic  
16981 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
16982 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
dercyrillic  
16983 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7  
16984 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
16985 % Cheverticalstrokecyrillic  
16986 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
16987 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
16988 % cheverticalstrokecyrillic  
16989 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
16990 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
16991 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
16992 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
16993 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
16994 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
16995 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
16996 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
16997 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
16998 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
16999 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17000 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17001 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17002 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17003 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17004 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17005 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17006 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17007 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17008 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17009 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17010 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17011 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17012 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17013 \DeclareTextCommand{\cyrkhh}{PU}{\84\304}% U+04C4

17014 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17015 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17016 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17017 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
17018 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17019 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17020 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17021 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17022 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
17023 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17024 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
17025 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17026 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
17027 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17028 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17029 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
17030 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevocyrillic  
17031 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17032 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevocyrillic  
17033 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
17034 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
lic  
17035 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
17036 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17037 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
17038 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17039 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17040 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17041 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17042 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic  
17043 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17044 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic  
17045 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17046 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17047 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17048 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17049 \DeclareTextCommand{\cyrschw}{PU}{\84\331}% U+04D9  
17050 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17051 % Schwadieresiscyrillic  
17052 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17053 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17054 % schwadieresiscyrillic  
17055 \DeclareTextCompositeCommand{\"}{PU}{\cyrschw}{\84\333}% U+04DB  
17056 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
17057 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
17058 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
cyrillic  
17059 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD  
17060 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
cyrillic

17061 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
17062 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-  
lic  
17063 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
17064 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
cyrillic  
17065 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17066 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
lic  
17067 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17068 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Iacroncyrillic  
17069 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
17070 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17071 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3  
17072 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17073 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
17074 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17075 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
17076 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-  
lic  
17077 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
17078 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17079 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17080 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17081 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17082 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
17083 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17084 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17085 % Obarreddieresiscyrillic  
17086 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
17087 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17088 % obarreddieresiscyrillic  
17089 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
17090 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17091 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
17092 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17093 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
17094 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
17095 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
17096 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
17097 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
17098 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyril-  
lic  
17099 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
17100 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
17101 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
17102 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
garumlautcyrillic  
17103 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
17104 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
garumlautcyrillic  
17105 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
17106 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
siscyrillic

17107 \DeclareTextCompositeCommand{\}{PU}{\CYRCH}{\84\364}% U+04F4  
17108 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-cyrillic  
17109 \DeclareTextCompositeCommand{\}{PU}{\cyrch}{\84\365}% U+04F5  
17110 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17111 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
17112 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17113 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
17114 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
17115 \DeclareTextCompositeCommand{\}{PU}{\CYRERY}{\84\370}% U+04F8  
17116 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
17117 \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  
17118 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
17119 \DeclareTextCommand{\CYRHKK}{PU}{\84\374}% U+04FC  
17120 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
17121 \DeclareTextCommand{\cyrhkk}{PU}{\84\375}% U+04FD  
17122 \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

17123 \ifx\hebdalet\@undefined\else  
17124 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
17125 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
17126 % U+05D0 HEBREW LETTER ALEF  
17127 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0  
17128 % U+05D1 HEBREW LETTER BET  
17129 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
17130 % U+05D2 HEBREW LETTER GIMEL  
17131 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
17132 % U+05D3 HEBREW LETTER DALET  
17133 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
17134 % U+05D4 HEBREW LETTER HE  
17135 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4  
17136 % U+05D5 HEBREW LETTER VAV  
17137 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5  
17138 % U+05D6 HEBREW LETTER ZAYIN  
17139 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6  
17140 % U+05D7 HEBREW LETTER HET  
17141 \DeclareTextCommand{\hebhhet}{PU}{\85\327}% U+05D7  
17142 % U+05D8 HEBREW LETTER TET  
17143 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8  
17144 % U+05D9 HEBREW LETTER YOD

17145 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9  
17146 % U+05DA HEBREW LETTER FINAL KAF  
17147 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA  
17148 % U+05DB HEBREW LETTER KAF  
17149 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB  
17150 % U+05DC HEBREW LETTER LAMED  
17151 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC  
17152 % U+05DD HEBREW LETTER FINAL MEM  
17153 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD  
17154 % U+05DE HEBREW LETTER MEM  
17155 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE  
17156 % U+05DF HEBREW LETTER FINAL NUN  
17157 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF  
17158 % U+05E0 HEBREW LETTER NUN  
17159 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0  
17160 % U+05E1 HEBREW LETTER SAMEKH  
17161 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1  
17162 % U+05E2 HEBREW LETTER AYIN  
17163 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
17164 % U+05E3 HEBREW LETTER FINAL PE  
17165 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
17166 % U+05E4 HEBREW LETTER PE  
17167 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
17168 % U+05E5 HEBREW LETTER FINAL TSADI  
17169 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
17170 % U+05E6 HEBREW LETTER TSADI  
17171 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
17172 % U+05E7 HEBREW LETTER QOF  
17173 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
17174 % U+05E8 HEBREW LETTER RESH  
17175 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
17176 % U+05E9 HEBREW LETTER SHIN  
17177 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
17178 %\* \hebshin -> \hebsin (he8)  
17179 % U+05EA HEBREW LETTER TAV  
17180 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
17181 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
17182 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
17183 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
17184 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
17185 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
17186 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2  
17187 \fi

#### 46.2.12 Thai: U+0E00 to U+0E7F

17188 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
17189 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 46.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17190 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsca (tipa)  
17191 \DeclareTextCommand{\textsca}{PU}{\9035\000}% U+1D00  
17192 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
17193 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05



17194 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
17195 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
17196 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
17197 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
17198 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textsck (tipx)  
17199 \DeclareTextCommand{\textPUsck}{PU}{\9035\013}% U+1D0B  
17200 %\* \textPUsck -> \textsck (tipx)  
17201 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
17202 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
17203 %\* \textPUscm -> \textscm (tipx)  
17204 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
17205 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
17206 %\* \textPUscp -> \textscp (tipx)  
17207 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
17208 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
17209 %\* \textPUrevscr -> \textrevscr (tipx)  
17210 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
17211 \DeclareTextCommand{\textscu}{PU}{\9035\034}%\* U+1D1C  
17212 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
17213 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
17214 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
17215 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
17216 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
17217 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
17218 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
17219 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
17220 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
17221 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
17222 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
17223 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
17224 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
17225 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
17226 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
17227 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
17228 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
17229 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
17230 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
17231 % \barsci (wsuipa)  
17232 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
17233 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
17234 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
17235 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
17236 % \barscu (wsuipa)  
17237 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 46.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17238 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
trhooka (tipx)  
17239 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F  
17240 %\* \textPUrhooka -> \textrhooka (tipx)  
17241 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
taild (tipa)  
17242 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
17243 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-

trhooke (tipx)  
17244 \DeclareTextCommand{\textPurhooke}{PU}{\9035\222}% U+1D92  
17245 %\* \textPurhooke -> \textrhooke (tipx)  
17246 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
17247 % \textrhookepsilon (tipx)  
17248 \DeclareTextCommand{\textPurhookepsilon}{PU}{\9035\223}% U+1D93  
17249 %\* \textPurhookepsilon -> \textrhookepsilon (tipx)  
17250 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
17251 % \textrhookopeno (tipx)  
17252 \DeclareTextCommand{\textPurhookopeno}{PU}{\9035\227}% U+1D97  
17253 %\* \textPurhookopeno -> \textrhookopeno (tipx)

#### 46.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17254 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
17255 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
17256 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
17257 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
17258 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
17259 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
17260 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
17261 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
17262 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
17263 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
17264 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
17265 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
17266 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
17267 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
17268 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
17269 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17270 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17271 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
17272 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17273 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
17274 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17275 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17276 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17277 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17278 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17279 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17280 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17281 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17282 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17283 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17284 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17285 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17286 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcircumflexbelow  
17287 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17288 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcircumflexbelow  
17289 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17290 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17291 % Emacrongrave  
17292 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14

17293 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17294 % emacrongrave  
17295 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17296 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17297 % Emacronacute  
17298 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17299 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17300 % emacronacute  
17301 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17302 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17303 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17304 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17305 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17306 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17307 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17308 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17309 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17310 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17311 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17312 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17313 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17314 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17315 \DeclareTextCompositeCommand{\=} {PU}{G}{\9036\040}% U+1E20  
17316 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17317 \DeclareTextCompositeCommand{\=} {PU}{g}{\9036\041}% U+1E21  
17318 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17319 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17320 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17321 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17322 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17323 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17324 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17325 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17326 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17327 \DeclareTextCompositeCommand{\"} {PU}{H}{\9036\046}% U+1E26  
17328 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17329 \DeclareTextCompositeCommand{\"} {PU}{h}{\9036\047}% U+1E27  
17330 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17331 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17332 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17333 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17334 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17335 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17336 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17337 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17338 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17339 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17340 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17341 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17342 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17343 \DeclareTextCompositeCommand{\'} {PU}{K}{\9036\060}% U+1E30  
17344 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute

17345 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17346 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17347 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17348 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17349 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17350 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17351 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17352 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17353 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17354 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17355 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17356 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17357 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17358 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17359 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17360 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17361 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17362 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcircumflexbelow  
17363 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17364 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcircumflexbelow  
17365 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17366 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17367 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17368 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17369 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17370 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17371 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17372 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17373 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17374 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17375 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17376 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17377 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17378 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17379 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17380 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17381 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17382 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17383 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17384 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17385 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17386 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17387 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17388 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17389 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17390 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncircumflexbelow  
17391 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17392 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncircumflexbelow  
17393 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17394 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;

17395 % Omacrongrave  
17396 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17397 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17398 % omacrongrave  
17399 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17400 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17401 % Omacronacute  
17402 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17403 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17404 % omacronacute  
17405 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17406 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17407 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17408 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17409 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17410 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17411 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17412 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17413 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17414 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17415 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17416 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17417 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17418 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17419 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17420 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17421 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17422 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17423 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17424 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17425 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17426 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17427 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17428 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17429 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17430 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17431 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17432 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17433 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17434 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17435 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17436 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17437 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17438 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17439 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17440 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17441 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17442 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17443 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17444 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17445 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17446 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcircumflexbelow  
17447 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70

17448 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcircumflexbelow  
17449 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17450 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udieresisbelow  
17451 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17452 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udieresisbelow  
17453 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17454 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17455 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17456 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17457 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17458 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucircumflexbelow  
17459 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17460 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucircumflexbelow  
17461 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17462 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17463 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17464 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17465 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17466 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17467 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17468 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17469 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17470 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17471 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17472 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17473 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17474 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17475 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17476 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17477 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17478 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17479 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17480 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17481 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17482 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17483 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17484 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17485 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17486 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17487 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17488 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17489 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17490 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17491 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17492 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17493 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17494 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17495 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17496 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis

17497 \DeclareTextCompositeCommand{\x}{PU}{x}{\9036\215}% U+1E8D  
17498 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17499 \DeclareTextCompositeCommand{\Y}{PU}{Y}{\9036\216}% U+1E8E  
17500 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17501 \DeclareTextCompositeCommand{\y}{PU}{y}{\9036\217}% U+1E8F  
17502 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17503 \DeclareTextCompositeCommand{\Z}{PU}{Z}{\9036\220}% U+1E90  
17504 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17505 \DeclareTextCompositeCommand{\z}{PU}{z}{\9036\221}% U+1E91  
17506 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17507 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17508 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17509 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17510 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17511 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17512 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17513 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17514 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17515 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17516 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17517 \DeclareTextCompositeCommand{\t}{PU}{t}{\9036\227}% U+1E97  
17518 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17519 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17520 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17521 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17522 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17523 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17524 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17525 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17526 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17527 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17528 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17529 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17530 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17531 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17532 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17533 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17534 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17535 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17536 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17537 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
17538 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
17539 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
17540 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
17541 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
17542 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
17543 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
17544 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
17545 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
17546 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
17547 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
17548 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
17549 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

17550 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
17551 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
17552 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
17553 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
17554 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
17555 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
17556 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
17557 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
17558 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
17559 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

#### 46.2.16 General Punctuation: U+2000 to U+206F

17560 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
17561 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
17562 % U+2013 EN DASH; endash  
17563 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
17564 % U+2014 EM DASH; emdash  
17565 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
17566 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
17567 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
17568 %\* \textbardbl -> \textdoublevertline (tipa)  
17569 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
17570 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
17571 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
17572 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
17573 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
17574 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
17575 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
17576 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
17577 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
17578 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
17579 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
17580 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
17581 % U+2020 DAGGER; dagger  
17582 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
17583 %\* \textdagger -> \dag (LaTeX)  
17584 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
17585 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
17586 %\* \textdaggerdbl -> \ddagger (LaTeX)  
17587 %\* \textdaggerdbl -> \ddag (LaTeX)  
17588 % U+2022 BULLET; bullet  
17589 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
17590 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
17591 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
17592 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
17593 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
17594 %\* \textellipsis -> \mathellipsis  
17595 % U+2030 PER MILLE SIGN; perthousand  
17596 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
17597 % U+2031 PER TEN THOUSAND SIGN  
17598 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
17599 % U+2032 PRIME; minute; \prime (MnSymbol)  
17600 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
17601 % U+2033 DOUBLE PRIME; \second (mathabx)



17602 `\DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033`  
17603 % U+2034 TRIPLE PRIME; `\third` (mathabx)  
17604 `\DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034`  
17605 % U+2035 REVERSED PRIME; `\backprime` (AmS)  
17606 `\DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035`  
17607 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; `guil-`  
`ingleft`  
17608 `\DeclareTextCommand{\guilingleft}{PU}{\9040\071}% U+2039`  
17609 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; `guil-`  
`ingright`  
17610 `\DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A`  
17611 % U+203B REFERENCE MARK; `referencemark`  
17612 `\DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B`  
17613 % U+203D INTERROBANG  
17614 `\DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D`  
17615 % U+2044 FRACTION SLASH; `fraction`  
17616 `\DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044`  
17617 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
17618 `\DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045`  
17619 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
17620 `\DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046`  
17621 % U+2052 COMMERCIAL MINUS SIGN  
17622 `\DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052`  
17623 % U+2056 THREE DOT PUNCTUATION; `\lefttherefore` (MnSymbol)  
17624 `\DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056`  
17625 % U+2057 QUADRUPLE PRIME; `\fourth` (mathabx)  
17626 `\DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057`  
17627 % U+2058 FOUR DOT PUNCTUATION; `\diamonddots` (MnSymbol)  
17628 `\DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058`

#### 46.2.17 Superscripts and Subscripts: U+2070 to U+209F

17629 % U+2070 SUPERSCRIPT ZERO; `zerosuperior`  
17630 `\DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070`  
17631 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
17632 `\DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071`  
17633 % U+2074 SUPERSCRIPT FOUR; `foursuperior`  
17634 `\DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074`  
17635 % U+2075 SUPERSCRIPT FIVE; `fivesuperior`  
17636 `\DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075`  
17637 % U+2076 SUPERSCRIPT SIX; `sixsuperior`  
17638 `\DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076`  
17639 % U+2077 SUPERSCRIPT SEVEN; `sevensuperior`  
17640 `\DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077`  
17641 % U+2078 SUPERSCRIPT EIGHT; `eightsuperior`  
17642 `\DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078`  
17643 % U+2079 SUPERSCRIPT NINE; `ninesuperior`  
17644 `\DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079`  
17645 % U+207A SUPERSCRIPT PLUS SIGN; `plussuperior`  
17646 `\DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A`  
17647 % U+207B SUPERSCRIPT MINUS  
17648 `\DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B`  
17649 % U+207C SUPERSCRIPT EQUALS SIGN; `equalsuperior`  
17650 `\DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%* U+207C`  
17651 % U+207D SUPERSCRIPT LEFT PARENTHESIS; `parenleftsuperior`

17652 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
17653 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
17654 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
17655 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
17656 \DeclareTextCommand{\textnnsuperior}{PU}{\9040\177}%\* U+207F  
17657 % U+2080 SUBSCRIPT ZERO; zeroinferior  
17658 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
17659 % U+2081 SUBSCRIPT ONE; oneinferior  
17660 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
17661 % U+2082 SUBSCRIPT TWO; twoinferior  
17662 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
17663 % U+2083 SUBSCRIPT THREE; threeinferior  
17664 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
17665 % U+2084 SUBSCRIPT FOUR; fourinferior  
17666 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
17667 % U+2085 SUBSCRIPT FIVE; fiveinferior  
17668 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
17669 % U+2086 SUBSCRIPT SIX; sixinferior  
17670 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
17671 % U+2087 SUBSCRIPT SEVEN; seveninferior  
17672 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
17673 % U+2088 SUBSCRIPT EIGHT; eightinferior  
17674 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
17675 % U+2089 SUBSCRIPT NINE; nineinferior  
17676 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
17677 % U+208A SUBSCRIPT PLUS SIGN  
17678 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
17679 % U+208B SUBSCRIPT MINUS  
17680 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
17681 % U+208C SUBSCRIPT EQUALS SIGN  
17682 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
17683 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
17684 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
17685 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
17686 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
17687 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
17688 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
17689 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
17690 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
17691 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
17692 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
17693 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
17694 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
17695 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
17696 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
17697 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
17698 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
17699 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
17700 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
17701 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
17702 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
17703 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
17704 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
17705 % U+2099 LATIN SUBSCRIPT SMALL LETTER N

17706 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17707 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17708 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17709 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17710 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17711 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17712 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

#### 46.2.18 Currency Symbols: U+20A0 to U+20CF

17713 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17714 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17715 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17716 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17717 % U+20A6 NAIRA SIGN  
 17718 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17719 % U+20A7 PESETA SIGN; peseta  
 17720 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17721 % U+20A9 WON SIGN; won  
 17722 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 17723 % U+20AB DONG SIGN; dong  
 17724 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 17725 % U+20AC EURO SIGN; \*Euro, euro  
 17726 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 17727 %\* \texteuro -> \EurDig (marvosym)  
 17728 %\* \texteuro -> \EURdig (marvosym)  
 17729 %\* \texteuro -> \EurHv (marvosym)  
 17730 %\* \texteuro -> \EURhv (marvosym)  
 17731 %\* \texteuro -> \EurCr (marvosym)  
 17732 %\* \texteuro -> \EURcr (marvosym)  
 17733 %\* \texteuro -> \EurTm (marvosym)  
 17734 %\* \texteuro -> \EURtm (marvosym)  
 17735 %\* \texteuro -> \Eur (marvosym)  
 17736 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
 17737 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
 17738 %\* \textDeleatur -> \Denarius (marvosym)  
 17739 % U+20B1 PESO SIGN  
 17740 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 17741 % U+20B2 GUARANI SIGN  
 17742 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

