

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

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

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## 1 Documentation overview for hyperref

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

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

[ChangeLog](#) This file records the version history.

[Bookmark talk, slides](#) Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<sub>E</sub>X 1999.

[Bookmark talk, paper](#) The paper version of the talk.

Source code documentation:

☞ [hyperref.dtx](#) This is the source code documentation for hyperref (this file).

[backref.dtx](#) “Back referencing from bibliographical citations”

[nameref.dtx](#) “Section name references in L<sup>A</sup>T<sub>E</sub>X”

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### 3 File 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 \langle*check\rangle
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 `\cmd` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

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

```

`\HyC@def` The parameter text of `\def` or `\edef` is stored in the token register `\HyC@Toks`.

`\HyC@edef`

```

125 \def\HyC@def#1#{%
126   \HyC@Toks={#1}%
127   \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

`\HyC@doCheck` This command performs the checks and prints the result.

```

130 \def\HyC@doCheck{%
131   \typeout{* Checking `~\HyC@string\HyC@cmd'.}%
132   \HyC@checkItem{cmd}%
133   \HyC@checkItem{robustcmd}%
134   \HyC@checkItem{optcmd}%
135   \HyC@checkItem{robustoptcmd}%
136   \endgroup
137 }

```

`\HyC@checkItem` A single check.

```

138 \def\HyC@checkItem#1{%
139   \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
140   \else
141     \expandafter\expandafter\expandafter\ifx
142     \csname HyC@#1\expandafter\endcsname
143     \csname HyC@org@#1\endcsname
144     \expandafter\HyC@checkOk\csname HyC@#1\endcsname

```

```

145 \else
146 \expandafter\HyC@checkFailed
147 \csname HyC@#1\expandafter\endcsname
148 \csname HyC@org@#1\endcsname
149 \fi
150 \fi
151 }

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

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

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

```

177 }%
178 \x
179 \@makeother\`
180 \@makeother\=

```

\Hy@SetCatcodes

```

181 \def\Hy@SetCatcodes{%
182   \@makeother\`%
183   \@makeother\=%
184   \catcode`\$=3 %
185   \catcode`\&=4 %
186   \catcode`\^=7 %
187   \catcode`\_ =8 %
188   \@makeother\| %
189   \@makeother\: %
190   \@makeother\( %
191   \@makeother\) %
192   \@makeother\[ %
193   \@makeother\] %
194   \@makeother\/ %
195   \@makeother\! %
196   \@makeother\< %
197   \@makeother\> %
198   \@makeother\. %
199   \@makeother\; %
200   \@makeother\+ %
201   \@makeother\- %
202   \@makeother\" %
203   \@makeother\' %
204 }

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode`\noexpand#1=\the\catcode`#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
210   \x\&%
211   \x\^%
212   \x\_%
213   \x\| %
214   \x\: %
215   \x\( %
216   \x\) %
217   \x\[ %
218   \x\] %
219   \x\/ %
220   \x\! %
221   \x\< %
222   \x\> %

```

```

223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```

231 \Hy@SetCatcodes

```

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

```

232 \RequirePackage{ltxcmds}[2010/11/12]
233 \RequirePackage{iftex}[2019/10/24]
234 \RequirePackage{pdftexcmds}[2018/09/10]

235 \RequirePackage{infwarerr}[2010/04/08]
236 \RequirePackage{keyval}[1997/11/10]
237 \RequirePackage{kvsetkeys}[2007/09/29]
238 \RequirePackage{kvdefinekeys}[2011/04/07]
239 \RequirePackage{pdfescape}[2007/11/11]
240 \RequirePackage{hycolor}
241 \RequirePackage{letltxmacro}[2008/06/13]
242 \RequirePackage{auxhook}[2009/12/14]
243 \def\Hy@Error{\@PackageError{hyperref}}
244 \def\Hy@Warning{\@PackageWarning{hyperref}}
245 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
246 \def\Hy@Info{\@PackageInfo{hyperref}}
247 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
248 \def\Hy@Message#1{%
249   \GenericWarning{%
250     (hyperref)\@spaces\@spaces\@spaces\@spaces
251   }{%
252     Package hyperref Message: #1\ltx@gobble
253   }%
254 }

```

## 4.2 Version check

\Hy@VersionChecked

```

255 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

256 \def\Hy@VersionCheck#1{%
257   \begingroup
258   \ltx@ifundefined{ver@hyperref.sty}{%
259     \Hy@Error{%
260       This should not happen!\MessageBreak
261       Missing hyperref version%

```

```

262   }\@ehd
263 }{%
264   \ltx@ifundefined{ver@#1}{%
265     \Hy@Error{%
266       This should not happen!\MessageBreak
267       Missing version of `#1'%
268   }\@ehd
269 }{%
270   \def\x##1##2##3{%
271     \expandafter\expandafter\expandafter\Hy@@VersionCheck
272     \expandafter\expandafter\expandafter##2%
273     \csname ver@##3\endcsname##1##1\@nil
274   }%
275   \x{ }\y{hyperref.sty}%
276   \x{ }\z{#1}%
277   \ifx\y\z
278   \else
279     \edef\a{#1}%
280     \edef\b{\HyOpt@CustomDriver.def}%
281     \ifx\a\b
282       \Hy@WarningNoLine{%
283         Version mismatch (custom driver)!\MessageBreak
284         * \y: hyperref.sty\MessageBreak
285         * \z: \a
286       }%
287     \else
288       \Hy@Error{%
289         Version mismatch!\MessageBreak
290         * \y: hyperref.sty\MessageBreak
291         * \z: \a
292       }\@ehd
293     \fi
294   \fi
295   }%
296 }%
297 \endgroup
298 \chardef\Hy@VersionChecked=1 %
299 }

```

\Hy@@VersionCheck

```

300 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
301   \def#1{#2 #3}%
302 }

```

### 4.3 Checks with regular expressions

```

303 \ltx@ifundefined{pdfmatch}{%
304   \def\Hy@Match#1#2#3#4#5{%
305 }{%
306   \def\Hy@Match#1#2#3{%

```

```

307 \begingroup
308 \edef\~{\ltx@backslashchar\string~}%
309 \edef\.\{\ltx@backslashchar.}%
310 \edef\[\{\ltx@backslashchar[]%
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\ltx@leftbracechar}%
319 \edef\}\{\ltx@rightbracechar}%
320 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
321 \let\ \ltx@space
322 \ifcase\pdfmatch#2{#3}{#1} %
323 \endgroup
324 \expandafter\ltx@secondoftwo
325 \or
326 \endgroup
327 \expandafter\ltx@firstoftwo
328 \else
329 \Hy@Warning{%
330 Internal error: Wrong pattern!\MessageBreak
331 --> #3 <--\MessageBreak
332 Pattern check ignored%
333 }%
334 \endgroup
335 \expandafter\ltx@firstoftwo
336 \fi
337 }%
338 }

```

## 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  $\LaTeX$  processing.

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

```

339 \@ifundefined{AfterBeginDocument}{%
340 \def\AfterBeginDocument{\AtBeginDocument}%
341 }{}%

```

`\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.



```

342 \def\Hy@AtBeginDocument{%
343   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
344 }

```

\Hy@AtEndOfPackage

```

345 \def\Hy@AtEndOfPackage{%
346   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
347 }

```

\Hy@AtBeginDocumentHook

```

348 \let\Hy@AtBeginDocumentHook\ltx@empty

```

\Hy@AtEndOfPackageHook

```

349 \let\Hy@AtEndOfPackageHook\ltx@empty

```

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

```

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

```

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

```

358 \RequirePackage{kvoptions}[2009/07/21]

```

## 4.5 Switches

```

359 \newif\ifHy@stoppedearly
360 \newif\ifHy@typexml
361 \newif\ifHy@activeanchor
362 \newif\ifHy@backref
363 \newif\ifHy@bookmarks
364 \newif\ifHy@bookmarksnumbered
365 \newif\ifHy@bookmarksopen
366 \newif\ifHy@breaklinks
367 \newif\ifHy@pdfcenterwindow
368 \newif\ifHy@CJKbookmarks
369 \newif\ifHy@colorlinks
370 \newif\ifHy@destlabel
371 \newif\ifHy@draft
372 \let\Hy@finaltrue\Hy@draftfalse
373 \let\Hy@finalfalse\Hy@drafttrue
374 \newif\ifHy@pdfescapeform
375 \newif\ifHy@hyperfigures

```

```

376 \newif\ifHy@pdffitwindow
377 \newif\ifHy@frenchlinks
378 \newif\ifHy@hyperfootnotes
379 \newif\ifHy@hyperindex
380 \newif\ifHy@hypertextnames
381 \newif\ifHy@implicit
382 \newif\ifHy@linktocpage
383 \newif\ifHy@localanchorname
384 \newif\ifHy@pdfmenubar
385 \newif\ifHy@naturalnames
386 \newif\ifHy@nesting
387 \newif\ifHy@pdfnewwindowset
388 \newif\ifHy@pdfnewwindow
389 \newif\ifHy@ocgcolorlinks
390 \newif\ifHy@pageanchor
391 \newif\ifHy@pdfpagelabels
392 \newif\ifHy@pdfstring
393 \newif\ifHy@plainpages
394 \newif\ifHy@psize
395 \newif\ifHy@raiselinks
396 \newif\ifHy@seminarslides
397 \newif\ifHy@setpagesize
398 \newif\ifHy@texht
399 \newif\ifHy@psdextra
400 \newif\ifHy@pdftoolbar
401 \newif\ifHy@unicode
402 \newif\ifHy@pdfusetitle
403 \newif\ifHy@verbose
404 \let\Hy@debugtrue\Hy@verbose>true
405 \let\Hy@debugfalse\Hy@verbose>false
406 \newif\ifHy@pdfwindowui
407 \newif\ifHy@pdfdisplaydoctitle
408 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

409 \Hy@backreffalse
410 \Hy@bookmarksnumberedfalse
411 \Hy@bookmarksopenfalse
412 \Hy@bookmarkstrue
413 \Hy@breaklinksfalse
414 \Hy@pdfcenterwindowfalse
415 \Hy@CJKbookmarksfalse
416 \Hy@destlabelfalse
417 \Hy@pdfescapeformfalse
418 \Hy@hyperfiguresfalse
419 \Hy@pdffitwindowfalse
420 \Hy@hyperfootnotetrue
421 \Hy@hyperindextrue
422 \Hy@hypertextnamestrue
423 \Hy@implicittrue

```

```

424 \Hy@linktocpagefalse
425 \Hy@localanchornamefalse
426 \Hy@pdfmenubartrue
427 \Hy@naturalnamesfalse
428 \Hy@nestingfalse
429 \Hy@pdfnewwindowsetfalse
430 \Hy@pdfnewwindowfalse
431 \Hy@pageanchortrue
432 \Hy@pdfpagelabelstrue
433 \Hy@pdfstringfalse
434 \Hy@plainpagesfalse
435 \Hy@raiselinksfalse
436 \Hy@setpagesizetrue
437 \Hy@texhtfalse
438 \Hy@psdextrafalse
439 \Hy@pdftoolbartrue
440 \Hy@typexmlfalse
441 \Hy@unicodetrue
442 \Hy@pdfusetitlefalse
443 \Hy@verbosefalse
444 \Hy@pdfwindowuitrue
445 \Hy@pdfdisplaydoctitlefalse
446 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

449 \newdimen\@linkdim
450 \let\Hy@driver\ltx@empty
451 \let\MaybeStopEarly\relax
452 \newcount\Hy@linkcounter
453 \newcount\Hy@pagecounter
454 \Hy@linkcounter0
455 \Hy@pagecounter0

```

### 5.1 Macros for recursions

```

456 \let\Hy@ReturnEnd\@empty
457 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
458 \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.

\Hy@safe@activesfalse

```

459 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
460 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

### 5.3 Coordinate transformations

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

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

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

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
  - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
  - For calculations package `calc` has to be loaded.
  - The expansion of the argument is done at definition time.

Example (T<sub>E</sub>X):

```

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

```

`\hypercalcbp`

```

461 \begingroup\expandafter\expandafter\expandafter\endgroup
462 \expandafter\ifx\csname dimexpr\endcsname\relax
463   \def\hypercalcbpdef#1#2{%
464     \begingroup
465       \toks@{}%
466       \HyCal@scan#2\hypercalcbp\@nil
467     \expandafter\endgroup
468     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
469   }%
470 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
471   \toks@\expandafter{\the\toks@ #1}%
472   \ifx\\#2\\%
473     \else
474     \ltx@ReturnAfterFi{%

```

```

475     \HyCal@do#2\@nil
476   }%
477 \fi
478 }%
479 \def\HyCal@do#1#2\@nil{%
480   \@ifpackageloaded{calc}{%}%
481     \Hy@Warning{%
482       For calculations \string\hypercalcbp\space needs\MessageBreak
483       package calc or e-TeX%
484     }%
485   }%
486   \setlength{\dimen@}{#1}%
487   \setlength{\dimen@}{0.99626401\dimen@}%
488   \edef\x{%
489     \toks@{%
490       \the\toks@
491       \strip@pt\dimen@
492     }%
493   }\x
494   \HyCal@scan#2\@nil
495 }%
496 \else
497 \def\hypercalcbp#1{%
498   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
499 }%
500 \def\hypercalcbpdef{\def}%
501 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <code>ddd</code>

- Strings are stored either in PDFDocEncoding, which is a superset of ISO-Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

## 6.2 Definition of `\pdfstringdef`

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

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

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

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The T<sub>E</sub>X 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.

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by T<sub>E</sub>X, because the tokens have only cat-codes 10 until 12.

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

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

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

```
503 \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 L<sup>A</sup>T<sub>E</sub>X behaviour.

```
504 \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.

```
505 \edef\0{\string\0}%
506 \edef\1{\string\1}%
507 \edef\2{\string\2}%
508 \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.

```
509 \ifHy@unicode
510 \edef\8{\string\8}%
511 \edef\9{\string\9}%
512 \fontencoding{PU}%
513 \HyPsd@UTFviii
514 \def\ifpdfstringunicode##1##2{##1}%
515 \else
516 \fontencoding{PD1}%
517 \def\ifpdfstringunicode##1##2{##2}%
518 \fi
519 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
520 \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).

```
521 \@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).

```
522 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
523 \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.

```
524 \let\{\textbraceleft
525 \let\}\textbraceright
526 \let\\\textbackslash
527 \let\#\textnumbersign
528 \let\$\textdollar
529 \let\%\textpercent
530 \let\&\textampersand
531 % \let\~\textasciitilde
532 \let\_ \textunderscore
533 \let\P\textparagraph
534 \let\ldots\textellipsis
535 \let\dots\textellipsis
536 \ltx@ifundefined{textEncodingNoboundary}%
537   {\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.

```
538 \def\{\pdfstringdefWarn\\}%
539 \def\newline{\pdfstringdefWarn\newline}%
```

**Logos.** Because the box shifting used in the T<sub>E</sub>X logo does not work while writing to a file, the standard T<sub>E</sub>X logos are redefined.

```
540 \def\TeX{\TeX}%
541 \def\LaTeX{\LaTeX}%
```



```

542 \def\LaTeXe{%
543   \LaTeX2%
544   \ifHy@unicode\textepsilon\else e\fi
545 }%
546 \def\LaTeX{%
547   \ifHy@unicode\textepsilon\else e\fi
548   -\TeX%
549 }%
550 \def\SliTeX{Sli\TeX}%
551 \def\MF{Metafont}%
552 \def\MP{Metapost}%

```

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

```

553 \let\fontencoding\@gobble
554 \let\fontfamily\@gobble
555 \let\fontseries\@gobble
556 \let\fontshape\@gobble
557 \let\fontsize\@gobbletwo
558 \let\selectfont\@empty
559 \let\usefont\@gobblefour
560 \let\emph\@firstofone
561 \let\textnormal\@firstofone
562 \let\textrm\@firstofone
563 \let\textsf\@firstofone
564 \let\texttt\@firstofone
565 \let\textbf\@firstofone
566 \let\textmd\@firstofone
567 \let\textit\@firstofone
568 \let\textsc\@firstofone
569 \let\textsl\@firstofone
570 \let\textup\@firstofone
571 \let\normalfont\@empty
572 \let\rmfamily\@empty
573 \let\sffamily\@empty
574 \let\ttfamily\@empty
575 \let\bfseries\@empty
576 \let\mdseries\@empty
577 \let\itshape\@empty
578 \let\scshape\@empty
579 \let\slshape\@empty
580 \let\upshape\@empty
581 \let\em\@empty
582 \let\rm\@empty
583 \let\Huge\@empty
584 \let\LARGE\@empty
585 \let\Large\@empty
586 \let\footnotesize\@empty
587 \let\huge\@empty

```

```

588 \let\large\@empty
589 \let\normalsize\@empty
590 \let\scriptsize\@empty
591 \let\small\@empty
592 \let\tiny\@empty
593 \let\mathversion\@gobble
594 \let\phantom\@gobble
595 \let\vphantom\@gobble
596 \let\hphantom\@gobble

```

### Package pifont.

```

597 \let\ding\HyPsd@ding
598 \let\Cube\HyPsd@DieFace
599 %* \HyPsd@DieFace -> \epsdice (epsdice)
600 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

### Environments.

```

601 \def\begin###1{\csname###1\endcsname}%
602 \def\end###1{\csname end###1\endcsname}%

```

### Package color.

```

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

```

### Upper- and lowercase.

```

604 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
605 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

606 \ifHy@psdextra
607 \ifHy@unicode
608 \csname psdmapshortnames\endcsname
609 \csname psdaliasnames\endcsname
610 \fi
611 \fi

```

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

```

612 \let\foreignlanguage\@secondoftwo
613 \let\textlatin\@firstofone
614 \ltx@ifundefined{language@group}{-}{%
615 \let\bbl@info\@gobble
616 \csname HyPsd@babel@\language@group\endcsname
617 }%
618 \HyPsd@SpanishPatch

```

```

619 \let\@safe@activetrue\relax
620 \let\@safe@activesfalse\relax

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

  Redefine \es@roman, used in spanish.ldf.
622 \let\es@roman\@Roman

```

**Package german.**

```

623 \let\glqq\textglqq
624 \let\grqq\textgrqq
625 \let\glq\textglq
626 \let\grq\textgrq
627 \let\flqq\textflqq
628 \let\frqq\textfrqq
629 \let\flq\textflq
630 \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}

631 \let\if@mid@expandable\@firstoftwo

```

**AMS classes.**

```

632 \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.

```

633 \let\hspace\HyPsd@hspace

```

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

```

634 \let\label\@gobble
635 \let\index\@gobble
636 \let\glossary\@gobble
637 \let\href\HyPsd@href
638 \let\@mkboth\@gobbletwo

```

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

```

639 \let\ref\HyPsd@ref
640 \let\pageref\HyPsd@pageref
641 \let\nameref\HyPsd@nameref
642 \let\autoref\HyPsd@autoref

```

### Miscellaneous commands.

```
643 \let\leavevmode\@empty
644 \let\mbox\@empty
```

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

```
645 \def\halign{\pdfstringdefWarn\halign\@gobble}%
646 \let\ignorespaces\HyPsd@ignorespaces
647 \let\Hy@SectionAnchorHref\@gobble
648 \let\ensuremath\@firstofone
```

### Patch for cjk bookmarks.

```
649 \HyPsd@CJKhook
```

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

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

```
650 \Hy@pdfstringtrue
651 \pdfstringdefPreHook
```

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

```
652 \HyPsd@LetUnexpandableSpace\space
653 \HyPsd@LetUnexpandableSpace\ %
654 \HyPsd@LetUnexpandableSpace~%
655 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
656 \ltx@ifundefined{@xspace}{%
657 \let\xspace\HyPsd@ITALCORR
658 }{%
659 \let\xspace\HyPsd@XSPACE
660 }%
661 \let\/\HyPsd@ITALCORR
662 \let\bgroup\/%
663 \let\egroup\/%
```

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

```
664 \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:

```
665 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
666 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
667 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
668 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
669 \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).

```
670 \begingroup
671 \let\GenericError\@gobblefour
672 \let\GenericWarning\@gobbletwo
673 \let\GenericInfo\@gobbletwo
```

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

```
674 \ifx\nofrenchguillemets\@undefined
675 \else
676 \nofrenchguillemets
677 \fi
```

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

```
678 \let\Hy@temp\xdef
679 \let\def\HyPsd@DefCommand
680 \let\gdef\HyPsd@DefCommand
681 \let\edef\HyPsd@DefCommand
682 \let\xdef\HyPsd@DefCommand
683 \let\futurelet\HyPsd@LetCommand
684 \let\let\HyPsd@LetCommand
685 \Hy@temp#1{#2}%
686 \endgroup
```

### 6.2.3 Postprocessing

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

```
687 \ifx#1\@empty
688 \else
```

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with T<sub>E</sub>X's argument parsing. With this method we must the following item takes into account, that makes makes things a little more complicate:

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

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

```

689 \HyPsd@ProtectSpaces#1%
690 \let\HyPsd@String\@empty
691 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
692 \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.

```

693 \let\HyPsd@SPACEOPTI\relax
694 {%
695 \let\HyPsd@String\@empty
696 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
697 \global\let#1\HyPsd@String
698 }%
699 \expandafter\HyPsd@RemoveMask\expandafter
700 |\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.

```
701 \expandafter
702 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
703 \let\HyPsd@String\@empty
704 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
705 \global\let#1\HyPsd@String
```

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

```
706 \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 `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```
707 \ifHy@unicode
708 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
709 \HyPsd@SPACEOPTI#1%
710 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
711 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
712 {\HyPsd@SPACEOPTI\80\273}#1%
713 \else
714 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
715 \expandafter\HyPsd@Subst\expandafter{%
716 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
717 \string\273}{\HyPsd@SPACEOPTI\273}#1%
718 \fi
```

**Right parenthesis.** Also `\xspace` detects a right parenthesis. For the `\xspace` support and the following parenthesis check the different parenthesis notations `)`, `\)`, and `\051` are converted to one type `\)` and before `\HyPsd@empty`



with the meaning of `\relax` is introduced for `\xspace`. By redefining to `\@empty` `\HyPsd@empty` can easily be removed later.

```

719 \ifHy@unicode
720 \HyPsd@StringSubst{\}){\80\051}#1%
721 \HyPsd@Subst){\80\051}#1%
722 \let\HyPsd@empty\relax
723 \expandafter\HyPsd@StringSubst\cname 80\051\endcsname
724 {\HyPsd@empty\80\051}#1%
725 \else
726 \HyPsd@StringSubst{\}){\051}#1%
727 \HyPsd@Subst){\051}#1%
728 \let\HyPsd@empty\relax
729 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\})#1%
730 \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`.

```

731 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
732 \ltx@ifundefined{@xspace}{%
733 }{%
734 \let\HyPsd@xspace\relax
735 \expandafter\HyPsd@Subst\expandafter
736 {\HyPsd@XSPACE}\HyPsd@xspace#1%
737 \let\HyPsd@xspace\HyPsd@doxspace
738 }%
739 \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.

```

740 \HyPsd@Subst{---}\textemdash#1%
741 \HyPsd@Subst{--}\textendash#1%
742 % \HyPsd@Subst{fi}\textfi#1%
743 % \HyPsd@Subst{fl}\textfl#1%
744 \HyPsd@Subst{!}\textexclamdown#1%
745 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```

746 \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.

```

747 \ifHy@unicode
748 \HyPsd@StringSubst\(\textparenleft#1%
749 \HyPsd@Subst\(\textparenleft#1%
750 \else
751 \HyPsd@StringSubst\({\050}#1%
752 \HyPsd@Subst({\050}#1%
753 \HyPsd@StringSubst{\050}\string\{)#1%
754 \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.