#### 46.2.19 Letterlike Symbols: U+2100 to U+214F

17743 % U+2103 DEGREE CELSIUS; centigrade  
 17744 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 17745 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 17746 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 17747 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 17748 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 17749 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 17750 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 17751 % U+2116 NUMERO SIGN; \*afii61352, numero  
 17752 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 17753 % U+2117 SOUND RECORDING COPYRIGHT  
 17754 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117

17755 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
17756 % weierstrass; \wp (LaTeX)  
17757 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
17758 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
17759 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
17760 % U+211E PRESCRIPTION TAKE; prescription  
17761 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
17762 % U+2120 SERVICE MARK  
17763 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
17764 % U+2122 TRADE MARK SIGN; trademark  
17765 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
17766 % U+2126 OHM SIGN; Ohm, Omega  
17767 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
17768 % U+2127 INVERTED OHM SIGN  
17769 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
17770 %\* \textmho -> \agemO (wasysym)  
17771 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
17772 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
17773 % U+212B ANGSTROM SIGN; angstrom  
17774 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
17775 % U+212E ESTIMATED SYMBOL; estimated  
17776 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
17777 %\* \textestimated -> \EstimatedSign (marvosym)  
17778 %\* \textestimated -> \Ecommerce (marvosym)  
17779 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
17780 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
17781 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
17782 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
17783 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
17784 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
17785 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
17786 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
17787 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
17788 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
17789 % U+213B FACSIMILE SIGN; \fax (marvosym)  
17790 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
17791 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
17792 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
17793 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
17794 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
17795 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
17796 %\* \textinvamp -> \parr (cml)

#### 46.2.20 Number Forms: U+2150 to U+218F

17797 % U+2150 VULGAR FRACTION ONE SEVENTH  
17798 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
17799 % U+2151 VULGAR FRACTION ONE NINTH  
17800 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
17801 % U+2152 VULGAR FRACTION ONE TENTH  
17802 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
17803 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
17804 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
17805 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
17806 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154

17807 % U+2155 VULGAR FRACTION ONE FIFTH  
17808 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
17809 % U+2156 VULGAR FRACTION TWO FIFTHS  
17810 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
17811 % U+2157 VULGAR FRACTION THREE FIFTHS  
17812 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
17813 % U+2158 VULGAR FRACTION FOUR FIFTHS  
17814 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
17815 % U+2159 VULGAR FRACTION ONE SIXTH  
17816 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
17817 % U+215A VULGAR FRACTION FIVE SIXTHS  
17818 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
17819 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
17820 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
17821 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
17822 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
17823 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
17824 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
17825 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
17826 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
17827 % U+2184 LATIN SMALL LETTER REVERSED C  
17828 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
17829 % U+2189 VULGAR FRACTION ZERO THIRDS  
17830 \DeclareTextCommand{\textzerothirds}{PU}{\9041\211}% U+2189

#### 46.2.21 Arrows: U+2190 to U+21FF

17831 % U+2190 LEFTWARDS ARROW; arrowleft  
17832 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
17833 % U+2191 UPWARDS ARROW; arrowup  
17834 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
17835 % U+2192 RIGHTWARDS ARROW; arrowright  
17836 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
17837 %\* \textrightarrow -> \MVRightArrow (marvosym)  
17838 %\* \textrightarrow -> \MVRightarrow (marvosym)  
17839 % U+2193 DOWNWARDS ARROW; arrowdown  
17840 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
17841 %\* \textdownarrow -> \MVAArrowDown (marvosym)  
17842 %\* \textdownarrow -> \Force (marvosym)  
17843 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)  
17844 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%\* U+2194  
17845 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
17846 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
17847 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
17848 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
17849 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
17850 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
17851 %\* \textnearrow -> \textglobrise (tipa)  
17852 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
17853 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
17854 %\* \textsearrow -> \textglobfall (tipa)  
17855 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
17856 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
17857 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)  
17858 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A

17859 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)  
17860 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
17861 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
17862 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
17863 % \twoheadleftarrow (txfonts/pxfonts)  
17864 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%\* U+219E U+0338  
17865 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
17866 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
17867 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
17868 % \twoheadrightarrow (AmS)  
17869 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
17870 % \twoheadrightarrow (txfonts/pxfonts)  
17871 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%\* U+21A0 U+0338  
17872 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-  
Symbol)  
17873 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%\* U+21A1  
17874 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)  
17875 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%\* U+21A2  
17876 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)  
17877 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%\* U+21A3  
17878 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)  
17879 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%\* U+21A6  
17880 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)  
17881 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%\* U+21A9  
17882 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)  
17883 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%\* U+21AA  
17884 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)  
17885 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%\* U+21AB  
17886 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)  
17887 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%\* U+21AC  
17888 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrow (AmS)  
17889 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\256}%\* U+21AE  
17890 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)  
17891 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%\* U+21AF  
17892 %\* \textlightning -> \Lightning (marvosym)  
17893 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;  
17894 % \dlsH (mathabx)  
17895 \DeclareTextCommand{\textdlsH}{PU}{\9041\265}%\* U+21B5  
17896 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;  
17897 % \curvearrowleft (AmS)  
17898 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%\* U+21B6  
17899 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)  
17900 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%\* U+21B7  
17901 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-  
barbup;  
17902 % \leftharpoonup (LaTeX)  
17903 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%\* U+21BC  
17904 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;  
17905 % \leftharpoondown (LaTeX)  
17906 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%\* U+21BD  
17907 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;  
17908 % \upharpoonright (AmS)  
17909 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%\* U+21BE  
17910 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;

17911 % \upharpoonleft (AmS)  
17912 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%\* U+21BF  
17913 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-  
barbup  
17914 % \rightharpoonup (LaTeX)  
17915 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%\* U+21C0  
17916 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;  
17917 % \rightharpoondown (LaTeX)  
17918 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%\* U+21C1  
17919 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;  
17920 % \downharpoonright (AmS)  
17921 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%\* U+21C2  
17922 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;  
17923 % \downharpoonleft (AmS)  
17924 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%\* U+21C3  
17925 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;  
17926 % arrowrightoverleft; \rightleftarrows (MnSymbol)  
17927 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%\* U+21C4  
17928 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-  
rowupleftofdown;  
17929 % \updownarrows (MnSymbol)  
17930 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%\* U+21C5  
17931 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-  
overright;  
17932 % \leftrightarrows (AmS)  
17933 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%\* U+21C6  
17934 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)  
17935 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%\* U+21C7  
17936 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)  
17937 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%\* U+21C8  
17938 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)  
17939 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%\* U+21C9  
17940 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)  
17941 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%\* U+21CA  
17942 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;  
17943 % \leftrightharpoons (AmS);  
17944 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%\* U+21CB  
17945 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;  
17946 % \rightleftharpoons (LaTeX, AmS)  
17947 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%\* U+21CC  
17948 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-  
blstroke;  
17949 % \nLeftarrow (AmS)  
17950 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%\* U+21CD  
17951 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow  
(AmS)  
17952 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%\* U+21CE  
17953 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-  
blstroke;  
17954 % \nrightarrow (AmS)  
17955 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\317}%\* U+21CF  
17956 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;  
17957 % \Leftarrow (LaTeX)  
17958 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%\* U+21D0

17959 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)  
17960 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%\* U+21D1  
17961 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;  
17962 % \Rightarrow (LaTeX)  
17963 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%\* U+21D2  
17964 %\* \textRightarrow -> \Conclusion (marvosym)  
17965 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdblDOWN; \Downarrow (LaTeX)  
17966 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%\* U+21D3  
17967 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;  
17968 % \Leftrightarrow (LaTeX)  
17969 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%\* U+21D4  
17970 %\* \textLeftrightarrow -> \Equivalence (marvosym)  
17971 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)  
17972 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%\* U+21D5  
17973 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)  
17974 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%\* U+21D6  
17975 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)  
17976 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%\* U+21D7  
17977 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)  
17978 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%\* U+21D8  
17979 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)  
17980 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%\* U+21D9  
17981 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)  
17982 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%\* U+21DA  
17983 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)  
17984 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%\* U+21DB  
17985 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)  
17986 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%\* U+21DC  
17987 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)  
17988 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%\* U+21DD  
17989 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;  
17990 % \dashleftarrow (AmS)  
17991 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%\* U+21E0  
17992 %\* \textdashleftarrow -> \dashedleftarrow (MnSymbol)  
17993 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (MnSymbol)  
17994 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%\* U+21E1  
17995 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow (AmS)  
17996 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%\* U+21E2  
17997 %\* \textdashrightarrow -> \dashedrightarrow (MnSymbol)  
17998 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow (MnSymbol)  
17999 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%\* U+21E3  
18000 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)  
18001 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%\* U+21E8  
18002 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;  
18003 % \downuparrows (MnSymbol)  
18004 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%\* U+21F5  
18005 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)  
18006 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%\* U+21FD  
18007 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)  
18008 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%\* U+21FE



18009 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightharrowtriangle (stmaryrd)  
 18010 \DeclareTextCommand{\textleftrightharrowtriangle}{PU}{\9041\377}%\* U+21FF

#### 46.2.22 Mathematical Operators: U+2200 to U+22FF

18011 % U+2200 FOR ALL; forall; \forall (LaTeX)  
 18012 \DeclareTextCommand{\textforall}{PU}{\9042\000}%\* U+2200  
 18013 % U+2201 COMPLEMENT; \complement (AmS)  
 18014 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%\* U+2201  
 18015 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)  
 18016 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%\* U+2202  
 18017 % U+2203 THERE EXISTS; existential; \exists (LaTeX)  
 18018 \DeclareTextCommand{\textexists}{PU}{\9042\003}%\* U+2203  
 18019 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)  
 18020 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%\* U+2204  
 18021 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)  
 18022 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%\* U+2205  
 18023 %\* \textemptyset -> \varnothing (AmS)  
 18024 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)  
 18025 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%\* U+2206  
 18026 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)  
 18027 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%\* U+2207  
 18028 % U+2208 ELEMENT OF; element; \in (LaTeX)  
 18029 \DeclareTextCommand{\textin}{PU}{\9042\010}%\* U+2208  
 18030 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)  
 18031 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%\* U+2209  
 18032 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)  
 18033 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%\* U+220A  
 18034 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)  
 18035 \DeclareTextCommand{\textni}{PU}{\9042\013}%\* U+220B  
 18036 %\* \textni -> \owns (mathabx)  
 18037 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)  
 18038 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%\* U+220C  
 18039 %\* \textnotowner -> \notni (txfonts/pxfonts)  
 18040 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)  
 18041 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%\* U+220D  
 18042 % U+220F N-ARY PRODUCT; \prod (LaTeX)  
 18043 \DeclareTextCommand{\textprod}{PU}{\9042\017}%\* U+220F  
 18044 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)  
 18045 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%\* U+2210  
 18046 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)  
 18047 \DeclareTextCommand{\textsum}{PU}{\9042\021}%\* U+2211  
 18048 % U+2212 MINUS SIGN; minus  
 18049 \DeclareTextCommand{\textminus}{PU}{\9042\022}%\* U+2212  
 18050 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)  
 18051 \DeclareTextCommand{\textmp}{PU}{\9042\023}%\* U+2213  
 18052 % U+2214 DOT PLUS; \dotplus (AmS)  
 18053 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%\* U+2214  
 18054 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)  
 18055 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%\* U+2215  
 18056 % \DividesNot (marvosym)  
 18057 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%\* U+2215 U+20D2  
 18058 % U+2216 SET MINUS; \setminus (LaTeX)  
 18059 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%\* U+2216

18060 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)  
18061 \DeclareTextCommand{\textast}{PU}{\9042\027}%\* U+2217  
18062 % U+2218 RING OPERATOR; \circ (LaTeX)  
18063 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%\* U+2218  
18064 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)  
18065 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219  
18066 % U+221A SQUARE ROOT; radical  
18067 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%\* U+221A  
18068 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)  
18069 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%\* U+221D  
18070 %\* \textpropto -> \varprop (wasysym)  
18071 % U+221E INFINITY; infinity; \infty (LaTeX)  
18072 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%\* U+221E  
18073 % U+2220 ANGLE; angle; \angle (LaTeX)  
18074 \DeclareTextCommand{\textangle}{PU}{\9042\040}%\* U+2220  
18075 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)  
18076 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%\* U+2221  
18077 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)  
18078 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%\* U+2222  
18079 %\* \textsphericalangle -> \varangle (wasysym)  
18080 %\* \textsphericalangle -> \Anglesign (marvosym)  
18081 %\* \textsphericalangle -> \AngleSign (marvosym)  
18082 % U+2223 DIVIDES; divides; \mid (LaTeX)  
18083 \DeclareTextCommand{\textmid}{PU}{\9042\043}%\* U+2223  
18084 % U+2224 DOES NOT DIVIDE; \nmid (AmS)  
18085 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%\* U+2224  
18086 %\* \textnmid -> \notdivides (mathabx)  
18087 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)  
18088 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%\* U+2225  
18089 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)  
18090 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%\* U+2226  
18091 %\* \textnparallel -> nUpdownline (MnSymbol)  
18092 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)  
18093 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%\* U+2227  
18094 % \owedge (stmaryrd)  
18095 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%\* U+2227 U+20DD  
18096 %\* \textowedge -> \varowedge (stmaryrd)  
18097 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)  
18098 \DeclareTextCommand{\textvee}{PU}{\9042\050}%\* U+2228  
18099 % \ovee (stmaryrd)  
18100 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%\* U+2228 U+20DD  
18101 %\* \textovee -> \varovee (stmaryrd)  
18102 % U+2229 INTERSECTION; intersection; \cap (LaTeX)  
18103 \DeclareTextCommand{\textcap}{PU}{\9042\051}%\* U+2229  
18104 % U+222A UNION; union; \cup (LaTeX)  
18105 \DeclareTextCommand{\textcup}{PU}{\9042\052}%\* U+222A  
18106 % U+222B INTEGRAL; integral; \int (LaTeX)  
18107 \DeclareTextCommand{\textint}{PU}{\9042\053}%\* U+222B  
18108 %\* \textint -> \varint (wasysym)  
18109 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)  
18110 \DeclareTextCommand{\textiint}{PU}{\9042\054}%\* U+222C  
18111 % U+222D TRIPLE INTEGRAL; \iiint (AmS)  
18112 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%\* U+222D  
18113 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)

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18114 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18115 %* \textoint -> \varoint (wasysym)
18116 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18117 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18118 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18119 % \ointclockwise (txfonts/pxfonts)
18120 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18121 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrckwise (tx-
      fonts/pxfonts)
18122 \DeclareTextCommand{\textointctrckwise}{PU}{\9042\063}%* U+2233
18123 % U+2234 THEREFORE; therefore; \therefore (AmS)
18124 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18125 %* \texttherefore -> uptherefore (MnSymbol)
18126 % U+2235 BECAUSE; because; \because (AmS)
18127 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18128 %* \textbecause -> \downtherefore (MnSymbol)
18129 % U+2236 RATIO; \dotdot (MnSymbol)
18130 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18131 % U+2237 PROPORTION; \squaredots (MnSymbol)
18132 \DeclareTextCommand{\textssquaredots}{PU}{\9042\067}%* U+2237
18133 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18134 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18135 %* \textdotminus -> \textdotdiv (mathabx)
18136 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18137 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18138 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18139 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18140 %* \textsim -> \AC (wasysym)
18141 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18142 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18143 % \nbacksim (txfonts/pxfonts)
18144 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18145 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18146 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18147 %* \textwr -> \wreath (MnSymbol)
18148 % U+2241 NOT TILDE; \nsim (AmS)
18149 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18150 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18151 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18152 % \neqsim (MnSymbol)
18153 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18154 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
      TeX)
18155 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18156 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18157 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18158 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18159 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18160 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18161 % \ncong (AmS)
18162 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18163 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18164 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18165 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)

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18166 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%\* U+2249  
18167 %\* \textnapprox -> \nthickapprox (txfonts/pxfonts)  
18168 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)  
18169 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%\* U+224A  
18170 % \napproxeq (txfonts/pxfonts)  
18171 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%\* U+224A U+0338  
18172 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)  
18173 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%\* U+224B  
18174 %\* \texttriplesim -> \VHF (wasysym)  
18175 % \ntriplesim (MnSymbol)  
18176 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%\* U+224B U+0338  
18177 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)  
18178 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%\* U+224C  
18179 % \nbackcong (MnSymbol)  
18180 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%\* U+224C U+0338  
18181 % U+224D EQUIVALENT TO; \asymp (LaTeX)  
18182 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%\* U+224D  
18183 % \nasymp (txfonts/pxfonts)  
18184 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%\* U+224D U+0338  
18185 %\* \textnasymp -> \notasymp (mathabx)  
18186 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)  
18187 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
18188 % \nBumpeq (txfonts/pxfonts)  
18189 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%\* U+224E U+0338  
18190 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)  
18191 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%\* U+224F  
18192 % \nbumpeq (txfonts/pxfonts)  
18193 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%\* U+224F U+0338  
18194 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
18195 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
18196 % \ndoteq (MnSymbol)  
18197 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%\* U+2250 U+0338  
18198 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;  
18199 % \doteqdot (AmS)  
18200 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%\* U+2251  
18201 %\* \textdoteqdot -> \Doteq (MnSymbol)  
18202 % \nDoteq (MnSymbol)  
18203 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%\* U+2251 U+0338  
18204 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-  
equalorimage;  
18205 % \fallingdotseq (AmS)  
18206 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%\* U+2252  
18207 % \nfallingdotseq (MnSymbol)  
18208 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%\* U+2252 U+0338  
18209 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-  
imatelyequal;  
18210 % \risingdotseq (AmS)  
18211 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%\* U+2253  
18212 % \nrisingdotseq (MnSymbol)  
18213 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%\* U+2253 U+0338  
18214 % U+2254 COLON EQUALS; \colonequals (colonequals)  
18215 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%\* U+2254  
18216 % U+2255 EQUALS COLON; \equalscolon (colonequals)  
18217 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%\* U+2255

18218 % U+2256 RING IN EQUAL TO;  $\eqcirc$  (AmS)  
18219 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%\* U+2256  
18220 %  $\neqcirc$  (MnSymbol)  
18221 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%\* U+2256 U+0338  
18222 % U+2257 RING EQUAL TO;  $\circeq$  (AmS)  
18223 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%\* U+2257  
18224 %  $\ncirceq$  (MnSymbol)  
18225 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%\* U+2257 U+0338  
18226 % U+2259 ESTIMATES;  $\hateq$  (MnSymbol)  
18227 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%\* U+2259  
18228 %\*  $\texthateq$  ->  $\corresponds$  (mathabx)  
18229 %\*  $\texthateq$  ->  $\Corresponds$  (marvosym)  
18230 %  $\nhateq$  (MnSymbol)  
18231 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%\* U+2259 U+0338  
18232 % U+225C DELTA EQUAL TO;  $\triangleleeq$  (AmS)  
18233 \DeclareTextCommand{\texttriangleleeq}{PU}{\9042\134}%\* U+225C  
18234 % U+2260 NOT EQUAL TO;  $\notequal$ ;  $\ne$  (LaTeX),  $\neq$  (LaTeX)  
18235 \DeclareTextCommand{\textneq}{PU}{\9042\140}%\* U+2260  
18236 \DeclareTextCommand{\textne}{PU}{\9042\140}%\* U+2260  
18237 %\*  $\textneq$  ->  $\nequal$  (MnSymbol)  
18238 % U+2261 IDENTICAL TO; equivalence;  $\equiv$  (LaTeX)  
18239 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%\* U+2261  
18240 %\*  $\textequiv$  ->  $\Congruent$  (marvosym)  
18241 % U+2262 NOT IDENTICAL TO; notidentical;  $\notequiv$  (txfonts/pxfonts)  
18242 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%\* U+2262  
18243 %\*  $\textnequiv$  ->  $\NotCongruent$  (marvosym)  
18244 %\*  $\textnequiv$  ->  $\notequiv$  (mathabx)  
18245 % U+2264 LESS-THAN OR EQUAL TO;  $\lesseqgtr$ ;  $\le$  (LaTeX),  $\leq$  (LaTeX)  
18246 \DeclareTextCommand{\textleq}{PU}{\9042\144}%\* U+2264  
18247 \DeclareTextCommand{\textle}{PU}{\9042\144}%\* U+2264  
18248 %\*  $\textleq$  ->  $\LessOrEqual$  (marvosym)  
18249 % U+2265 GREATER-THAN OR EQUAL TO;  $\gtrless$ ;  
18250 %  $\ge$  (LaTeX),  $\geq$  (LaTeX)  
18251 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%\* U+2265  
18252 \DeclareTextCommand{\textge}{PU}{\9042\145}%\* U+2265  
18253 %\*  $\textgeq$  ->  $\LargerOrEqual$  (marvosym)  
18254 % U+2266 LESS-THAN OVER EQUAL TO;  $\lesseqgtr$ ;  $\leqq$  (AmS)  
18255 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%\* U+2266  
18256 %  $\nleqq$  (txfonts/pxfonts)  
18257 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%\* U+2266 U+0338  
18258 % U+2267 GREATER-THAN OVER EQUAL TO;  $\gtrless$ ;  $\geqq$  (AmS)  
18259 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%\* U+2267  
18260 %  $\ngeqq$  (txfonts/pxfonts)  
18261 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%\* U+2267 U+0338  
18262 % U+2268 LESS-THAN BUT NOT EQUAL TO;  $\lneqq$  (AmS)  
18263 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%\* U+2268  
18264 % U+2269 GREATER-THAN BUT NOT EQUAL TO;  $\gneqq$  (AmS)  
18265 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%\* U+2269  
18266 % U+226A MUCH LESS-THAN;  $\muchless$ ;  $\ll$  (LaTeX)  
18267 \DeclareTextCommand{\textll}{PU}{\9042\152}%\* U+226A  
18268 %  $\nll$  (txfonts/pxfonts)  
18269 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%\* U+226A U+0338  
18270 % U+226B MUCH GREATER-THAN;  $\muchgreater$ ;  $\gg$  (LaTeX)  
18271 \DeclareTextCommand{\textgg}{PU}{\9042\153}%\* U+226B

18272 % \ngg (txfonts/pxfonts)  
18273 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%\* U+226B U+0338  
18274 % U+226C BETWEEN; \between (AmS)  
18275 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%\* U+226C  
18276 % U+226E NOT LESS-THAN; notless; \nless (AmS)  
18277 \DeclareTextCommand{\textnless}{PU}{\9042\156}%\* U+226E  
18278 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)  
18279 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%\* U+226F  
18280 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;  
18281 % \nleq (AmS)  
18282 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%\* U+2270  
18283 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal;  
18284 % \ngeq (AmS)  
18284 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%\* U+2271  
18285 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)  
18286 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%\* U+2272  
18287 %\* \textlessim -> \apprle (wasysym)  
18288 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim  
18289 % (AmS)  
18289 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%\* U+2273  
18290 %\* \textgtrsim -> \apprge (wasysym)  
18291 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-  
18292 % fonts/pxfonts)  
18292 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%\* U+2274  
18293 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-  
18294 % fonts/pxfonts)  
18294 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%\* U+2275  
18295 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)  
18296 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%\* U+2276  
18297 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)  
18298 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%\* U+2277  
18299 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-  
18300 % fonts/pxfonts)  
18300 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%\* U+2278  
18301 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-  
18302 % fonts/pxfonts)  
18302 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%\* U+2279  
18303 % U+227A PRECEDES; precedes; \prec (LaTeX)  
18304 \DeclareTextCommand{\textprec}{PU}{\9042\172}%\* U+227A  
18305 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)  
18306 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%\* U+227B  
18307 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)  
18308 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%\* U+227C  
18309 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18310 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18311 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18312 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18313 % \nprecsim (txfonts/pxfonts)  
18314 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
18315 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18316 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18317 % \nsuccsim (txfonts/pxfonts)  
18318 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
18319 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)

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18320 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18321 % U+2281 DOES NOT SUCCEED; \notsucc; \nsucc (AmS)
18322 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18323 % U+2282 SUBSET OF; \propersubset; \subset (LaTeX)
18324 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18325 % U+2283 SUPERSET OF; \propersuperset; \supset (LaTeX)
18326 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18327 % U+2284 NOT A SUBSET OF; \notsubset; \nsubset (mathabx)
18328 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18329 % U+2285 NOT A SUPERSET OF; \notsuperset; \nsupset (mathabx)
18330 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18331 % U+2286 SUBSET OF OR EQUAL TO; \reflexsubset; \subseteq (LaTeX)
18332 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18333 % U+2287 SUPERSET OF OR EQUAL TO; \reflexsuperset; \supseteq (LaTeX)
18334 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18335 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18336 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18337 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18338 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18339 % U+228A SUBSET OF WITH NOT EQUAL TO; \subsetneq; \subsetneq (AmS)
18340 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18341 % U+228B SUPERSET OF WITH NOT EQUAL TO; \supsetneq; \supsetneq (AmS)
18342 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18343 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18344 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18345 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18346 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18347 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18348 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18349 % \nsqsubset (txfonts/pxfonts)
18350 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18351 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18352 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18353 % \nsqsupset (txfonts/pxfonts)
18354 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18355 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18356 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18357 % \nsqsubseteq (txfonts/pxfonts)
18358 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18359 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18360 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18361 % \nsqsupseteq (txfonts/pxfonts)
18362 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18363 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18364 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18365 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18366 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18367 % U+2295 CIRCLED PLUS; \circleplus; \oplus (LaTeX)
18368 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18369 %* \textoplus -> \varoplus (stmaryrd)
18370 % U+2296 CIRCLED MINUS; \minuscircle; \ominus (LaTeX)
18371 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296

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18372 %* \textominus -> \varominus (stmaryrd)
18373 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18374 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18375 %* \textotimes -> \varotimes (stmaryrd)
18376 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18377 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18378 %* \textoslash -> \varoslash (stmaryrd)
18379 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18380 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18381 %* \textodot -> \varodot (stmaryrd)
18382 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18383 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18384 %* \textcircledcirc -> \ocirc (mathabx)
18385 %* \textcircledcirc -> \varocircle (stmaryrd)
18386 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18387 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18388 %* \textcircledast -> \varoast (stmaryrd)
18389 %* \textcircledast -> \oasterisk (mathabx)
18390 % U+229D CIRCLED DASH; \circleddash (AmS)
18391 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18392 % U+229E SQUARED PLUS; \boxplus (AmS)
18393 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18394 % U+229F SQUARED MINUS; \boxminus (AmS)
18395 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18396 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18397 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18398 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18399 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18400 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18401 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18402 %* \textvdash -> \rightvdash (MnSymbol)
18403 % U+22A3 LEFT TACK; \dashleftarrow; \dashv (LaTeX)
18404 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18405 %* \textdashv -> \leftvdash (MnSymbol)
18406 % \ndashv (mathabx)
18407 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18408 %* \textndashv -> \leftvdash (MnSymbol)
18409 % U+22A4 DOWN TACK (=top); \dashrightarrow; \top (LaTeX)
18410 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
18411 %* \textttop -> \downvdash (MnSymbol)
18412 % \ndownvdash (MnSymbol)
18413 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18414 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18415 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18416 %* \textbot -> \upvdash (MnSymbol)
18417 % \nupvdash (MnSymbol)
18418 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18419 %* \textnupvdash -> \nperp (MnSymbol)
18420 % U+22A8 TRUE; \vDash (AmS)
18421 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18422 %* \textvDash -> \models (LaTeX)
18423 %* \textvDash -> \rightmodels (MnSymbol)
18424 % U+22A9 FORCES; \Vdash (AmS)
18425 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9

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18426 %\* \textVdash -> \rightVdash (MnSymbol)  
18427 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)  
18428 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%\* U+22AA  
18429 % \nVvash (mathabx)  
18430 \DeclareTextCommand{\textnVvash}{PU}{\9042\252\83\070}%\* U+22AA U+0338  
18431 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;  
18432 % \VDash (mathabx)  
18433 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%\* U+22AB  
18434 %\* \textVDash -> \rightModels (MnSymbol)  
18435 % U+22AC DOES NOT PROVE; \nvdash (AmS)  
18436 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%\* U+22AC  
18437 %\* \textnvdash -> \nrighnvDash (MnSymbol)  
18438 % U+22AD NOT TRUE; \nvDash (AmS)  
18439 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%\* U+22AD  
18440 %\* \textnvDash -> \nrighmodels (MnSymbol)  
18441 %\* \textnvDash -> \nmodels (MnSymbol)  
18442 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)  
18443 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%\* U+22AE  
18444 %\* \textnVdash -> \nrighVdash (MnSymbol)  
18445 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-  
STILE; \nVDash (AmS)  
18446 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%\* U+22AF  
18447 %\* \textnVDash -> \nrighModels (MnSymbol)  
18448 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)  
18449 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%\* U+22B2  
18450 %\* \textlhd -> \lessclosed (MnSymbol)  
18451 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)  
18452 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%\* U+22B3  
18453 %\* \textrhd -> \gtrclosed (MnSymbol)  
18454 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)  
18455 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%\* U+22B4  
18456 %\* \textunlhd -> \leqclosed (MnSymbol)  
18457 %\* \textunlhd -> \trianglelefteq (MnSymbol)  
18458 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-  
texsym, ...)  
18459 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%\* U+22B5  
18460 %\* \textunrhd -> \geqclosed (MnSymbol)  
18461 %\* \textunrhd -> \trianglerighteq (MnSymbol)  
18462 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)  
18463 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%\* U+22B6  
18464 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)  
18465 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%\* U+22B7  
18466 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)  
18467 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%\* U+22B8  
18468 % U+22BB XOR; \veebar (AmS)  
18469 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%\* U+22BB  
18470 % U+22BC NAND; \barwedge (mathabx)  
18471 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%\* U+22BC  
18472 % U+22C6 STAR OPERATOR; \star (LaTeX)  
18473 \DeclareTextCommand{\textstar}{PU}{\9042\306}%\* U+22C6  
18474 % U+22C7 DIVISION TIMES; \divideontimes (AmS)  
18475 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%\* U+22C7  
18476 % U+22C8 BOWTIE; \bowtie (LaTeX)  
18477 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%\* U+22C8

18478 %\* \textbowtie -> \Bowtie (wasysym)  
18479 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)  
18480 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%\* U+22C9  
18481 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;  
18482 % \rtimes (AmS)  
18483 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%\* U+22CA  
18484 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)  
18485 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%\* U+22CB  
18486 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)  
18487 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%\* U+22CC  
18488 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)  
18489 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%\* U+22CD  
18490 % \nbacksimeq (txfonts/pxfonts)  
18491 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%\* U+22CD U+0338  
18492 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)  
18493 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%\* U+22CE  
18494 %\* \textcurlyvee -> \varcurlyvee (stmaryrd)  
18495 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)  
18496 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%\* U+22CF  
18497 %\* \textcurlywedge -> \varcurlywedge (stmaryrd)  
18498 % U+22D0 DOUBLE SUBSET; \Subset (AmS)  
18499 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%\* U+22D0  
18500 % \nSubset (txfonts/pxfonts)  
18501 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%\* U+22D0 U+0338  
18502 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)  
18503 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%\* U+22D1  
18504 % \nSupset (txfonts/pxfonts)  
18505 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%\* U+22D1 U+0338  
18506 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)  
18507 \DeclareTextCommand{\textCap}{PU}{\9042\322}%\* U+22D2  
18508 %\* \textCap -> \doublecap (mathabx)  
18509 % U+22D3 DOUBLE UNION; \Cup (AmS)  
18510 \DeclareTextCommand{\textCup}{PU}{\9042\323}%\* U+22D3  
18511 %\* \textCup -> \doublecup (mathabx)  
18512 % U+22D4 PITCHFORK; \pitchfork (mathabx)  
18513 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%\* U+22D4  
18514 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
18515 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
18516 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
18517 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
18518 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
18519 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
18520 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)  
18521 \DeclareTextCommand{\textggg}{PU}{\9042\331}%\* U+22D9  
18522 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lesseqqualorgreater;  
18523 % \lesseqgtr (AmS)  
18524 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%\* U+22DA  
18525 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;  
18526 % \gtreqless (AmS)  
18527 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
18528 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)  
18529 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%\* U+22DE  
18530 % \ncurlyeqprec (mathabx)  
18531 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%\* U+22DE U+0338

18532 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)  
18533 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%\* U+22DF  
18534 % \ncurlyeqsucc (mathabx)  
18535 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%\* U+22DF U+0338  
18536 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)  
18537 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%\* U+22E0  
18538 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)  
18539 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%\* U+22E1  
18540 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-  
fonts/pxfonts)  
18541 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%\* U+22E2  
18542 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-  
fonts/pxfonts)  
18543 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%\* U+22E3  
18544 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)  
18545 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%\* U+22E4  
18546 %\* \textsqsubsetneq -> \varsqsubsetneq (mathabx)  
18547 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-  
abx)  
18548 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%\* U+22E5  
18549 %\* \textsqsupsetneq -> \varsqsupsetneq (mathabx)  
18550 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)  
18551 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%\* U+22E6  
18552 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)  
18553 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%\* U+22E7  
18554 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)  
18555 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%\* U+22E8  
18556 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)  
18557 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%\* U+22E9  
18558 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)  
18559 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%\* U+22EA  
18560 %\* \textntriangleleft -> \nlessclosed (MnSymbol)  
18561 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-  
leright (AmS)  
18562 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%\* U+22EB  
18563 %\* \textntriangleright -> \ntrclosed (MnSymbol)  
18564 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
18565 % \ntriangleleftteq (AmS)  
18566 \DeclareTextCommand{\textntriangleleftteq}{PU}{\9042\354}%\* U+22EC  
18567 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
18568 % \ntrianglerightteq (AmS)  
18569 \DeclareTextCommand{\textntrianglerightteq}{PU}{\9042\355}%\* U+22ED  
18570 %\* \textntrianglerightteq -> \textngeqclosed  
18571 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
18572 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
18573 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
18574 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
18575 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
18576 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
18577 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
18578 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
18579 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
18580 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 46.2.23 Miscellaneous Technical: U+2300 to U+23FF

18581 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)  
18582 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
18583 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
18584 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
18585 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)  
18586 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%\* U+2311  
18587 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
18588 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
18589 % U+231A WATCH; \clock (wasysym)  
18590 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
18591 %\* \textclock -> \Clocklogo (marvosym)  
18592 %\* \textclock -> \ClockLogo (marvosym)  
18593 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
18594 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
18595 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
18596 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
18597 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
18598 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
18599 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
18600 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
18601 % U+2322 FROWN; \frown (LaTeX)  
18602 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
18603 % U+2323 SMILE; \smile (LaTeX)  
18604 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
18605 % U+2328 KEYBOARD; \Keyboard (marvosym)  
18606 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
18607 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \angle (LaTeX)  
18608 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%\* U+2329  
18609 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)  
18610 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%\* U+232A  
18611 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLin (wasysym)  
18612 \DeclareTextCommand{\textAPLin}{PU}{\9043\071}%\* U+2339  
18613 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)  
18614 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%\* U+233C  
18615 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)  
18616 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%\* U+233D  
18617 %\* \textstmaryrdbaro -> \baro (stmaryrd)  
18618 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)  
18619 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%\* U+233F  
18620 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;  
18621 % \notbackslash (wasysym)  
18622 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%\* U+2340  
18623 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)  
18624 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%\* U+2342  
18625 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;  
18626 % \APLleftarrowbox (wasysym)  
18627 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
18628 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
18629 % \APLrightarrowbox (wasysym)  
18630 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348

18631 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)  
18632 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
18633 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
18634 % \APLdownarrowbox (wasysym)  
18635 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
18636 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
18637 % \APLinput (wasysym)  
18638 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
18639 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
18640 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
18641 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
18642 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
18643 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
18644 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
18645 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
18646 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
18647 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;  
18648 % \ForwardToIndex (marvosym)  
18649 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
18650 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;  
18651 % \RewindToIndex (marvosym)  
18652 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 46.2.24 Control Pictures: U+2400 to U+243F

18653 % U+2422 BLANK SYMBOL  
18654 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
18655 % U+2423 OPEN BOX; blank  
18656 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 46.2.25 Optical Character Recognition: U+2440 to U+245F