```

755 \ifHy@unicode
756 \edef\HyPsd@SPACEOPTI{\80\040}%
757 \else
758 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
759 \fi
760 \xdef#1{#1\@empty}%
761 \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.

```

762 \endgroup
763 \begingroup
764 \ifHy@unicode
765 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

766 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
767 \ltx@ifundefined{StringEncodingConvertTest}{%
768 }{%
769 \EdefUnescapeString\HyPsd@temp#1%
770 \iftutex
771 \let\HyPsd@UnescapedString\HyPsd@temp
772 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
773 {utf16be}{ascii-print}{%
774 \EdefEscapeString\HyPsd@temp\HyPsd@temp
775 \global\let#1\HyPsd@temp
776 \HyPsd@EscapeTeX#1%
777 \Hy@unicodedefalse
778 }{%
779 \HyPsd@EscapeTeX#1%
780 }%
781 \else
782 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
783 {utf16be}{pdfdoc}{%
784 \EdefEscapeString\HyPsd@temp\HyPsd@temp
785 \global\let#1\HyPsd@temp
786 \HyPsd@EscapeTeX#1%
787 \Hy@unicodedefalse
788 }{}%
789 \fi
790 }%
791 \fi
792 \fi

```

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

```

793 \pdfstringdefPostHook#1%
794 \endgroup
795 }

```

`\Hy@pdfstringdef`

```

796 \def\Hy@pdfstringdef#1#2{%
797 \pdfstringdef\Hy@gtemp{#2}%
798 \let#1\Hy@gtemp
799 }

```

## 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

```

800 \@ifpackageloaded{linguex}{%
801   \let\HyLinguex@OrgB\b
802   \let\HyLinguex@OrgC\c
803   \let\HyLinguex@OrgD\d
804   \def\HyLinguex@Restore{%
805     \let\b\HyLinguex@OrgB
806     \let\c\HyLinguex@OrgC
807     \let\d\HyLinguex@OrgD
808   }%
809   \Hy@AtEndOfPackage{%
810     \pdfstringdefDisableCommands{%
811       \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
812       \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
813       \ltx@ifundefined{oldd}{-}{\let\d\oldd}%
814     }%
815   }%
816 }{%
817   \let\HyLinguex@Restore\relax
818 }%

```

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

\Hy@SaveCatcodeSettings

```

819 \def\Hy@SaveCatcodeSettings#1{%
820   \expandafter\edef\csname Hy@cat@#1\endcsname{%
821     \endlinechar=\the\endlinechar\relax
822     \catcode32 \the\catcode32\relax % (space)
823     \catcode34 \the\catcode34\relax % "
824     \catcode35 \the\catcode35\relax % #
825     \catcode37 \the\catcode37\relax % (percent)
826     \catcode40 \the\catcode40\relax % (
827     \catcode41 \the\catcode41\relax % )
828     \catcode42 \the\catcode42\relax % *
829     \catcode46 \the\catcode46\relax % .
830     \catcode58 \the\catcode58\relax % :
831     \catcode60 \the\catcode60\relax % <
832     \catcode61 \the\catcode61\relax % =
833     \catcode62 \the\catcode62\relax % >
834     \catcode64 \the\catcode64\relax % @
835     \catcode91 \the\catcode91\relax % [
836     \catcode92 \the\catcode92\relax % (backslash)
837     \catcode93 \the\catcode93\relax % ]
838     \catcode123 \the\catcode123\relax % {
839     \catcode124 \the\catcode124\relax % |
840     \catcode125 \the\catcode125\relax % }
841   }%
842   \endlinechar=-1 %
843   \catcode32 10 % (space)
844   \catcode34 12 % "

```

```

845 \catcode35 6 % #
846 \catcode37 14 % (percent)
847 \catcode40 12 % (
848 \catcode41 12 % )
849 \catcode42 12 % *
850 \catcode46 12 % .
851 \catcode58 12 % :
852 \catcode60 12 % <
853 \catcode61 12 % =
854 \catcode62 12 % >
855 \catcode91 12 % [
856 \catcode92 0 % (backslash)
857 \catcode93 12 % ]
858 \catcode123 1 % {
859 \catcode124 12 % |
860 \catcode125 2 % }
861 \makeatletter
862 }

\Hy@RestoreCatcodeSettings

863 \def\Hy@RestoreCatcodeSettings#1{%
864 \csname Hy@cat@#1\endcsname
865 \expandafter\let\csname Hy@cat@#1\endcsname\relax
866 }

```

#### 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.

```

867 \@ifundefined{T@PD1}{%
868 \Hy@SaveCatcodeSettings{pd1}%
869 \input{pd1enc.def}%
870 \Hy@RestoreCatcodeSettings{pd1}%
871 \HyLinguex@Restore
872 }{}
873 \DeclareFontFamily{PD1}{pdf}{}
874 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
875 \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`.

```

876 \def\HyPsd@LoadUnicode{%
877   \ifundefined{T@PU}{%
878     \Hy@SaveCatcodeSettings{pu}%
879     \input{puenc.def}%
880     \Hy@RestoreCatcodeSettings{pu}%
881     \HyLinguex@Restore
882   }{}%
883   \DeclareFontFamily{PU}{pdf}{}%
884   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
885   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
886   \HyPsd@LoadExtra
887   \let\HyPsd@LoadUnicode\relax
888 }

```

`\HyPsd@LoadExtra`

```

889 \def\HyPsd@LoadExtra{%
890   \ifHy@psdextra
891     \ltx@iffileloaded{puenc.def}{%
892       \Hy@SaveCatcodeSettings{psdextra}%
893       \input{psdextra.def}%
894       \Hy@RestoreCatcodeSettings{psdextra}%
895       \let\HyPsd@LoadExtra\relax
896     }{}%
897   \fi
898 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandible macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

899 \def\texorpdfstring{%
900   \ifHy@pdfstring
901     \expandafter\@secondoftwo
902   \else
903     \expandafter\@firstoftwo
904   \fi
905 }

```

### 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`.

```

906 \@ifundefined{pdfstringdefPreHook}{%
907   \let\pdfstringdefPreHook\@empty
908 }{}
909 \@ifundefined{pdfstringdefPostHook}{%
910   \let\pdfstringdefPostHook\@gobble
911 }{}

```

`\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  $\text{\LaTeX}$  commands like `\@gobble` or `\@firstofone`.

```

912 \def\pdfstringdefDisableCommands{%
913   \begingroup
914     \makeatletter
915     \HyPsd@DisableCommands
916 }

```

`\HyPsd@DisableCommands`

```

917 \long\def\HyPsd@DisableCommands#1{%
918   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
919   \endgroup
920 }

```

(Partial) fix for bug in `frenchb.ldf` 2010/08/21 v2.5a that destroys `\pdfstringdefDisableCommands` after usage in `\AtBeginDocument`.

```

921 \let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
922 \AtBeginDocument{%
923   \@ifundefined{pdfstringdefDisableCommands}{%
924     \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
925   }{}%
926 }

```

`\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`.

```

927 \def\pdfstringdefWarn#1{%
928   \expandafter\noexpand\csname<>-string#1\endcsname
929 }
```

## 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.

```

930 \begingroup
931   \catcode0=12 %
932   \def\x{\endgroup
933     \def\HyPsd@ignorespaces{%
934       \romannumeral\expandafter`\expandafter^^@%
935       \romannumeral^^^@%
936     }%
937   }%
938 \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.

```

939 \newif\ifHy@next
940 \input{hyperref-langpatches.def}
941 \</package>
942 \<*lang>
```

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 (<<, >>).

```

943 \ltx@ifundefined{spanish@sh@>@sel}{ }{%
944   \def\HyPsd@babel@spanish{%
945     \declare@shorthand{spanish}{<<}{\guillemotleft}%
946     \declare@shorthand{spanish}{>>}{\guillemotright}%
947     \declare@shorthand{spanish}{"}{-}%
948     \declare@shorthand{spanish}{"}{-}%
949     \declare@shorthand{spanish}{!}{\textexclamdown}%
950     \declare@shorthand{spanish}{?}{\textquestiondown}%
951   }%
952 }

953 \def\HyPsd@SpanishPatch{%
954   \ltx@ifundefined{es@save@dot}{ }{%
955     }{%
956       \let\.\es@save@dot
957     }%
958 }

959 </lang>
960 <*package>

```

### 6.5.3 CJK patch

```

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

\HyPsd@CJKhook

962 \def\HyPsd@CJKhook{%
963   \ltx@ifpackageloaded{CJK}{ }{%
964     \let\CJK@kern\relax
965     \let\CJKkern\relax
966     \let\CJK@CJK\relax
967     \ifHy@CJKbookmarks
968       \HyPsd@CJKhook@bookmarks
969     \fi
970     \HyPsd@CJKhook@unicode
971   } }%
972 }

```

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

```

973 \begingroup
974   \catcode"7F=\active
975   \toks@{%
976     \let\CJK@ignorespaces\empty
977     \def\CJK@char#1{\@gobbletwo}%
978     \let\CJK@charx\@gobblefour
979     \let\CJK@punctchar\@gobblefour
980     \def\CJK@punctcharx#1{\@gobblefour}%
981     \catcode"7F=\active
982     \def^^7f#1^^7f#2^^7f{%
983       \string #1\HyPsd@DecimalToOctal{#2}%
984     }%
985     % ... ?
986     \ifHy@unicode
987       \def\Hy@cjkpu{\80}%
988     \else
989       \let\Hy@cjkpu\@empty
990     \fi
991   \HyPsd@CJKActiveChars
992 }%
993 \count@=127 %
994 \@whilenum\count@<255 \do{%
995   \advance\count@ by 1 %
996   \lccode`~=\count@
997   \lowercase{%
998     \toks@\expandafter{\the\toks@ ~}%
999   }%
1000 }%
1001 \toks@\expandafter{\the\toks@ !}%
1002 \xdef\HyPsd@CJKhook@bookmarks{%
1003   \the\toks@
1004 }%
1005 \endgroup

```

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

```

1006 \def\HyPsd@CJKActiveChars#1{%
1007   \ifx#1!%

```

```

1008 \let\HyPsd@CJKActiveChars\relax
1009 \else
1010 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1011 \fi
1012 \HyPsd@CJKActiveChars
1013 }

```

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

```

1014 \def\HyPsd@DecimalToOctal#1{%
1015 \ifcase #1 %
1016 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1017 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1018 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1019 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1020 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1021 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1022 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1023 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1024 \or @\or A\or B\or C\or D\or E\or F\or G%
1025 \or H\or I\or J\or K\or L\or M\or N\or O%
1026 \or P\or Q\or R\or S\or T\or U\or V\or W%
1027 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1028 \or \140\or a\or b\or c\or d\or e\or f\or g%
1029 \or h\or i\or j\or k\or l\or m\or n\or o%
1030 \or p\or q\or r\or s\or t\or u\or v\or w%
1031 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1032 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1033 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1034 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1035 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1036 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1037 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1038 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1039 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1040 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1041 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1042 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1043 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1044 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1045 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1046 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1047 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1048 \fi
1049 }

```

## 6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```

1050 \def\HyPsd@CJKhook@unicode{%

```

```

1051 \let\Unicode\HyPsd@CJK@Unicode
1052 \let\CJKnumber\HyPsd@CJKnumber
1053 \let\CJKdigits\HyPsd@CJKdigits
1054 }

```

\HyPsd@CJK@Unicode

```

1055 \def\HyPsd@CJK@Unicode#1#2{%
1056 \ifnum#1<256 %
1057 \HyPsd@DecimalToOctalFirst{#1}%
1058 \HyPsd@DecimalToOctalSecond{#2}%
1059 \else
1060 \933%
1061 \expandafter\expandafter\expandafter\HyPsd@HighA
1062 \intcalcDiv{#1}{4}!%
1063 \933%
1064 \ifcase\intcalcMod{#1}{4} %
1065 4\or 5\or 6\or 7%
1066 \fi
1067 \HyPsd@DecimalToOctalSecond{#2}%
1068 \fi
1069 }

1070 \def\HyPsd@HighA#1!{%
1071 \expandafter\expandafter\expandafter\HyPsd@HighB
1072 \intcalcDiv#1!64!!%
1073 \expandafter\expandafter\expandafter\HyPsd@HighD
1074 \intcalcMod#1!64!!%
1075 }

1076 \def\HyPsd@HighB#1!{%
1077 \expandafter\expandafter\expandafter\HyPsd@HighC
1078 \intcalcDec#1!!%
1079 }

1080 \def\HyPsd@HighC#1!{%
1081 \intcalcDiv#1!4!%
1082 \@backslashchar
1083 \intcalcMod#1!4!%
1084 }

1085 \def\HyPsd@HighD#1!{%
1086 \ifcase\intcalcDiv#1!8! %
1087 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1088 \fi
1089 \ifcase\intcalcMod#1!8! %
1090 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1091 \fi
1092 }

1093 \def\HyPsd@DecimalToOctalFirst#1{%
1094 \9%
1095 \ifcase#1 %
1096 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1097 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%

```

```

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

```

```

1148 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1149 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1150 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1151 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1152 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1153 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1154 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1155 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1156 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1157 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1158 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1159 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1160 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1161 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1162 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1163 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1164 \fi
1165 }

1166 \def\HyPsd@CJKnumber#1{%
1167 \ifnum#1<\z@
1168 \CJK@minus
1169 \expandafter\HyPsd@@@CJKnumber\expandafter{\number-\number#1}%
1170 \else
1171 \expandafter\HyPsd@@@CJKnumber\expandafter{\number#1}%
1172 \fi
1173 }

1174 \def\HyPsd@@@CJKnumber#1{%
1175 \ifcase#1 %
1176 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1177 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1178 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1179 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1180 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1181 \CJK@ten\CJK@nine
1182 \else
1183 \ifnum#1<10000 %
1184 \HyPsd@CJKnumberFour#1!\@empty{20}%
1185 \@empty
1186 \else
1187 \ifnum#1<100000000 %
1188 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1189 \IntCalcDiv#1!10000!%
1190 !\@empty{20}%
1191 \CJK@tenthousand
1192 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1193 \IntCalcMod#1!10000!%
1194 !\CJK@zero{10}%
1195 \@empty
1196 \else

```

```

1197     \expandafter\HyPsd@CJKnumberLarge
1198     \number\IntCalcDiv#1!100000000!\expandafter!%
1199     \number\IntCalcMod#1!100000000!!%
1200   \fi
1201 \fi
1202 \fi
1203 }
1204 \def\HyPsd@CJKnumberLarge#1!#2!{%
1205   \HyPsd@CJKnumberFour#1!{}{20}%
1206   \CJK@hundredmillion
1207   \ifnum#2=\z@
1208   \else
1209     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1210     \IntCalcDiv#2!10000!%
1211     !\CJK@zero{10}%
1212     \CJK@tenthousand
1213     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1214     \IntCalcMod#2!10000!%
1215     !\CJK@zero{10}%
1216     \@empty
1217   \fi
1218 }
1219 \def\HyPsd@CJKnumberFour#1!#2#3{%
1220   \ifnum#1=\z@
1221     \expandafter\@gobble
1222   \else
1223     \ifnum#1<1000 %
1224       #2%
1225       \HyPsd@CJKnumberThree#1!{}{#3}%
1226     \else
1227       \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1228       \CJK@thousand
1229       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1230       \IntCalcMod#1!1000!%
1231       !\CJK@zero{10}%
1232     \fi
1233   \fi
1234 }
1235 \def\HyPsd@CJKnumberThree#1!#2#3{%
1236   \ifnum#1=\z@
1237   \else
1238     \ifnum#1<100 %
1239       #2%
1240       \HyPsd@CJKnumberTwo#1!{}{#3}%
1241     \else
1242       \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1243       \CJK@hundred
1244       \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1245       \IntCalcMod#1!100!%
1246       !\CJK@zero{10}%

```

```

1247 \fi
1248 \fi
1249 }
1250 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1251 \ifnum#1=\z@
1252 \else
1253 \ifnum#1<#3 %
1254 #2%
1255 \HyPsd@@CJKnumber{#1}%
1256 \else
1257 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1258 \CJK@ten
1259 \ifnum\IntCalcMod#1!10!=\z@
1260 \else
1261 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1262 \fi
1263 \fi
1264 \fi
1265 }

1266 \def\HyPsd@CJKdigits#1{%
1267 \ifx*#1\relax
1268 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1269 \else
1270 \HyPsd@@CJKdigits\CJK@null{#1}%
1271 \fi
1272 }
1273 \def\HyPsd@@CJKdigits#1#2{%
1274 \ifx\#2\%
1275 \else
1276 \HyPsd@@@CJKdigits#1#2\@nil
1277 \fi
1278 }%
1279 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1280 \HyPsd@CJKdigit#1{#2}%
1281 \ifx\#3\%
1282 \expandafter\@gobble
1283 \else
1284 \expandafter\@firstofone
1285 \fi
1286 {%
1287 \HyPsd@@@CJKdigits#1#3\@nil
1288 }%
1289 }
1290 \def\HyPsd@CJKdigit#1#2{%
1291 \ifcase#2 %
1292 #1\or
1293 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1294 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1295 \fi

```



### 6.5.6 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with L<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 `\@typesetprotect` (`=\relax`).

```

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

1297 \def\HyPsd@inmathwarn#1#2{%
1298   \ifx#2\expandafter
1299     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax

```

```

1300 \HyPsd@GLYPHERR
1301 \expandafter\@gobble\string#1%
1302 >%
1303 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1304 \else
1305 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1306 \fi
1307 \else
1308 \expandafter#2%
1309 \fi
1310 }
1311 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1312 \def\HyPsd@EndWithElse#1\else{else}

```

\HyPsd@add@accent

```

1313 \def\HyPsd@add@accent#1#2{%
1314 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1315 #2%
1316 }%

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1317 \def\HyPsd@LetUnexpandableSpace#1{%
1318 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1319 }

```

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

```

1320 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.8 Marker for commands

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

```

1321 \edef\HyPsd@XSPACE{\string#\string X}
1322 \edef\HyPsd@ITALCORR{\string#\string I}
1323 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```
1324 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1325 \def\HyPsd@@hspace#1*#2\END{%
1326   \ifx\#2\%
1327     \HyPsd@hspacetest{#1}%
1328   \else
1329     \expandafter\HyPsd@hspacetest
1330   \fi
1331 }
```

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

```
1332 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1333 \ltx@ifundefined{tocsection}{%
1334   \let\HyPsd@AMSClassfix\relax
1335 }{%
1336   \def\HyPsd@AMSClassfix{%
1337     \let\tocpart\HyPsd@tocsection
1338     \let\tocchapter\HyPsd@tocsection
1339     \let\tocappendix\HyPsd@tocsection
1340     \let\tocsection\HyPsd@tocsection
1341     \let\tocsubsection\HyPsd@tocsection
1342     \let\tocsubsubsection\HyPsd@tocsection
1343     \let\tocparagraph\HyPsd@tocsection
1344   }%
1345   \def\HyPsd@tocsection#1#2#3{%
1346     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1347     #3%
1348   }%
1349 }
```

### 6.5.11 Reference commands

\HyPsd@href

```
1350 \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.

```
1351 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1352 \def\HyPsd@@ref#1*#2\END{%
1353   \ifx\#2\%
```

```

1354 \HyPsd@@@ref{#1}%
1355 \else
1356 \expandafter\HyPsd@@@ref
1357 \fi
1358 }%

```

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

```

1359 \def\HyPsd@@@ref#1{%
1360 \expandafter\ifx\csname r@#1\endcsname\relax
1361 ??%
1362 \else
1363 \expandafter\expandafter\expandafter
1364 \@car\csname r@#1\endcsname\@nil
1365 \fi
1366 }

```

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

```

1367 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1368 \def\HyPsd@@pageref#1*#2\END{%
1369 \ifx\#2\%
1370 \HyPsd@@@pageref{#1}%
1371 \else
1372 \expandafter\HyPsd@@@pageref
1373 \fi
1374 }

```

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

```

1375 \def\HyPsd@@@pageref#1{%
1376 \expandafter\ifx\csname r@#1\endcsname\relax
1377 ??%
1378 \else
1379 \expandafter\expandafter\expandafter\expandafter
1380 \expandafter\expandafter\expandafter\@car
1381 \expandafter\expandafter\expandafter\@gobble
1382 \csname r@#1\endcsname{}\@nil
1383 \fi
1384 }

```

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

```

1385 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1386 \def\HyPsd@@nameref#1*#2\END{%
1387 \ifx\#2\%
1388 \HyPsd@@@nameref{#1}%

```

```

1389 \else
1390 \expandafter\HyPsd@@@nameref
1391 \fi
1392 }

```

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

```

1393 \def\HyPsd@@@nameref#1{%
1394 \expandafter\ifx\csname r@#1\endcsname\relax
1395 ??%
1396 \else
1397 \expandafter\expandafter\expandafter\expandafter
1398 \expandafter\expandafter\expandafter\@car
1399 \expandafter\expandafter\expandafter\@gobbletwo
1400 \csname r@#1\endcsname\}\}\@nil
1401 \fi
1402 }

```

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

```

1403 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1404 \def\HyPsd@@autoref#1*#2\END{%
1405 \ifx\#2\%
1406 \HyPsd@@@autoref{#1}%
1407 \else
1408 \expandafter\HyPsd@@@autoref
1409 \fi
1410 }

```

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

```

1411 \def\HyPsd@@@autoref#1{%
1412 \expandafter\ifx\csname r@#1\endcsname\relax
1413 ??%
1414 \else
1415 \expandafter\expandafter\expandafter\HyPsd@autorefname
1416 \csname r@#1\endcsname\}\}\}\@nil
1417 \expandafter\expandafter\expandafter
1418 \@car\csname r@#1\endcsname\@nil
1419 \fi
1420 }

```

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

```

1421 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1422 \ifx\#4\%
1423 \else
1424 \HyPsd@@@autorefname#4.\@nil
1425 \fi
1426 }

```

`\HyPsd@@autorefname`

```
1427 \def\HyPsd@@autorefname#1.#2\@nil{%
1428 \ltx@ifundefined{#1autorefname}{%
1429 \ltx@ifundefined{#1name}{%
1430 }{%
1431 \csname#1name\endcsname\space
1432 }%
1433 }{%
1434 \csname#1autorefname\endcsname\space
1435 }%
1436 }
```

### 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 doesn't have the meaning of `\relax`, `\HyPsd@CheckCatcodes` will produce a warning. (The command itself can be legal, but the warning is legitimate because of the position after a defining command.)

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

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

`\HyPsd@DefCommand`

`\HyPsd@LetCommand`

```
1437 \begingroup
1438 \def\x#1#2{%
1439 \endgroup
1440 \let#1\def
1441 \def\HyPsd@DefCommand##1##2###{%
```

```

1442     #1%
1443     \expandafter\noexpand
1444     \csname\expandafter\@gobble\string##1\@empty\endcsname
1445     \@gobble
1446 }%
1447 \let#2\let
1448 \def\HyPsd@@LetCommand##1{%
1449     \expandafter\ifx\csname##1\expandafter\endcsname
1450         \csname iftrue\endcsname
1451         \pdfstringdefWarn\let
1452         \expandafter\@gobble
1453     \else
1454         \expandafter\ifx\csname##1\expandafter\endcsname
1455             \csname iffalse\endcsname
1456             \pdfstringdefWarn\let
1457             \expandafter\expandafter\expandafter\@gobble
1458         \else
1459             #2%
1460             \expandafter\noexpand
1461             \csname##1\expandafter\expandafter\expandafter\endcsname
1462         \fi
1463     \fi
1464 }%
1465 }%
1466 \expandafter\x\csname <def>-command\expandafter\endcsname
1467     \csname <let>-command\endcsname
1468 \def\HyPsd@LetCommand#1{%
1469     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1470     \expandafter\expandafter\expandafter{%
1471     \expandafter\@gobble\string#1\@empty
1472 }%
1473 }

```

### 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).

```

1474 \def\HyPsd@ifnextchar#1{%
1475     \pdfstringdefWarn#1%
1476     \expandafter\@gobbletwo\@gobble
1477 }

```

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

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

```
1478 \def\HyPsd@protected@testopt#1{%
1479   \pdfstringdefWarn#1%
1480   \@gobbletwo
1481 }
```

### 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:

```
1482 \def\HyPsd@Warning#1{%
1483   \begingroup
1484   \let\space\ltx@space
1485   \Hy@Warning{#1}%
1486   \endgroup
1487 }
```

#### 6.6.2 Protecting spaces

```
1488 \RequirePackage{etexcmds}[2007/09/09]
1489 \ifetex@unexpanded
1490   \expandafter\@secondoftwo
1491 \else
1492   \expandafter\@firstoftwo
1493 \fi
1494 {%
```

`\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`.

```
1495 \def\HyPsd@ProtectSpaces#1{%
1496   \iftrue
1497     \expandafter\HyPsd@@ProtectSpacesFi
1498     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1499   \fi
1500   }%
```



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

```

1501 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1502 \fi
1503 \ifx\scrollmode#2\scrollmode
1504 \HyPsd@RemoveMask#1\HyPsd@End#3%
1505 \else
1506 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1507 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1508 \fi
1509 }%

```

### 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.

```

1510 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1511 \toks@{\expandafter{#1}}%
1512 \xdef#2{\the\toks@}%
1513 }%

1514 }{%
1515 \let\HyPsd@fi\fi
1516 \def\HyPsd@ProtectSpaces#1{%
1517 \xdef#1{%
1518 \iftrue
1519 \expandafter\HyPsd@@ProtectSpacesFi
1520 \expandafter|\expandafter\@empty#1| %
1521 \HyPsd@fi
1522 }%
1523 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1524 }%
1525 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1526 \fi
1527 \etex@unexpanded{#1}%
1528 \ifx\scrollmode#2\scrollmode
1529 \else
1530 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1531 \HyPsd@fi
1532 }%
1533 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1534 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1535 }%
1536 }

```

### 6.6.3 Remove grouping braces

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

```
1537 \def\HyPsd@RemoveBraces#1{%
1538   \ifx\scrollmode#1\scrollmode
1539   \else
1540     \HyPsd@@RemoveBracesFi#1\HyPsd@end{#1}%
1541   \fi
1542 }
```

`\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`.

```
1543 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@end#3\fi{%
1544   \fi
1545   \def\Hy@temp@A{#1#2}%
1546   \def\Hy@temp@B{#3}%
1547   \ifx\Hy@temp@A\Hy@temp@B
1548     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1549       \HyPsd@String#1%
1550     }%
1551     \ifx\scrollmode#2\scrollmode
1552     \else
1553       \Hy@ReturnAfterFiFiEnd{%
1554         \HyPsd@RemoveBraces{#2}%
1555       }%
1556     \fi
1557   \else
1558     \def\Hy@temp@A{#1}%
1559     \HyPsd@AppendItalcorr\HyPsd@String
1560     \ifx\Hy@temp@A\@empty
1561       \Hy@ReturnAfterElseFiFiEnd{%
1562         \HyPsd@RemoveBraces{#2}%
1563       }%
1564     \else
1565       \HyPsd@ProtectSpaces\Hy@temp@A
1566       \HyPsd@AppendItalcorr\Hy@temp@A
1567       \Hy@ReturnAfterFiFiEnd{%
1568         \expandafter\HyPsd@RemoveBraces\expandafter
1569           {\Hy@temp@A#2}%
1570       }%
1571     \fi
1572   }
```

```

1571 \fi
1572 \fi
1573 \Hy@ReturnEnd
1574 }

```

`\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`.