18657 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
18658 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
18659 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 46.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18660 % U+2460 CIRCLED DIGIT ONE; onecircle  
18661 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
18662 % U+2461 CIRCLED DIGIT TWO; twocircle  
18663 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
18664 % U+2462 CIRCLED DIGIT THREE; threecircle  
18665 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
18666 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
18667 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
18668 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
18669 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
18670 % U+2465 CIRCLED DIGIT SIX; sixcircle  
18671 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
18672 % U+2466 CIRCLED DIGIT SEVEN; sevencircle  
18673 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
18674 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
18675 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467

18676 % U+2468 CIRCLED DIGIT NINE; ninecircle  
18677 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
18678 % U+2469 CIRCLED NUMBER TEN; tencircle  
18679 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
18680 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
18681 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
18682 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
18683 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
18684 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
18685 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
18686 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
18687 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
18688 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
18689 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
18690 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
18691 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
18692 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
18693 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
18694 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
18695 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
18696 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
18697 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
18698 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
18699 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
18700 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
18701 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
18702 % \CircledA (marvosym)  
18703 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
18704 %\* \textCircledA -> \CleaningA  
18705 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
18706 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
18707 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
18708 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
18709 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
18710 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
18711 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
18712 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
18713 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
18714 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
18715 % \CleaningF (marvosym)  
18716 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
18717 % \CleaningFF (marvosym)  
18718 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
18719 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
18720 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
18721 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
18722 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
18723 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
18724 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
18725 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
18726 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
18727 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
18728 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
18729 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle

18730 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
18731 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
18732 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
18733 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
18734 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
18735 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
18736 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
18737 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
18738 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
18739 % \CleaningP (marvosym)  
18740 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
18741 % \CleaningPP (marvosym)  
18742 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
18743 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
18744 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
18745 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
18746 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
18747 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
18748 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
18749 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
18750 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
18751 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
18752 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
18753 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
18754 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
18755 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
18756 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
18757 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
18758 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
18759 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
18760 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
18761 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
18762 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
18763 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
18764 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
18765 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
18766 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
18767 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
18768 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
18769 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
18770 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
18771 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
18772 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
18773 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
18774 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
18775 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
18776 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
18777 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
18778 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
18779 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
18780 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
18781 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
18782 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
18783 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle

18784 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
18785 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
18786 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
18787 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
18788 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
18789 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
18790 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
18791 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
18792 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
18793 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
18794 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
18795 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
18796 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
18797 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
18798 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
18799 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
18800 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
18801 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
18802 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
18803 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
18804 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
18805 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
18806 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
18807 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
18808 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
18809 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
18810 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
18811 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
18812 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
18813 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
18814 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
18815 % U+24EA CIRCLED DIGIT ZERO  
18816 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

#### 46.2.27 Box Drawing: U+2500 to 257F

18817 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
Line (marvosym)  
18818 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
18819 %\* \textCuttingLine -> \Kutline (marvosym)  
18820 %\* \textCuttingLine -> \CutLine (marvosym)  
18821 %\* \textCuttingLine -> \Cutline (marvosym)

#### 46.2.28 Geometric Shapes: U+25A0 to U+25FF

18822 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)  
18823 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%\* U+25B2  
18824 %\* \textUParrow -> \MoveUp (marvosym)  
18825 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
18826 % \bigtriangleup (LaTeX)  
18827 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
18828 %\* \textbigtriangleup -> \APLup (wasysym)  
18829 %\* \textbigtriangleup -> \Bleech (marvosym)  
18830 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)  
18831 \DeclareTextCommand{\textForward}{PU}{\9045\266}%\* U+25B6  
18832 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-



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tion);
18833 % whiterightpointingtriangle; \triangleright (LaTeX)
18834 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
18835 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
18836 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
18837 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
18838 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
18839 %* \textDOWNarrow -> \MoveDown (marvosym)
18840 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
    gle;
18841 % \bigtriangledown (LaTeX)
18842 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
18843 %* \textbigtriangledown -> \APLdown (wasysym)
18844 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
18845 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
18846 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
    striction);
18847 % whiteleftpointingtriangle; \triangleleft (LaTeX)
18848 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
18849 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
18850 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
18851 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
18852 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
18853 %* \textdiamond -> \Diamond (wasysym)
18854 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
18855 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
18856 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
18857 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18858 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18859 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18860 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18861 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18862 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18863 % \boxbar (stmaryrd)
18864 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18865 % U+25EF LARGE CIRCLE; largecircle
18866 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18867 %* \textbigcircle -> \varbigcirc (stmaryrd)
18868 %

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#### 46.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18869 % U+2601 CLOUD; \Cloud (ifsym)
18870 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18871 % U+2605 BLACK STAR; \FiveStar (bbding)
18872 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18873 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18874 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18875 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18876 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18877 %* \textPhone -> \Telefon (marvosym)
18878 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18879 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18880 %* \textboxempty -> \Box (wasysym)
18881 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)

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18882 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%\* U+2611  
18883 %\* \textCheckedbox -> \CheckedBox (marvosym)  
18884 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)  
18885 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%\* U+2612  
18886 %\* \textCrossedbox -> \XBox (wasysym)  
18887 %\* \textCrossedbox -> \CrossedBox (marvosym)  
18888 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
18889 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
18890 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)  
18891 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
18892 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)  
18893 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
18894 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)  
18895 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
18896 %\* \textHandLeft -> \rightpointleft (fourier)  
18897 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bding)  
18898 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
18899 %\* \textHandRight -> \leftpointright (fourier)  
18900 %\* \textHandRight -> \PointingHand (marvosym)  
18901 %\* \textHandRight -> \Pointinghand (marvosym)  
18902 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
18903 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
18904 %\* \textRadioactivity -> \Radiation (ifsym)  
18905 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
18906 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
18907 % U+2625 ANKH; \Ankh (marvosym)  
18908 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
18909 % U+262F YIN YANG; \YinYang (marvosym)  
18910 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
18911 %\* \textYinYang -> \Yinyang (marvosym)  
18912 %\* \textYinYang -> \YingYang (marvosym)  
18913 %\* \textYinYang -> \Yingyang (marvosym)  
18914 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18915 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18916 %\* \textfrownie -> \Frowny (marvosym)  
18917 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
18918 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
18919 %\* \textsmiley -> \Smiley (marvosym)  
18920 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
18921 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
18922 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
18923 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
18924 %\* \textsun -> \Sun (marvosym)  
18925 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
18926 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
18927 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
18928 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
18929 % U+263F MERCURY; \mercury (wasysym)  
18930 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
18931 %\* \textmercury -> \Mercury (marvosym)  
18932 % U+2640 FEMALE SIGN; female; \female (wasysym)  
18933 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
18934 %\* \textPUfemale -> \textfemale (tipx)  
18935 %\* \textPUfemale -> \female (wasysym)

18936 %\* \textPUfemale -> \venus (wasysym)  
18937 %\* \textPUfemale -> \Venus (marvosym)  
18938 %\* \textPUfemale -> \Female (marvosym)  
18939 % U+2641 EARTH; \earth (wasysym)  
18940 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
18941 %\* \textearth -> \Earth (marvosym)  
18942 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
18943 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
18944 %\* \textmale -> \mars (wasysym)  
18945 %\* \textmale -> \Mars (marvosym)  
18946 %\* \textmale -> \Male (marvosym)  
18947 % U+2643 JUPITER; \jupiter (wasysym)  
18948 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
18949 %\* \textjupiter -> \Jupiter (marvosym)  
18950 % U+2644 SATURN; \saturn (wasysym)  
18951 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
18952 %\* \textsaturn -> \Saturn (marvosym)  
18953 % U+2645 URANUS; \uranus (wasysym)  
18954 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
18955 %\* \texturanus -> \Uranus (marvosym)  
18956 % U+2646 NEPTUNE; \neptune (wasysym)  
18957 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
18958 %\* \textneptune -> \Neptune (marvosym)  
18959 % U+2647 PLUTO; \pluto (wasysym)  
18960 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
18961 %\* \textpluto -> \Pluto (marvosym)  
18962 % U+2648 ARIES; \aries (wasysym)  
18963 \DeclareTextCommand{\textaries}{PU}{\9046\110}%\* U+2648  
18964 %\* \textaries -> \Aries (marvosym)  
18965 % U+2649 TAURUS; \taurus (wasysym)  
18966 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%\* U+2649  
18967 %\* \texttaurus -> \Taurus (marvosym)  
18968 % U+264A GEMINI; \gemini (wasysym)  
18969 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%\* U+264A  
18970 %\* \textgemini -> \Gemini (marvosym)  
18971 % U+264B CANCER; \cancer (wasysym)  
18972 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%\* U+264B  
18973 %\* \textcancer -> \Cancer (marvosym)  
18974 % U+264C LEO; \leo (wasysym)  
18975 \DeclareTextCommand{\textleo}{PU}{\9046\114}%\* U+264C  
18976 %\* \textleo -> \Leo (marvosym)  
18977 % U+264D VIRGO; \virgo (wasysym)  
18978 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%\* U+264D  
18979 %\* \textvirgo -> \Virgo (marvosym)  
18980 % U+264E LIBRA; \libra (wasysym)  
18981 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%\* U+264E  
18982 %\* \textlibra -> \Libra (marvosym)  
18983 % U+264F SCORPIO; \scorpio (wasysym)  
18984 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%\* U+264F  
18985 %\* \textscorpio -> \Scorpio (marvosym)  
18986 % U+2650 SAGITTARIUS; \sagittarius (wasysym)  
18987 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%\* U+2650  
18988 %\* \textsagittarius -> \Sagittarius (marvosym)  
18989 % U+2651 CAPRICORN; \capricornus (wasysym)

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18990 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18991 %* \textcapricornus -> \Capricorn (marvosym)
18992 % U+2652 AQUARIUS; \aquarius (wasysym)
18993 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18994 %* \textaquarius -> \Aquarius (marvosym)
18995 % U+2653 PISCES; \pisces (wasysym)
18996 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18997 %* \textpisces -> \Pisces (marvosym)
18998 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18999 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19000 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19001 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19002 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19003 %* \textheartsuitwhite -> \Heart (marvosym)
19004 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19005 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19006 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
19007 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
19008 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
19009 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
19010 %* \textclubsuitblack -> \clubsuit (MnSymbol)
19011 % U+2664 WHITE SPADE SUIT; spadesuitwhite
19012 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
19013 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
19014 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
19015 % U+2666 BLACK DIAMOND SUIT; diamond
19016 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
19017 % U+2667 WHITE CLUB SUIT; clubsuitwhite
19018 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
19019 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
19020 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
19021 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
19022 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
19023 %* \textmusicalnote -> \eighthnote (wasysym, arev)
19024 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
19025 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
19026 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
19027 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
19028 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
19029 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
19030 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
19031 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
19032 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
19033 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
19034 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
19035 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
19036 %* \textrecycle -> \Recycling (marvosym)
19037 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
19038 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
19039 % U+2691 BLACK FLAG; \Flag (ifsym)
19040 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
19041 %* \textFlag -> \VarFlag (ifsym)
19042 % U+2692 HAMMER AND PICK; \MineSign (marvosym)

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19043 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
19044 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
19045 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
19046 %\* \textdsmilitary -> \textxswup (fourier)  
19047 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
19048 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
19049 % U+2696 SCALES; \dsjuridical (dictsym)  
19050 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
19051 % U+2697 ALEMBIC; \dschemical (dictsym)  
19052 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
19053 % U+2698 FLOWER; \dsbiological (dictsym)  
19054 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
19055 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
19056 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
19057 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
19058 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
19059 % U+26A0 WARNING SIGN; \danger (fourier)  
19060 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
19061 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
19062 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
19063 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
19064 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
19065 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
vosym)  
19066 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
19067 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
19068 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
19069 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
19070 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
19071 % U+26AD MARRIAGE SYMBOL  
19072 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
19073 % U+26AE DIVORCE SYMBOL  
19074 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
19075 % U+26B2 NEUTER; \textunconfemale (tipx)  
19076 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2  
19077 %\* \textPUunconfemale -> \textunconfemale (tipx)  
19078 % U+26B9 SEXTILE; \hexstar (wasysym)  
19079 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
19080 % U+26BD SOCCER BALL; \Football (marvosym)  
19081 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
19082 %\* \textSoccerBall -> \Football (marvosym)  
19083 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
19084 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
19085 % U+26C6 RAIN; \Rain (ifsym)  
19086 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
19087 % U+26D4 NO ENTRY; \noway (fourier)  
19088 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
19089 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
19090 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
19091 % U+26FA TENT; \Tent (ifsym)  
19092 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

#### 46.2.30 Dingbats: U+2700 to U+27BF

19093 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)

19094 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
19095 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
19096 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
19097 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
19098 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
19099 %\* \textScissorRight -> \RightScissors (marvosym)  
19100 %\* \textScissorRight -> \Leftscissors (marvosym)  
19101 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
19102 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
19103 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
19104 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
19105 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
19106 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
19107 % U+2707 TAPE DRIVE; \Tape (bding)  
19108 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
19109 % U+2708 AIRPLANE; \Plane (bding)  
19110 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
19111 % U+2709 ENVELOPE; \Envelope (bding),  
19112 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
19113 %\* \textEnvelope -> \Letter (marvosym)  
19114 % U+270C VICTORY HAND; \Peace (bding)  
19115 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
19116 % U+270D WRITING HAND; \WritingHand (marvosym)  
19117 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
19118 %\* \textWritingHand -> \Writinghand (marvosym)  
19119 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
19120 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
19121 % U+270F PENCIL; \PencilRight (bding)  
19122 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
19123 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
19124 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
19125 % U+2711 WHITE NIB; \NibRight (bding)  
19126 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
19127 % U+2712 BLACK NIB; \NibSolidRight (bding)  
19128 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
19129 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
19130 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
19131 %\* \textCheckmark -> \checkmark (MnSymbol)  
19132 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
19133 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
19134 % U+2715 MULTIPLICATION X; \XSolid (bding)  
19135 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
19136 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
19137 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
19138 % U+2717 BALLOT X; \XSolidBrush (bding)  
19139 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
19140 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
19141 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
19142 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
19143 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
19144 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
19145 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
19146 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
19147 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C

19148 % U+271D LATIN CROSS; \Cross (bding)  
19149 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
19150 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
19151 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
19152 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
19153 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
19154 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
19155 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
19156 % U+2721 STAR OF DAVID; \DavidStar (bding)  
19157 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
19158 %\* \textDavidStar -> \davidstar (wasysym)  
19159 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
19160 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
19161 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
19162 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
19163 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
19164 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
19165 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
19166 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
19167 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
19168 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
19169 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
19170 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
19171 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
19172 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
19173 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
19174 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
19175 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
19176 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
19177 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
19178 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
19179 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
19180 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
19181 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
19182 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
19183 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
19184 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
19185 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
19186 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
19187 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
19188 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
19189 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
19190 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
19191 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
19192 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
19193 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
19194 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
19195 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
19196 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
19197 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
19198 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738

19199 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
19200 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
19201 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
19202 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
19203 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
19204 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
19205 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
19206 % \SixFlowerOpenCenter (bding)  
19207 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19208 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19209 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19210 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
19211 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19212 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19213 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19214 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19215 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19216 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
19217 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19218 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
19219 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19220 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
19221 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19222 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19223 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
19224 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
19225 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
19226 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
19227 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
19228 % U+2747 SPARKLE; \Sparkle (bding)  
19229 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
19230 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
19231 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
19232 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
19233 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
19234 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19235 % \EightFlowerPetalRemoved (bding)  
19236 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
19237 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19238 % \EightAsterisk (bding)  
19239 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
19240 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
19241 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
19242 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
19243 % \SquareShadowBottomRight (bding)  
19244 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
19245 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
19246 % \SquareShadowTopRight (bding)  
19247 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750



19248 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19249 % \SquareCastShadowBottomRight (bding)  
 19250 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19251 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19252 % \SquareCastShadowTopRight (bding)  
 19253 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19254 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 19255 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19256 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19257 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19258 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19259 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19260 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19261 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

#### 46.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19262 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19263 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19264 % \notperp (mathabx)  
 19265 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19266 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19267 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19268 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19269 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19270 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19271 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19272 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19273 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19274 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
 19275 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19276 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19277 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

#### 46.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19278 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19279 % \circlearrowleft (AmS)  
 19280 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19281 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19282 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19283 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19284 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19285 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19286 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19287 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19288 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19289 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19290 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19291 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19292 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19293 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 19294 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19295 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19296 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC

19297 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
19298 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
19299 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
19300 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 46.2.33 Supplemental Arrows-B: U+2900 to U+297F

19301 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
19302 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
19303 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
19304 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
19305 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknwarrow (MnSymbol)  
19306 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
19307 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
19308 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
19309 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
19310 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
19311 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
19312 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
19313 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
19314 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
19315 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
19316 % \rcurvearrowne (MnSymbol)  
19317 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
19318 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
19319 % \lcurvearrowse (MnSymbol)  
19320 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
19321 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
19322 % \lcurvearrowsw (MnSymbol)  
19323 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
19324 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
19325 % \rcurvearrowse (MnSymbol)  
19326 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
19327 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
19328 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
19329 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
19330 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
19331 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
19332 % \rcurvearrowdown (MnSymbol)  
19333 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
19334 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
19335 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
19336 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)  
19337 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
19338 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
19339 % \rcurvearrowright (MnSymbol)

19340 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
19341 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)  
19342 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
19343 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)  
19344 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
19345 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
19346 % \updownharpoonrightleft (MnSymbol)  
19347 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
19348 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
19349 % \updownharpoonleftright (MnSymbol)  
19350 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
19351 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
19352 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
19353 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
19354 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
19355 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
19356 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
19357 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON  
19358 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
19359 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
19360 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
19361 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
19362 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965  
19363 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
19364 % \leftbarharpoon (mathabx)  
19365 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
19366 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
19367 % LONG DASH; \barleftharpoon (mathabx)  
19368 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
19369 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
19370 % LONG DASH; \rightbarharpoon (mathabx)  
19371 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
19372 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
19373 % LONG DASH; \barriightharpoon (mathabx)  
19374 \DeclareTextCommand{\textbarriightharpoon}{PU}{\9051\155}%\* U+296D  
19375 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
19376 % WITH BARB RIGHT; \updownharpoons (mathabx)  
19377 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
19378 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON  
19379 % WITH BARB RIGHT; \downupharpoons (mathabx)  
19380 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
19381 % U+297F DOWN FISH TAIL  
19382 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