```

1575 \def\HyPsd@AppendItalcrr#1{%
1576 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1577 }
1578 \def\HyPsd@@AppendItalcrr#1#2{%
1579 \expandafter\def\expandafter#2\expandafter{#2#1}%
1580 }

```

#### 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>.

```

1581 \ltx@ifundefined{directlua}{%
1582 }{%
1583 \expandafter\ifx\csname\endcsname\relax\fi
1584 }

```

#### 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`.

```

1585 \begingroup
1586 \catcode`\Q=\active
1587 \let Q\ltx@empty
1588 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1589 \global\let\HyPsd@Rest\relax
1590 \ifcat\relax\noexpand#1\relax
1591 \ifx#1\protect
1592 \else
1593 \ifx#1\penalty
1594 \setbox\z@=\hbox{%

```

```

1595         \afterassignment\HyPsd@AfterCountRemove
1596         \count@=#2\HyPsd@End
1597     }%
1598 \else
1599     \ifx#1\kern
1600         \setbox\z@=\hbox{%
1601             \afterassignment\HyPsd@AfterDimenRemove
1602             \dimen@=#2\HyPsd@End
1603         }%
1604     \else
1605         \ifx#1\hskip
1606             \setbox\z@=\hbox{%
1607                 \afterassignment\HyPsd@AfterSkipRemove
1608                 \skip@=#2\HyPsd@End
1609             }%
1610         \else
1611             \HyPsd@CatcodeWarning{#1}%
1612         \fi
1613     \fi
1614 \fi
1615 \fi
1616 \else
1617     \ifcat\noexpand#1\noexpandQ% active character
1618         \expandafter\expandafter\expandafter\def
1619         \expandafter\expandafter\expandafter\HyPsd@String
1620         \expandafter\expandafter\expandafter{%
1621             \expandafter\HyPsd@String\string#1%
1622         }%
1623     \else
1624         \ifcat#1A% letter
1625             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1626                 \HyPsd@String#1%
1627             }%
1628         \else
1629             \ifcat#1 % SPACE
1630                 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1631                     \HyPsd@String\HyPsd@SPACEOPTI
1632                 }%
1633             \else
1634                 \ifcat$#1%
1635                     \HyPsd@CatcodeWarning{math shift}%
1636                 \else
1637                     \ifcat&#1%
1638                         \HyPsd@CatcodeWarning{alignment tab}%
1639                     \else
1640                         \ifcat^#1%
1641                             \HyPsd@CatcodeWarning{superscript}%
1642                         \else
1643                             \ifcat_#1%
1644                                 \HyPsd@CatcodeWarning{subscript}%

```

```

1645         \else
1646         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1647             \HyPsd@String#1%
1648         }%
1649     \fi
1650 \fi
1651 \fi
1652 \fi
1653 \fi
1654 \fi
1655 \fi
1656 \fi
1657 \ifx\HyPsd@Rest\relax
1658 \ifx\scrollmode#2\scrollmode
1659 \else
1660 \Hy@ReturnAfterFiFiEnd{%
1661     \HyPsd@CheckCatcodes#2\HyPsd@End
1662 }%
1663 \fi
1664 \else
1665 \ifx\HyPsd@Rest\@empty
1666 \else
1667 \Hy@ReturnAfterFiFiEnd{%
1668     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1669 }%
1670 \fi
1671 \fi
1672 \Hy@ReturnEnd
1673 }%
1674 \endgroup

```

### Remove counts, dimens, skips.

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

```

1675 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1676 \gdef\HyPsd@Rest{#1}%
1677 }

```

`\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.

```

1678 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1679 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1680 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1681 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1682 \else
1683 \ifdim\dimen@=\z@
1684 \else

```

```

1685 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1686 \fi
1687 \gdef\HyPsd@Rest{#1}%
1688 \fi
1689 }

```

`\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).

```

1690 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1691 \ifdim\ifx\HyPsd@String\@empty\z@ \else\skip@ \fi >lex %
1692 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1693 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1694 \else
1695 \ifdim\skip@=\z@
1696 \else
1697 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1698 \fi
1699 \gdef\HyPsd@Rest{#1}%
1700 \fi
1701 }

```

### Catcode warnings.

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

```

1702 \def\HyPsd@CatcodeWarning#1{%
1703 \HyPsd@Warning{%
1704 Token not allowed in a PDF string (%
1705 \ifHy@unicode
1706 Unicode%
1707 \else
1708 PDFDocEncoding%
1709 \fi
1710 ):%
1711 \MessageBreak removing `~\HyPsd@RemoveCmdPrefix#1'%
1712 }%
1713 }
1714 \begingroup
1715 \catcode`\|=0 %
1716 \catcode`\|=12 %
1717 |gdef|HyPsd@RemoveCmdPrefix#1{%
1718 |expandafter|HyPsd@@RemoveCmdPrefix
1719 |string#1|@empty\<>-|@empty|@empty
1720 }%
1721 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1722 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1723 \def\HyPsd@RemoveSpaceWarning#1{%
1724 \HyPsd@Warning{%

```

```

1725 Token not allowed in a PDF string (%)
1726 \ifHy@unicode
1727   Unicode%
1728 \else
1729   PDFDocEncoding%
1730 \fi
1731 ):%
1732 \MessageBreak #1\MessageBreak
1733 removed%
1734 }%
1735 }

```

\HyPsd@ReplaceSpaceWarning

```

1736 \def\HyPsd@ReplaceSpaceWarning#1{%
1737   \HyPsd@Warning{%
1738     Token not allowed in a PDF string (%)
1739     \ifHy@unicode
1740       Unicode%
1741     \else
1742       PDFDocEncoding%
1743     \fi
1744     ):%
1745     \MessageBreak #1\MessageBreak
1746     replaced by space%
1747   }%
1748 }

```

### 6.6.5 Check for wrong glyphs

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

```

1749 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1750   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1751     \HyPsd@String#1%
1752   }%
1753   \ifx\#2\%
1754   \else
1755     \ltx@ReturnAfterFi{%
1756       \HyPsd@GlyphProcessWarning#2\@empty
1757     }%
1758   \fi
1759 }
1760 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1761   \HyPsd@@@GlyphProcessWarning#1++>%
1762   \HyPsd@GlyphProcess#2\@empty
1763 }
1764 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1765   \ifx\#2\%
1766     \HyPsd@Warning{%

```

```

1767     Glyph not defined in %
1768     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1769     removing ` \@backslashchar#1'%
1770 }%
1771 \else
1772 \HyPsd@Warning{%
1773     Composite letter ` \@backslashchar#1+#2'\MessageBreak
1774     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1775     \MessageBreak
1776     removing ` \@backslashchar#1'%
1777 }%
1778 \fi
1779 }

```

### 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`.

```

1780 \def\HyPsd@spaceopti#1{ % first space
1781   \ifx\HyPsd@spaceopti#1%
1782     \040%
1783   \else
1784     #1%
1785   \fi
1786 }%

```

### 6.6.6 Replacing tokens

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

```

#1   Exact the tokens that should be replaced.
#2   The replacement (don't need to be expanded).
#3   Command with the string.
1787 \def\HyPsd@Subst#1#2#3{%
1788   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1789     \fi
1790     ##1%
1791     \ifx\scrollmode##2\scrollmode
1792   \else
1793     #2%
1794     \HyPsd@@ReplaceFi##2\END
1795   \fi
1796 }%
1797 \xdef#3{%
1798   \iftrue
1799     \expandafter\HyPsd@@ReplaceFi#3#1\END

```



```

1800   \fi
1801  }%
1802 }

```

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

```

1803 \def\HyPsd@StringSubst#1{%
1804   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1805 }

```

`\HyPsd@EscapeTeX`

```

1806 \begingroup
1807   \lccode`!\!=`\\%%
1808   \lccode`|!=`\\%%
1809   \lccode`\(=``\{%
1810   \lccode`\)=``\}%
1811   \lccode`0=\ltx@zero
1812   \lccode`1=\ltx@zero
1813   \lccode`3=\ltx@zero
1814   \lccode`4=\ltx@zero
1815   \lccode`5=\ltx@zero
1816   \lccode`7=\ltx@zero
1817 \lowercase{\endgroup
1818 \def\HyPsd@EscapeTeX#1{%
1819   \HyPsd@Subst!{|045}#1%
1820   \HyPsd@Subst({|173}#1%
1821   \HyPsd@Subst){|175}#1%
1822 }%
1823 }

```

### 6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in  $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ '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.

```

1824 \def\HyPsd@doxspace#1{%
1825   \ifx#1\relax\else
1826     \ifx#1.\else
1827       \ifx#1:\else
1828         \ifx#1,\else
1829           \ifx#1;\else
1830             \ifx#1!\else
1831               \ifx#1?\else
1832                 \ifx#1/\else
1833                   \ifx#1-\else
1834                     \ifx#1'\else
1835                       \HyPsd@SPACEOPTI
1836                     \fi

```

```

1837      \fi
1838      \fi
1839      \fi
1840      \fi
1841      \fi
1842      \fi
1843      \fi
1844      \fi
1845      \fi
1846      #1%
1847 }%

```

### 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.

```

1848 \begingroup
1849 \catcode`\|=0 %
1850 \catcode`\|=12 %

```

\HyPsd@ConvertToUnicode

```

1851 |gdef|HyPsd@ConvertToUnicode#1{%
1852 |xdef#1{%
1853 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1854 }%
1855 |ifx#1|@empty
1856 |else
1857 |xdef#1{%
1858 \376\377%
1859 #1%
1860 }%
1861 |fi
1862 }%

```

\HyPsd@DoConvert

```

1863 |gdef|HyPsd@DoConvert#1{%
1864 |ifx#1|@empty
1865 |else
1866 |ltx@ReturnAfterFi{%
1867 |ifx#1\%%
1868 \%%
1869 |expandafter|HyPsd@DoEscape
1870 |else
1871 |HyPsd@Char{#1}%
1872 |expandafter|HyPsd@DoConvert
1873 |fi
1874 }%
1875 |fi

```

```
1876 }%
```

`\HyPsd@DoEscape`

```
1877 |gdef|HyPsd@DoEscape#1{%
1878   |ifx#19%
1879     |expandafter|HyPsd@GetTwoBytes
1880   |else
1881     |ltx@ReturnAfterFi{%
1882     |ifx#18%
1883       00%
1884     |expandafter|HyPsd@GetTwoBytes
1885   |else
1886     #1%
1887     |expandafter|HyPsd@GetOneByte
1888   |fi
1889 }%
1890 |fi
1891 }%
```

`\HyPsd@GetTwoBytes`

```
1892 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1893   #1\#2#3#4%
1894   |HyPsd@DoConvert
1895 }%
```

`\HyPsd@GetOneByte`

```
1896 |gdef|HyPsd@GetOneByte#1#2{%
1897   #1#2%
1898   |HyPsd@DoConvert
1899 }%
1900 |endgroup
```

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

```
1901 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1902   \xdef#4{#4#1#2}%
1903   \HyPsd@@ConvertToUnicode#3\END#4%
1904 }
```

`\HyPsd@Char`

```
1905 \begingroup
1906   \catcode0=9 %
1907   \catcode`\^=7 %
1908   \catcode`\^^=12 %
1909   \def\x{^^^0000}%
1910   \expandafter\endgroup
1911   \ifx\x\@empty
1912     \def\HyPsd@Char#1{%
1913       \ifnum`#1<128 %
```

```

1914 \@@backslashchar 000#1%
1915 \else
1916 \ifnum`#1<65536 %
1917 \expandafter\HyPsd@CharTwoByte\number`#1!%
1918 \else
1919 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1920 \intcalcSub{`#1}{65536}!%
1921 \fi
1922 \fi
1923 }%
1924 \def\HyPsd@CharTwoByte#1!{%
1925 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1926 \IntCalcDiv#1!256!!%
1927 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1928 \IntCalcMod#1!256!!%
1929 }%
1930 \def\HyPsd@CharOctByte#1!{%
1931 \@@backslashchar
1932 \IntCalcDiv#1!64!%
1933 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1934 \IntCalcMod#1!8!%
1935 }%
1936 \def\HyPsd@CharSurrogate#1!{%
1937 \@@backslashchar 33%
1938 \IntCalcDiv#1!262144!%
1939 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1940 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1941 \@@backslashchar 33%
1942 \expandafter\expandafter\expandafter\IntCalcAdd
1943 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1944 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1945 \IntCalcMod#1!256!!%
1946 }%
1947 \else
1948 \def\HyPsd@Char#1{%
1949 \@@backslashchar 000#1%
1950 }%
1951 \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

1952 \begingroup\expandafter\expandafter\expandafter\endgroup
1953 \expandafter\ifx\csname numexpr\endcsname\relax
1954 \let\HyPsd@UTFviii\relax
1955 \else
1956 \begingroup
1957 \lccode`\~=\^^f4\relax
1958 \lowercase{\endgroup
1959 \def\HyPsd@UTFviii{%
1960 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1961 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1962 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1963 \ifx~\HyPsd@UTFviii@cccxiv@undef
1964 \let~\HyPsd@UTFviii@cccxiv@def
1965 \fi
1966 \let\unichar\HyPsd@unichar
1967 }%
1968 }%
1969 \def\HyPsd@UTFviii@cccxiv@undef{\@inpenc@undefined@{utf8}}%
1970 \edef\HyPsd@UTFviii@cccxiv@def{%
1971 \noexpand\UTFviii@four@octets\string\^^f4%
1972 }%

```

The two octet form of UTF-8 110aaabb (A) and 10cccd (B) must be converted into octal numbers 00a and bcd. The result is \8a\bcd (with a, b, c, d as octal numbers). The conversion equations.

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

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

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

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

$$(5)$$

```

1973 \def\HyPsd@UTFviii@two#1#2{%
1974 \expandafter\HyPsd@UTFviii@two
1975 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter| %
1976 \number`#1\expandafter| %
1977 \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter| %
1978 \number`#2 \@nil
1979 }%
1980 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1981 \expandafter\8%
1982 \number\numexpr #1-48\expandafter\relax
1983 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1984 \number\numexpr #3-8*%
1985 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1986 \number\numexpr #4-8*#3\relax
1987 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1988 \def\HyPsd@UTFviii@three#1#2#3{%
1989 \expandafter\HyPsd@UTFviii@@three
1990 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1991 \number`#1\expandafter|
1992 \number\ifnum\dimexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1993 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|
1994 \number`#2\expandafter|
1995 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|
1996 \number`#3 \@nil
1997 }%
1998 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1999 \expandafter\9%
2000 \number\dimexpr #1-56\expandafter\relax
2001 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2002 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2003 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2004 \number\dimexpr #6-16\expandafter\relax
2005 \number\dimexpr #7-8*#6\relax
2006 }%

```

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

```

```

2007 \def\HyPsd@UTFviii@four#1#2{%
2008 \expandafter\HyPsd@@UTFviii@four\dimexpr
2009 \dimexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
2010 \expandafter|\dimexpr
2011 \dimexpr`#2-16*\dimexpr.0625\dimexpr`#2sp|
2012 }%
2013 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2014 \933\dimexpr\dimexpr.25\dimexpr`#1sp\relax\relax
2015 \csname\dimexpr\dimexpr`#1-4*\dimexpr.25\dimexpr`#1sp\endcsname
2016 \ifodd#2 %

```

```

2017 \number\numexpr(#2-1)/2\relax
2018 \else
2019 \number\numexpr#2/2\relax
2020 \fi
2021 \number\numexpr\ifodd#2 4+\fi
2022 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
2023 \933%
2024 \expandafter\HyPsd@@@UTFviii@four\number
2025 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
2026 }%
2027 \def\HyPsd@@@UTFviii@four#1|#2{%
2028 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2029 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2030 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
2031 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
2032 }%

```

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

```

2033 \def\HyPsd@unichar#1{%
2034 \ifHy@unicode
2035 \ifnum#1>"10FFFF %
2036 \HyPsd@UnicodeReplacementCharacter % illegal
2037 \else
2038 \ifnum#1>"FFFF %

```

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

```

2039 \expandafter\HyPsd@unichar\expandafter{%
2040 \number\numexpr 55296+ %
2041 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2042 \relax\relax\relax
2043 }%

```

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

```

2044 \expandafter\HyPsd@unichar\expandafter{%
2045 \number\numexpr#1-9216%
2046 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2047 \relax\relax\relax
2048 }%
2049 \else
2050 \ifnum#1>"7FF %
2051 \9%
2052 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2053 \number
2054 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2055 }%
2056 \else
2057 \8%
2058 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2059 \fi
2060 \expandafter\HyPsd@unichar@second@byte\expandafter{%

```

```

2061         \number
2062         \numexpr#1-256*\number
2063         \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2064     }%
2065     \fi
2066     \fi
2067     \else
2068     .% unsupported (Unicode -> PDF Doc Encoding)
2069     \fi
2070 }%
2071 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2072 \def\HyPsd@unichar@first@byte#1{%
2073     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2074     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2075         \number
2076         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2077         \relax\relax\relax
2078     }%
2079 }%
2080 \def\HyPsd@unichar@second@byte#1{%
2081     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2082     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2083         \number
2084         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2085         \relax\relax\relax
2086     }%
2087 }%
2088 \def\HyPsd@unichar@octtwo#1{%
2089     \number\dimexpr.125\dimexpr#1sp\relax\relax
2090     \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2091     \relax\relax\relax
2092 }%
2093 \fi

```

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

```

2094 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2095     \ifx\@gobble#1%
2096     \else
2097     [Please insert \textbackslash PrerenderUnicode%
2098     \textbraceleft#1\textbraceright\space
2099     into preamble]%
2100     \fi
2101 }%

```

### 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`.

```

2102 \def\HyPsd@DieFace#1{%
2103   \ifHy@unicode
2104     \ifnum#1<1 %
2105       \HyPsd@UnicodeReplacementCharacter
2106     \else
2107       \ifnum#1>6 %
2108         \9046\205%
2109         \expandafter\expandafter\expandafter
2110         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2111       \else
2112         \9046\20\intcalcDec{#1}%
2113       \fi
2114     \fi
2115   \else
2116     .% Die faces are not part of PDFDocEncoding
2117   \fi
2118 }
```

`\HyPsd@DieFaceLarge`

```

2119 \def\HyPsd@DieFaceLarge#1!{%
2120   \ifnum#1>6 %
2121     \expandafter\ltx@firstoftwo
2122   \else
2123     \expandafter\ltx@secondoftwo
2124   \fi
2125   {%
2126     \9046\205%
2127     \expandafter\expandafter\expandafter
2128     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2129   }{%
2130     \9046\20\IntCalcDec#1!%
2131   }%
2132 }
```

### 6.6.11 Support for moon phases of package china2e

```

2133 \def\HyPsd@MoonPha#1{%
2134   \ifcase\intcalcNum{#1} %
2135     \HyPsd@UnicodeReplacementCharacter
2136   \or % 1
2137   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
```

```

2138 \9330\074\9337\032%
2139 \or % 2
2140 \HyPsd@UnicodeReplacementCharacter
2141 \or % 3
2142 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2143 \9330\074\9337\035%
2144 \or % 4
2145 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2146 \9330\074\9337\034%
2147 \else
2148 \HyPsd@UnicodeReplacementCharacter
2149 \fi
2150 }
2151 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2152 \def\HyPsd@ding#1{%
2153 \ifHy@unicode
2154 \ifnum#1<32 %
2155 \HyPsd@UnicodeReplacementCharacter
2156 \else
2157 \ifnum#1>254 %
2158 \HyPsd@UnicodeReplacementCharacter
2159 \else
2160 \ifnum#1<127 %
2161 \expandafter\expandafter\expandafter
2162 \HyPsd@@ding\intcalcNum{#1}!%
2163 \else
2164 \ifnum#1>160 %
2165 \expandafter\expandafter\expandafter
2166 \HyPsd@@ding\intcalcNum{#1}!%
2167 \else
2168 \HyPsd@UnicodeReplacementCharacter
2169 \fi
2170 \fi
2171 \fi
2172 \fi
2173 \else
2174 .% Dingbats are not part of PDFDocEncoding
2175 \fi
2176 }

```

\HyPsd@@ding

```

2177 \def\HyPsd@@ding#1!{%
2178 \ltx@ifundefined{HyPsd@ding@#1}{%
2179 \ifnum#1<127 %
2180 \9047%
2181 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%

```

```

2182 \else
2183 \ifnum#1<168 %
2184 \9047\14\IntCalcSub#1!160!%
2185 \else
2186 \ifnum#1>181 %
2187 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2188 \else
2189 % 172..181 -> U+2460..U+2469
2190 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2191 \fi
2192 \fi
2193 \fi
2194 }{%
2195 \csname HyPsd@ding@#1\endcsname
2196 }%
2197 }

2198 \@namedef{HyPsd@ding@32}{\space}
2199 % U+260E BLACK TELEPHONE
2200 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2201 % U+261B BLACK RIGHT POINTING INDEX
2202 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2203 % U+261E WHITE RIGHT POINTING INDEX
2204 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2205 % U+2605 BLACK STAR
2206 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2207 % U+25CF BLACK CIRCLE
2208 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2209 % U+25A0 BLACK SQUARE
2210 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2211 % U+25B2 BLACK UP-POINTING TRIANGLE
2212 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2213 % U+25BC BLACK DOWN-POINTING TRIANGLE
2214 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2215 % U+25C6 BLACK DIAMOND
2216 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2217 % U+25D7 RIGHT HALF BLACK CIRCLE
2218 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2219 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2220 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2221 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2222 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2223 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2224 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2225 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2226 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```
2227 \@ifclassloaded{memoir}{%
2228   \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2229 }{}
```

### 7.2 Package subfigure

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

```
2230 \@ifpackageloaded{subfigure}{%
2231   \ltx@ifundefined{sub@label}{%
2232     \Hy@hypertextnamesfalse
2233   }{%
2234     \renewcommand*{\sub@label}[1]{%
2235       \@bsphack
2236       \subfig@oldlabel{#1}%
2237       \if@filesw
2238         \begingroup
2239         \edef\@currentlabstr{%
2240           \expandafter\strip@prefix\meaning\@currentlabelname
2241         }%
2242         \protected@write\@auxout{}{%
2243           \string\newlabel{sub@#1}{%
2244             {\@nameuse{@@thesub}\@capttype}}%
2245             {\thepage}%
2246             {%
2247               \expandafter\strip@period\@currentlabstr
2248               \relax.\relax\@@@%
2249             }%
2250             {\@currentHref}%
2251             {}%
2252           }%
2253         }%
2254       \endgroup
2255     \fi
2256     \@esphack
2257   }%
2258   \@ifpackagelater{subfigure}{2002/03/26}{%
2259     \providecommand*{\toclevel@subfigure}{1}%
2260     \providecommand*{\toclevel@subtable}{1}%
2261   }%
2262 }%
2263 }
```

### 7.3 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:

```

2264 \ltx@ifundefined{XR@addURL}{%
2265 }{%

```

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.

```

2266 \def\XR@addURL#1{\XR@@dURL#1{}{}{}{}\\}%
2267 \def\XR@@dURL#1#2#3#4#5\\{%
2268   {#1}{#2}%
2269   \if!#4!%
2270   \else
2271     {#3}{#4}{\XR@URL}%
2272   \fi
2273 }%
2274 }

```

```

2275 \def\Hy@true{true}
2276 \def\Hy@false{false}

```

Providing dummy definitions.

```

2277 \let\literalps@out\@gobble
2278 \newcommand\pdfbookmark[3][]{ }
2279 \def\Acrobatmenu#1#2{\leavevmode#2}
2280 \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

```

2281 \let\HyperRaiseLinkHook\@empty
2282 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2283 \newcount\Hy@SavedSpaceFactor
2284 \def\Hy@SaveSpaceFactor{%
2285   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2286 }
2287 \def\Hy@RestoreSpaceFactor{%
2288   \relax
2289   \ifhmode

```

```

2290 \ifnum\Hy@SavedSpaceFactor>\z@
2291 \spacefactor=\Hy@SavedSpaceFactor
2292 \fi
2293 \fi
2294 }
2295 \def\Hy@SaveSavedSpaceFactor{%
2296 \edef\Hy@RestoreSavedSpaceFactor{%
2297 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2298 }%
2299 }
2300 \def\Hy@raisedlink#1{%
2301 \ifvmode
2302 #1%
2303 \else
2304 \Hy@SaveSpaceFactor
2305 \penalty\@M
2306 \smash{%
2307 \begingroup
2308 \let\HyperRaiseLinkLength\@tempdima
2309 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2310 \HyperRaiseLinkHook
2311 \expandafter\endgroup
2312 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2313 \Hy@RestoreSpaceFactor
2314 #1%
2315 \Hy@SaveSpaceFactor
2316 }%
2317 }%
2318 \Hy@RestoreSpaceFactor
2319 \fi
2320 }

```

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

```

2321 \def\Hy@SaveLastskip{%
2322 \let\Hy@RestoreLastskip\relax
2323 \ifvmode
2324 \ifdim\lastskip=\z@
2325 \let\Hy@RestoreLastskip\nobreak
2326 \else
2327 \begingroup
2328 \skip@=-\lastskip
2329 \edef\x{%
2330 \endgroup
2331 \def\noexpand\Hy@RestoreLastskip{%
2332 \noexpand\ifvmode
2333 \noexpand\nobreak
2334 \vskip\the\skip@
2335 \vskip\the\lastskip\relax
2336 \noexpand\fi
2337 }%

```

```

2338     }%
2339     \x
2340     \fi
2341   \else
2342     \ifhmode
2343       \ifdim\lastskip=\z@
2344         \let\Hy@RestoreLastskip\nobreak
2345       \else
2346         \begingroup
2347         \skip@=-\lastskip
2348         \edef\x{%
2349           \endgroup
2350           \def\noexpand\Hy@RestoreLastskip{%
2351             \noexpand\ifhmode
2352               \noexpand\nobreak
2353               \hskip\the\skip@
2354               \hskip\the\lastskip\relax
2355             \noexpand\fi
2356           }%
2357         }%
2358       \x
2359     \fi
2360   \fi
2361 \fi
2362 }%

```

## 9 Options

```

2363 \SetupKeyvalOptions{%
2364   family=Hyp,%
2365   prefix=HyOpt%
2366 }

```

### 9.1 Help macros

\IfHyperBooleanExists

```

2367 \def\IfHyperBooleanExists#1{%
2368   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2369     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2370   }%
2371 }

```

```

2372 \@namedef{KV@Hyp@stoppeardearly@default}{ }

```

\IfHyperBoolean

```

2373 \def\IfHyperBoolean#1{%
2374   \IfHyperBooleanExists{#1}{%
2375     \csname ifHy@#1\endcsname
2376     \expandafter\ltx@firstoftwo

```

```

2377 \else
2378 \expandafter\ltx@secondoftwo
2379 \fi
2380 }\ltx@secondoftwo
2381 }

```

\Hy@boolkey

```

2382 \def\Hy@boolkey#1#2{%
2383 \edef\Hy@tempa{#2}%
2384 \lowercase\expandafter{%
2385 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2386 }%
2387 \ifx\Hy@tempa\@empty
2388 \let\Hy@tempa\Hy@true
2389 \fi
2390 \ifx\Hy@tempa\Hy@true
2391 \else
2392 \ifx\Hy@tempa\Hy@false
2393 \else
2394 \let\Hy@tempa\relax
2395 \fi
2396 \fi
2397 \ifx\Hy@tempa\relax
2398 \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2399 \else
2400 \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2401 \csname Hy@#1\Hy@tempa\endcsname
2402 \fi
2403 }

```

\Hy@WarnOptionValue

```

2404 \def\Hy@WarnOptionValue#1#2#3{%
2405 \Hy@Warning{%
2406 Unexpected value `#1'\MessageBreak
2407 of option `#2' instead of\MessageBreak
2408 #3%
2409 }%
2410 }

```

\Hy@DisableOption

```

2411 \def\Hy@DisableOption#1{%
2412 \ltx@ifundefined{KV@Hyp@#1@default}{%
2413 \define@key{Hyp}{#1}%
2414 }{%
2415 \define@key{Hyp}{#1}[]%
2416 }%
2417 {\Hy@WarnOptionDisabled{#1}}%
2418 }
2419

```



\Hy@WarnOptionDisabled

```
2420 \def\Hy@WarnOptionDisabled#1{%
2421   \Hy@Warning{%
2422     Option `#1' has already been used,\MessageBreak
2423     setting the option has no effect%
2424   }%
2425 }
```

\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.