#### 46.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19383 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparentthesis (stmaryrd)  
19384 \DeclareTextCommand{\textlparentthesis}{PU}{\9051\207}%\* U+2987  
19385 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rparentthesis (stmaryrd)

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19386 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
19387 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
19388 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
19389 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
19390 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
19391 %* \textobar -> \textvarobar (stmaryrd)
19392 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
19393 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
19394 %* \textobslash -> \circledbslash (txfonts/pxfonts)
19395 %* \textobslash -> \obackslash (mathabx)
19396 %* \textobslash -> \varobslash (stmaryrd)
19397 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
19398 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
19399 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
19400 %* \textobot -> \odplus (ulsy)
19401 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
      vosym)
19402 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
19403 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
19404 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
19405 %* \textolessthan -> \varolessthan (stmaryrd)
19406 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
19407 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
19408 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
19409 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
19410 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
19411 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
19412 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
19413 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
19414 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
19415 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
19416 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
19417 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
19418 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
19419 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
19420 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
19421 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
19422 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
19423 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
19424 \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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19425 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
19426 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
19427 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19428 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19429 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19430 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19431 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19432 % pxfonts, wasysym)
19433 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19434 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19435 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19436 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \cirplus (mathabx)

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19437 \DeclareTextCommand{\textcircledplus}{PU}{\9052\042}%* U+2A22
19438 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19439 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19440 %* \textminusdot -> \divdot (mathabx)
19441 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
19442 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19443 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19444 % \dtimes (mathdesign)
19445 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19446 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19447 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19448 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19449 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19450 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19451 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19452 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19453 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19454 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19455 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19456 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19457 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19458 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19459 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19460 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19461 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19462 %* \textdoublevee -> \merge (stmaryrd)
19463 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19464 % \doublebarwedge (AmS)
19465 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19466 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19467 % \veedoublebar (mahtabx)
19468 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19469 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19470 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19471 % \neqdot (MnSymbol)
19472 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19473 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19474 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19475 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19476 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19477 % \nleqslant (txfonts/pxfonts)
19478 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19479 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19480 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19481 % \ngeqslant (txfonts/pxfonts)
19482 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19483 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19484 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19485 % \nlessapprox (txfonts/pxfonts)
19486 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19487 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19488 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19489 % \ngtrapprox (txfonts/pxfonts)
19490 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338

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19491 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO;  $\lneq$  (AmS)  
19492 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
19493 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
19494 %  $\gneq$  (AmS)  
19495 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
19496 % U+2A89 LESS-THAN AND NOT APPROXIMATE;  $\lnapprox$  (AmS)  
19497 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
19498 % U+2A8A GREATER-THAN AND NOT APPROXIMATE;  $\gnapprox$  (AmS)  
19499 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
19500 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-  
THAN;  
19501 %  $\lesseqqgtr$  (AmS)  
19502 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%\* U+2A8B  
19503 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-  
THAN;  
19504 %  $\gtreqqless$  (AmS)  
19505 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%\* U+2A8C  
19506 % U+2A95 SLANTED EQUAL TO OR LESS-THAN;  $\eqslantless$  (AmS)  
19507 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
19508 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN;  $\eqslantgtr$  (AmS)  
19509 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
19510 % U+2AA6 LESS-THAN CLOSED BY CURVE;  $\leftslice$  (stmaryrd)  
19511 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
19512 % U+2AA7 GREATER-THAN CLOSED BY CURVE;  $\rightslice$  (stmaryrd)  
19513 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
19514 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN;  $\preceq$  (Mn-  
Symbol)  
19515 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
19516 %  $\npreceq$  (txfonts/pxfonts)  
19517 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%\* U+2AAF U+0338  
19518 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN;  $\succeq$  (Mn-  
Symbol)  
19519 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
19520 %  $\nsucceq$  (txfonts/pxfonts)  
19521 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%\* U+2AB0 U+0338  
19522 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO;  $\precneq$   
(mathabx)  
19523 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
19524 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO;  $\succneq$   
(mathabx)  
19525 \DeclareTextCommand{\textsucneq}{PU}{\9052\262}%\* U+2AB2  
19526 % U+2AB3 PRECEDES ABOVE EQUALS SIGN;  $\preceqq$  (txfonts/pxfonts)  
19527 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
19528 %  $\npreceqq$  (txfonts/pxfonts)  
19529 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%\* U+2AB3 U+0338  
19530 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN;  $\succeqq$  (txfonts/pxfonts)  
19531 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
19532 %  $\nsucceqq$  (txfonts/pxfonts)  
19533 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%\* U+2AB4 U+0338  
19534 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO;  $\precneqq$  (txfonts/pxfonts)  
19535 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
19536 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO;  $\succneqq$  (txfonts/pxfonts)  
19537 \DeclareTextCommand{\textsucneqq}{PU}{\9052\266}%\* U+2AB6  
19538 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO;  $\precapprox$  (AmS)

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19539 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19540 % \nprecapprox (txfonts/pxfonts)
19541 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19542 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19543 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19544 % \nsuccapprox (txfonts/pxfonts)
19545 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19546 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
    prox (AmS)
19547 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19548 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
    prox (AmS)
19549 \DeclareTextCommand{\textsucnapprox}{PU}{\9052\272}%* U+2ABA
19550 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19551 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19552 % \nsubseteqq (txfonts/pxfonts, mathabx)
19553 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19554 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19555 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19556 % \nsupseteqq (mathabx)
19557 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19558 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19559 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19560 %* \textdashV -> \leftVdash (MnSymbol)
19561 % \ndashV (mathabx)
19562 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19563 %* \textndashV -> \nleftVdash (MnSymbol)
19564 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19565 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19566 %* \textDashv -> \leftmodels (MnSymbol)
19567 % \nDashv (mathabx)
19568 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19569 %* \textnDashv -> \nleftmodels (MnSymbol)
19570 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19571 % \DashV (mathabx)
19572 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19573 %* \textDashV -> \leftModels (MnSymbol)
19574 % \nDashV (mathabx)
19575 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19576 %* \textnDashV -> \nleftModels (MnSymbol)
19577 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19578 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19579 % \ndownmodels (MnSymbol)
19580 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19581 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19582 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19583 % \nupmodels (MnSymbol)
19584 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
19585 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
19586 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
19587 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
19588 % \interleave (stmaryrd)
19589 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
19590 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)

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19591 \DeclareTextCommand{\textslash}{PU}{\9052\375}%\* U+2AFD  
19592 %\* \textslash -> \varparallel (txfonts\pxfonts)

#### 46.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19593 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
19594 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
19595 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
19596 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

#### 46.2.37 Latin Extended-C: U+2C60 to U+2C7F

19597 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
19598 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

#### 46.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19599 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
19600 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
19601 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
19602 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
19603 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
19604 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

#### 46.2.39 Modifier Tone Letters: U+A700 to U+A71F

19605 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
19606 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
19607 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
19608 % \textdownstep (tipa)  
19609 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

#### 46.2.40 Latin Extended-D: U+A720 to U+A7FF

19610 % U+A727 LATIN SMALL LETTER HENG; \texheng (tipx)  
19611 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
19612 %\* \textPUheng -> \texheng (tipx)  
19613 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
19614 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
19615 %\* \textPULhookfour -> \textlhookfour (tipx)  
19616 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
19617 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
19618 %\* \textPUscf -> \textscf (tipx)  
19619 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
19620 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
19621 %\* \textPUaolig -> \textao lig (tipx)  
19622 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
19623 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
19624 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
19625 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

#### 46.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19626 % U+FB01 LATIN SMALL LIGATURE FI; fi  
19627 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
19628 % U+FB02 LATIN SMALL LIGATURE FL; fl  
19629 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

#### 46.2.42 Musical Symbols: U+1D100 to U+1D1FF



19630 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19631 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19632 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 19633 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19634 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19635 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19636 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19637 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 19638 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19639 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19640 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19641 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19642 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19643 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19644 %\* \textfullnote -> \Ganz (harmony)  
 19645 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19646 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19647 %\* \texthalfnote -> \Halb (harmony)  
 19648 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19649 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19650 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19651 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19652 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19653 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19654 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19655 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 46.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19656 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19657 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19658 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 19659 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 19660 % U+1F468 MAN; \ManFace (marvosym)  
 19661 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 19662 % U+1F469 WOMAN; \WomanFace (marvosym)  
 19663 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 19664 %\* \textWomanFace -> \Womanface (marvosym)  
 19665 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 19666 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 19667 %\* \textFax -> \Faxmachine (marvosym)  
 19668 % U+1F525 FIRE; \Fire (ifsym)  
 19669 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 46.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19670 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19671 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19672 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19673 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19674 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19675 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 46.2.45 Miscellaneous

19676 \DeclareTextCommand{\SS}{PU}{SS}%  
 19677 % \textcopyleft (textcomp)

```

19678 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19679 % \ccnc (ccllicenses)
19680 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19681 % \ccnd (ccllicenses)
19682 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19683 % \ccsa (ccllicenses)
19684 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19685 % \Info (marvosym, china2e)
19686 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
19687 % \CESign (marvosym)
19688 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
19689 %* \textCESign -> \CEsign (marvosym)

```

#### 46.2.46 Aliases

Aliases (german.sty)

```

19690 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19691 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19692 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
19693 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
19694 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
19695 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
19696 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
19697 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

19698 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19699 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19700 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19701 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19702 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19703 ⟨/puenc⟩

```

### 46.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19704 ⟨*puvnenc⟩
19705 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19706 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19707 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19708 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19709 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19710 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19711 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19712 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19713 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19714 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19715 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19716 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
19717 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19718 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19719 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
19720 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3

```

19721 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
19722 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF  
19723 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7  
19724 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1  
19725 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3  
19726 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5  
19727 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5  
19728 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
19729 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7  
19730 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
19731 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
19732 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
19733 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
19734 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
19735 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
19736 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
19737 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
19738 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
19739 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
19740 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
19741 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
19742 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
19743 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
19744 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
19745 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
19746 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
19747 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
19748 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
19749 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
19750 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
19751 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
19752 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
19753 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
19754 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
19755 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
19756 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
19757 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
19758 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
19759 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD  
19760 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
19761 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
19762 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
19763 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
19764 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
19765 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
19766 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
19767 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
19768 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
19769 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB  
19770 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
19771 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
19772 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
19773 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
19774 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3

19775 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
19776 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
19777 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
19778 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
19779 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
19780 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
19781 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
19782 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
19783 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
19784 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0  
19785 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
19786 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
19787 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
19788 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
19789 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
19790 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
19791 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EA A  
19792 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
19793 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
19794 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
19795 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
19796 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
19797 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
19798 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
19799 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
19800 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
19801 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
19802 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
19803 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
19804 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
19805 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
19806 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
19807 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
19808 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
19809 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
19810 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
19811 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
19812 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
19813 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
19814 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
19815 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
19816 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
19817 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
19818 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
19819 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC  
19820 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
19821 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
19822 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
19823 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
19824 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
19825 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
19826 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
19827 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8  
19828 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0

```

19829 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19830 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19831 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19832 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19833 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19834 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19835 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19836 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19837 </puvnenc>

```

## 46.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19838 <*puarenc>
19839 % U+0621;afii57409;ARABIC LETTER HAMZA
19840 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19841 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19842 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19843 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19844 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19845 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19846 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19847 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19848 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19849 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19850 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19851 % U+0627;afii57415;ARABIC LETTER ALEF
19852 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19853 % U+0628;afii57416;ARABIC LETTER BEH
19854 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19855 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19856 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19857 % U+062A;afii57418;ARABIC LETTER TEH
19858 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19859 % U+062B;afii57419;ARABIC LETTER THEH
19860 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19861 % U+062C;afii57420;ARABIC LETTER JEEM
19862 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19863 % U+062D;afii57421;ARABIC LETTER HAH
19864 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19865 % U+062E;afii57422;ARABIC LETTER KHAH
19866 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19867 % U+062F;afii57423;ARABIC LETTER DAL
19868 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19869 % U+0630;afii57424;ARABIC LETTER THAL
19870 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
19871 % U+0631;afii57425;ARABIC LETTER REH
19872 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
19873 % U+0632;afii57426;ARABIC LETTER ZAIN
19874 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
19875 % U+0633;afii57427;ARABIC LETTER SEEN
19876 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
19877 % U+0634;afii57428;ARABIC LETTER SHEEN

```

19878 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
19879 % U+0635;afii57429;ARABIC LETTER SAD  
19880 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
19881 % U+0636;afii57430;ARABIC LETTER DAD  
19882 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
19883 % U+0637;afii57431;ARABIC LETTER TAH  
19884 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
19885 % U+0638;afii57432;ARABIC LETTER ZAH  
19886 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
19887 % U+0639;afii57433;ARABIC LETTER AIN  
19888 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
19889 % U+063A;afii57434;ARABIC LETTER GHAIN  
19890 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
19891 % U+0640;afii57440;ARABIC TATWEEL  
19892 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
19893 % U+0641;afii57441;ARABIC LETTER FEH  
19894 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
19895 % U+0642;afii57442;ARABIC LETTER QAF  
19896 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
19897 % U+0643;afii57443;ARABIC LETTER KAF  
19898 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
19899 % U+0644;afii57444;ARABIC LETTER LAM  
19900 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
19901 % U+0645;afii57445;ARABIC LETTER MEEM  
19902 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
19903 % U+0646;afii57446;ARABIC LETTER NOON  
19904 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
19905 % U+0647;afii57470;ARABIC LETTER HEH  
19906 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
19907 % U+0648;afii57448;ARABIC LETTER WAW  
19908 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
19909 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
19910 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
19911 % U+064A;afii57450;ARABIC LETTER YEH  
19912 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
19913 % U+064B;afii57451;ARABIC FATHATAN  
19914 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
19915 % U+064C;afii57452;ARABIC DAMMATAN  
19916 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
19917 % U+064D;afii57453;ARABIC KASRATAN  
19918 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
19919 % U+064E;afii57454;ARABIC FATHA  
19920 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
19921 % U+064F;afii57455;ARABIC DAMMA  
19922 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
19923 % U+0650;afii57456;ARABIC KASRA  
19924 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
19925 % U+0651;afii57457;ARABIC SHADDA  
19926 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
19927 % U+0652;afii57458;ARABIC SUKUN  
19928 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
Farsi  
19929 % U+067E ARABIC LETTER PEH; afii57506

19930 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
19931 % U+0686 ARABIC LETTER TCHEH; afi57507  
19932 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
19933 % U+0698 ARABIC LETTER JEH; afi57508  
19934 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
19935 % U+06A9 ARABIC LETTER KEHEH  
19936 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
19937 % U+06AF ARABIC LETTER GAF; afi57509  
19938 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
19939 % U+06CC ARABIC LETTER FARSI YEH  
19940 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
19941 % U+200C ZERO WIDTH NON-JOINER; afi61664  
19942 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
19943 % U+200D ZERO WIDTH JOINER; afi301  
19944 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D  
  
19945 (/puarenc)  
  
19946 (\*psdextra)  
19947 \Hy@VersionCheck{psdextra.def}  
19948 \newcommand\*{\psdmapshortnames}{%  
19949 \let\MVPlus\textMVPlus  
19950 \let\MVComma\textMVComma  
19951 \let\MVMinus\textMVMinus  
19952 \let\MVPeriod\textMVPeriod  
19953 \let\MVDivision\textMVDivision  
19954 \let\MVZero\textMVZero  
19955 \let\MVOne\textMVOne  
19956 \let\MVTwo\textMVTwo  
19957 \let\MVThree\textMVThree  
19958 \let\MVFour\textMVFour  
19959 \let\MVFive\textMVFive  
19960 \let\MVSix\textMVSix  
19961 \let\MVSeven\textMVSeven  
19962 \let\MVEight\textMVEight  
19963 \let\MVNine\textMVNine  
19964 \let\MVAt\textMVAt  
19965 \let\copyright\textcopyright  
19966 \let\twosuperior\texttwosuperior  
19967 \let\treesuperior\texttreesuperior  
19968 \let\onesuperior\textonesuperior  
19969 \let\Thorn\textThorn  
19970 \let\thorn\textthorn  
19971 \let\hbar\texthbar  
19972 \let\hausaB\texthausaB  
19973 \let\hausaD\texthausaD  
19974 \let\hausaK\texthausaK  
19975 \let\barl\textbarl  
19976 \let\inve\textinve  
19977 \let\slashc\textslashc  
19978 \let\scripta\textscripta  
19979 \let\openo\textopeno  
19980 \let\rtaild\textrtaild  
19981 \let\reve\textreve  
19982 \let\schwa\textschwa

19983 \let\niepsilon\textniepsilon  
19984 \let\repsilon\textrepsilon  
19985 \let\rhookrepsilon\textrhoonrepsilon  
19986 \let\scriptg\textscriptg  
19987 \let\scg\textscg  
19988 \let\ipagamma\textipagamma  
19989 \let\babygamma\textbabygamma  
19990 \let\bari\textbari  
19991 \let\niota\textniota  
19992 \let\sci\textsci  
19993 \let\scn\textscn  
19994 \let\niphi\textniphi  
19995 \let\longlegr\textlonglegr  
19996 \let\scr\textscr  
19997 \let\invscr\textinvscr  
19998 \let\esh\textesh  
19999 \let\baru\textbaru  
20000 \let\niupsilon\textniupsilon  
20001 \let\scriptv\textscriptv  
20002 \let\turnv\textturnv  
20003 \let\turnw\textturnw  
20004 \let\turny\textturny  
20005 \let\scy\textscy  
20006 \let\yogh\textyogh  
20007 \let\glotstop\textglotstop  
20008 \let\revglotstop\textrevglotstop  
20009 \let\invglotstop\textinvglotstop  
20010 \let\Gamma\textGamma  
20011 \let\Delta\textDelta  
20012 \let\Theta\textTheta  
20013 \let\Lambda\textLambda  
20014 \let\Xi\textXi  
20015 \let\Pi\textPi  
20016 \let\Sigma\textSigma  
20017 \let\Upsilon\textUpsilon  
20018 \let\Phi\textPhi  
20019 \let\Psi\textPsi  
20020 \let\Omega\textOmega  
20021 \let\alpha\textalpha  
20022 \let\beta\textbeta  
20023 \let\gamma\textgamma  
20024 \let\delta\textdelta  
20025 \let\epsilon\textepsilon  
20026 \let\zeta\textzeta  
20027 \let\eta\texteta  
20028 \let\theta\texttheta  
20029 \let\iota\textiota  
20030 \let\kappa\textkappa  
20031 \let\lambda\textlambda  
20032 \let\mu\textmu  
20033 \let\mugreek\textmugreek  
20034 \let\nu\textnu  
20035 \let\xi\textxi  
20036 \let\pi\textpi