```
2426 \def\Hy@CheckOptionValue#1#2#3{%
2427   \begingroup
2428   \edef\x{#1}%
2429   \@onelevel@sanitize\x
2430   \let\y=y%
2431   \def\do##1##2{%
2432     \def\z{##1}%
2433     \@onelevel@sanitize\z
2434     \ifx\x\z
2435       \let\y=n%
2436       \let\do\@gobbletwo
2437     \fi
2438   }%
2439   #3%
2440   \ifx\y y%
2441     \def\do##1##2{%
2442       * `##1'%
2443       \ifx\\##2\\\else\space(##2)\fi
2444       \MessageBreak
2445     }%
2446     \Hy@Warning{%
2447       Values of option `#2':\MessageBreak
2448       #3%
2449       * An empty value disables the option.\MessageBreak
2450       Unknown value `#1'%
2451     }%
2452   \fi
2453   \endgroup
2454 }
```

\Hy@DefNameKey #1: option name

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

```
2455 \def\Hy@DefNameKey#1{%
2456   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2457 }
```

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

```

#2: option name
#3: \do list with known values.
2458 \def\Hy@@DefNameKey#1#2#3{%
2459   \define@key{Hyp}{#2}{%
2460     \edef#1{##1}%
2461     \ifx#1\@empty
2462       \else
2463         \Hy@CheckOptionValue{##1}{#2}{#3}%
2464       \fi
2465     }%
2466     \let#1\@empty
2467 }

```

\Hy@UseNameKey

```

2468 \def\Hy@UseNameKey#1#2{%
2469   \ifx#2\@empty
2470     \else
2471       /#1/#2%
2472     \fi
2473 }

```

## 9.2 Defining the options

```

2474 \define@key{Hyp}{implicit}[true]{%
2475   \Hy@boolkey{implicit}{#1}%
2476 }
2477 \define@key{Hyp}{draft}[true]{%
2478   \Hy@boolkey{draft}{#1}%
2479 }
2480 \define@key{Hyp}{final}[true]{%
2481   \Hy@boolkey{final}{#1}%
2482 }
2483 \let\KV@Hyp@nolinks\KV@Hyp@draft
2484 \def\Hy@ObsoletePaperOption#1{%
2485   \Hy@WarningNoLine{%
2486     Option `#1' is no longer used%
2487   }%
2488   \define@key{Hyp}{#1}[true]{}%
2489 }
2490 \def\Hy@temp#1{%
2491   \define@key{Hyp}{#1}[true]{%
2492     \Hy@ObsoletePaperOption{#1}%
2493   }%
2494 }
2495 \Hy@temp{a4paper}
2496 \Hy@temp{a5paper}
2497 \Hy@temp{b5paper}
2498 \Hy@temp{letterpaper}
2499 \Hy@temp{legalpaper}

```

```

2500 \Hy@temp{executivepaper}
2501 \define@key{Hyp}{setpagesize}[true]{%
2502   \Hy@boolkey{setpagesize}{#1}%
2503 }
2504 \define@key{Hyp}{debug}[true]{%
2505   \Hy@boolkey{debug}{#1}%
2506 }
2507 \define@key{Hyp}{linktocpage}[true]{%
2508   \Hy@boolkey{linktocpage}{#1}%
2509   \ifHy@linktocpage
2510     \let\Hy@linktoc\Hy@linktoc@page
2511   \else
2512     \let\Hy@linktoc\Hy@linktoc@section
2513   \fi
2514 }
2515 \chardef\Hy@linktoc@none=0 %
2516 \chardef\Hy@linktoc@section=1 %
2517 \chardef\Hy@linktoc@page=2 %
2518 \chardef\Hy@linktoc@all=3 %
2519 \ifHy@linktocpage
2520   \let\Hy@linktoc\Hy@linktoc@page
2521 \else
2522   \let\Hy@linktoc\Hy@linktoc@section
2523 \fi
2524 \define@key{Hyp}{linktoc}{%
2525   \@ifundefined{Hy@linktoc@#1}{%
2526     \Hy@Warning{%
2527       Unexpected value `#1' of\MessageBreak
2528       option `linktoc' instead of `none',\MessageBreak
2529       `section', `page' or `all'%
2530     }%
2531   }{%
2532     \expandafter\let\expandafter\Hy@linktoc
2533     \csname Hy@linktoc@#1\endcsname
2534   }%
2535 }
2536 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2537 \let\XR@ext\relax
2538 \define@key{Hyp}{verbose}[true]{%
2539   \Hy@boolkey{verbose}{#1}%
2540 }
2541 \define@key{Hyp}{typexml}[true]{%
2542   \Hy@boolkey{typexml}{#1}%
2543 }

```

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.

```

2544 \define@key{Hyp}{raiselinks}[true]{%

```

```

2545 \Hy@boolkey{raiselinks}{#1}%
2546 }

```

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

```

2547 \def\Hy@setbreaklinks#1{%
2548   \csname breaklinks#1\endcsname
2549 }

2550 \def\Hy@breaklinks@unsupported{%
2551   \ifx\Hy@setbreaklinks@gobble
2552     \ifHy@breaklinks
2553       \Hy@WarningNoLine{%
2554         You have enabled option `breaklinks'.\MessageBreak
2555         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2556         Expect trouble with the link areas of broken links%
2557       }%
2558     \fi
2559   \fi
2560 }

2561 \define@key{Hyp}{breaklinks}[true]{%
2562   \Hy@boolkey{breaklinks}{#1}%
2563   \let\Hy@setbreaklinks@gobble
2564 }

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

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

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

```

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?

```

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

```

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

```

2577 \define@key{Hyp}{hypertexnames}[true]{%
2578   \Hy@boolkey{hypertexnames}{#1}%
2579 }

```

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

```

2580 \define@key{Hyp}{nesting}[true]{%

```

```

2581 \Hy@boolkey{nesting}{#1}%
2582 }
2583 \define@key{Hyp}{destlabel}[true]{%
2584 \Hy@boolkey{destlabel}{#1}%
2585 }
2586 \define@key{Hyp}{unicode}[true]{%
2587 \Hy@boolkey{unicode}{#1}%
2588 \ifHy@unicode
2589 \def\HyPsd@pdfencoding{unicode}%
2590 \HyPsd@LoadUnicode
2591 \else
2592 \def\HyPsd@pdfencoding{pdfdoc}%
2593 \fi
2594 }
2595 \Hy@AtBeginDocument{%
2596 \ifx\HyPsd@LoadUnicode\relax
2597 \else
2598 \def\HyPsd@LoadUnicode{%
2599 \Hy@Error{%
2600 Unicode support for bookmarks is not available.\MessageBreak
2601 Activate unicode support by using one of the options\MessageBreak
2602 `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2603 in the preamble%
2604 } \@ehc
2605 \global\let\HyPsd@LoadUnicode\relax
2606 \global\Hy@unicodetrue
2607 \global\let\Hy@unicodetrue\Hy@unicodetrue
2608 }%
2609 \fi
2610 }
2611 \define@key{Hyp}{pdfencoding}{%
2612 \edef\HyPsd@temp{#1}%
2613 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2614 \let\HyPsd@pdfencoding\HyPsd@temp
2615 \Hy@unicodetrue
2616 \else
2617 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2618 \z@
2619 \else
2620 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2621 \z@
2622 \else
2623 \@ne
2624 \fi
2625 \fi
2626 \let\HyPsd@pdfencoding\HyPsd@temp
2627 \hypersetup{unicode}%
2628 \ifHy@unicode
2629 \def\HyPsd@pdfencoding{#1}%

```

```

2630     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2631     \HyPsd@LoadStringEnc
2632     \fi
2633   \else
2634     \Hy@Warning{Cannot switch to unicode bookmarks}%
2635     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2636     \fi
2637   \else
2638     \@onelevel@sanitize\HyPsd@temp
2639     \Hy@Warning{%
2640       Values of option `pdfencoding':\MessageBreak
2641       `pdfdoc', `unicode', `auto'.\MessageBreak
2642       Ignoring unknown value ``\HyPsd@temp'%
2643     }%
2644     \fi
2645   \fi
2646 }
2647 \def\HyPsd@pdfencoding@auto{auto}
2648 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2649 \def\HyPsd@pdfencoding@unicode{unicode}

change 2020-08-14, use unicode by default:
2650 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2651 \HyPsd@LoadUnicode
2652 \def\HyPsd@LoadStringEnc{%
2653   \RequirePackage{stringenc}[2009/12/15]%
2654   \let\HyPsd@LoadStringEnc\relax
2655 }
2656 \Hy@AtBeginDocument{%
2657   \ifpackageloaded{stringenc}{%
2658     \let\HyPsd@LoadStringEnc\relax
2659   }{%
2660     \def\HyPsd@LoadStringEnc{%
2661       \Hy@WarningNoLine{%
2662         Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2663         in the preamble or load the package there%
2664       }%
2665     }%
2666   }%
2667 }
2668 \define@key{Hyp}{psdextra}[true]{%
2669   \Hy@boolkey{psdextra}{#1}%
2670   \HyPsd@LoadExtra
2671 }
2672 \def\hypersetup{\kvsetkeys{Hyp}}

2673 \newif\ifHy@setpdfversion
2674 \define@key{Hyp}{pdfversion}{%
2675   \@ifundefined{Hy@pdfversion@#1}{%
2676     \PackageWarning{hyperref}{%

```

```

2677     Unsupported PDF version `#1'.\MessageBreak
2678     Valid values: 1.2-1.7, 2.0%
2679   }%
2680 }{%
2681   \Hy@setpdfversiontrue
2682   \@nameuse{Hy@pdfversion@#1}%
2683 }%
2684 }

```

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

```

2685 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{2}}%
2686 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{3}}%
2687 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{4}}%
2688 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{5}}%
2689 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{6}}%
2690 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{7}}%
2691 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
    norversion{0}}%
2692 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}

```

Legacy name, earlier releases assumed 1.x

```

2693 \let\Hy@pdfversion\Hy@pdf@minorversion
2694 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
    norversion\relax}
2695 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
    norversion\relax}

```

if `pdfminorversion` is defined, make sure `pdfmajorversion` is too.

```

2696 \@ifundefined{pdfminorversion}{}{%
2697 \@ifundefined{pdfmajorversion}{}%
2698 \newcount\pdfmajorversion
2699 \pdfmajorversion=1
2700 }{}%
2701 }
2702 \ifx\pdfmajorversion\undefined\else
2703 \def\Hy@pdfmajorversion{\pdfmajorversion}
2704 \fi

```

## 10 Options for different drivers

```

2705 \newif\ifHy@DviMode
2706 \let\Hy@DviErrMsg\ltx@empty
2707 \ifpdf
2708   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2709 \else

```

```

2710 \ifxetex
2711   \def\Hy@DviErrMsg{XeTeX is running}%
2712 \else
2713   \ifvtex
2714     \ifnum\OpMode=\z@
2715       \Hy@DviModetrue
2716     \else
2717       \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2718     \fi
2719   \else
2720     \Hy@DviModetrue
2721   \fi
2722 \fi
2723 \fi
2724 \def\HyOpt@CheckDvi#1{%
2725   \ifHy@DviMode
2726     \expandafter\ltx@firstofone
2727   \else
2728     \Hy@Error{%
2729       Wrong DVI mode driver option `#1',\MessageBreak
2730       because \Hy@DviErrMsg
2731     }\@ehc
2732     \expandafter\ltx@gobble
2733   \fi
2734 }
2735 \DeclareVoidOption{tex4ht}{%
2736   \Hy@texhttrue
2737   \kvsetkeys{Hyp}{colorlinks=true}%
2738   \def\BeforeTeXIVht{\RequirePackage{color}}%
2739   \def\Hy@driver{htex4ht}%
2740   \def\MaybeStopEarly{%
2741     \Hy@Message{Stopped early}%
2742     \Hy@AtBeginDocument{%
2743       \PDF@FinishDoc
2744       \gdef\PDF@FinishDoc{}%
2745     }%
2746   \endinput
2747 }%
2748 }
2749 \DeclareVoidOption{pdftex}{%
2750   \ifpdf
2751     \def\Hy@driver{hpdftex}%
2752     \PassOptionsToPackage{pdftex}{color}%
2753   \else
2754     \Hy@Error{%
2755       Wrong driver option `pdftex',\MessageBreak
2756       because pdfTeX in PDF mode is not detected%
2757     }\@ehc
2758   \fi

```



```

2759 }
2760 \DeclareVoidOption{luatex}{%
2761   \ifpdf
2762     \ifx\pdfextension\@undefined
2763       \def\Hy@driver{hpdfTeX}%
2764       \PassOptionsToPackage{pdfTeX}{color}%
2765     \else
2766       \def\Hy@driver{hluatex}%
2767       \PassOptionsToPackage{luatex}{color}%
2768     \fi
2769   \else
2770     \Hy@Error{%
2771       Wrong driver option `luatex',\MessageBreak
2772       because luaTeX in PDF mode is not detected%
2773     }\@ehc
2774   \fi
2775 }
2776 \DeclareVoidOption{nativepdf}{%
2777   \HyOpt@CheckDvi{nativepdf}{%
2778     \def\Hy@driver{hdvips}%
2779     \PassOptionsToPackage{dvips}{color}%
2780   }%
2781 }
2782 \DeclareVoidOption{dvipdfm}{%
2783   \HyOpt@CheckDvi{dvipdfm}{%
2784     \def\Hy@driver{hdvipdfm}%
2785   }%
2786 }
2787 \DeclareVoidOption{dvipdfmx}{%
2788   \HyOpt@CheckDvi{dvipdfmx}{%
2789     \def\Hy@driver{hdvipdfm}%
2790     \PassOptionsToPackage{dvipdfmx}{color}%
2791   }%
2792 }
2793 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2794   \expandafter\ifx\csname if#1\expandafter\endcsname
2795     \csname iftrue\endcsname
2796     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2797   \else
2798     \chardef\SpecialDvipdfmxOutlineOpen\z@
2799   \fi
2800 }
2801 \DeclareVoidOption{xetex}{%
2802   \ifxetex
2803     \def\Hy@driver{hxetex}%
2804   \else
2805     \Hy@Error{%
2806       Wrong driver option `xetex',\MessageBreak
2807       because XeTeX is not detected%
2808     }\@ehc

```

```

2809 \fi
2810 }
2811 \DeclareVoidOption{pdfmark}{%
2812   \HyOpt@CheckDvi{pdfmark}{%
2813     \def\Hy@driver{hdvips}%
2814   }%
2815 }
2816 \DeclareVoidOption{dvips}{%
2817   \HyOpt@CheckDvi{dvips}{%
2818     \def\Hy@driver{hdvips}%
2819     \PassOptionsToPackage{dvips}{color}%
2820   }%
2821 }
2822 \DeclareVoidOption{hypertex}{%
2823   \HyOpt@CheckDvi{hypertex}{%
2824     \def\Hy@driver{hypertex}%
2825   }%
2826 }
2827 \let\Hy@MaybeStopNow\relax
2828 \DeclareVoidOption{vtex}{%
2829   \ifvtex
2830     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2831     \def\Hy@driver{hvtex}%
2832   \else
2833     \ifnum\OpMode=10\relax
2834       \def\Hy@driver{hvtexhtm}%
2835       \def\MaybeStopEarly{%
2836         \Hy@Message{Stopped early}%
2837         \Hy@AtBeginDocument{%
2838           \PDF@FinishDoc
2839           \gdef\PDF@FinishDoc{}%
2840         }%
2841       \endinput
2842     }%
2843   \else
2844     \Hy@Error{%
2845       Wrong driver option `vtex',\MessageBreak
2846       because of wrong OpMode (\the\OpMode)%
2847     }\@ehc
2848   \fi
2849 \fi
2850 \else
2851   \Hy@Error{%
2852     Wrong driver option `vtex',\MessageBreak
2853     because VTeX is not running%
2854   }\@ehc
2855 \fi
2856 }
2857 \DeclareVoidOption{vtexpdfmark}{%
2858   \ifvtex

```

```

2859 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2860 \def\Hy@driver{hvtexmrk}%
2861 \else
2862 \Hy@Error{%
2863   Wrong driver option `vtexpdfmark',\MessageBreak
2864   because of wrong OpMode (\the\OpMode)%
2865 } \@ehc
2866 \fi
2867 \else
2868 \Hy@Error{%
2869   Wrong driver option `vtexpdfmark',\MessageBreak
2870   because VTeX is not running%
2871 } \@ehc
2872 \fi
2873 }
2874 \DeclareVoidOption{dviwindo}{%
2875 \HyOpt@CheckDvi{dviwindo}{%
2876 \def\Hy@driver{hdviwind}%
2877 \kvsetkeys{Hyp}{colorlinks}%
2878 \PassOptionsToPackage{dviwindo}{color}%
2879 }%
2880 }
2881 \DeclareVoidOption{dvipsone}{%
2882 \HyOpt@CheckDvi{dvipsone}{%
2883 \def\Hy@driver{hdvipson}%
2884 \PassOptionsToPackage{dvipsone}{color}%
2885 }%
2886 }
2887 \DeclareVoidOption{textures}{%
2888 \HyOpt@CheckDvi{textures}{%
2889 \def\Hy@driver{htexture}%
2890 }%
2891 }
2892 \DeclareVoidOption{latex2html}{%
2893 \HyOpt@CheckDvi{latex2html}{%
2894 \Hy@AtBeginDocument{\@latex2htmlX}%
2895 }%
2896 }

```

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

```

2897 \DeclareVoidOption{ps2pdf}{%
2898 \HyOpt@CheckDvi{ps2pdf}{%
2899 \def\Hy@driver{hdvips}%
2900 \PassOptionsToPackage{dvips}{color}%
2901 }%
2902 }
2903 \let\HyOpt@DriverFallback\ltx@empty
2904 \define@key{Hyp}{driverfallback}{%
2905 \ifHy@DviMode
2906 \def\HyOpt@DriverFallback{#1}%

```

```

2907 \Hy@Match\HyOpt@DriverFallback{}{%
2908   ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2909     latex2html|tex4ht)$%
2910 }{%
2911   \Hy@Warning{%
2912     Invalid driver `#1' for option\MessageBreak
2913     `driverfallback'%
2914   }%
2915   \let\HyOpt@DriverFallback\ltx@empty
2916 }%
2917 \fi
2918 }

2919 \let\HyOpt@CustomDriver\ltx@empty
2920 \define@key{Hyp}{customdriver}{%
2921   \IfFileExists{#1.def}{%
2922     \def\HyOpt@CustomDriver{#1}%
2923   }{%
2924     \Hy@Warning{%
2925       Missing driver file `#1.def',\MessageBreak
2926       ignoring custom driver%
2927     }%
2928   }%
2929 }

```

## 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.

```

2930 \define@key{Hyp}{hyperfigures}[true]{%
2931   \Hy@boolkey{hyperfigures}{#1}%
2932 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2933 \define@key{Hyp}{hyperfootnotes}[true]{%
2934   \Hy@boolkey{hyperfootnotes}{#1}%
2935 }

```

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

```

2936 \def\back@none{none}
2937 \def\back@section{section}
2938 \def\back@page{page}
2939 \def\back@slide{slide}
2940 \define@key{Hyp}{backref}[section]{%
2941   \lowercase{\def\Hy@tempa{#1}}%
2942   \ifx\Hy@tempa\@empty
2943     \let\Hy@tempa\back@section
2944   \fi
2945   \ifx\Hy@tempa\Hy@false
2946     \let\Hy@tempa\back@none
2947   \fi

```

```

2948 \ifx\Hy@tempa\back@slide
2949 \let\Hy@tempa\back@section
2950 \fi
2951 \ifx\Hy@tempa\back@page
2952 \PassOptionsToPackage{hyperpageref}{backref}%
2953 \Hy@backreftrue
2954 \else
2955 \ifx\Hy@tempa\back@section
2956 \PassOptionsToPackage{hyperref}{backref}%
2957 \Hy@backreftrue
2958 \else
2959 \ifx\Hy@tempa\back@none
2960 \Hy@backreffalse
2961 \else
2962 \Hy@WarnOptionValue{#1}{backref}{%
2963 `section', `slide', `page', `none',\MessageBreak
2964 or `false'}%
2965 \fi
2966 \fi
2967 \fi
2968 }
2969 \define@key{Hyp}{pagebackref}[true]{%
2970 \edef\Hy@tempa{#1}%
2971 \lowercase\expandafter{%
2972 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2973 }%
2974 \ifx\Hy@tempa\@empty
2975 \let\Hy@tempa\Hy@true
2976 \fi
2977 \ifx\Hy@tempa\Hy@true
2978 \PassOptionsToPackage{hyperpageref}{backref}%
2979 \Hy@backreftrue
2980 \else
2981 \ifx\Hy@tempa\Hy@false
2982 \Hy@backreffalse
2983 \else
2984 \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2985 \fi
2986 \fi
2987 }

```

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

```

2988 \define@key{Hyp}{hyperindex}[true]{%
2989 \Hy@boolkey{hyperindex}{#1}%
2990 }

```

Configuration of encap char.