20037 \let\rho\textrho  
 20038 \let\varsigma\textvarsigma  
 20039 \let\sigma\textsigma  
 20040 \let\tau\texttau  
 20041 \let\upsilon\textupsilon  
 20042 \let\phi\textphi  
 20043 \let\chi\textchi  
 20044 \let\psi\textpsi  
 20045 \let\omega\textomega  
 20046 \let\scd\textscd  
 20047 \let\scu\textscu  
 20048 \let\iinferior\textiinferior  
 20049 \let\rinferior\textrinferior  
 20050 \let\uinferior\textuinferior  
 20051 \let\vinferior\textvinferior  
 20052 \let\betainferior\textbetainferior  
 20053 \let\gammainferior\textgammainferior  
 20054 \let\rhoinferior\textrhoinferior  
 20055 \let\phiinferior\textphiinferior  
 20056 \let\chiinferior\textchiinferior  
 20057 \let\barsci\textbarsci  
 20058 \let\barp\textbarp  
 20059 \let\barscu\textbarscu  
 20060 \let\htrtaild\texthtrtaild  
 20061 \let\dagger\textdagger  
 20062 \let\bullet\textbullet  
 20063 \let\hdotfor\texthdotfor  
 20064 \let\prime\textprime  
 20065 \let\second\textsecond  
 20066 \let\third\textthird  
 20067 \let\backprime\textbackprime  
 20068 \let\lefttherefore\textlefttherefore  
 20069 \let\fourth\textfourth  
 20070 \let\diamonddots\textdiamonddots  
 20071 \let\zerosuperior\textzerosuperior  
 20072 \let\isuperior\textisuperior  
 20073 \let\foursuperior\textfoursuperior  
 20074 \let\fivesuperior\textfivesuperior  
 20075 \let\sixsuperior\textsixsuperior  
 20076 \let\sevensuperior\textsevensuperior  
 20077 \let\eightsuperior\texteightsuperior  
 20078 \let\ninesuperior\textninesuperior  
 20079 \let\plussuperior\textplussuperior  
 20080 \let\minussuperior\textminussuperior  
 20081 \let>equalsuperior\textequalsuperior  
 20082 \let\parenleftsuperior\textparenleftsuperior  
 20083 \let\parenrightsuperior\textparenrightsuperior  
 20084 \let\nsuperior\textnsuperior  
 20085 \let\zeroinferior\textzeroinferior  
 20086 \let\oneinferior\textoneinferior  
 20087 \let\twoinferior\texttwoinferior  
 20088 \let\threeinferior\textthreeinferior  
 20089 \let\fourinferior\textfourinferior  
 20090 \let\fiveinferior\textfiveinferior

20091 \let\sixinferior\textsixinferior  
 20092 \let\seveninferior\textseveninferior  
 20093 \let\eightinferior\texteightinferior  
 20094 \let\nineinferior\textnineinferior  
 20095 \let\plusinferior\textplusinferior  
 20096 \let\minusinferior\textminusinferior  
 20097 \let\equalsinferior\textequalsinferior  
 20098 \let\parenleftinferior\textparenleftinferior  
 20099 \let\parenrightinferior\textparenrightinferior  
 20100 \let\ainferior\textainferior  
 20101 \let\einferior\texteinferior  
 20102 \let\oinferior\textoinferior  
 20103 \let\xinferior\textxinferior  
 20104 \let\schwainferior\textschwainferior  
 20105 \let\hinferior\texthinferior  
 20106 \let\kinferior\textkinferior  
 20107 \let\linferior\textlinferior  
 20108 \let\minferior\textminferior  
 20109 \let\ninferior\textninferior  
 20110 \let\pinferior\textpinferior  
 20111 \let\sinferior\textsinferior  
 20112 \let\тинferior\texttinferior  
 20113 \let\Deleatur\textDeleatur  
 20114 \let\hslash\texthslash  
 20115 \let\Im\textIm  
 20116 \let\ell\textell  
 20117 \let\wp\textwp  
 20118 \let\Re\textRe  
 20119 \let\mho\textmho  
 20120 \let\riota\textriota  
 20121 \let\Finv\textFinv  
 20122 \let\aleph\textaleph  
 20123 \let\beth\textbeth  
 20124 \let\gimel\textgimel  
 20125 \let\daleth\textdaleth  
 20126 \let\xfax\textfax  
 20127 \let\Game\textGame  
 20128 \let\leftarrow\textleftarrow  
 20129 \let\uparrow\textuparrow  
 20130 \let\rightarrow\textrightarrow  
 20131 \let\downarrow\textdownarrow  
 20132 \let\leftrightarrow\textleftrightarrow  
 20133 \let\updownarrow\textupdownarrow  
 20134 \let\nwarrow\textnwarrow  
 20135 \let\nearrow\textnearrow  
 20136 \let\searrow\textsearrow  
 20137 \let\swarrow\textswarrow  
 20138 \let\nleftarrow\textnleftarrow  
 20139 \let\nrightarrow\textnrightarrow  
 20140 \let\twoheadleftarrow\texttwoheadleftarrow  
 20141 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20142 \let\twoheaduparrow\texttwoheaduparrow  
 20143 \let\twoheadrightarrow\texttwoheadrightarrow  
 20144 \let\ntwoheadrightarrow\textntwoheadrightarrow

20145 `\let\twoheaddownarrow\texttwoheaddownarrow`  
20146 `\let\leftarrowtail\textleftarrowtail`  
20147 `\let\rightarrowtail\textrightarrowtail`  
20148 `\let\mapsto\textmapsto`  
20149 `\let\hookleftarrow\texthookleftarrow`  
20150 `\let\hookrightarrow\texthookrightarrow`  
20151 `\let\looparrowleft\textlooparrowleft`  
20152 `\let\looparrowright\textlooparrowright`  
20153 `\let\leftrightharpoonarrow\textleftrightharpoonarrow`  
20154 `\let\lightning\textlightning`  
20155 `\let\dlsh\textdlsh`  
20156 `\let\curvearrowleft\textcurvearrowleft`  
20157 `\let\curvearrowright\textcurvearrowright`  
20158 `\let\leftharpoonup\textleftharpoonup`  
20159 `\let\leftharpoondown\textleftharpoondown`  
20160 `\let\upharpoonright\textupharpoonright`  
20161 `\let\upharpoonleft\textupharpoonleft`  
20162 `\let\upharpoonup\textupharpoonup`  
20163 `\let\upharpoondown\textupharpoondown`  
20164 `\let\downharpoonright\textdownharpoonright`  
20165 `\let\downharpoonleft\textdownharpoonleft`  
20166 `\let\rightleftarrows\textrightleftarrows`  
20167 `\let\updownarrows\textupdownarrows`  
20168 `\let\leftrightarrows\textleftrightarrows`  
20169 `\let\leftleftarrows\textleftleftarrows`  
20170 `\let\upuparrows\textupuparrows`  
20171 `\let\righttrightarrows\textrighttrightarrows`  
20172 `\let\downdownarrows\textdowndownarrows`  
20173 `\let\leftrightharpoons\textleftrightharpoons`  
20174 `\let\rightleftharpoons\textrightleftharpoons`  
20175 `\let\Leftarrow\textLeftarrow`  
20176 `\let\Leftrightarrow\textLeftrightarrow`  
20177 `\let\rightarrow\textrightarrow`  
20178 `\let\Leftarrow\textLeftarrow`  
20179 `\let\Uparrow\textUparrow`  
20180 `\let\Rightarrow\textRightarrow`  
20181 `\let\Downarrow\textDownarrow`  
20182 `\let\Leftrightarrow\textLeftrightarrow`  
20183 `\let\Updownarrow\textUpdownarrow`  
20184 `\let\Nwarrow\textNwarrow`  
20185 `\let\Nearrow\textNearrow`  
20186 `\let\searrow\textsearrow`  
20187 `\let\swarrow\textswarrow`  
20188 `\let\Leftarrow\textLeftarrow`  
20189 `\let\Rightarrow\textRightarrow`  
20190 `\let\leftsquigarrow\textleftsquigarrow`  
20191 `\let\rightsquigarrow\textrightsquigarrow`  
20192 `\let\dashleftarrow\textdashleftarrow`  
20193 `\let\dasheduparrow\textdasheduparrow`  
20194 `\let\dashrightarrow\textdashrightarrow`  
20195 `\let\dasheddownarrow\textdasheddownarrow`  
20196 `\let\pointer\textpointer`  
20197 `\let\downuparrows\textdownuparrows`  
20198 `\let\leftarrowtriangle\textleftarrowtriangle`

20199 `\let\rightarrowtriangle\textrightarrowtriangle`  
20200 `\let\leftrightarrowtriangle\textleftrightarrowtriangle`  
20201 `\let\forall\textforall`  
20202 `\let\complement\textcomplement`  
20203 `\let\partial\textpartial`  
20204 `\let\exists\textexists`  
20205 `\let\nexists\textnexists`  
20206 `\let\emptyset\textemptyset`  
20207 `\let\triangle\texttriangle`  
20208 `\let\nabla\textnabla`  
20209 `\let\in\textin`  
20210 `\let\notin\textnotin`  
20211 `\let\smallin\textsmallin`  
20212 `\let\ni\textni`  
20213 `\let\notowner\textnotowner`  
20214 `\let\smallowns\textsmallowns`  
20215 `\let\prod\textprod`  
20216 `\let\amalg\textamalg`  
20217 `\let\sum\textsum`  
20218 `\let\mp\textmp`  
20219 `\let\dotplus\textdotplus`  
20220 `\let\Divides\textDivides`  
20221 `\let\DividesNot\textDividesNot`  
20222 `\let\setminus\textsetminus`  
20223 `\let\ast\textast`  
20224 `\let\circ\textcirc`  
20225 `\let\surd\textsurd`  
20226 `\let\propto\textpropto`  
20227 `\let\infty\textinfty`  
20228 `\let\angle\textangle`  
20229 `\let\measuredangle\textmeasuredangle`  
20230 `\let\sphericalangle\textsphericalangle`  
20231 `\let\mid\textmid`  
20232 `\let\nmid\textnmid`  
20233 `\let\parallel\textparallel`  
20234 `\let\nparallel\textnparallel`  
20235 `\let\wedge\textwedge`  
20236 `\let\owedge\textowedge`  
20237 `\let\vee\textvee`  
20238 `\let\ovee\textovee`  
20239 `\let\cap\textcap`  
20240 `\let\cup\textcup`  
20241 `\let\int\textint`  
20242 `\let\iint\textiint`  
20243 `\let\iiint\textiiint`  
20244 `\let\oint\textoint`  
20245 `\let\oiint\textoiint`  
20246 `\let\ointclockwise\textointclockwise`  
20247 `\let\ointctrlockwise\textointctrlockwise`  
20248 `\let\therefore\texttherefore`  
20249 `\let\because\textbecause`  
20250 `\let\vdots\textvdots`  
20251 `\let\squaredots\textsquaredots`  
20252 `\let\dotminus\textdotminus`

20253 \let\eqcolon\texteqcolon  
20254 \let\sim\textsim  
20255 \let\backsim\textbacksim  
20256 \let\backsim\textnbacksim  
20257 \let\wr\textwr  
20258 \let\nsim\textnsim  
20259 \let\eqsim\texteqsim  
20260 \let\neqsim\textneqsim  
20261 \let\simeq\textsimeq  
20262 \let\nsimeq\textnsimeq  
20263 \let\cong\textcong  
20264 \let\ncong\textncong  
20265 \let\approx\textapprox  
20266 \let\napprox\textnapprox  
20267 \let\approxeq\textapproxeq  
20268 \let\napproxeq\textnapproxeq  
20269 \let\triplesim\texttriplesim  
20270 \let\ntriplesim\textntriplesim  
20271 \let\backcong\textbackcong  
20272 \let\backcong\textnbackcong  
20273 \let\asymp\textasymp  
20274 \let\nasymp\textnasymp  
20275 \let\Bumpeq\textBumpeq  
20276 \let\Bumpeq\textnBumpeq  
20277 \let\bumpeq\textbumpeq  
20278 \let\bumpeq\textnbumpeq  
20279 \let\doteq\textdoteq  
20280 \let\ndoteq\textndoteq  
20281 \let\doteqdot\textdoteqdot  
20282 \let\ndoteq\textndoteq  
20283 \let\fallingdoteq\textfallingdoteq  
20284 \let\fallingdoteq\textnfallingdoteq  
20285 \let\risingdoteq\textrisingdoteq  
20286 \let\risingdoteq\textnrisingdoteq  
20287 \let\colonequals\textcolonequals  
20288 \let\equalscolon\textequalscolon  
20289 \let\eqcirc\texteqcirc  
20290 \let\neqcirc\textneqcirc  
20291 \let\circeq\textcirceq  
20292 \let\ncirceq\textncirceq  
20293 \let\hateq\texthateq  
20294 \let\nhateq\textnhateq  
20295 \let\triangleq\texttriangleq  
20296 \let\neq\textneq  
20297 \let\ne\textne  
20298 \let\equiv\textequiv  
20299 \let\nequiv\textnequiv  
20300 \let\leq\textleq  
20301 \let\le\textle  
20302 \let\geq\textgeq  
20303 \let\ge\textge  
20304 \let\leqq\textleqq  
20305 \let\leqq\textnleqq  
20306 \let\geqq\textgeqq

20307 \let\ngeqq\textngeqq  
20308 \let\lneqq\textlneqq  
20309 \let\gneqq\textgneqq  
20310 \let\ll\textll  
20311 \let\nll\textnll  
20312 \let\gg\textgg  
20313 \let\ngg\textngg  
20314 \let\between\textbetween  
20315 \let\nless\textnless  
20316 \let\ngtr\textngtr  
20317 \let\nleq\textnleq  
20318 \let\ngeq\textngeq  
20319 \let\lessim\textlessim  
20320 \let\gtrsim\textgtrsim  
20321 \let\nlessim\textnlessim  
20322 \let\ngtrsim\textngtrsim  
20323 \let\lessgtr\textlessgtr  
20324 \let\gtrless\textgtrless  
20325 \let\ngtrless\textngtrless  
20326 \let\nlessgtr\textnlessgtr  
20327 \let\prec\textprec  
20328 \let\succ\textsucc  
20329 \let\preccurlyeq\textpreccurlyeq  
20330 \let\succcurlyeq\textsucccurlyeq  
20331 \let\precsim\textprecsim  
20332 \let\nprecsim\textnprecsim  
20333 \let\succsim\textsuccsim  
20334 \let\nsuccsim\textnsuccsim  
20335 \let\nprec\textnprec  
20336 \let\nsucc\textnsucc  
20337 \let\subset\textsubset  
20338 \let\supset\textsupset  
20339 \let\nsubset\textnsubset  
20340 \let\nsupset\textnsupset  
20341 \let\subseteq\textsubseteq  
20342 \let\supseteq\textsupseteq  
20343 \let\nsubseteq\textnsubseteq  
20344 \let\nsupseteq\textnsupseteq  
20345 \let\subsetneq\textsubsetneq  
20346 \let\supsetneq\textsupsetneq  
20347 \let\cupdot\textcupdot  
20348 \let\cupplus\textcupplus  
20349 \let\sqsubset\textsqsubset  
20350 \let\nsqsubset\textnsqsubset  
20351 \let\sqsupset\textsqsupset  
20352 \let\nsqsupset\textnsqsupset  
20353 \let\sqsubseteq\textsqsubseteq  
20354 \let\nsqsubseteq\textnsqsubseteq  
20355 \let\sqsupseteq\textsqsupseteq  
20356 \let\nsqsupseteq\textnsqsupseteq  
20357 \let\sqcap\textsqcap  
20358 \let\sqcup\textsqcup  
20359 \let\oplus\textoplus  
20360 \let\ominus\textominus

20361 `\let\otimes\textotimes`  
20362 `\let\oslash\textoslash`  
20363 `\let\odot\textodot`  
20364 `\let\circledcirc\textcircledcirc`  
20365 `\let\circledast\textcircledast`  
20366 `\let\circleddash\textcircleddash`  
20367 `\let\boxplus\textboxplus`  
20368 `\let\boxminus\textboxminus`  
20369 `\let\boxtimes\textboxtimes`  
20370 `\let\boxdot\textboxdot`  
20371 `\let\vdash\textvdash`  
20372 `\let\dashv\textdashv`  
20373 `\let\ndashv\textndashv`  
20374 `\let\top\texttop`  
20375 `\let\ndownvdash\textndownvdash`  
20376 `\let\bot\textbot`  
20377 `\let\nupvdash\textnupvdash`  
20378 `\let\vDash\textvDash`  
20379 `\let\Vdash\textVdash`  
20380 `\let\Vvdash\textVvdash`  
20381 `\let\nVdash\textnVdash`  
20382 `\let\VDash\textVDash`  
20383 `\let\nvDash\textnvDash`  
20384 `\let\nvDash\textnvDash`  
20385 `\let\nVdash\textnVdash`  
20386 `\let\NVdash\textNVdash`  
20387 `\let\lhd\textlhd`  
20388 `\let\rhd\textrhd`  
20389 `\let\unlhd\textunlhd`  
20390 `\let\unrhd\textunrhd`  
20391 `\let\multimapdotbothA\textmultimapdotbothA`  
20392 `\let\multimapdotbothB\textmultimapdotbothB`  
20393 `\let\multimap\textmultimap`  
20394 `\let\veebar\textveebar`  
20395 `\let\barwedge\textbarwedge`  
20396 `\let\star\textstar`  
20397 `\let\divideontimes\textdivideontimes`  
20398 `\let\bowtie\textbowtie`  
20399 `\let\ltimes\textltimes`  
20400 `\let\rtimes\textrtimes`  
20401 `\let\leftthreetimes\textleftthreetimes`  
20402 `\let\rightthreetimes\textrightthreetimes`  
20403 `\let\backsimeq\textbacksimeq`  
20404 `\let\nbacksimeq\textnbacksimeq`  
20405 `\let\curlyvee\textcurlyvee`  
20406 `\let\curlywedge\textcurlywedge`  
20407 `\let\Subset\textSubset`  
20408 `\let\nSubset\textnSubset`  
20409 `\let\Supset\textSupset`  
20410 `\let\nSupset\textnSupset`  
20411 `\let\Cap\textCap`  
20412 `\let\Cup\textCup`  
20413 `\let\pitchfork\textpitchfork`  
20414 `\let\lessdot\textlessdot`