```

2991 \define@key{Hyp}{encap}[||]{%
2992 \def\HyInd@EncapChar{#1}%
2993 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```
2994 \def\HyLang@afrikaans{%
2995   \def\equationautorefname{Vergelyking}%
2996   \def\footnoteautorefname{Voetnota}%
2997   \def\itemautorefname{Item}%
2998   \def\figureautorefname{Figuur}%
2999   \def\tableautorefname{Tabel}%
3000   \def\partautorefname{Deel}%
3001   \def\appendixautorefname{Bylae}%
3002   \def\chapterautorefname{Hoofstuk}%
3003   \def\sectionautorefname{Afdeling}%
3004   \def\subsectionautorefname{Subafdeling}%
3005   \def\subsubsectionautorefname{Subsubafdeling}%
3006   \def\paragraphautorefname{Paragraaf}%
3007   \def\subparagraphautorefname{Subparagraaf}%
3008   \def\FancyVerbLineautorefname{Lyn}%
3009   \def\theoremautorefname{Teorema}%
3010   \def\pageautorefname{Bladsy}%
3011 }
3012 \def\HyLang@english{%
3013   \def\equationautorefname{Equation}%
3014   \def\footnoteautorefname{footnote}%
3015   \def\itemautorefname{item}%
3016   \def\figureautorefname{Figure}%
3017   \def\tableautorefname{Table}%
3018   \def\partautorefname{Part}%
3019   \def\appendixautorefname{Appendix}%
3020   \def\chapterautorefname{chapter}%
3021   \def\sectionautorefname{section}%
3022   \def\subsectionautorefname{subsection}%
3023   \def\subsubsectionautorefname{subsubsection}%
3024   \def\paragraphautorefname{paragraph}%
3025   \def\subparagraphautorefname{subparagraph}%
3026   \def\FancyVerbLineautorefname{line}%
3027   \def\theoremautorefname{Theorem}%
3028   \def\pageautorefname{page}%
3029 }
3030 \def\HyLang@french{%
3031   \def\equationautorefname{'equation}%
3032   \def\footnoteautorefname{note}%
3033   \def\itemautorefname{item}%
3034   \def\figureautorefname{figure}%
3035   \def\tableautorefname{tableau}%
3036   \def\partautorefname{partie}%
3037   \def\appendixautorefname{annexe}%
3038   \def\chapterautorefname{chapitre}%
3039   \def\sectionautorefname{section}%

```

```

3040 \def\subsectionautorefname{sous-section}%
3041 \def\subsubsectionautorefname{sous-sous-section}%
3042 \def\paragraphautorefname{paragraphe}%
3043 \def\subparagraphautorefname{sous-paragraphe}%
3044 \def\FancyVerbLineautorefname{ligne}%
3045 \def\theoremautorefname{th\`eor\`eme}%
3046 \def\pageautorefname{page}%
3047 }
3048 \def\HyLang@german{%
3049 \def\equationautorefname{Gleichung}%
3050 \def\footnoteautorefname{Fu\ss note}%
3051 \def\itemautorefname{Punkt}%
3052 \def\figureautorefname{Abbildung}%
3053 \def\tableautorefname{Tabelle}%
3054 \def\partautorefname{Teil}%
3055 \def\appendixautorefname{Anhang}%
3056 \def\chapterautorefname{Kapitel}%
3057 \def\sectionautorefname{Abschnitt}%
3058 \def\subsectionautorefname{Unterabschnitt}%
3059 \def\subsubsectionautorefname{Unterunterabschnitt}%
3060 \def\paragraphautorefname{Absatz}%
3061 \def\subparagraphautorefname{Unterabsatz}%
3062 \def\FancyVerbLineautorefname{Zeile}%
3063 \def\theoremautorefname{Theorem}%
3064 \def\pageautorefname{Seite}%
3065 }
3066 \def\HyLang@italian{%
3067 \def\equationautorefname{Equazione}%
3068 \def\footnoteautorefname{nota}%
3069 \def\itemautorefname{punto}%
3070 \def\figureautorefname{Figura}%
3071 \def\tableautorefname{Tabella}%
3072 \def\partautorefname{Parte}%
3073 \def\appendixautorefname{Appendice}%
3074 \def\chapterautorefname{Capitolo}%
3075 \def\sectionautorefname{sezione}%
3076 \def\subsectionautorefname{sottosezione}%
3077 \def\subsubsectionautorefname{sottosottosezione}%
3078 \def\paragraphautorefname{paragrafo}%
3079 \def\subparagraphautorefname{sottoparagrafo}%
3080 \def\FancyVerbLineautorefname{linea}%
3081 \def\theoremautorefname{Teorema}%
3082 \def\pageautorefname{Pag.\@}%
3083 }
3084 \def\HyLang@magyar{%
3085 \def\equationautorefname{Egyenlet}%
3086 \def\footnoteautorefname{l\`abjegyzet}%
3087 \def\itemautorefname{Elem}%
3088 \def\figureautorefname{\`Abra}%
3089 \def\tableautorefname{T\`abl\`azat}%

```

```

3090 \def\partautorefname{R\'esz}%
3091 \def\appendixautorefname{F\'uggel\'ek}%
3092 \def\chapterautorefname{fejezet}%
3093 \def\sectionautorefname{szakasz}%
3094 \def\subsectionautorefname{alszakasz}%
3095 \def\subsubsectionautorefname{alalszakasz}%
3096 \def\paragraphautorefname{bekezd\'es}%
3097 \def\subparagraphautorefname{albekezd\'es}%
3098 \def\FancyVerbLineautorefname{sor}%
3099 \def\theoremautorefname{T\'etel}%
3100 \def\pageautorefname{oldal}%
3101 }
3102 \def\HyLang@portuges{%
3103 \def\equationautorefname{Equa\c c\~ao}%
3104 \def\footnoteautorefname{Nota de rodap\'e}%
3105 \def\itemautorefname{Item}%
3106 \def\figureautorefname{Figura}%
3107 \def\tableautorefname{Tabela}%
3108 \def\partautorefname{Parte}%
3109 \def\appendixautorefname{Ap\~endice}%
3110 \def\chapterautorefname{Cap\'itulo}%
3111 \def\sectionautorefname{Se\c c\~ao}%
3112 \def\subsectionautorefname{Subse\c c\~ao}%
3113 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3114 \def\paragraphautorefname{par\'agrafo}%
3115 \def\subparagraphautorefname{subpar\'agrafo}%
3116 \def\FancyVerbLineautorefname{linha}%
3117 \def\theoremautorefname{Teorema}%
3118 \def\pageautorefname{P\'agina}%
3119 }

```

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`.

```

3120 \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`?

```

3121 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

3122 % \def\equationautorefname{%
3123 % \cyr\cyrv\cyrery\cyr\cyrh\cyr\cyrn\cyr\cyr

```



3124 % }%

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

```
3125 \def\footnoteautorefname{%  
3126 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%  
3127 }%
```

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}”

```
3128 % \def\footnoteautorefname{%  
3129 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\  
3130 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre  
3131 % }%
```

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

```
3132 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
3133 % \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.

```
3134 \def\itemautorefname{\cyr\cyrp.}%  
3135 % \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.

```
3136 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3137 \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.

```
3138 \def\partautorefname{\cyr\cyrch.}%  
3139 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3140 \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.

```
3141 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3142 % \def\appendixautorefname{%  
3143 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre  
3144 % }%
```

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.

3145 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
 3146 \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.

3147 \def\paragraphautorefname{\cyr\cyrp.}%  
 3148 \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.

3149 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%  
 3150 % \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.

3151 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

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

3152 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%  
 3153 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

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

3154 % \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 ...

3155 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

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

3156 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%  
 3157 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

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

3158 \def\pageautorefname{\cyr\cyrs.}%  
 3159 }

3160 \def\HyLang@spanish{%  
 3161 \def\equationautorefname{Ecuaci'on}%  
 3162 \def\footnoteautorefname{Nota a pie de p'agina}%  
 3163 \def\itemautorefname{Elemento}%  
 3164 \def\figureautorefname{Figura}%  
 3165 \def\tableautorefname{Tabla}%  
 3166 \def\partautorefname{Parte}%  
 3167 \def\appendixautorefname{Ap'endice}%  
 3168 \def\chapterautorefname{Cap'itulo}%

```

3169 \def\sectionautorefname{Secci\on}%
3170 \def\subsectionautorefname{Subsecci\on}%
3171 \def\subsubsectionautorefname{Subsubsecci\on}%
3172 \def\paragraphautorefname{P\arrafo}%
3173 \def\subparagraphautorefname{Subp\arrafo}%
3174 \def\FancyVerbLineautorefname{L\inea}%
3175 \def\theoremautorefname{Teorema}%
3176 \def\pageautorefname{P\agina}%
3177 }

3178 \def\HyLang@catalan{%
3179 \def\equationautorefname{Equaci\o}%
3180 \def\footnoteautorefname{Nota al peu de p\`agina}%
3181 \def\itemautorefname{Element}%
3182 \def\figureautorefname{Figura}%
3183 \def\tableautorefname{Taula}%
3184 \def\partautorefname{Part}%
3185 \def\appendixautorefname{Ap\`endix}%
3186 \def\chapterautorefname{Cap\`itol}%
3187 \def\sectionautorefname{Secci\o}%
3188 \def\subsectionautorefname{Subsecci\o}%
3189 \def\subsubsectionautorefname{Subsubsecci\o}%
3190 \def\paragraphautorefname{Par\`agraf}%
3191 \def\subparagraphautorefname{Subpar\`agraf}%
3192 \def\FancyVerbLineautorefname{L\`inia}%
3193 \def\theoremautorefname{Teorema}%
3194 \def\pageautorefname{P\`agina}%
3195 }

3196 \def\HyLang@vietnamese{%
3197 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\`inh}%
3198 \def\footnoteautorefname{Ch\`u th\`ich}%
3199 \def\itemautorefname{m\{d\{u\}c\}%
3200 \def\figureautorefname{H\`inh}%
3201 \def\tableautorefname{B\h{a}ng}%
3202 \def\partautorefname{Ph\`acircumflex{}n}%
3203 \def\appendixautorefname{Ph\{d\{u\} l\{d\{u\}c\}%
3204 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
3205 \def\sectionautorefname{m\{d\{u\}c\}%
3206 \def\subsectionautorefname{m\{d\{u\}c\}%
3207 \def\subsubsectionautorefname{m\{d\{u\}c\}%
3208 \def\paragraphautorefname{\dj{}o\{d\{a\}n\}%
3209 \def\subparagraphautorefname{\dj{}o\{d\{a\}n\}%
3210 \def\FancyVerbLineautorefname{d\`ong}%
3211 \def\theoremautorefname{\DJ{}\{d\{i\}nh l\`y}%
3212 \def\pageautorefname{Trang}%
3213 }

```

Greek, see github issue 52

```

3214 \def\HyLang@greek{%
3215 \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\textomega\textsigma\texteta}%

```

```

3216 \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3217 \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3218 \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3219 \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3220 \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3221 \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3222 \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%
3223 \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3224 \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3225 \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\textrho\texteta\textmu\textalpha}%
3226 \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3227 \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3228 \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acconos\texteta}%
3229 \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\textrho\texteta\textmu\textalpha}%
3230 \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\textalpha}%
3231 }

3232 \def\HyLang@dutch{%
3233 \def\equationautorefname{Vergelijking}%
3234 \def\footnoteautorefname{voetnoot}%
3235 \def\itemautorefname{punt}%
3236 \def\figureautorefname{Figuur}%
3237 \def\tableautorefname{Tabel}%
3238 \def\partautorefname{Deel}%
3239 \def\appendixautorefname{Bijlage}%
3240 \def\chapterautorefname{hoofdstuk}%
3241 \def\sectionautorefname{paragraaf}%
3242 \def\subsectionautorefname{deelparagraaf}%
3243 \def\subsubsectionautorefname{deel-deelparagraaf}%
3244 \def\paragraphautorefname{alineaf}%
3245 \def\subparagraphautorefname{deelalineaf}%
3246 \def\FancyVerbLineautorefname{regel}%
3247 \def\theoremautorefname{Stelling}%
3248 \def\pageautorefname{pagina}%
3249 }

```

```

3250 \def\HyLang@norsk{%
3251   \def\equationautorefname{Ligning}%
3252   \def\footnoteautorefname{fotnote}%
3253   \def\itemautorefname{element}%
3254   \def\figureautorefname{Figur}%
3255   \def\tableautorefname{Tabell}%
3256   \def\partautorefname{Del}%
3257   \def\appendixautorefname{Tillegg}%
3258   \def\chapterautorefname{kapittel}%
3259   \def\sectionautorefname{seksjon}%
3260   \def\subsectionautorefname{underseksjon}%
3261   \def\subsubsectionautorefname{under-underseksjon}%
3262   \def\paragraphautorefname{avsnitt}%
3263   \def\subparagraphautorefname{underavsnitt}%
3264   \def\FancyVerbLineautorefname{Linje}%
3265   \def\theoremautorefname{Teorem}%
3266   \def\pageautorefname{side}%
3267 }
3268 \def\HyLang@danish{%
3269   \def\equationautorefname{Ligning}%
3270   \def\footnoteautorefname{fodnote}%
3271   \def\itemautorefname{element}%
3272   \def\figureautorefname{Figur}%
3273   \def\tableautorefname{Tabel}%
3274   \def\partautorefname{Del}%
3275   \def\appendixautorefname{Bilag}%
3276   \def\chapterautorefname{kapitel}%
3277   \def\sectionautorefname{sektion}%
3278   \def\subsectionautorefname{under-sektion}%
3279   \def\subsubsectionautorefname{under-under-sektion}%
3280   \def\paragraphautorefname{afsnit}%
3281   \def\subparagraphautorefname{underafsnit}%
3282   \def\FancyVerbLineautorefname{linje}%
3283   \def\theoremautorefname{Teorem}%
3284   \def\pageautorefname{side}%
3285 }

```

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

```

3286 \def\HyLang@addto#1#2{%
3287   #2%
3288   \@temptokena{#2}%
3289   \ifx#1\relax
3290     \let#1\@empty
3291   \fi
3292   \ifx#1\@undefined
3293     \edef#1{\the\@temptokena}%
3294   \else
3295     \toks@\expandafter{#1}%
3296     \edef#1{\the\toks@\the\@temptokena}%

```

```

3297 \fi
3298 \@temptokena{}\toks@\@temptokena
3299 }

3300 \def\HyLang@DeclareLang#1#2#3{%
3301 \ifpackagewith{babel}{#1}{%
3302 \expandafter\HyLang@addto
3303 \csname extras#1\expandafter\endcsname
3304 \csname HyLang@#2\endcsname
3305 \begingroup
3306 \edef\x{\endgroup
3307 #3%
3308 }%
3309 \x
3310 \@namedef{HyLang@#1@done}{}%
3311 }{}%
3312 \begingroup
3313 \edef\x##1##2{%
3314 \noexpand\ifx##2\relax
3315 \errmessage{No definitions for language #2' found!}%
3316 \noexpand\fi
3317 \endgroup
3318 \noexpand\define@key{Hyp}{#1}[]{%
3319 \noexpand\@ifundefined{HyLang@#1@done}{%
3320 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3321 #3%
3322 \noexpand\@namedef{HyLang@#1@done}{}%
3323 }{}%
3324 }%
3325 }%
3326 \expandafter\x\csname extras#1\expandafter\endcsname
3327 \csname HyLang@#2\endcsname
3328 }

3329 \HyLang@DeclareLang{english}{english}{}
3330 \HyLang@DeclareLang{UKenglish}{english}{}
3331 \HyLang@DeclareLang{british}{english}{}
3332 \HyLang@DeclareLang{USenglish}{english}{}
3333 \HyLang@DeclareLang{american}{english}{}
3334 \HyLang@DeclareLang{german}{german}{}
3335 \HyLang@DeclareLang{austrian}{german}{}
3336 \HyLang@DeclareLang{ngerman}{german}{}
3337 \HyLang@DeclareLang{naustrian}{german}{}
3338 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3339 \HyLang@DeclareLang{brazil}{portuges}{}
3340 \HyLang@DeclareLang{brazilian}{portuges}{}
3341 \HyLang@DeclareLang{portuguese}{portuges}{}
3342 \HyLang@DeclareLang{spanish}{spanish}{}
3343 \HyLang@DeclareLang{catalan}{catalan}{}
3344 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3345 \HyLang@DeclareLang{french}{french}{}

```

```

3346 \HyLang@DeclareLang{frenchb}{french}{}
3347 \HyLang@DeclareLang{francais}{french}{}
3348 \HyLang@DeclareLang{acadian}{french}{}
3349 \HyLang@DeclareLang{canadien}{french}{}
3350 \HyLang@DeclareLang{italian}{italian}{}
3351 \HyLang@DeclareLang{magyar}{magyar}{}
3352 \HyLang@DeclareLang{hungarian}{magyar}{}
3353 \HyLang@DeclareLang{greek}{greek}{}
3354 \HyLang@DeclareLang{dutch}{dutch}{}
3355 \HyLang@DeclareLang{norsk}{norsk}{}
3356 \HyLang@DeclareLang{norwegian}{norsk}{}
3357 \HyLang@DeclareLang{danish}{danish}{}

```

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

```

3358 \DeclareVoidOption{vietnamese}{%
3359   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3360   \Hy@AtEndOfPackage{%
3361     \@ifundefined{T@PU}{}{}%
3362     \input{puvnenc.def}%
3363   }%
3364 }%
3365 }
3366 \DeclareVoidOption{vietnam}{%
3367   \HyLang@addto\extravietnam\HyLang@vietnamese
3368   \Hy@AtEndOfPackage{%
3369     \@ifundefined{T@PU}{}{}%
3370     \input{puvnenc.def}%
3371   }%
3372 }%
3373 }

```

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

```

3374 \DeclareVoidOption{arabic}{%
3375   \Hy@AtEndOfPackage{%
3376     \@ifundefined{T@PU}{}{}%
3377     \input{puarenc.def}%
3378   }%
3379 }%
3380 }

```

## 13 Options to change appearance of links

Colouring links at the  $\text{\LaTeX}$  level is useful for debugging, perhaps.

```

3381 \define@key{Hyp}{colorlinks}[true]{%
3382   \Hy@boolkey{colorlinks}{#1}%
3383 }
3384 \DeclareVoidOption{hidelinks}{%
3385   \Hy@colorlinksfalse
3386   \Hy@ocgcolorlinksfalse

```

```

3387 \Hy@frenchlinksfalse
3388 \def\Hy@colorlink##1{\begingroup}%
3389 \def\Hy@endcolorlink{\endgroup}%
3390 \def\@pdfborder{0 0 0}%
3391 \let\@pdfborderstyle\ltx@empty
3392 }
3393 \define@key{Hyp}{ocgcolorlinks}[true]{%
3394 \Hy@boolkey{ocgcolorlinks}{#1}%
3395 }
3396 \Hy@AtBeginDocument{%
3397 \begingroup
3398 \@ifundefined{OBJ@OCG@view}{%
3399 \ifHy@ocgcolorlinks
3400 \Hy@Warning{%
3401 Driver does not support `ocgcolorlinks',\MessageBreak
3402 using `colorlinks' instead%
3403 }%
3404 \fi
3405 }{}%
3406 \endgroup
3407 }
3408 \define@key{Hyp}{frenchlinks}[true]{%
3409 \Hy@boolkey{frenchlinks}{#1}%
3410 }

```

## 14 Bookmarking

```

3411 \begingroup\expandafter\expandafter\expandafter\endgroup
3412 \expandafter\ifx\csname chapter\endcsname\relax
3413 \def\toclevel@part{0}%
3414 \else
3415 \def\toclevel@part{-1}%
3416 \fi
3417 \def\toclevel@chapter{0}
3418 \def\toclevel@section{1}
3419 \def\toclevel@subsection{2}
3420 \def\toclevel@subsubsection{3}
3421 \def\toclevel@paragraph{4}
3422 \def\toclevel@subparagraph{5}
3423 \def\toclevel@figure{0}
3424 \def\toclevel@table{0}
3425 \@ifpackageloaded{listings}{%
3426 \providecommand*\theHlstlisting{\thelstlisting}%
3427 \providecommand*\toclevel@lstlisting{0}%
3428 }{}
3429 \@ifpackageloaded{listing}{%
3430 \providecommand*\theHlisting{\thelisting}%
3431 \providecommand*\toclevel@listing{0}%
3432 }{}

```



```

3433 \define@key{Hyp}{bookmarks}[true]{%
3434   \Hy@boolkey{bookmarks}{#1}%
3435 }

3436 \define@key{Hyp}{bookmarksopen}[true]{%
3437   \Hy@boolkey{bookmarksopen}{#1}%
3438 }

```

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.

```

3439 \let\Hy@bookmarksdepth\c@tocdepth
3440 \define@key{Hyp}{bookmarksdepth}[]{%
3441   \begingroup
3442     \edef\x{#1}%
3443     \ifx\x\empty
3444       \global\let\Hy@bookmarksdepth\c@tocdepth
3445     \else
3446       \ifundefined{toclevel@\x}{%
3447         \@onelevel@sanitize\x
3448         \edef\y{\expandafter\@car\x\@nil}%
3449         \ifcase 0\expandafter\ifx\y-1\fi
3450           \expandafter\ifnum\expandafter`\y>47 %
3451           \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3452         \Hy@Warning{Unknown document division name (\x)}%
3453       \else
3454         \setbox\z@=\hbox{%
3455           \count@=\x
3456           \xdef\Hy@bookmarksdepth{\the\count@}%
3457         }%
3458       \fi
3459     }{%
3460       \setbox\z@=\hbox{%
3461         \count@=\csname toclevel@\x\endcsname
3462         \xdef\Hy@bookmarksdepth{\the\count@}%
3463       }%
3464     }%
3465   \fi
3466 \endgroup
3467 }

```

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

```

3468 \define@key{Hyp}{bookmarksopenlevel}{%

```

```

3469 \def\@bookmarksopenlevel{#1}%
3470 }
3471 \def\@bookmarksopenlevel{\maxdimen}
3472 % `bookmarkstype' to specify which `toc' file to mimic
3473 \define@key{Hyp}{bookmarkstype}{%
3474 \def\Hy@bookmarkstype{#1}%
3475 }
3476 \def\Hy@bookmarkstype{toc}

```

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

```

3477 \define@key{Hyp}{bookmarksnumbered}[true]{%
3478 \Hy@boolkey{bookmarksnumbered}{#1}%
3479 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3480 \define@key{Hyp}{CJKbookmarks}[true]{%
3481 \Hy@boolkey{CJKbookmarks}{#1}%
3482 }

3483 \def\Hy@temp#1{%
3484 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3485 }
3486 \def\Hy@@temp#1#2#3{%
3487 \define@key{Hyp}{#2color}{%
3488 \HyColor@HyperrefColor{##1}#1%
3489 }%
3490 \def#1{#3}%
3491 }
3492 \Hy@temp{link}{red}
3493 \Hy@temp{anchor}{black}
3494 \Hy@temp{cite}{green}
3495 \Hy@temp{file}{cyan}
3496 \Hy@temp{url}{magenta}
3497 \Hy@temp{menu}{red}
3498 \Hy@temp{run}{\@filecolor}
3499 \define@key{Hyp}{pagecolor}{%
3500 \Hy@WarningPageColor
3501 }
3502 \def\Hy@WarningPageColor{%
3503 \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3504 \global\let\Hy@WarningPageColor\relax
3505 }
3506 \define@key{Hyp}{allcolors}{%
3507 \HyColor@HyperrefColor{#1}\@linkcolor
3508 \HyColor@HyperrefColor{#1}\@anchorcolor
3509 \HyColor@HyperrefColor{#1}\@citecolor
3510 \HyColor@HyperrefColor{#1}\@filecolor
3511 \HyColor@HyperrefColor{#1}\@urlcolor
3512 \HyColor@HyperrefColor{#1}\@menucolor
3513 \HyColor@HyperrefColor{#1}\@runcolor

```

```

3514 }
3515 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3516 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3517 \let\@baseurl\@empty
3518 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3519 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3520 \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.

```

3521 \let\@pdfpagetransition\relax
3522 \define@key{Hyp}{pdfpagetransition}{%
3523   \def\@pdfpagetransition{#1}%
3524 }

```

`\@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.

```

3525 \let\@pdfpageduration\relax
3526 \define@key{Hyp}{pdfpageduration}{%
3527   \def\@pdfpageduration{#1}%
3528   \Hy@Match\@pdfpageduration{}{%
3529     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3530   }{%
3531     \Hy@Warning{%
3532       Invalid value `'\@pdfpageduration'\MessageBreak
3533       of option `pdfpageduration'\MessageBreak
3534       is replaced by an empty value%
3535     }%
3536     \let\@pdfpageduration\ltx@empty
3537   }%
3538 }

```

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).