20415 `\let\gtrdot\textgtrdot`  
20416 `\let\lll\textlll`  
20417 `\let\ggg\textggg`  
20418 `\let\lesseqgtr\textlesseqgtr`  
20419 `\let\gtreqless\textgtreqless`  
20420 `\let\curlyeqprec\textcurlyeqprec`  
20421 `\let\ncurlyeqprec\textncurlyeqprec`  
20422 `\let\curlyeqsucc\textcurlyeqsucc`  
20423 `\let\ncurlyeqsucc\textncurlyeqsucc`  
20424 `\let\preccurlyeq\textpreccurlyeq`  
20425 `\let\nsucccurlyeq\textnsucccurlyeq`  
20426 `\let\nqsubseteq\textnqsubseteq`  
20427 `\let\nqsupseteq\textnqsupseteq`  
20428 `\let\sqsubsetneq\textsqsubsetneq`  
20429 `\let\sqsupsetneq\textsqsupsetneq`  
20430 `\let\lnsim\textlnsim`  
20431 `\let\gnsim\textgnsim`  
20432 `\let\precnsim\textprecnsim`  
20433 `\let\succnsim\textsuccnsim`  
20434 `\let\ntriangleleft\textntriangleleft`  
20435 `\let\ntriangleright\textntriangleright`  
20436 `\let\ntrianglelefteq\textntrianglelefteq`  
20437 `\let\ntrianglerighteq\textntrianglerighteq`  
20438 `\let\vdots\textvdots`  
20439 `\let\cdots\textcdots`  
20440 `\let\udots\textudots`  
20441 `\let\ddots\textddots`  
20442 `\let\barin\textbarin`  
20443 `\let\diameter\textdiameter`  
20444 `\let\backneg\textbackneg`  
20445 `\let\wasylozenge\textwasylozenge`  
20446 `\let\invbackneg\textinvbackneg`  
20447 `\let\clock\textclock`  
20448 `\let\ulcorner\textulcorner`  
20449 `\let\urcorner\texturcorner`  
20450 `\let\llcorner\textllcorner`  
20451 `\let\lrcorner\textlrcorner`  
20452 `\let\frown\textfrown`  
20453 `\let\smile\textsmile`  
20454 `\let\Keyboard\textKeyboard`  
20455 `\let\langle\textlangle`  
20456 `\let\rangle\textrangle`  
20457 `\let\APLinv\textAPLinv`  
20458 `\let\Tumbler\textTumbler`  
20459 `\let\notslash\textnotslash`  
20460 `\let\notbackslash\textnotbackslash`  
20461 `\let\boxbackslash\textboxbackslash`  
20462 `\let\APLleftarrowbox\textAPLleftarrowbox`  
20463 `\let\APLrightarrowbox\textAPLrightarrowbox`  
20464 `\let\APLuparrowbox\textAPLuparrowbox`  
20465 `\let\APLdownarrowbox\textAPLdownarrowbox`  
20466 `\let\APLinput\textAPLinput`  
20467 `\let\Request\textRequest`  
20468 `\let\Beam\textBeam`



20469 \let\hexagon\texthexagon  
20470 \let\APLbox\textAPLbox  
20471 \let\ForwardToIndex\textForwardToIndex  
20472 \let\RewindToIndex\textRewindToIndex  
20473 \let\bbslash\textbbslash  
20474 \let\CircledA\textCircledA  
20475 \let\CleaningF\textCleaningF  
20476 \let\CleaningFF\textCleaningFF  
20477 \let\CleaningP\textCleaningP  
20478 \let\CleaningPP\textCleaningPP  
20479 \let\CuttingLine\textCuttingLine  
20480 \let\UParrow\textUParrow  
20481 \let\bigtriangleup\textbigtriangleup  
20482 \let\Forward\textForward  
20483 \let\triangleright\texttriangleright  
20484 \let\RHD\textRHD  
20485 \let\DOWNarrow\textDOWNarrow  
20486 \let\bigtriangledown\textbigtriangledown  
20487 \let\Rewind\textRewind  
20488 \let\triangleleft\texttriangleleft  
20489 \let\LHD\textLHD  
20490 \let\diamond\textdiamond  
20491 \let\lozenge\textlozenge  
20492 \let\LEFTCIRCLE\textLEFTCIRCLE  
20493 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
20494 \let\openbullet\textopenbullet  
20495 \let\boxbar\textboxbar  
20496 \let\bigcircle\textbigcircle  
20497 \let\Cloud\textCloud  
20498 \let\FiveStar\textFiveStar  
20499 \let\FiveStarOpen\textFiveStarOpen  
20500 \let\Phone\textPhone  
20501 \let\boxempty\textboxempty  
20502 \let\Checkedbox\textCheckedbox  
20503 \let\Crossedbox\textCrossedbox  
20504 \let\Coffeecup\textCoffeecup  
20505 \let\HandCuffLeft\textHandCuffLeft  
20506 \let\HandCuffRight\textHandCuffRight  
20507 \let\HandLeft\textHandLeft  
20508 \let\HandRight\textHandRight  
20509 \let\Radioactivity\textRadioactivity  
20510 \let\Biohazard\textBiohazard  
20511 \let\Ankh\textAnkh  
20512 \let\YinYang\textYinYang  
20513 \let\frownie\textfrownie  
20514 \let\smiley\textsmiley  
20515 \let\blacksmiley\textblacksmiley  
20516 \let\sun\textsun  
20517 \let\leftmoon\textleftmoon  
20518 \let\rightmoon\textrightmoon  
20519 \let\mercury\textmercury  
20520 \let\earth\textearth  
20521 \let\male\textmale  
20522 \let\jupiter\textjupiter

20523 \let\saturn\textsaturn  
20524 \let\uranus\texturanus  
20525 \let\neptune\textneptune  
20526 \let\pluto\textpluto  
20527 \let\aries\textaries  
20528 \let\taurus\texttaurus  
20529 \let\gemini\textgemini  
20530 \let\cancer\textcancer  
20531 \let\leo\textleo  
20532 \let\virgo\textvirgo  
20533 \let\libra\textlibra  
20534 \let\scorpio\textscorpio  
20535 \let\sagittarius\textsagittarius  
20536 \let\capricornus\textcapricornus  
20537 \let\aquarius\textaquarius  
20538 \let\pisces\textpisces  
20539 \let\quarternote\textquarternote  
20540 \let\twonotes\texttwonotes  
20541 \let\sixteenthnote\textsixteenthnote  
20542 \let\flat\textflat  
20543 \let\natural\textnatural  
20544 \let\sharp\textsharp  
20545 \let\recycle\textrecycle  
20546 \let\Wheelchair\textWheelchair  
20547 \let\Flag\textFlag  
20548 \let\MineSign\textMineSign  
20549 \let\ds\military\textds\military  
20550 \let\ds\medical\textds\medical  
20551 \let\ds\juridical\textds\juridical  
20552 \let\ds\chemical\textds\chemical  
20553 \let\ds\biological\textds\biological  
20554 \let\ds\commercial\textds\commercial  
20555 \let\manstar\textmanstar  
20556 \let\danger\textdanger  
20557 \let\FemaleFemale\textFemaleFemale  
20558 \let\MaleMale\textMaleMale  
20559 \let\FemaleMale\textFemaleMale  
20560 \let\Hermaphrodite\textHermaphrodite  
20561 \let\Neutral\textNeutral  
20562 \let\hexstar\texthexstar  
20563 \let\SunCloud\textSunCloud  
20564 \let\Rain\textRain  
20565 \let\noway\textnoway  
20566 \let\Mountain\textMountain  
20567 \let\Tent\textTent  
20568 \let\ScissorRight\textScissorRight  
20569 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
20570 \let\ScissorHollowRight\textScissorHollowRight  
20571 \let\PhoneHandset\textPhoneHandset  
20572 \let\Tape\textTape  
20573 \let\Plane\textPlane  
20574 \let\Envelope\textEnvelope  
20575 \let\Peace\textPeace  
20576 \let\WritingHand\textWritingHand

20577 \let\PencilRightDown\textPencilRightDown  
20578 \let\PencilRight\textPencilRight  
20579 \let\PencilRightUp\textPencilRightUp  
20580 \let\NibRight\textNibRight  
20581 \let\NibSolidRight\textNibSolidRight  
20582 \let\Checkmark\textCheckmark  
20583 \let\CheckmarkBold\textCheckmarkBold  
20584 \let\XSolid\textXSolid  
20585 \let\XSolidBold\textXSolidBold  
20586 \let\XSolidBrush\textXSolidBrush  
20587 \let\PlusOutline\textPlusOutline  
20588 \let\Plus\textPlus  
20589 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
20590 \let\PlusCenterOpen\textPlusCenterOpen  
20591 \let\Cross\textCross  
20592 \let\CrossOpenShadow\textCrossOpenShadow  
20593 \let\CrossOutline\textCrossOutline  
20594 \let\CrossMaltese\textCrossMaltese  
20595 \let\DavidStar\textDavidStar  
20596 \let\FourAsterisk\textFourAsterisk  
20597 \let\JackStar\textJackStar  
20598 \let\JackStarBold\textJackStarBold  
20599 \let\CloverTips\textCloverTips  
20600 \let\FourStar\textFourStar  
20601 \let\FourStarOpen\textFourStarOpen  
20602 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
20603 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
20604 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
20605 \let\FiveStarOutline\textFiveStarOutline  
20606 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
20607 \let\FiveStarConvex\textFiveStarConvex  
20608 \let\FiveStarShadow\textFiveStarShadow  
20609 \let\AsteriskBold\textAsteriskBold  
20610 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
20611 \let\EightStarTaper\textEightStarTaper  
20612 \let\EightStarConvex\textEightStarConvex  
20613 \let\SixStar\textSixStar  
20614 \let\EightStar\textEightStar  
20615 \let\EightStarBold\textEightStarBold  
20616 \let\TwelveStar\textTwelveStar  
20617 \let\SixteenStarLight\textSixteenStarLight  
20618 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
20619 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
20620 \let\Asterisk\textAsterisk  
20621 \let\SixFlowerAlternate\textSixFlowerAlternate  
20622 \let\FiveFlowerPetal\textFiveFlowerPetal  
20623 \let\FiveFlowerOpen\textFiveFlowerOpen  
20624 \let\EightFlowerPetal\textEightFlowerPetal  
20625 \let\SunshineOpenCircled\textSunshineOpenCircled  
20626 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
20627 \let\SnowflakeChevron\textSnowflakeChevron  
20628 \let\Snowflake\textSnowflake  
20629 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
20630 \let\Sparkle\textSparkle

20631 `\let\SparkleBold\textSparkleBold`  
20632 `\let\AsteriskRoundedEnds\textAsteriskRoundedEnds`  
20633 `\let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved`  
20634 `\let\EightAsterisk\textEightAsterisk`  
20635 `\let\CircleShadow\textCircleShadow`  
20636 `\let\SquareShadowBottomRight\textSquareShadowBottomRight`  
20637 `\let\SquareTopRight\textSquareTopRight`  
20638 `\let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight`  
20639 `\let\SquareCastShadowTopRight\textSquareCastShadowTopRight`  
20640 `\let\DiamandSolid\textDiamandSolid`  
20641 `\let\RectangleThin\textRectangleThin`  
20642 `\let\Rectangle\textRectangle`  
20643 `\let\RectangleBold\textRectangleBold`  
20644 `\let\perp\textperp`  
20645 `\let\notperp\textnotperp`  
20646 `\let\veedot\textveedot`  
20647 `\let\wedgedot\textwedgedot`  
20648 `\let\leftspoon\textleftspoon`  
20649 `\let\lbrackdbl\textlbrackdbl`  
20650 `\let\rbrackdbl\textrbrackdbl`  
20651 `\let\circlearrowleft\textcirclearrowleft`  
20652 `\let\circlearrowright\textcirclearrowright`  
20653 `\let\longleftarrow\textlongleftarrow`  
20654 `\let\longrightarrow\textlongrightarrow`  
20655 `\let\longleftarrow\textlongleftarrow`  
20656 `\let\Longleftarrow\textLongleftarrow`  
20657 `\let\Longrightarrow\textLongrightarrow`  
20658 `\let\Longleftarrow\textLongleftarrow`  
20659 `\let\longmapsto\textlongmapsto`  
20660 `\let\Longmapsfrom\textLongmapsfrom`  
20661 `\let\Longmapsto\textLongmapsto`  
20662 `\let\nwsearrow\textnwsearrow`  
20663 `\let\neswarrow\textneswarrow`  
20664 `\let\lhooknarrow\textlhooknarrow`  
20665 `\let\rhooknarrow\texthooknarrow`  
20666 `\let\lhooksearrow\textlhooksearrow`  
20667 `\let\rhookswarrow\texthookswarrow`  
20668 `\let\leadsto\textleadsto`  
20669 `\let\rcurvearrowne\textrcurvearrowne`  
20670 `\let\lcurvearrowse\textlcurvearrowse`  
20671 `\let\lcurvearrowsw\textlcurvearrowsw`  
20672 `\let\rcurvearrowse\textrcurvearrowse`  
20673 `\let\lcurvearrowdown\textlcurvearrowdown`  
20674 `\let\rcurvearrowdown\textrcurvearrowdown`  
20675 `\let\rcurvearrowleft\textrcurvearrowleft`  
20676 `\let\rcurvearrowright\textrcurvearrowright`  
20677 `\let\leftrightharpoon\textleftrightharpoon`  
20678 `\let\rightrightarpoon\textrightleftarpoon`  
20679 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
20680 `\let\updownharpoonleftright\textupdownharpoonleftright`  
20681 `\let\leftleftharpoons\textleftleftharpoons`  
20682 `\let\upupharpoons\textupupharpoons`  
20683 `\let\rightleftharpoons\textrightleftharpoons`  
20684 `\let\downdownharpoons\textdowndownharpoons`

20685 `\let\leftbarharpoon\textleftbarharpoon`  
20686 `\let\barleftharpoon\textbarleftharpoon`  
20687 `\let\rightbarharpoon\textrightbarharpoon`  
20688 `\let\barrightharpoon\textbarrightharpoon`  
20689 `\let\updownharpoons\textupdownharpoons`  
20690 `\let\downupharpoons\textdownupharpoons`  
20691 `\let\moo\textmoo`  
20692 `\let\llparenthesis\textllparenthesis`  
20693 `\let\rrparenthesis\textrrparenthesis`  
20694 `\let\invdiameter\textinvdiameter`  
20695 `\let\obar\textobar`  
20696 `\let\obslash\textobslash`  
20697 `\let\obot\textobot`  
20698 `\let\NoChemicalCleaning\textNoChemicalCleaning`  
20699 `\let\olessthan\textolessthan`  
20700 `\let\ogreaterthan\textogreaterthan`  
20701 `\let\boxslash\textboxslash`  
20702 `\let\boxbslash\textboxbslash`  
20703 `\let\boxast\textboxast`  
20704 `\let\boxcircle\textboxcircle`  
20705 `\let\boxbox\textboxbox`  
20706 `\let\Valve\textValve`  
20707 `\let\multimapboth\textmultimapboth`  
20708 `\let\shuffle\textshuffle`  
20709 `\let\upplus\textupplus`  
20710 `\let\bigdoublewedge\textbigdoublewedge`  
20711 `\let\bigdoublevee\textbigdoublevee`  
20712 `\let\Join\textJoin`  
20713 `\let\fatsemi\textfatsemi`  
20714 `\let\cirplus\textcirplus`  
20715 `\let\minusdot\textminusdot`  
20716 `\let\dottimes\textdottimes`  
20717 `\let\dtimes\textdtimes`  
20718 `\let\odiv\textodiv`  
20719 `\let\invneg\textinvneg`  
20720 `\let\sqdoublecap\textsqdoublecap`  
20721 `\let\capdot\textcapdot`  
20722 `\let\sqdoublecup\textsqdoublecup`  
20723 `\let\doublewedge\textdoublewedge`  
20724 `\let\doublevee\textdoublevee`  
20725 `\let\doublebarwedge\textdoublebarwedge`  
20726 `\let\veedoublebar\textveedoublebar`  
20727 `\let\eqdot\texteqdot`  
20728 `\let\neqdot\textneqdot`  
20729 `\let\coloncolonequals\textcoloncolonequals`  
20730 `\let\leqslant\textleqslant`  
20731 `\let\leqslant\textleqslant`  
20732 `\let\geqslant\textgeqslant`  
20733 `\let\ngeqslant\textngeqslant`  
20734 `\let\lessapprox\textlessapprox`  
20735 `\let\nlessapprox\textnlessapprox`  
20736 `\let\gtrapprox\textgtrapprox`  
20737 `\let\ngtrapprox\textngtrapprox`  
20738 `\let\lneq\textlneq`