```

3539 \def\Hy@ColorList{cite,file,link,menu,run,url}
3540 \@for\Hy@temp:=\Hy@ColorList\do{%
3541   \edef\Hy@temp{%

```

```

3542 \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3543 \noexpand\HyColor@HyperrefBorderColor
3544 {##1}%
3545 \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3546 {hyperref}%
3547 {\Hy@temp bordercolor}%
3548 }%
3549 }%
3550 \Hy@temp
3551 }
3552 \define@key{Hyp}{pagebordercolor}{%
3553 \Hy@WarningPageBorderColor
3554 }
3555 \def\Hy@WarningPageBorderColor{%
3556 \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3557 \global\let\Hy@WarningPageBorderColor\relax
3558 }
3559 \define@key{Hyp}{allbordercolors}{%
3560 \def\Hy@temp##1##2{%
3561 \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3562 }%
3563 \Hy@temp\@citebordercolor{cite}%
3564 \Hy@temp\@filebordercolor{file}%
3565 \Hy@temp\@linkbordercolor{link}%
3566 \Hy@temp\@menubordercolor{menu}%
3567 \Hy@temp\@runbordercolor{run}%
3568 \Hy@temp\@urlbordercolor{url}%
3569 }
3570 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3571 \Hy@DefNameKey{pdfhighlight}{%
3572 \do{/I}{Invert}%
3573 \do{/N}{None}%
3574 \do{/O}{Outline}%
3575 \do{/P}{Push}%
3576 }
3577 \def\Hy@setpdfhighlight{%
3578 \ifx\@pdfhighlight\@empty
3579 \else
3580 /H\@pdfhighlight
3581 \fi
3582 }
3583 \define@key{Hyp}{pdfborder}{%
3584 \let\Hy@temp\@pdfborder
3585 \def\@pdfborder{#1}%
3586 \Hy@Match\@pdfborder{}{%
3587 ^\HyPat@NonNegativeReal/ %
3588 \HyPat@NonNegativeReal/ %
3589 \HyPat@NonNegativeReal/%
3590 ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\]}$%

```

```

3591 }{}{%
3592   \Hy@Warning{%
3593     Invalid value ` \@pdfborder'\MessageBreak
3594     for option `pdfborder'.\MessageBreak
3595     Option setting is ignored%
3596   }%
3597   \let\@pdfborder\Hy@temp
3598 }%
3599 }
3600 \define@key{Hyp}{pdfborderstyle}{%
3601   \let\Hy@temp\@pdfborderstyle
3602   \def\@pdfborderstyle{#1}%
3603   \Hy@Match\@pdfborderstyle{}{%
3604     ~%
3605     ( */Type */Border%
3606     | */W +\HyPat@NonNegativeReal/%
3607     | */S */[SDBIU]%
3608     | */D *[\ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3609     )* *$%
3610   }{}{%
3611     \Hy@Warning{%
3612       Invalid value ` \@pdfborderstyle'\MessageBreak
3613       for option `pdfborderstyle'.\MessageBreak
3614       Option setting is ignored%
3615     }%
3616     \let\@pdfborderstyle\Hy@temp
3617   }%
3618 }
3619 \def\Hy@setpdfborder{%
3620   \ifx\@pdfborder\@empty
3621   \else
3622     /Border[\@pdfborder]%
3623   \fi
3624   \ifx\@pdfborderstyle\@empty
3625   \else
3626     /BS<<\@pdfborderstyle>>%
3627   \fi
3628 }
3629 \Hy@DefNameKey{pdfpagemode}{%
3630   \do{UseNone}{}%
3631   \do{UseOutlines}{}%
3632   \do{UseThumbs}{}%
3633   \do{FullScreen}{}%
3634   \do{UseOC}{PDF 1.5}%
3635   \do{UseAttachments}{PDF 1.6}%
3636 }
3637 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3638   \do{UseNone}{}%
3639   \do{UseOutlines}{}%
3640   \do{UseThumbs}{}%

```

```

3641 \do{FullScreen}{}%
3642 \do{UseOC}{PDF 1.5}%
3643 \do{UseAttachments}{PDF 1.6}%
3644 }
3645 \Hy@DefNameKey{pdfdirection}{}%
3646 \do{L2R}{Left to right}%
3647 \do{R2L}{Right to left}%
3648 }
3649 \Hy@DefNameKey{pdfviewarea}{}%
3650 \do{MediaBox}{}%
3651 \do{CropBox}{}%
3652 \do{BleedBox}{}%
3653 \do{TrimBox}{}%
3654 \do{ArtBox}{}%
3655 }
3656 \Hy@DefNameKey{pdfviewclip}{}%
3657 \do{MediaBox}{}%
3658 \do{CropBox}{}%
3659 \do{BleedBox}{}%
3660 \do{TrimBox}{}%
3661 \do{ArtBox}{}%
3662 }
3663 \Hy@DefNameKey{pdfprintarea}{}%
3664 \do{MediaBox}{}%
3665 \do{CropBox}{}%
3666 \do{BleedBox}{}%
3667 \do{TrimBox}{}%
3668 \do{ArtBox}{}%
3669 }
3670 \Hy@DefNameKey{pdfprintclip}{}%
3671 \do{MediaBox}{}%
3672 \do{CropBox}{}%
3673 \do{BleedBox}{}%
3674 \do{TrimBox}{}%
3675 \do{ArtBox}{}%
3676 }
3677 \Hy@DefNameKey{pdfprintscaling}{}%
3678 \do{AppDefault}{}%
3679 \do{None}{}%
3680 }
3681 \Hy@DefNameKey{pdfduplex}{}%
3682 \do{Simplex}{}%
3683 \do{DuplexFlipShortEdge}{}%
3684 \do{DuplexFlipLongEdge}{}%
3685 }
3686 \Hy@DefNameKey{pdfpicktraybypdfsize}{}%
3687 \do{true}{}%
3688 \do{false}{}%
3689 }
3690 \define@key{Hyp}{pdfprintpagerange}{}%

```

```

3691 \def\@pdfprintpagerange{#1}%
3692 }
3693 \Hy@DefNameKey{pdfnumcopies}{%
3694   \do{2}{two copies}%
3695   \do{3}{three copies}%
3696   \do{4}{four copies}%
3697   \do{5}{five copies}%
3698 }

3699 \define@key{Hyp}{pdfusetitle}[true]{%
3700   \Hy@boolkey{pdfusetitle}{#1}%
3701 }
3702 \def\HyXeTeX@CheckUnicode{%
3703   \ifxetex
3704     \ifHy@unicode
3705     \else
3706       \Hy@WarningNoLine{%
3707         XeTeX driver only supports unicode.\MessageBreak
3708         Enabling option `unicode'%
3709       }%
3710       \kvsetkeys{Hyp}{unicode}%
3711     \fi
3712   \else
3713     \let\HyXeTeX@CheckUnicode\relax
3714   \fi
3715 }
3716 \def\HyPsd@PrerenderUnicode#1{%
3717   \begingroup
3718     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3719     \else
3720       \sbox0{%
3721         \let\GenericInfo\@gobbletwo
3722         \let\GenericWarning\@gobbletwo
3723         \let\GenericError\@gobblefour
3724         \PrerenderUnicode{#1}%
3725       }%
3726     \fi
3727   \endgroup
3728 }
3729 \define@key{Hyp}{pdftitle}{%
3730   \HyXeTeX@CheckUnicode
3731   \HyPsd@PrerenderUnicode{#1}%
3732   \pdfstringdef\@pdftitle{#1}%
3733 }
3734 \define@key{Hyp}{pdfauthor}{%
3735   \HyXeTeX@CheckUnicode
3736   \HyPsd@PrerenderUnicode{#1}%
3737   \pdfstringdef\@pdfauthor{#1}%
3738 }
3739 \define@key{Hyp}{pdfproducer}{%

```

```

3740 \HyXeTeX@CheckUnicode
3741 \HyPsd@PrerenderUnicode{#1}%
3742 \pdfstringdef\@pdfproducer{#1}%
3743 }
3744 \define@key{Hyp}{pdfcreator}{%
3745 \HyXeTeX@CheckUnicode
3746 \HyPsd@PrerenderUnicode{#1}%
3747 \pdfstringdef\@pdfcreator{#1}%
3748 }
3749 \define@key{Hyp}{addtopdfcreator}{%
3750 \HyXeTeX@CheckUnicode
3751 \HyPsd@PrerenderUnicode{#1}%
3752 \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3753 }
3754 \define@key{Hyp}{pdfcreationdate}{%
3755 \begingroup
3756 \Hy@unicodetfalse
3757 \pdfstringdef\@pdfcreationdate{#1}%
3758 \endgroup
3759 }
3760 \define@key{Hyp}{pdfmoddate}{%
3761 \begingroup
3762 \Hy@unicodetfalse
3763 \pdfstringdef\@pdfmoddate{#1}%
3764 \endgroup
3765 }
3766 \define@key{Hyp}{pdfsubject}{%
3767 \HyXeTeX@CheckUnicode
3768 \HyPsd@PrerenderUnicode{#1}%
3769 \pdfstringdef\@pdfsubject{#1}%
3770 }
3771 \define@key{Hyp}{pdfkeywords}{%
3772 \HyXeTeX@CheckUnicode
3773 \HyPsd@PrerenderUnicode{#1}%
3774 \pdfstringdef\@pdfkeywords{#1}%
3775 }
3776 \define@key{Hyp}{pdftrapped}{%
3777 \lowercase{\edef\Hy@temp{#1}}%
3778 \ifx\Hy@temp\HyInfo@trapped@true
3779 \def\@pdftrapped{True}%
3780 \else
3781 \ifx\Hy@temp\HyInfo@trapped@false
3782 \def\@pdftrapped{False}%
3783 \else
3784 \ifx\Hy@temp\HyInfo@trapped@unknown
3785 \def\@pdftrapped{Unknown}%
3786 \else
3787 \ifx\Hy@temp\@empty
3788 \else
3789 \Hy@Warning{%

```



```

3790         Unsupported value `#1'\MessageBreak
3791         for option `pdftrapped'%
3792     }%
3793 \fi
3794 \def\@pdftrapped{}%
3795 \fi
3796 \fi
3797 \fi
3798 }
3799 \def\HyInfo@trapped@true{true}
3800 \def\HyInfo@trapped@false{false}
3801 \def\HyInfo@trapped@unknown{unknown}
3802 \def\HyInfo@TrappedUnsupported{%
3803     \ifx\@pdftrapped\@empty
3804     \else
3805         \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3806         \gdef\HyInfo@TrappedUnsupported{}%
3807     \fi
3808 }
3809 \define@key{Hyp}{pdfinfo}{%
3810     \kvsetkeys{pdfinfo}{#1}%
3811 }
3812 \def\Hy@temp#1{%
3813     \lowercase{\Hy@temp@A{#1}}{#1}%
3814 }
3815 \def\Hy@temp@A#1#2{%
3816     \define@key{pdfinfo}{#2}{%
3817         \hypersetup{pdf#1={##1}}%
3818     }%
3819 }
3820 \Hy@temp{Title}
3821 \Hy@temp{Author}
3822 \Hy@temp{Keywords}
3823 \Hy@temp{Subject}
3824 \Hy@temp{Creator}
3825 \Hy@temp{Producer}
3826 \Hy@temp{CreationDate}
3827 \Hy@temp{ModDate}
3828 \Hy@temp{Trapped}
3829 \newif\ifHyInfo@AddonUnsupported
3830 \kv@set@family@handler{pdfinfo}{%
3831     \HyInfo@AddonHandler{#1}{#2}%
3832 }
3833 \let\HyInfo@do\relax
3834 \def\HyInfo@AddonHandler#1#2{%
3835     \ifx\kv@value\relax
3836         \Hy@Warning{%
3837             Option `pdfinfo': ignoring key `kv@key' without value%
3838         }%
3839     \else

```

```

3840 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3841 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3842 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3843 \ifHyInfo@AddonUnsupported
3844 \Hy@Warning{%
3845   This driver does not support additional\MessageBreak
3846   information entries, therefore\MessageBreak
3847   `{\kv@key}' is ignored%
3848 }%
3849 \else
3850 \def\HyInfo@tmp##1{%
3851   \kv@define@key{pdfinfo}{##1}{%
3852     \HyXeTeX@CheckUnicode
3853     \HyPsd@PrerenderUnicode{####1}%
3854     \pdfstringdef\HyInfo@Value{####1}%
3855     \global\expandafter
3856     \let\csname HyInfo@Value@##1\endcsname
3857     \HyInfo@Value
3858   }%
3859 }%
3860 \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3861 \global\expandafter
3862 \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3863 \csname KV@pdfinfo@\HyInfo@Key\endcsname
3864 \xdef\HyInfo@AddonList{%
3865   \HyInfo@AddonList
3866   \HyInfo@do{\HyInfo@Key}%
3867 }%
3868 \kv@parse@normalized{%
3869   \HyInfo@Key={#2}%
3870 }{%
3871   \kv@processor@default{pdfinfo}%
3872 }%
3873 \fi
3874 \else
3875 \kv@parse@normalized{%
3876   \HyInfo@Key={#2}%
3877 }{%
3878   \kv@processor@default{pdfinfo}%
3879 }%
3880 \fi
3881 \fi
3882 }
3883 \def\HyInfo@GenerateAddons{%
3884   \ifHyInfo@AddonUnsupported
3885   \def\HyInfo@Addons{}%
3886   \else
3887   \begingroup
3888   \toks@{}%
3889   \def\HyInfo@do##1{%

```

```

3890 \EdefEscapeName\HyInfo@Key{##1}%
3891 \edef\x{%
3892 \toks@{%
3893 \the\toks@
3894 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3895 }%
3896 }%
3897 \x
3898 }%
3899 \HyInfo@AddonList
3900 \edef\x{\endgroup
3901 \def\noexpand\HyInfo@Addons{\the\toks@}%
3902 }%
3903 \x
3904 \fi
3905 }
3906 \global\let\HyInfo@AddonList\ltx@empty
3907 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3908 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3909 \let\setpdfinkmargin\@gobble
3910 \def\calculate@pdfview#1 #2\{%
3911 \def\@pdfview{#1}%
3912 \ifx\#2\%
3913 \def\@pdfviewparams{-32768}%
3914 \else
3915 \def\@pdfviewparams{#2}%
3916 \fi
3917 }
3918 \begingroup\expandafter\expandafter\expandafter\endgroup
3919 \expandafter\ifx\csname numexpr\endcsname\relax
3920 \def\Hy@number#1{%
3921 \expandafter\@firstofone\expandafter{\number#1}%
3922 }%
3923 \else
3924 \def\Hy@number#1{%
3925 \the\numexpr#1\relax
3926 }%
3927 \fi
3928 \define@key{Hyp}{pdfstartpage}{%
3929 \ifx\#1\%
3930 \let\@pdfstartpage\ltx@empty
3931 \else
3932 \edef\@pdfstartpage{\Hy@number{#1}}%
3933 \fi
3934 }%
3935 \define@key{Hyp}{pdfstartview}{%
3936 \ifx\#1\%
3937 \let\@pdfstartview\ltx@empty
3938 \else

```

```

3939 \hypercalcbpdef\@pdfstartview{/#1}%
3940 \fi
3941 }
3942 \def\HyPat@NonNegativeReal/{%
3943 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3944 }
3945 \define@key{Hyp}{pdfremotestartview}{%
3946 \ifx\#1\%
3947 \def\@pdfremotestartview{/Fit}%
3948 \else
3949 \hypercalcbpdef\@pdfremotestartview{/#1}%
3950 \edef\@pdfremotestartview{\@pdfremotestartview}%
3951 \Hy@Match\@pdfremotestartview}{%
3952 ^{XYZ(%
3953 ()| %
3954 (null|-\HyPat@NonNegativeReal/) %
3955 (null|-\HyPat@NonNegativeReal/) %
3956 (null|\HyPat@NonNegativeReal/)%
3957 )| % end of "XYZ"
3958 Fit(%
3959 ()| %
3960 B| %
3961 (H|V|BH|BV)(%
3962 ()| %
3963 (null|\HyPat@NonNegativeReal/)%
3964 )| %
3965 R %
3966 \HyPat@NonNegativeReal/ %
3967 \HyPat@NonNegativeReal/ %
3968 \HyPat@NonNegativeReal/ %
3969 \HyPat@NonNegativeReal/%
3970 ) % end of "Fit"
3971 )$%
3972 }{}{%
3973 \Hy@Warning{%
3974 Invalid value \@pdfremotestartview'\MessageBreak
3975 of `pdfremotestartview'\MessageBreak
3976 is replaced by `Fit'%
3977 }%
3978 \let\@pdfremotestartview\@empty
3979 }%
3980 \ifx\@pdfremotestartview\@empty
3981 \def\@pdfremotestartview{/Fit}%
3982 \else
3983 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3984 \fi
3985 \fi
3986 }
3987 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{/#1}}
3988 \define@key{Hyp}{pdftoolbar}[true]{%

```

```

3989 \Hy@boolkey{pdftoolbar}{#1}%
3990 }
3991 \define@key{Hyp}{pdfmenubar}[true]{%
3992 \Hy@boolkey{pdfmenubar}{#1}%
3993 }
3994 \define@key{Hyp}{pdfwindowui}[true]{%
3995 \Hy@boolkey{pdfwindowui}{#1}%
3996 }
3997 \define@key{Hyp}{pdffitwindow}[true]{%
3998 \Hy@boolkey{pdffitwindow}{#1}%
3999 }
4000 \define@key{Hyp}{pdfcenterwindow}[true]{%
4001 \Hy@boolkey{pdfcenterwindow}{#1}%
4002 }
4003 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4004 \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4005 }
4006 \define@key{Hyp}{pdfa}[true]{%
4007 \Hy@boolkey{pdfa}{#1}%
4008 }
4009 \define@key{Hyp}{pdfnewwindow}[true]{%
4010 \def\Hy@temp{#1}%
4011 \ifx\Hy@temp\@empty
4012 \Hy@pdfnewwindowsetfalse
4013 \else
4014 \Hy@pdfnewwindowsettrue
4015 \Hy@boolkey{pdfnewwindow}{#1}%
4016 \fi
4017 }
4018 \def\Hy@SetNewWindow{%
4019 \ifHy@pdfnewwindowset
4020 /NewWindow %
4021 \ifHy@pdfnewwindow true\else false\fi
4022 \fi
4023 }
4024 \Hy@DefNameKey{pdfpagelayout}{%
4025 \do{SinglePage}{}%
4026 \do{OneColumn}{}%
4027 \do{TwoColumnLeft}{}%
4028 \do{TwoColumnRight}{}%
4029 \do{TwoPageLeft}{PDF 1.5}%
4030 \do{TwoPageRight}{PDF 1.5}%
4031 }
4032 \define@key{Hyp}{pdflang}{%
4033 \edef\@pdflang{#1}%
4034 \def\Hy@temp{\relax}%
4035 \ifx\@pdflang\Hy@temp
4036 \let\@pdflang\relax
4037 \fi
4038 \ifx\@pdflang\relax

```

```

4039 \else
4040 \ifx\@pdflang\ltx@empty
4041 \else

```

Test according to ABNF of RFC 3066.

```

4042 \Hy@Match\@pdflang{icase}{%
4043 ~%
4044 [a-z]{1,8}%
4045 (-[a-z0-9]{1,8})*%
4046 $%
4047 }{%

```

Test according to ABNF of RFC 5646.

```

4048 \Hy@Match\@pdflang{icase}{%
4049 ~%
4050 (%
4051 % langtag
4052 (% language
4053 [a-z]{2,3}%
4054 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4055 |[a-z]{4}% reserved for future use
4056 |[a-z]{5,8}% registered language subtag
4057 )%
4058 (-[a-z]{4})?% script
4059 (-([a-z]{2}|[0-9]{3}))?% region
4060 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))% variant
4061 (-[0-9a-wyz](-[a-z0-9]{2,8})+)% extension
4062 (-x(-[a-z0-9]{1,8})+)?% privateuse
4063 % privateuse
4064 |x(-[a-z0-9]{1,8})+
4065 % grandfathered/irregular
4066 |en-GB-oed%
4067 |i-(ami|bnn|default|enochian|hak|klíngon|lux|
4068 mingo|navajo|pwn|tao|tay|tsu)%
4069 |sgn-(BE-FR|BE-NL|CH-DE)%
4070 % grandfathered/regular
4071 |art-lojban%
4072 |cel-gaulish%
4073 |no-(bok|nyn)%
4074 |zh-(guoyu|hakka|min|min-nan|xiang)%
4075 )%
4076 $%
4077 }{%

```

Test for unique extensions.

```

4078 \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4079 \Hy@Match\@pdflang{icase}{~x-}{%
4080 % remove privateuse
4081 \edef\Hy@temp{-\@pdflang}%
4082 \Hy@Match\Hy@temp{icase}{%
4083 ~%

```

```

4084      (%)
4085      (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4086      )%
4087      -x-%
4088      }{%
4089      \edef\Hy@temp{%
4090      \expandafter\strip@prefix\pdfastmatch1%
4091      }%
4092      }{%}%
4093      \Hy@Match\Hy@temp{icase}{%
4094      (-[a-wyz0-9]-).*\ltx@backslashchar1%
4095      }{%
4096      \Hy@Warning{%
4097      Invalid language identifier `#1'\MessageBreak
4098      for option `pdfang', because it violates\MessageBreak
4099      well-formedness defined in RFC 4646\MessageBreak
4100      by duplicate singleton subtags%
4101      }%
4102      \let\@pdfang\relax
4103      }{%}%
4104      }%
4105      }{%}%

```

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

```

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

```

```

4132         well-formedness defined in RFC 5646%
4133     }%
4134     \let\@pdflang\relax
4135 }%
4136 }{%
4137     \Hy@Warning{%
4138         Invalid language identifier `#1'\MessageBreak
4139         for option `pdflang' (RFC 3066)%
4140     }%
4141     \let\@pdflang\relax
4142 }%
4143 \fi
4144 \fi
4145 }
4146 \define@key{Hyp}{pdfpagelabels}[true]{%
4147     \Hy@boolkey{pdfpagelabels}{#1}%
4148 }
4149 \define@key{Hyp}{pdfescapeform}[true]{%
4150     \Hy@boolkey{pdfescapeform}{#1}%
4151 }

```

Default values:

```

4152 \def\@linkbordercolor{1 0 0}
4153 \def\@urlbordercolor{0 1 1}
4154 \def\@menubordercolor{1 0 0}
4155 \def\@filebordercolor{0 .5 .5}
4156 \def\@runbordercolor{0 .7 .7}
4157 \def\@citebordercolor{0 1 0}
4158 \def\@pdfhighlight{/I}
4159 \let\@pdftitle\ltx@empty
4160 \let\@pdfauthor\ltx@empty
4161 \let\@pdfproducer\relax
4162 \def\@pdfcreator{LaTeX with hyperref}
4163 \let\@pdfcreationdate\ltx@empty
4164 \let\@pdfmoddate\ltx@empty
4165 \let\@pdfsubject\ltx@empty
4166 \let\@pdfkeywords\ltx@empty
4167 \let\@pdftrapped\ltx@empty
4168 \let\@pdfpagescrop\ltx@empty
4169 \def\@pdfstartview{/Fit}
4170 \def\@pdfremotestartview{/Fit}
4171 \def\@pdfstartpage{1}
4172 \let\@pdfprintpagerange\ltx@empty
4173 \let\@pdflang\relax
4174 \let\PDF@SetupDoc\@empty
4175 \let\PDF@FinishDoc\@empty
4176 \let\phantomsection\@empty
4177 \let\special@paper\@empty
4178 \def\HyperDestNameFilter#1{#1}
4179 \Hy@AtBeginDocument{%

```



```

4180 \begingroup
4181 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4182 \dimen@=\x\relax
4183 \ifdim\dimen@>\z@
4184 \else
4185 \dimen@=11in\relax
4186 \Hy@WarningNoLine{%
4187   Height of page (\expandafter\string\x) %
4188   is invalid (\the\x),\MessageBreak
4189   using 11in%
4190 }%
4191 \fi
4192 \dimen@=0.99626401\dimen@
4193 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4194 \endgroup
4195 }
4196 \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.

```

4197 \let\hyper@normalise\ExecuteOptions
4198 \let\ExecuteOptions\hypersetup
4199 \Hy@RestoreCatcodes
4200 \InputIfFileExists{hyperref.cfg}{\}{}
4201 \Hy@SetCatcodes
4202 \let\ExecuteOptions\hyper@normalise
4203 \ifx\Hy@MaybeStopNow\relax
4204 \else
4205 \Hy@stoppedearlytrue
4206 \expandafter\Hy@MaybeStopNow
4207 \fi
4208 \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.

```

4209 \SetupKeyvalOptions{family=Hyp}
4210 \DeclareLocalOptions{%
4211   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4212 }

```

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

```

4213 \@ifpackagewith{hyperref}{tex4ht}{%
4214 }{%
4215 \@ifpackageloaded{tex4ht}{%
4216   \PassOptionsToPackage{tex4ht}{hyperref}%
4217 }{%
4218 \ltx@ifundefined{HCode}{%
4219 }{%
4220   \begingroup

```

```

4221 \def\Hy@pkg{tex4ht}%
4222 \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4223 \def\Hy@param{#2#3}%
4224 \ifx\Hy@param\ltx@empty
4225 \expandafter\ltx@gobble
4226 \else
4227 \def\Hy@param{#3}%
4228 \ifx\Hy@param\Hy@pkg
4229 \PassOptionsToPackage{#2}{tex4ht}%
4230 \expandafter\expandafter\expandafter\@gobble
4231 \else
4232 \expandafter\expandafter\expandafter\ltx@firstofone
4233 \fi
4234 \fi
4235 {\Hy@temp@A#4\Hy@NIL}%
4236 }%
4237 \expandafter
4238 \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4239 \endgroup
4240 \PassOptionsToPackage{tex4ht}{hyperref}%
4241 }%
4242 }%
4243 }
4244 \let\ReadBookmarks\relax
4245 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4246 \def\Hy@xspace@end{}
4247 \ltx@ifundefined{xspaceaddexceptions}{%
4248 \Hy@AtBeginDocument{%
4249 \ltx@ifundefined{xspaceaddexceptions}{%
4250 }{%
4251 \def\Hy@xspace@end{%
4252 \ltx@gobble{end for xspace}%
4253 }%
4254 \xspaceaddexceptions{%
4255 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4256 }%
4257 }%
4258 }%
4259 }{%
4260 \def\Hy@xspace@end{%
4261 \ltx@gobble{end for xspace}%
4262 }%
4263 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4264 }

```

## 15.2 Option draft

```
4265 \Hy@AtBeginDocument{%
4266   \ifHy@draft
4267     \let\hyper@@anchor\@gobble
4268     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4269     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4270     \def\hyper@anchorend{\Hy@xspace@end}%
4271     \let\hyper@linkstart\@gobbletwo
4272     \def\hyper@linkend{\Hy@xspace@end}%
4273     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4274     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4275     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4276     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4277     \let\PDF@SetupDoc\@empty
4278     \let\PDF@FinishDoc\@empty
4279     \let\@fifthoffive\@secondoftwo
4280     \let\@secondoffive\@secondoftwo
4281     \let\ReadBookmarks\relax
4282     \let\WriteBookmarks\relax
4283     \Hy@WarningNoLine{Draft mode on}%
4284   \fi
4285   \Hy@DisableOption{draft}%
4286   \Hy@DisableOption{nolinks}%
4287   \Hy@DisableOption{final}%
4288 }
```

## 15.3 PDF/A

```
4289 \Hy@DisableOption{pdfa}
4290 \ifHy@pdfa
4291   \ifnum \Hy@pdf@majorminor@version < 104
4292     \kvsetkeys{Hyp}{pdfversion=1.4}%
4293   \fi
4294   \Hy@DisableOption{pdfversion}%
4295   \def\Hy@Acrobatmenu#1#2{%
4296     \leavevmode
4297     \begingroup
4298       \edef\x{#1}%
4299       \@onelevel@sanitize\x
4300       \ifx\x\Hy@NextPage
4301         \let\y=Y%
4302       \else
4303         \ifx\x\Hy@PrevPage
4304           \let\y=Y%
4305         \else
4306           \ifx\x\Hy@FirstPage
4307             \let\y=Y%
4308           \else
4309             \ifx\x\Hy@LastPage
4310               \let\y=Y%
```

```

4311         \else
4312         \let\y=N%
4313         \fi
4314     \fi
4315 \fi
4316 \fi
4317 \expandafter\endgroup
4318 \ifx\y Y%
4319 \else
4320 \Hy@Error{%
4321     PDF/A: Named action `#1' is not permitted%
4322 } \@ehc
4323 {#2}%
4324 \expandafter\@gobble
4325 \fi
4326 }%
4327 \def\Hy@temp#1{%
4328 \expandafter\def\csname Hy@#1\endcsname{#1}%
4329 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4330 }%
4331 \Hy@temp{NextPage}%
4332 \Hy@temp{PrevPage}%
4333 \Hy@temp{FirstPage}%
4334 \Hy@temp{LastPage}%
4335 \else
4336 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4337 \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.

```

4338 \def\Hy@wrapper@babel#1#2{%
4339 \begingroup
4340 \Hy@safe@activetrue
4341 \set@display@protect
4342 \edef\x{#2}%
4343 \@onelevel@sanitize\x
4344 \toks@{#1}%
4345 \edef\x{\endgroup\the\toks@\x}}%
4346 \x
4347 }
4348 \def\Hy@WrapperDef#1{%
4349 \begingroup
4350 \escapechar=\m@ne
4351 \xdef\Hy@gtmp{%
4352 \expandafter\noexpand\csname HyWrap@\string#1\endcsname

```

```

4353 }%
4354 \endgroup
4355 \edef#1{%
4356   \noexpand\Hy@wrapper@babel
4357   \expandafter\noexpand\Hy@gtemp
4358 }%
4359 \expandafter\def\Hy@gtemp
4360 }

4361 \ifHy@hyperfigures
4362   \Hy@Info{Hyper figures ON}%
4363 \else
4364   \Hy@Info{Hyper figures OFF}%
4365 \fi
4366 \ifHy@nesting
4367   \Hy@Info{Link nesting ON}%
4368 \else
4369   \Hy@Info{Link nesting OFF}%
4370 \fi
4371 \ifHy@hyperindex
4372   \Hy@Info{Hyper index ON}%
4373 \else
4374   \Hy@Info{Hyper index OFF}%
4375 \fi
4376 \ifHy@plainpages
4377   \Hy@Info{Plain pages ON}%
4378 \else
4379   \Hy@Info{Plain pages OFF}%
4380 \fi
4381 \ifHy@backref
4382   \Hy@Info{Backreferencing ON}%
4383 \else
4384   \Hy@Info{Backreferencing OFF}%
4385 \fi
4386 \ifHy@typexml
4387   \Hy@AtEndOfPackage{%
4388     \RequirePackage{color}%
4389     \RequirePackage{nameref}[2012/07/28]%
4390   }%
4391 \fi
4392 \Hy@DisableOption{typexml}
4393 \ifHy@implicit
4394   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4395 \else
4396   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4397   \def\MaybeStopEarly{%
4398     \Hy@Message{Stopped early}%
4399     \Hy@AtBeginDocument{%
4400       \PDF@FinishDoc
4401       \gdef\PDF@FinishDoc{}}%

```

```

4402 }%
4403 \endinput
4404 }%
4405 \Hy@AtBeginDocument{%
4406   \let\autoref\ref
4407   \let\autopageref\pageref
4408   \ifx\@pdfpagemode\@empty
4409     \gdef\@pdfpagemode{UseNone}%
4410   \fi
4411   \global\Hy@backreffalse
4412 }%
4413 \Hy@AtEndOfPackage{%
4414   \global\let\ReadBookmarks\relax
4415   \global\let\WriteBookmarks\relax
4416 }%
4417 \fi
4418 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4419 \Hy@AtEndOfPackage{%
4420   \@ifpackageloaded{tex4ht}{%
4421     \def\Hy@driver{htex4ht}%
4422     \Hy@texhttrue
4423   }{}%

```

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.

```

4424   \ifx\Hy@driver\@empty
4425   \else
4426     \ifx\pdfextension\@undefined
4427       \def\Hy@temp{hpdfTeX}%
4428     \else
4429       \def\Hy@temp{hluatex}%
4430     \fi
4431   \ifpdf
4432     \ifx\Hy@driver\Hy@temp
4433     \else
4434       \Hy@WarningNoLine{%
4435         Wrong driver ``\Hy@driver.def';\MessageBreak
4436         pdfTeX is running in PDF mode.\MessageBreak
4437         Forcing driver ``\Hy@temp.def'%
4438       }%
4439       \let\Hy@driver\Hy@temp
4440     \fi
4441   \else
4442     \ifx\Hy@driver\Hy@temp
4443     \Hy@WarningNoLine{%
4444       Wrong driver ``\Hy@driver.def';\MessageBreak
4445       pdfTeX is not running in PDF mode.\MessageBreak

```

```

4446         Using default driver%
4447     }%
4448     \let\Hy@driver\@empty
4449 \fi
4450 \fi
4451 \fi
4452 \ifHy@texht
4453 \else
4454     \ifx\Hy@driver\@empty
4455     \else
4456         \def\Hy@temp{hxtex}%
4457         \ifxetex
4458             \ifx\Hy@driver\Hy@temp
4459             \else
4460                 \Hy@WarningNoLine{%
4461                     Wrong driver ``\Hy@driver.def';\MessageBreak
4462                     XeTeX is running.\MessageBreak
4463                     Forcing driver ``\Hy@temp.def' for XeTeX%
4464                 }%
4465                 \let\Hy@driver\Hy@temp
4466             \fi
4467         \fi
4468     \fi
4469 \fi
4470 \ifx\Hy@driver\@empty
4471 \else
4472     \def\Hy@temp{hvtexhtm}%
4473     \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4474     \ifx\Hy@driver\Hy@temp
4475     \else
4476         \Hy@WarningNoLine{%
4477             Wrong driver ``\Hy@driver.def';\MessageBreak
4478             VTeX is running in HTML mode.\MessageBreak
4479             Forcing driver ``\Hy@temp.def'%
4480         }%
4481         \let\Hy@driver\Hy@temp
4482     \fi
4483 \else
4484     \ifx\Hy@driver\Hy@temp
4485     \Hy@WarningNoLine{%
4486         Wrong driver ``\Hy@driver.def';\MessageBreak
4487         VTeX is not running in HTML mode.\MessageBreak
4488         Using default driver%
4489     }%
4490     \let\Hy@driver\@empty
4491 \fi
4492 \fi
4493 \fi

```

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

```

4494 \let\HyOpt@DriverType\ltx@empty
4495 \ifx\HyOpt@CustomDriver\ltx@empty
4496   \ifx\Hy@driver\@empty
4497     \def\HyOpt@DriverType{ (autodetected)}%
4498     \providecommand*\Hy@defaultdriver{\hdvips}%
4499     \ifpdf
4500       \ifx\pdfextension\@undefined
4501         \def\Hy@driver{hpdfTeX}%
4502       \else
4503         \def\Hy@driver{hluatex}%
4504       \fi
4505     \else
4506       \ifxetex
4507         \def\Hy@driver{hxetex}%
4508       \else
4509         \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4510           \def\Hy@driver{hvtexhtm}%
4511           \def\MaybeStopEarly{%
4512             \Hy@Message{Stopped early}%
4513             \Hy@AtBeginDocument{%
4514               \PDF@FinishDoc
4515               \gdef\PDF@FinishDoc{}}%
4516             }%
4517           \endinput
4518           }%
4519         \else
4520           \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4521             \def\Hy@driver{hvtex}%
4522           \else
4523             \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4524               \def\Hy@driver{hvtex}%
4525             \else
4526               \ifx\HyOpt@DriverFallback\ltx@empty
4527                 \let\Hy@driver\Hy@defaultdriver
4528                 \def\HyOpt@DriverType{ (default)}%
4529               \else
4530                 \begingroup
4531                   \toks@\expandafter{\HyOpt@DriverFallback}%
4532                   \edef\x{\endgroup
4533                     \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4534                   }%
4535                 \x
4536               \ifx\Hy@driver\ltx@empty
4537                 \let\Hy@driver\Hy@defaultdriver
4538                 \def\HyOpt@DriverType{ (default)}%
4539               \else
4540                 \def\HyOpt@DriverType{ (fallback)}%
4541             \fi
4542           \fi
4543         \fi

```



```

4544         \fi
4545     \fi
4546 \fi
4547 \fi
4548 \ifx\Hy@driver\Hy@defaultdriver
4549     \def\Hy@temp{hdwind}%
4550     \ifx\Hy@temp\Hy@driver
4551         \kvsetkeys{Hyp}{colorlinks}%
4552         \PassOptionsToPackage{dviwindo}{color}%
4553     \fi
4554 \fi
4555 \fi
4556 \else
4557     \def\HyOpt@DriverType{ (custom)}%
4558     \let\Hy@driver\HyOpt@CustomDriver
4559 \fi
4560 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4561 \chardef\Hy@VersionChecked=0 %
4562 \input{\Hy@driver.def}%
4563 \ifcase\Hy@VersionChecked
4564     \Hy@VersionCheck{\Hy@driver.def}%
4565 \fi
4566 \let\@unprocessedoptions\relax
4567 \Hy@RestoreCatcodes
4568 \Hy@DisableOption{tex4ht}%
4569 \Hy@DisableOption{pdftex}%
4570 \Hy@DisableOption{nativepdf}%
4571 \Hy@DisableOption{dvipdfm}%
4572 \Hy@DisableOption{dvipdfmx}%
4573 \Hy@DisableOption{dvipdfmx-outline-open}%
4574 \Hy@DisableOption{pdfmark}%
4575 \Hy@DisableOption{dvips}%
4576 \Hy@DisableOption{hypertex}%
4577 \Hy@DisableOption{vtex}%
4578 \Hy@DisableOption{vtexpdfmark}%
4579 \Hy@DisableOption{dviwindo}%
4580 \Hy@DisableOption{dvipsone}%
4581 \Hy@DisableOption{textures}%
4582 \Hy@DisableOption{latex2html}%
4583 \Hy@DisableOption{ps2pdf}%
4584 \Hy@DisableOption{xetex}%
4585 \Hy@DisableOption{driverfallback}%
4586 \Hy@DisableOption{customdriver}%
4587 \Hy@DisableOption{pdfversion}%
4588 }

```

Support for open outlines is enabled for XeTeX >= 0.9995. I don't know, if older versions also support this. AFAIK older dvipdfmx versions will break, thus the switch cannot be turned on by default.

```

4589 \newif\ifHy@DvipdfmxOutlineOpen

```

```

4590 \ifxetex
4591 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4592 \else
4593 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4594 \Hy@DvipdfmxOutlineOpentruue
4595 \fi
4596 \fi
4597 \begingroup\expandafter\expandafter\expandafter\endgroup
4598 \expandafter\ifx\cname SpecialDvipdfmxOutlineOpen\endcsname\relax
4599 \else
4600 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4601 \Hy@DvipdfmxOutlineOpentruue
4602 \fi
4603 \fi

```

### 15.4.2 Bookmarks

```

4604 \def\WriteBookmarks{0}
4605 \def\@bookmarkopenstatus#1{%
4606 \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:

```

4607 \ifnum#1<\expandafter\@firstofone\expandafter
4608 {\number\@bookmarksopenlevel} % explicit space
4609 \else
4610 -%
4611 \fi
4612 \else
4613 -%
4614 \fi
4615 }
4616 \ifHy@bookmarks
4617 \Hy@Info{Bookmarks ON}%
4618 \ifx\@pdfpagemode\@empty
4619 \def\@pdfpagemode{UseOutlines}%
4620 \fi
4621 \else
4622 \let\@bookmarkopenstatus\ltx@gobble
4623 \Hy@Info{Bookmarks OFF}%
4624 \Hy@AtEndOfPackage{%
4625 \global\let\ReadBookmarks\relax
4626 \global\let\WriteBookmarks\relax
4627 }%
4628 \ifx\@pdfpagemode\@empty
4629 \def\@pdfpagemode{UseNone}%
4630 \fi
4631 \fi
4632 \Hy@DisableOption{bookmarks}

```

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

```

4633 \def\Hy@CatcodeWrapper#1{%

```

```

4634 \let\Hy@endWrap\ltx@empty
4635 \def\TMP@EnsureCode##1##2{%
4636   \edef\Hy@endWrap{%
4637     \Hy@endWrap
4638     \catcode##1 \the\catcode##1\relax
4639   }%
4640   \catcode##1 ##2\relax
4641 }%
4642 \TMP@EnsureCode{10}{12}% ^^J
4643 \TMP@EnsureCode{33}{12}% !
4644 \TMP@EnsureCode{34}{12}% "
4645 \TMP@EnsureCode{36}{3}% $ (math)
4646 \TMP@EnsureCode{38}{4}% & (alignment)
4647 \TMP@EnsureCode{39}{12}% '
4648 \TMP@EnsureCode{40}{12}% (
4649 \TMP@EnsureCode{41}{12}% )
4650 \TMP@EnsureCode{42}{12}% *
4651 \TMP@EnsureCode{43}{12}% +
4652 \TMP@EnsureCode{44}{12}% ,
4653 \TMP@EnsureCode{45}{12}% -
4654 \TMP@EnsureCode{46}{12}% .
4655 \TMP@EnsureCode{47}{12}% /
4656 \TMP@EnsureCode{58}{12}% :
4657 \TMP@EnsureCode{59}{12}% ;
4658 \TMP@EnsureCode{60}{12}% <
4659 \TMP@EnsureCode{61}{12}% =
4660 \TMP@EnsureCode{62}{12}% >
4661 \TMP@EnsureCode{63}{12}% ?
4662 \TMP@EnsureCode{91}{12}% [
4663 \TMP@EnsureCode{93}{12}% ]
4664 \TMP@EnsureCode{94}{7}% ^ (superscript)
4665 \TMP@EnsureCode{95}{8}% _ (subscript)
4666 \TMP@EnsureCode{96}{12}% `
4667 \TMP@EnsureCode{124}{12}% |
4668 \TMP@EnsureCode{126}{13}% ~ (active)
4669 #1\relax
4670 \Hy@endWrap
4671 }

```

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

```

4672 \Hy@AtBeginDocument{%
4673   \ifHy@ocgcolorlinks
4674     \kvsetkeys{Hyp}{colorlinks}%
4675   \ifHy@pdfa
4676     \Hy@Warning{%
4677       PDF/A: Optional Content Groups are prohibited,\MessageBreak
4678       using `colorlinks' instead of `ocgcolorlinks'%
4679     }%
4680     \Hy@ocgcolorlinksfalse

```

```

4681 \fi
4682 \fi
4683 \ifHy@ocgcolorlinks
4684 \else
4685 \Hy@DisableOption{ocgcolorlinks}%
4686 \fi
4687 \ifHy@colorlinks
4688 \def\@pdfborder{0 0 0}%
4689 \let\@pdfborderstyle\@empty
4690 \ifHy@typexml
4691 \else
4692 \Hy@CatcodeWrapper{%
4693 \RequirePackage{color}%
4694 }%
4695 \fi
4696 \def\Hy@colorlink#1{%
4697 \begingroup
4698 \HyColor@UseColor#1%
4699 }%
4700 \def\Hy@endcolorlink{\endgroup}%
4701 \Hy@Info{Link coloring ON}%
4702 \else
4703 \ifHy@frenchlinks
4704 \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4705 \def\Hy@endcolorlink{\endgroup}%
4706 \Hy@Info{French linking ON}%
4707 \else
for grouping consistency:
4708 \def\Hy@colorlink#1{\begingroup}%
4709 \def\Hy@endcolorlink{\endgroup}%
4710 \Hy@Info{Link coloring OFF}%
4711 \fi
4712 \fi
4713 \Hy@DisableOption{colorlinks}%
4714 \Hy@DisableOption{frenchlinks}%
4715 \ifHy@texht
4716 \long\def\@firstoffive#1#2#3#4#5{#1}%
4717 \long\def\@secondoffive#1#2#3#4#5{#2}%
4718 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4719 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4720 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4721 \providecommand*\@safe@activetrue{}%
4722 \providecommand*\@safe@activesfalse{}%
4723 \def\T@ref#1{%
4724 \Hy@safe@activetrue
4725 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4726 \Hy@safe@activesfalse
4727 }%
4728 \def\T@pageref#1{%

```

```

4729 \Hy@safe@activetrue
4730 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4731 \Hy@safe@activesfalse
4732 }%
4733 \else
4734 \ifHy@typexml
4735 \else
4736 \Hy@CatcodeWrapper{%
4737 \RequirePackage{nameref}[2012/07/28]%
4738 }%
4739 \fi
4740 \fi
4741 \DeclareRobustCommand\ref{%
4742 \@ifstar\@refstar\T@ref
4743 }%
4744 \DeclareRobustCommand\pageref{%
4745 \@ifstar\@pagerefstar\T@pageref
4746 }%
4747 % \@ifclassloaded{memoir}{%
4748 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4749 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4750 % }%
4751 % }\ltx@secondoftwo
4752 % {%
4753 % \DeclareRobustCommand*{\nameref}{%
4754 % \@ifstar\@mem@titlerefno link\@mem@titleref
4755 % }%
4756 % }{%
4757 \DeclareRobustCommand*{\nameref}{%
4758 \@ifstar\@namerefstar\T@nameref
4759 }%
4760 % }%
4761 \ifHy@implicit
4762 \else
4763 \let \@pagerefstar\T@pageref
4764 \let \@refstar\T@ref
4765 \let \@namerefstar\T@nameref
4766 \fi
4767 }
4768 \Hy@AtBeginDocument{%
4769 \ifHy@texht
4770 \else
4771 \Hy@CatcodeWrapper\ReadBookmarks
4772 \fi
4773 }
4774 \ifHy@backref
4775 \RequirePackage{backref}%
4776 \else
4777 \let\Hy@backout\@gobble

```

```

4778 \fi
4779 \Hy@DisableOption{backref}
4780 \Hy@DisableOption{pagebackref}
4781 \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.

```

4782 \begingroup
4783 \endlinechar=-1 %
4784 \catcode\^^A=14 %
4785 \catcode\^^M\active
4786 \catcode\%\active
4787 \catcode\#\active
4788 \catcode\_ \active
4789 \catcode\$ \active
4790 \catcode\& \active
4791 \gdef\hyper@normalise{^^A
4792 \begingroup
4793 \catcode\^^M\active
4794 \def^^M{ }^^A
4795 \catcode\%\active
4796 \let%\@percentchar
4797 \let%\@percentchar
4798 \catcode\#\active
4799 \def#{\hyper@hash}^^A
4800 \def#{\hyper@hash}^^A
4801 \@makeother\&^^A
4802 \edef&{\string&}^^A
4803 \edef\&{\string&}^^A
4804 \edef\textunderscore{\string_}^^A
4805 \let\_ \textunderscore
4806 \catcode\_ \active
4807 \let\_ \textunderscore
4808 \let~\hyper@tilde
4809 \let~\hyper@tilde
4810 \let\textasciitilde\hyper@tilde
4811 \let\\ \@backslashchar
4812 \edef${\string$}^^A
4813 \Hy@safe@activetrue
4814 \hyper@normalise
4815 }^^A
4816 \catcode\#=6 ^^A

```

```

4817 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4818 \gdef\hyper@n@rmalise#1#2{^^A
4819   \def\Hy@tempa{#2}^^A
4820   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4821     \ltx@ReturnAfterElseFi{^^A
4822       \hyper@@normalise{#1}^^A
4823     }^^A
4824   \else
4825     \ltx@ReturnAfterFi{^^A
4826       \hyper@@normalise{#1}{#2}^^A
4827     }^^A
4828   \fi
4829 }^^A
4830 \gdef\hyper@@normalise#1#2{^^A
4831   \edef\Hy@tempa{^^A
4832     \endgroup
4833     \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4834   }^^A
4835   \Hy@tempa
4836 }^^A
4837 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4838   #1^^A
4839   \ifx\limits#2\limits
4840   \else
4841     \ltx@ReturnAfterFi{^^A
4842       \Hy@RemovePercentCr #2\@nil
4843     }^^A
4844   \fi
4845 }^^A
4846 \endgroup
4847 \providecommand*\hyper@chars{%
4848   \let\#\hyper@hash
4849   \let\%\@percentchar
4850   \Hy@safe@activestru
4851 }

4852 \def\hyperlink#1#2{%
4853   \hyper@@link{}{#1}{#2}%
4854 }

4855 \def\Hy@VerboseLinkStart#1#2{%
4856   \ifHy@verbose
4857     \begingroup
4858       \Hy@safe@activestru
4859       \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4860       \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4861       \xdef\Hy@VerboseGlobalTemp{%
4862         \Hy@VerboseGlobalTemp, %
4863         line \the\inputlineno
4864       }%
4865     \endgroup

```

```

4866 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4867 \@onelevel@sanitize\Hy@VerboseLinkInfo
4868 \fi
4869 }

4870 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4871 \def\Hy@VerboseLinkStop{%
4872   \ifHy@verbose
4873     \begingroup
4874     \edef\x{\endgroup
4875       \write\m@ne{%
4876         Package `hyperref' Info: %
4877         End of reference \Hy@VerboseLinkInfo.%
4878       }%
4879     }%
4880   \x
4881 \fi
4882 }

4883 \def\Hy@VerboseAnchor#1{%
4884   \ifHy@verbose
4885     \begingroup
4886     \Hy@safe@activetrue
4887     \Hy@Info{Anchor ``\HyperDestNameFilter{#1}''}%
4888   \endgroup
4889 \fi
4890 }

4891 \def\Hy@AllowHyphens{%
4892   \relax
4893   \ifhmode
4894     \penalty\@M
4895     \hskip\z@skip
4896   \fi
4897 }

4898 \DeclareRobustCommand*\href{[1][]{%
4899   \begingroup
4900   \setkeys{href}{#1}%
4901   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4902 }
4903 \def\Hy@href#1{%
4904   \hyper@normalise\href@
4905 }
4906 \begingroup
4907 \catcode`\$=6 %
4908 \catcode`\#=12 %
4909 \gdef\href@\$1{\expandafter\href@split$1##\}%
4910 \gdef\href@split$1#$2##$3\\$4{%
4911   \hyper@@link{$1}{$2}{$3}{$4}%
4912 \endgroup
4913 }%

```



4914 \endgroup

Option ‘page’.

```
4915 \define@key{href}{page}{%
4916   \def\Hy@href@page{#1}%
4917 }
4918 \let\Hy@href@page\@empty
4919 \newcount\c@Hy@tempcnt
4920 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4921 \def\Hy@MakeRemoteAction{%
4922   \ifx\Hy@href@page\@empty
4923     \def\Hy@href@page{0}%
4924   \else
4925     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4926     \ifnum\c@Hy@tempcnt<\@ne
4927       \Hy@Warning{%
4928         Invalid page number (\theHy@tempcnt)\MessageBreak
4929         for remote PDF file.\MessageBreak
4930         Using page 1%
4931       }%
4932     \def\Hy@href@page{0}%
4933   \else
4934     \global\advance\c@Hy@tempcnt\m@ne
4935     \edef\Hy@href@page{\theHy@tempcnt}%
4936   \fi
4937 \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.

```
4938 \ifx\Hy@href@nextactionraw\@empty
4939 \else
4940   \Hy@pdfnewwindowsettrue
4941   \Hy@pdfnewwindowtrue
4942 \fi
4943 }
```

Option ‘pdfremotestartview’.

```
4944 \define@key{href}{pdfremotestartview}{%
4945   \setkeys{Hyp}{pdfremotestartview={#1}}%
4946 }
```

Option ‘pdfnewwindow’.

```
4947 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4948 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
4949 \newif\ifHy@href@ismap
4950 \define@key{href}{ismap}[true]{%
4951   \ltx@ifundefined{Hy@href@ismap#1}{%
4952     \Hy@Error{%
4953       Invalid value (#1) for key ‘ismap’.\MessageBreak
```

```

4954     Permitted values are `true' or `false'.\MessageBreak
4955     Ignoring `ismap'%
4956   }\@ehc
4957 }{%
4958   \csname Hy@href@ismap#1\endcsname
4959 }%
4960 }

```

Option ‘nextactionraw’.