20739 `\let\gneq\textgneq`  
 20740 `\let\lnapprox\textlnapprox`  
 20741 `\let\gnapprox\textgnapprox`  
 20742 `\let\lesseqqgtr\textlesseqqgtr`  
 20743 `\let\gtreqqless\textgtreqqless`  
 20744 `\let\eqslantless\texteqslantless`  
 20745 `\let\eqslantgtr\texteqslantgtr`  
 20746 `\let\leftslice\textleftslice`  
 20747 `\let\rightslice\textrightslice`  
 20748 `\let\preceq\textpreceq`  
 20749 `\let\npreceq\textnpreceq`  
 20750 `\let\succeq\textsucceq`  
 20751 `\let\nsucceq\textnsucceq`  
 20752 `\let\precneq\textprecneq`  
 20753 `\let\succneq\textsuccneq`  
 20754 `\let\preceqq\textpreceqq`  
 20755 `\let\npreceqq\textnpreceqq`  
 20756 `\let\succeqq\textsucceqq`  
 20757 `\let\nsucceqq\textnsucceqq`  
 20758 `\let\precneqq\textprecneqq`  
 20759 `\let\succneqq\textsuccneqq`  
 20760 `\let\precapprox\textprecapprox`  
 20761 `\let\nprecapprox\textnprecapprox`  
 20762 `\let\succapprox\textsuccapprox`  
 20763 `\let\nsuccapprox\textnsuccapprox`  
 20764 `\let\precnapprox\textprecnapprox`  
 20765 `\let\succnapprox\textsuccnapprox`  
 20766 `\let\subseteqq\textsubseteqq`  
 20767 `\let\nsubseteqq\textnsubseteqq`  
 20768 `\let\supseteqq\textsupseteqq`  
 20769 `\let\nsupseteqq\textnsupseteqq`  
 20770 `\let\dashV\textdashV`  
 20771 `\let\ndashV\textndashV`  
 20772 `\let\Dashv\textDashv`  
 20773 `\let\ndashv\textndashv`  
 20774 `\let\DashV\textDashV`  
 20775 `\let\ndashV\textndashV`  
 20776 `\let\downmodels\textdownmodels`  
 20777 `\let\ndownmodels\textndownmodels`  
 20778 `\let\upmodels\textupmodels`  
 20779 `\let\nupmodels\textnupmodels`  
 20780 `\let\upspoon\textupspoon`  
 20781 `\let\interleave\textinterleave`  
 20782 `\let\slash\textslash`  
 20783 `\let\pentagon\textpentagon`  
 20784 `\let\varhexagon\textvarhexagon`  
 20785 `\let\jinferior\textjinferior`  
 20786 `\let\slashdiv\textslashdiv`  
 20787 `\let\fivedots\textfivedots`  
 20788 `\let\oo\textoo`  
 20789 `\let\GaPa\textGaPa`  
 20790 `\let\HaPa\textHaPa`  
 20791 `\let\ViPa\textViPa`  
 20792 `\let\AcPa\textAcPa`

20793 \let\SePa\textSePa  
20794 \let\ZwPa\textZwPa  
20795 \let\fullnote\textfullnote  
20796 \let\halfnote\texthalfnote  
20797 \let\Vier\textVier  
20798 \let\Acht\textAcht  
20799 \let\Sech\textSech  
20800 \let\Zwdr\textZwdr  
20801 \let\Mundus\textMundus  
20802 \let\Moon\textMoon  
20803 \let\ManFace\textManFace  
20804 \let\WomanFace\textWomanFace  
20805 \let\Fax\textFax  
20806 \let\Fire\textFire  
20807 \let\Bicycle\textBicycle  
20808 \let\Gentsroom\textGentsroom  
20809 \let\Ladiesroom\textLadiesroom  
20810 \let\ccnc\textccnc  
20811 \let\ccsa\textccsa  
20812 \let\Info\textInfo  
20813 \let\CESign\textCESign  
20814 \let\neg\textneg  
20815 \let\times\texttimes  
20816 \let\div\textdiv  
20817 \let\pm\textpm  
20818 \let\cdot\textcdot  
20819 }% \psdmapshortnames  
20820 \newcommand\*{\psdaliasnames}{%  
20821 \let\epsdice\HyPsd@DieFace  
20822 \let\fcdice\HyPsd@DieFace  
20823 \let\MoonPha\HyPsd@MoonPha  
20824 \let\mathdollar\textdollar  
20825 \let\EyesDollar\textdollar  
20826 \let\binampersand\textampersand  
20827 \let\with\textampersand  
20828 \let\mathunderscore\textunderscore  
20829 \let\textvertline\textbar  
20830 \let\mathsterling\textsterling  
20831 \let\pounds\textsterling  
20832 \let\brokenvert\textbrokenbar  
20833 \let\mathsection\textsection  
20834 \let\S\textsection  
20835 \let\mathparagraph\textparagraph  
20836 \let\MultiplicationDot\textperiodcentered  
20837 \let\Squaredot\textperiodcentered  
20838 \let\vartimes\textmultiply  
20839 \let\MVMultiplication\textmultiply  
20840 \let\eth\dh  
20841 \let\crossd\textcrd  
20842 \let\textbard\textcrd  
20843 \let\bard\textcrd  
20844 \let\textcrh\texthbar  
20845 \let\crossh\texthbar  
20846 \let\planck\texthbar

20847 \let\eng\ng  
20848 \let\engma\ng  
20849 \let\crossb\textcrb  
20850 \let\textbarb\textcrb  
20851 \let\barb\textcrb  
20852 \let\Florin\textflorin  
20853 \let\hv\texthvlig  
20854 \let\hausak\texthtk  
20855 \let\crossnilambda\textcrlambda  
20856 \let\barlambda\textcrlambda  
20857 \let\lambdabar\textcrlambda  
20858 \let\lambdaslash\textcrlambda  
20859 \let\textnrleg\textPUnrleg  
20860 \let\textpipevar\textpipe  
20861 \let\textdoublepipevar\textdoublepipe  
20862 \let\textdoublebarpipevar\textdoublebarpipe  
20863 \let\textcrg\textgslash  
20864 \let\textdblig\textPUdblig  
20865 \let\textqplig\textPUqplig  
20866 \let\textcentoldstyle\textslashc  
20867 \let\textbarc\textslashc  
20868 \let\inva\textturna  
20869 \let\vara\textscripta  
20870 \let\invscripta\textturnscripta  
20871 \let\rotvara\textturnscripta  
20872 \let\hookb\texthtb  
20873 \let\hausab\texthtb  
20874 \let\varopeno\textopeno  
20875 \let\curlyc\textctc  
20876 \let\taild\textrtaild  
20877 \let\hookd\texthtd  
20878 \let\hausad\texthtd  
20879 \let\er\textrhookschwa  
20880 \let\epsi\textniepsilon  
20881 \let\hookrepsilon\textrhookrepsilon  
20882 \let\closedrepsilon\textcloserepsilon  
20883 \let\barj\textbardotlessj  
20884 \let\hookg\texthtg  
20885 \let\varg\textscriptg  
20886 \let\vod\textipagamma  
20887 \let\invh\textturnh  
20888 \let\udesc\textturnh  
20889 \let\hookh\texthth  
20890 \let\voicedh\texthth  
20891 \let\hookheng\texththeng  
20892 \let\ibar\textbari  
20893 \let\vari\textniiota  
20894 \let\tildel\texttilde  
20895 \let\latfric\textbeltl  
20896 \let\tail\textrtaill  
20897 \let\lz\textlyoghlig  
20898 \let\invm\textturnm  
20899 \let\rotm\textturnm  
20900 \let\legm\textturnmleg



20901 \let\labdentainas\textltailm  
 20902 \let\emgma\textltailm  
 20903 \let\nj\textltailn  
 20904 \let\enya\textltailn  
 20905 \let\tailn\textrtailn  
 20906 \let\closedniomega\textcloseomega  
 20907 \let\varomega\textcloseomega  
 20908 \let\invr\textturnr  
 20909 \let\rotr\textturnr  
 20910 \let\invlegr\textturnlonglegr  
 20911 \let\tailinvr\textturnrrtail  
 20912 \let\legr\textlonglegr  
 20913 \let\tailr\textrtailr  
 20914 \let\flapr\textfishhookr  
 20915 \let\flap\textfishhookr  
 20916 \let\tails\textrtails  
 20917 \let\curlyesh\textctesh  
 20918 \let\clickt\textturnt  
 20919 \let\tailt\textrtailt  
 20920 \let\ubar\textbaru  
 20921 \let\rotOmega\textniupsilon  
 20922 \let\invv\textturnv  
 20923 \let\pwedge\textturnv  
 20924 \let\invw\textturnw  
 20925 \let\rotw\textturnw  
 20926 \let\invy\textturny  
 20927 \let\roty\textturny  
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 20930 \let\curlyyogh\textctyogh  
 20931 \let\ejective\textglotstop  
 20932 \let\glottal\textglotstop  
 20933 \let\reject\textrevglotstop  
 20934 \let\clickc\textstretchc  
 20935 \let\textstretchcvar\textstretchc  
 20936 \let\clickb\textbullseye  
 20937 \let\textObullseye\textbullseye  
 20938 \let\textctjvar\textctj  
 20939 \let\textturnsck\textturnk  
 20940 \let\dz\textdzlig  
 20941 \let\tesh\textteshlig  
 20942 \let\digamma\textdigammagreek  
 20943 \let\hardsign\cyrhrdsn  
 20944 \let\softsign\cyrsoftsn  
 20945 \let\hebsin\hebshin  
 20946 \let\textsck\textPUscck  
 20947 \let\textscm\textPUscm  
 20948 \let\textscp\textPUscp  
 20949 \let\textrevscr\textPUrevscr  
 20950 \let\textrhooca\textPURhooka  
 20951 \let\textrhooke\textPURhooke  
 20952 \let\textrhookepsilon\textPURhookepsilon  
 20953 \let\textrhookopeno\textPURhookopeno  
 20954 \let\textdoublevertline\textbardbl

20955 `\let\dag\textdagger`  
20956 `\let\ddagger\textdaggerdbl`  
20957 `\let\ddag\textdaggerdbl`  
20958 `\let\mathellipsis\textellipsis`  
20959 `\let\EurDig\texteuro`  
20960 `\let\EURdig\texteuro`  
20961 `\let\EurHv\texteuro`  
20962 `\let\EURhv\texteuro`  
20963 `\let\EurCr\texteuro`  
20964 `\let\EURcr\texteuro`  
20965 `\let\EurTm\texteuro`  
20966 `\let\EURtm\texteuro`  
20967 `\let\Eur\texteuro`  
20968 `\let\Denarius\textDeleatur`  
20969 `\let\agemO\textmho`  
20970 `\let\EstimatedSign\textestimated`  
20971 `\let\Ecommerce\textestimated`  
20972 `\let\bindnasrepma\textinvamp`  
20973 `\let\parr\textinvamp`  
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20975 `\let\MVRightarrow\textrightarrow`  
20976 `\let\MVArrowDown\textdownarrow`  
20977 `\let\Force\textdownarrow`  
20978 `\let\textglobrise\textnearrow`  
20979 `\let\textglobfall\textsearrow`  
20980 `\let\Lightning\textlightning`  
20981 `\let\Conclusion\textrightarrow`  
20982 `\let\dashedleftarrow\textdashleftarrow`  
20983 `\let\dashedrightarrow\textdashrightarrow`  
20984 `\let\varnothing\textemptyset`  
20985 `\let\owns\textni`  
20986 `\let\notni\textnotowner`  
20987 `\let\varprop\textpropto`  
20988 `\let\varangle\textsphericalangle`  
20989 `\let\Anglesign\textsphericalangle`  
20990 `\let\AngleSign\textsphericalangle`  
20991 `\let\notdivides\textnmid`  
20992 `\let\varowedge\textowedge`  
20993 `\let\varovee\textovee`  
20994 `\let\varint\textint`  
20995 `\let\varoint\textoint`  
20996 `\let\downtherefore\textbecause`  
20997 `\let\textdotdiv\textdotminus`  
20998 `\let\AC\textsim`  
20999 `\let\wreath\textwr`  
21000 `\let\nthickapprox\textnapprox`  
21001 `\let\VHF\texttriplesim`  
21002 `\let\notasymp\textnasymp`  
21003 `\let\Doteq\textdoteqdot`  
21004 `\let\corresponds\texthateq`  
21005 `\let\Corresponds\texthateq`  
21006 `\let\nequal\textneq`  
21007 `\let\Congruent\textequiv`  
21008 `\let\NotCongruent\textnequiv`

21009 \let\notequiv\textnequiv  
21010 \let\LessOrEqual\textleq  
21011 \let\LargerOrEqual\textgeq  
21012 \let\apprle\textlessim  
21013 \let\apprge\textgtrsim  
21014 \let\varoplus\textoplus  
21015 \let\varominus\textominus  
21016 \let\varotimes\textotimes  
21017 \let\varoslash\textoslash  
21018 \let\varodot\textodot  
21019 \let\ocirc\textcircledcirc  
21020 \let\varocircle\textcircledcirc  
21021 \let\varoast\textcircledast  
21022 \let\oasterisk\textcircledast  
21023 \let\rightvdash\textvdash  
21024 \let\leftvdash\textdashv  
21025 \let\nleftvdash\textndashv  
21026 \let\downvdash\texttop  
21027 \let\upvdash\textbot  
21028 \let\nperp\textnupvdash  
21029 \let\models\textvDash  
21030 \let\rightmodels\textvDash  
21031 \let\rightVdash\textVdash  
21032 \let\rightModels\textVDash  
21033 \let\nrightvdash\textnvdash  
21034 \let\nrightmodels\textnvDash  
21035 \let\nmodels\textnvDash  
21036 \let\nrightVdash\textnVdash  
21037 \let\nrightModels\textnVDash  
21038 \let\lessclosed\textlhd  
21039 \let\gtrclosed\textrhd  
21040 \let\leqclosed\textunlhd  
21041 \let\trianglelefteq\textunlhd  
21042 \let\geqclosed\textunrhd  
21043 \let\trianglerighteq\textunrhd  
21044 \let\Bowtie\textbowtie  
21045 \let\varcurlyvee\textcurlyvee  
21046 \let\varcurlywedge\textcurlywedge  
21047 \let\doublecap\textCap  
21048 \let\doublecup\textCup  
21049 \let\varsqsubsetneq\textsqsubsetneq  
21050 \let\varsqsupsetneq\textsqsupsetneq  
21051 \let\nlessclosed\textntriangleleft  
21052 \let\ngtrclosed\textntriangleright  
21053 \let\Clocklogo\textclock  
21054 \let\ClockLogo\textclock  
21055 \let\baro\textstmaryrdbaro  
21056 \let\varparallelinv\textbbslash  
21057 \let\CleaningA\textCircledA  
21058 \let\Kutline\textCuttingLine  
21059 \let\CutLine\textCuttingLine  
21060 \let\Cutline\textCuttingLine  
21061 \let\MoveUp\textUParrow  
21062 \let\APLup\textbigtriangleup

21063 \let\Bleech\textbigtriangleup  
21064 \let\MoveDown\textDOWNarrow  
21065 \let\APLdown\textbigtriangledown  
21066 \let\Diamond\textdiamond  
21067 \let\varbigcirc\textbigcircle  
21068 \let\Telefon\textPhone  
21069 \let\Box\textboxempty  
21070 \let\CheckedBox\textCheckedbox  
21071 \let\XBox\textCrossedbox  
21072 \let\CrossedBox\textCrossedbox  
21073 \let\rightpointleft\textHandLeft  
21074 \let\leftpointright\textHandRight  
21075 \let\PointingHand\textHandRight  
21076 \let\Pointinghand\textHandRight  
21077 \let\Radiation\textRadioactivity  
21078 \let\Yinyang\textYinYang  
21079 \let\YingYang\textYinYang  
21080 \let\Yingyang\textYinYang  
21081 \let\Frowny\textfrownie  
21082 \let\Smiley\textsmiley  
21083 \let\Sun\textsun  
21084 \let\Mercury\textmercury  
21085 \let\textfemale\textPUfemale  
21086 \let\female\textPUfemale  
21087 \let\venus\textPUfemale  
21088 \let\Venus\textPUfemale  
21089 \let\Female\textPUfemale  
21090 \let\Earth\textearth  
21091 \let\mars\textmale  
21092 \let\Mars\textmale  
21093 \let\Male\textmale  
21094 \let\Jupiter\textjupiter  
21095 \let\Saturn\textsaturn  
21096 \let\Uranus\texturanus  
21097 \let\Neptune\textneptune  
21098 \let\Pluto\textpluto  
21099 \let\Aries\textaries  
21100 \let\Taurus\texttaurus  
21101 \let\Gemini\textgemini  
21102 \let\Cancer\textcancer  
21103 \let\Leo\textleo  
21104 \let\Virgo\textvirgo  
21105 \let\Libra\textlibra  
21106 \let\Scorpio\textscorpio  
21107 \let\Sagittarius\textsagittarius  
21108 \let\Capricorn\textcapricornus  
21109 \let\Aquarius\textaquarius  
21110 \let\Pisces\textpisces  
21111 \let\spadesuit\textspadesuitblack  
21112 \let\Heart\textheartsuitwhite  
21113 \let\heartsuit\textheartsuitwhite  
21114 \let\diamondsuit\textdiamondsuitwhite  
21115 \let\clubsuit\textclubsuitblack  
21116 \let\eighthnote\textmusicalnote

```

21117 \let\Recycling\textrecycle
21118 \let\VarFlag\textFlag
21119 \let\textxswup\textdsmilitary
21120 \let\textuncrfemale\textPUuncrfemale
21121 \let\Football\textSoccerBall
21122 \let\CutLeft\textScissorRightBrokenBottom
21123 \let\Cutright\textScissorRightBrokenBottom
21124 \let\RightScissors\textScissorRight
21125 \let\Leftscissors\textScissorRight
21126 \let\Letter\textEnvelope
21127 \let\Writinghand\textWritingHand
21128 \let\checkmark\textCheckmark
21129 \let\Davidstar\textDavidStar
21130 \let\llbracket\textlbrackdbl
21131 \let\rrbracket\textrbrackdbl
21132 \let\RightTorque\textlcurvearrowdown
21133 \let\Righttorque\textlcurvearrowdown
21134 \let\LeftTorque\textrcurvearrowdown
21135 \let\Lefttorque\textrcurvearrowdown
21136 \let\textvarobar\textobar
21137 \let\circledbslash\textobslash
21138 \let\obackslash\textobslash
21139 \let\varobslash\textobslash
21140 \let\odplus\textobot
21141 \let\varolessthan\textolessthan
21142 \let\varogreaterthan\textogreaterthan
21143 \let\divdot\textminusdot
21144 \let\doublesqcap\textsqdoublecap
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21146 \let\merge\textdoublevee
21147 \let\leftVdash\textdashV
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21149 \let\leftmodels\textDashv
21150 \let\nleftmodels\textnDashv
21151 \let\leftModels\textDashV
21152 \let\nleftModels\textnDashV
21153 \let\varparallel\textsslash
21154 \let\textheng\textPUheng
21155 \let\textlhookfour\textPUlhookfour
21156 \let\textscf\textPUscf
21157 \let\textaoilig\textPUaoilig
21158 \let\Ganz\textfullnote
21159 \let\Halb\texthalfnote
21160 \let\Womanface\textWomanFace
21161 \let\Faxmachine\textFax
21162 \let\CEsign\textCESign
21163 }% \psdaliasnames
21164 </psdextra>

```

## 47 End of file hyccheck.tex

```

21165 < *check >
21166 \typeout{}

```

```
21167 \begin{document}  
21168 \end{document}  
21169 </check>
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