```

4961 \let\Hy@href@nextactionraw\@empty
4962 \define@key{href}{nextactionraw}{%
4963   \edef\Hy@href@nextactionraw{#1}%
4964   \ifx\Hy@href@nextactionraw\@empty
4965     \else
4966       \Hy@Match\Hy@href@nextactionraw}{%
4967         ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|)%
4968         \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
4969       }{ }{%
4970         \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4971         \Hy@href@nextactionraw\MessageBreak
4972         The action is discarded%
4973       }%
4974     }%
4975   \ifx\Hy@href@nextactionraw\@empty
4976     \else
4977       \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4978     \fi
4979   \fi
4980 }
4981 \def\HyPat@ObjRef/{.+}

```

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

```

4982 \RequirePackage{url}
4983 \let\HyOrg@url\url
4984 \def\Hurl{\begingroup \Url}
4985 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4986 \def\nolinkurl@#1{\Hurl{#1}}
4987 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4988 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4989 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4990 \providecommand\hyper@image[2]{#2}
4991 \def\hypertarget#1#2{%
4992   \ifHy@nesting
4993     \hyper@@anchor{#1}{#2}%
4994   \else
4995     \hyper@@anchor{#1}{\relax}#2%
4996   \fi
4997 }

```

\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 L<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4998 \DeclareRobustCommand*{\hyperref}{%
4999   \ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
5000 }
5001 \def\Hy@babelnormalise#1[#2]{%
5002   \begingroup
5003     \Hy@safe@activetrue
5004     \edef\Hy@tempa{%
5005       \endgroup
5006       \noexpand#1[{#2}]%
5007     }%
5008     \Hy@tempa
5009 }
5010 \def\@hyperref{\hyper@normalise\@hyperref}
5011 \def\@hyperref#1#2#3{%
5012   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
5013   \expandafter\tryhyper@link\ref@one\\{#1}%
5014 }
5015 \def\tryhyper@link#1\\#2{%
5016   \hyper@@link{#2}{#1}%
5017 }

5018 \def\hyperdef{\ifnextchar[{\label@hyperdef}\@hyperdef}}
5019 \def\@hyperdef#1#2#3{%, category, name, text
5020   \ifx\\#1\\%
5021     \def\Hy@AnchorName{#2}%
5022   \else
5023     \def\Hy@AnchorName{#1.#2}%
5024   \fi
5025   \ifHy@nesting
5026     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5027   \else
5028     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5029   \fi
5030 }

```

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.

```

5031 \let\hyperrefundefinedlink\@firstofone
5032 \def\label@hyperref[#1]{%
5033   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
5034 }%
5035 \def\label@\@hyperref#1#2#3{%
5036   \ifx#1\relax
5037     \protect\G@refundefinedtrue

```

```

5038 \latex@warning{%
5039   Hyper reference `#2' on page \thepage \space undefined%
5040 }%
5041 \begingroup
5042   \hyperrefundefinedlink{#3}%
5043 \endgroup
5044 \else
5045   \hyper@@link{\expandafter\@fifthoffive#1}%
5046   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5047 \fi
5048 }
5049 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5050                               % anchor text
5051   \@bsphack
5052   \ifx\\#2\\%
5053     \def\Hy@AnchorName{#3}%
5054   \else
5055     \def\Hy@AnchorName{#2.#3}%
5056   \fi
5057   \if@filesw
5058     \protected@write\@auxout{}{%
5059       \string\newlabel{#1}{\{}{\}\}\{\Hy@AnchorName\}\}}%
5060     }%
5061   \fi
5062   \@esphack
5063   \ifHy@nesting
5064     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5065   \else
5066     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5067   \fi
5068 }

```

## 16.1 Link box support for XeTeX

```

5069 \newdimen\XeTeXLinkMargin
5070 \setlength{\XeTeXLinkMargin}{2pt}
5071 \ifxetex
5072   \font\XeTeXLink@font=pzdr at 1sp\relax
5073   \newcommand*{\XeTeXLink@space}{%
5074     \begingroup
5075       \XeTeXLink@font
5076       \@xxxii
5077     \endgroup
5078   }%
5079   \newcommand{\XeTeXLinkBox}[1]{%
5080     \begingroup
5081       \leavevmode
5082       \sbox\z@{#1}%
5083       \begingroup
5084         \dimen@=\dp\z@

```

```

5085 \advance\dimen@\XeTeXLinkMargin
5086 \setbox\tw@=\llap{%
5087 \hb@xt@\XeTeXLinkMargin{%
5088 \lower\dimen@\hbox{\XeTeXLink@space}%
5089 \hss
5090 }%
5091 }%
5092 \dp\tw@=\dp\z@
5093 \ht\tw@=\ht\z@
5094 \copy\tw@
5095 \endgroup
5096 \copy\z@
5097 \dimen@=\ht\z@
5098 \advance\dimen@\XeTeXLinkMargin
5099 \setbox\tw@=\rlap{%
5100 \hb@xt@\XeTeXLinkMargin{%
5101 \hss
5102 \raise\dimen@\hbox{\XeTeXLink@space}%
5103 }%
5104 }%
5105 \dp\tw@=\dp\z@
5106 \ht\tw@=\ht\z@
5107 \copy\tw@
5108 \endgroup
5109 }%
5110 \else
5111 \newcommand*{\XeTeXLinkBox}[1]{%
5112 \begingroup
5113 \leavevmode
5114 \sbox\z@{#1}%
5115 \copy\z@
5116 \endgroup
5117 }%
5118 \fi

```

## 17 Underlying basic hypertext macros

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

```

5119 \def\hyper@link{\let\Hy@reserved@a\relax
5120 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}}%
5121 }
5122 % #1: type
5123 % #2: URL
5124 % #3: destination name
5125 % #4: text
5126 \def\hyper@link@[#1]#2#3#4{%

```

```

5127 \ltx@ifempty{#4}{% link text
5128   \Hy@Warning{Suppressing empty link}%
5129 }{%
5130   \begingroup
5131     \protected@edef\Hy@tempa{#2}%
5132     \edef\Hy@tempb{#3}%
5133     \ifx\Hy@tempa\ltx@empty
5134       \ifx\Hy@tempb\ltx@empty
5135         \Hy@Warning{Suppressing link with empty target}%
5136         \toks@{%
5137           \endgroup
5138           \ltx@secondoftwo
5139         }%
5140       \else
5141         \toks@{%
5142           \endgroup
5143           \hyper@link{#1}%
5144         }%
5145       \fi
5146     \else
5147       \toks@{%
5148         \endgroup
5149         \expandafter\hyper@readexternallink#2\\{#1}%
5150       }%
5151     \fi
5152     \Hy@safe@activesfalse
5153     \toks@\expandafter{%
5154       \the\expandafter\toks@
5155       \expandafter{\Hy@tempb}{#4}%
5156     }%
5157     \the\toks@
5158   }%
5159 }

```

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.

```

5160 \def\hyper@readexternallink#1\\#2#3#4{%
5161   \begingroup
5162     \let\\\relax
5163     \expandafter\endgroup
5164     \expandafter\@@hyper@@readexternallink#1\\{#2}{#3}{#4}%
5165 }
5166 \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.

```
5167 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5168 }
```

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

```
5169 \def\@pdftempwordfile{file}%
5170 \def\@pdftempwordrun{run}%
5171 \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:

```
5172 \ifx\\#6\\%
5173 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5174 \else
5175 \ifx\\#4\\%
5176 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5177 \else
```

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

```
5178 \def\@pdftempa{#4}%
5179 \ifx\@pdftempa\@pdftempwordfile
5180 \@hyper@linkfile#7\\{#3}{#2}{#7}%
5181 \else
```

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

```
5182 \ifx\@pdftempa\@pdftempwordrun
5183 \ifHy@pdfa
5184 \Hy@Error{%
5185 PDF/A: Launch action is prohibited%
5186 }\@ehc
5187 \begingroup
5188 \leavevmode
5189 #2%
5190 \endgroup
5191 \else
5192 \@hyper@launch#7\\{#3}{#2}%
5193 \fi
5194 \else
```

otherwise its a URL

```
5195 \hyper@linkurl{#3}{#7\ifx\\#2\\%else\hyper@hash#2\fi}%
```

```

5196     \fi
5197     \fi
5198   \fi
5199 \fi
5200 }

```

By default, turn run: into file:

```

5201 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5202   \hyper@linkurl{#2}{%
5203     \Hy@linkfileprefix
5204     #1%
5205     \ifx\\#3\\%
5206     \else
5207       \hyper@hash
5208       #3%
5209     \fi
5210   }%
5211 }

```

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

```

5212 \def\@hyper@linkfile file:#1\\#2#3#4{%
5213   %file url,link string, name, original uri
5214   \filename@parse{#1}%
5215   \ifx\filename@ext\relax
5216     \edef\filename@ext{\XR@ext}%
5217   \fi
5218   \def\use@file{\filename@area\filename@base.\filename@ext}%
5219   \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5220     \hyper@linkfile{#2}{\use@file}{#3}%
5221   }{%
5222     \ifx\@baseurl\@empty
5223       \hyper@linkurl{#2}{%
5224         #4\ifx\\#3\\%
5225       }%
5226     \else
5227       \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
5228     \fi
5229   }%
5230 }

5231 \def\Hy@IfStringEndsWith#1#2{%
5232   \begingroup
5233   \edef\x{#1}%
5234   \@onelevel@sanitize\x
5235   \edef\x{.\x$}%
5236   \edef\y{#2}%
5237   \@onelevel@sanitize\y
5238   \edef\y{.\y$}%
5239   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5240     \endgroup

```



```

5241 \ifx\relax##2\relax
5242 \expandafter\ltx@secondoftwo
5243 \else
5244 \expandafter\ltx@firstoftwo
5245 \fi
5246 }%
5247 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5248 }

5249 \def\Hy@StringLocalhost{localhost}
5250 \@onelevel@sanitize\Hy@StringLocalhost
5251 \def\Hy@CleanupFile#1{%
5252 \edef#1{#1}%
5253 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5254 }
5255 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5256 \begingroup
5257 \toks@{\endgroup}%
5258 \def\x{#1}%
5259 \ifx\x\@empty
5260 \def\x{#2}%
5261 \ifx\x\@empty
5262 \toks@{\endgroup\def#5{/#3}}%
5263 \else
5264 \@onelevel@sanitize\x
5265 \ifx\x\Hy@StringLocalhost
5266 \toks@{\endgroup\def#5{/#3}}%
5267 \fi
5268 \fi
5269 \fi
5270 \the\toks@
5271 }

```

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.

```

5272 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5273 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5274 \ifx\\#1\\%
5275 #2\Hy@Warning{Ignoring empty anchor}%
5276 \else
5277 \def\anchor@spot{#2#3}%
5278 \let\put@me@back\@empty
5279 \ifx\relax#2\relax
5280 \else
5281 \ifHy@nesting

```

```

5282 \else
5283 \ifcat a\noexpand#2\relax
5284 \else
5285 \ifcat 0\noexpand#2 \relax
5286 \else
5287 % \typeout{Anchor start is not alphanumeric %
5288 % on input line\the\inputlineno%
5289 % }%
5290 \let\anchor@spot\@empty
5291 \def\put@me@back{#2#3}%
5292 \fi
5293 \fi
5294 \fi
5295 \fi
5296 \ifHy@activeanchor
5297 \anchor@spot
5298 \else
5299 \hyper@anchor{#1}%
5300 \fi
5301 \expandafter\put@me@back
5302 \fi
5303 \let\anchor@spot\@empty
5304 }
5305 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5306 \ifHy@destlabel

\hyper@newdestlabel

5307 \def\hyper@newdestlabel#1#2{%
5308 \begingroup
5309 \Hy@safe@activetrue
5310 \edef\x{\endgroup
5311 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5312 }%
5313 \x
5314 }%

\hyper@destlabel@hook

5315 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5316 \newcommand*\Hy@DestRename[2]{%
5317 \ltx@ifundefined{HyDL!#1}{%
5318 \begingroup
5319 \Hy@safe@activetrue
5320 \edef\dest@name{#1}%
5321 \edef\label@name{#2}%

```

```

5322 \hyper@destlabel@hook
5323 \Hy@IsNotEmpty{dest@name}{%
5324 \Hy@IsNotEmpty{label@name}{%
5325 \global\expandafter
5326 \let\csname HyDL!#1\endcsname\ltx@empty
5327 \if@filesw
5328 \protected@write\@auxout{}{%
5329 \string\hyper@newdestlabel
5330 {#1}%
5331 {\label@name}%
5332 }%
5333 \fi
5334 }%
5335 }%
5336 \endgroup
5337 }{}%
5338 }%

```

\HyperDestRename

```

5339 \newcommand*{\HyperDestRename}[2]{%
5340 \AtBeginDocument{%
5341 \Hy@DestRename{#1}{#2}%
5342 }%
5343 }%
5344 \AtBeginDocument{%
5345 \let\HyperDestRename\Hy@DestRename
5346 }%

```

\Hy@IsNotEmpty

```

5347 \def\Hy@IsNotEmpty#1{%
5348 \ltx@ifundefined{#1}\ltx@gobble{%
5349 \expandafter\ifx\csname#1\endcsname\ltx@empty
5350 \expandafter\ltx@gobble
5351 \else
5352 \expandafter\ltx@firstofone
5353 \fi
5354 }%
5355 }%

5356 \ltx@GlobalAppendToMacro\label@hook{%
5357 \HyperDestRename\@currentHref\label@name
5358 }%

```

\HyperDestLabelReplace

```

5359 \def\HyperDestLabelReplace#1{%
5360 \ltx@ifundefined{HyDL@#1}{%
5361 #1%
5362 }{%
5363 \csname HyDL@#1\endcsname
5364 }%

```

```

5365 }%

\HyperDestNameFilter
5366 \let\HyperDestNameFilter\HyperDestLabelReplace
5367 \else

\hyper@newdestlabel
5368 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5369 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo

5370 \fi
5371 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5372 \AddLineBeginAux{%
5373 \string\providecommand\string\hyper@newdestlabel[2]{}%
5374 }

```

## 19 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* package

Map our macro names on to Nikos', so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load `html.sty` first, and then `hyperref.sty`, so that the definitions in `html.sty` take effect, and are then overridden in a few circumstances by this package.

```

5375 \let\htmladdimg\hyperimage

5376 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5377 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5378 \def\htmlref#1#2{% anchor text, label
5379 \label@hyperref[{#2}]{#1}%
5380 }

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

5381 \def\@latextohtmlX{%
5382 \let\hhyperref\hyperref
5383 \def\hyperref##1##2##3##4{% anchor text for HTML
5384 % text to print before label in print

```

```

5385             % label
5386             % post-label text in print
5387     ##2\ref{##4}##3%
5388 }%
5389 }

```

## 20 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.

### 20.1 Field flags

The field flags are organized in a bit set.

```

5390 \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

```

5391 \def\HyField@NewFlag#1#2{%
5392   \lowercase{\HyField@NewOption{#2}}%
5393   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5394 }

```

\HyField@NewFlagOnly

```

5395 \def\HyField@NewFlagOnly#1#2{%
5396   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5397 }

```

\HyField@NewOption #1: option name

```

5398 \def\HyField@NewOption#1{%
5399   \expandafter\newif\csname ifFld@#1\endcsname
5400   \define@key{Field}{#1}[true]{%
5401     \lowercase{\Field@boolkey{##1}}{#1}%
5402   }%
5403 }

```

\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

```

5404 \def\HyField@NewBitsetFlag#1#2#3#4{%
5405   \begingroup
5406     \count@=#4\relax
5407     \advance\count@\m@ne
5408     \def\x##1{%
5409       \endgroup
5410       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5411       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5412         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5413           (\number#4) #2%
5414         }%
5415       \else
5416         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5417           \csname HyField@#3@#1\endcsname
5418           /#2%
5419         }%
5420       \fi
5421     }%
5422   \expandafter\x\expandafter{\the\count@}%
5423 }

```

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

```

5424 \def\HyField@UseFlag#1#2{%
5425   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5426 }

```

\HyField@@UseFlag

```

5427 \def\HyField@@UseFlag#1#2{%
5428   \bitsetSetValue{HyField@#2}{%
5429     \csname HyField@#2@#1\endcsname
5430   }{%
5431     \csname ifFld@#1\endcsname 1\else 0\fi
5432   }%
5433 }

```

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

```

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

```

\HyField@@SetFlag

```

5437 \def\HyField@@SetFlag#1#2{%
5438   \bitsetSetValue{HyField@#2}{%
5439     \csname HyField@#2@#1\endcsname
5440   }{1}%
5441 }

```

\HyField@PrintFlags

```
5442 \def\HyField@PrintFlags#1#2{%
5443   \ifHy@verbose
5444     \begingroup
5445     \let\Hy@temp\@empty
5446     \let\MessageBreak\relax
5447     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5448     \bitsetGetSetBitList{HyField@#1}\do{%
5449       \edef\Hy@temp{%
5450         \Hy@temp
5451         \csname HyField@#1@\x\endcsname\MessageBreak
5452       }%
5453     }%
5454   \edef\x{\endgroup
5455     \noexpand\Hy@Info{%
5456       Field flags: %
5457       \expandafter\ifx\@car#1\@nil S\else/\fi
5458       #1 %
5459       \bitsetGetDec{HyField@#1} %
5460       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5461       \Hy@temp
5462     for #2%
5463   }%
5464   }\x
5465 \fi
5466 }
```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5467 \HyField@NewFlag{Ff}{ReadOnly}{1}
5468 \HyField@NewFlag{Ff}{Required}{2}
5469 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5470 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5471 \HyField@NewFlag{Ff}{Radio}{16}
5472 \HyField@NewFlag{Ff}{Pushbutton}{17}
5473 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5474 \HyField@NewFlag{Ff}{Multiline}{13}
5475 \HyField@NewFlag{Ff}{Password}{14}
5476 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5477 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5478 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5479 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5480 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```

5481 \HyField@NewFlag{Ff}{Combo}{18}
5482 \HyField@NewFlag{Ff}{Edit}{19}
5483 \HyField@NewFlag{Ff}{Sort}{20}
5484 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5485 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5486 \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.

```

5487 \newif\ifFld@popdown
5488 \define@key{Field}{popdown}[true]{%
5489   \lowercase{\Field@boolkey{#1}}{popdown}%
5490 }

```

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.

```

5491 \HyField@NewFlag{F}{Invisible}{1}
5492 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5493 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5494 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5495 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5496 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5497 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5498 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5499 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5500 \ifHy@pdfa
5501   \def\HyField@PDFAFflagWarning#1#2{%
5502     \Hy@Warning{%
5503       PDF/A: Annotation flag `#1' must\MessageBreak
5504       be set to `#2'%
5505     }%
5506   }%
5507   \Fld@invisiblefalse
5508   \def\Fld@invisibletrue{%
5509     \HyField@PDFAFflagWarning{invisible}{false}%
5510   }%
5511   \Fld@hiddenfalse
5512   \def\Fld@hiddentrue{%
5513     \HyField@PDFAFflagWarning{hidden}{false}%
5514   }%
5515   \Fld@printtrue
5516   \def\Fld@printfalse{%
5517     \HyField@PDFAFflagWarning{print}{true}%
5518   }%
5519   \Fld@nozoomtrue
5520   \def\Fld@nozoomfalse{%

```



```

5521 \HyField@PDFAFIagWarning{nozoom}{true}%
5522 }%
5523 \Fld@norotate>true
5524 \def\Fld@norotatefalse{%
5525 \HyField@PDFAFIagWarning{norotate}{true}%
5526 }%
5527 \Fld@noview>false
5528 \def\Fld@noviewtrue{%
5529 \HyField@PDFAFIagWarning{noview}{false}%
5530 }%
5531 \fi

```

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

```

5532 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5533 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5534 \HyField@NewFlag{Submit}{GetMethod}{4}
5535 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5536 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5537 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5538 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5539 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5540 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5541 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5542 \HyField@NewFlag{Submit}{ExclFKey}{12}
5543 \HyField@NewFlag{Submit}{EmbedForm}{14}

5544 \define@key{Field}{export}{%
5545 \lowercase{\def\Hy@temp{#1}}%
5546 \@ifundefined{Fld@export@Hy@temp}{%
5547 \Onelevel@sanitize\Hy@temp
5548 \Hy@Error{%
5549 Unknown export format `Hy@temp'.\MessageBreak
5550 Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5551 } \@ehc
5552 }{%
5553 \let\Fld@export\Hy@temp
5554 }%
5555 }

5556 \def\Fld@export{fdf}
5557 \@namedef{Fld@export@fdf}{0}%
5558 \@namedef{Fld@export@html}{1}%
5559 \@namedef{Fld@export@xfdf}{2}%
5560 \@namedef{Fld@export@pdf}{3}%

```

## 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5561 \def\HyField@FlagsSubmit{%
5562 \bitsetReset{HyField@Submit}%

```

```

5563 \ifcase\@nameuse{Fld@export@\Fld@export} %
5564 % FDF
5565 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5566 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5567 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5568 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5569 \HyField@UseFlag{Submit}{CanonicalFormat}%
5570 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5571 \HyField@UseFlag{Submit}{ExclFKey}%
5572 \HyField@UseFlag{Submit}{EmbedForm}%
5573 \or % HTML
5574 \HyField@SetFlag{Submit}{ExportFormat}%
5575 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5576 \HyField@UseFlag{Submit}{GetMethod}%
5577 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5578 \HyField@UseFlag{Submit}{CanonicalFormat}%
5579 \or % XFDF
5580 \HyField@SetFlag{Submit}{XFDF}%
5581 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5582 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5583 \HyField@UseFlag{Submit}{CanonicalFormat}%
5584 \or % PDF
5585 \HyField@SetFlag{Submit}{SubmitPDF}%
5586 \HyField@UseFlag{Submit}{GetMethod}%
5587 \fi
5588 \HyField@PrintFlags{Submit}{submit button field}%
5589 \bitsetIsEmpty{HyField@Submit}{%
5590 \let\Fld@submitflags\ltx@empty
5591 }{%
5592 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5593 }%
5594 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5595 \def\HyField@FlagsAnnot#1{%
5596 \bitsetReset{HyField@F}%
5597 \HyField@UseFlag{F}{Invisible}%
5598 \HyField@UseFlag{F}{Hidden}%
5599 \HyField@UseFlag{F}{Print}%
5600 \HyField@UseFlag{F}{NoZoom}%
5601 \HyField@UseFlag{F}{NoRotate}%
5602 \HyField@UseFlag{F}{NoView}%
5603 \HyField@UseFlag{F}{Locked}%
5604 \HyField@UseFlag{F}{ToggleNoView}%
5605 \HyField@UseFlag{F}{LockedContents}%
5606 \HyField@PrintFlags{F}{#1}%
5607 \bitsetIsEmpty{HyField@F}{%

```

```

5608 \let\Fld@annotflags\ltx@empty
5609 }{%
5610 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5611 }%
5612 }

```

#### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5613 \def\HyField@FlagsPushButton{%
5614 \HyField@FlagsAnnot{push button field}%
5615 \bitsetReset{HyField@Ff}%
5616 \HyField@UseFlag{Ff}{ReadOnly}%
5617 \HyField@UseFlag{Ff}{Required}%
5618 \HyField@UseFlag{Ff}{NoExport}%
5619 \HyField@SetFlag{Ff}{Pushbutton}%
5620 \HyField@PrintFlags{Ff}{push button field}%
5621 \bitsetIsEmpty{HyField@Ff}{%
5622 \let\Fld@flags\ltx@empty
5623 }{%
5624 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5625 }%
5626 }

```

#### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5627 \def\HyField@FlagsCheckBox{%
5628 \HyField@FlagsAnnot{check box field}%
5629 \bitsetReset{HyField@Ff}%
5630 \HyField@UseFlag{Ff}{ReadOnly}%
5631 \HyField@UseFlag{Ff}{Required}%
5632 \HyField@UseFlag{Ff}{NoExport}%
5633 \HyField@PrintFlags{Ff}{check box field}%
5634 \bitsetIsEmpty{HyField@Ff}{%
5635 \let\Fld@flags\ltx@empty
5636 }{%
5637 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5638 }%
5639 }

```

#### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5640 \def\HyField@FlagsRadioButton{%
5641 \HyField@FlagsAnnot{radio button field}%
5642 \bitsetReset{HyField@Ff}%
5643 \HyField@UseFlag{Ff}{ReadOnly}%
5644 \HyField@UseFlag{Ff}{Required}%

```

```

5645 \HyField@UseFlag{Ff}{NoExport}%
5646 \HyField@UseFlag{Ff}{NoToggleToOff}%
5647 \HyField@SetFlag{Ff}{Radio}%
5648 \HyField@UseFlag{Ff}{RadiosInUnison}%
5649 \HyField@PrintFlags{Ff}{radio button field}%
5650 \bitsetIsEmpty{HyField@Ff}{%
5651   \let\Fld@flags\ltx@empty
5652 }{%
5653   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5654 }%
5655 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5656 \def\HyField@FlagsText{%
5657   \HyField@FlagsAnnot{text field}%
5658   \bitsetReset{HyField@Ff}%
5659   \HyField@UseFlag{Ff}{ReadOnly}%
5660   \HyField@UseFlag{Ff}{Required}%
5661   \HyField@UseFlag{Ff}{NoExport}%
5662   \HyField@UseFlag{Ff}{Multiline}%
5663   \HyField@UseFlag{Ff}{Password}%
5664   \HyField@UseFlag{Ff}{FileSelect}%
5665   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5666   \HyField@UseFlag{Ff}{DoNotScroll}%
5667   \ifFld@comb
5668     \ifcase0\ifFld@multiline
5669       \else\ifFld@password
5670       \else\ifFld@fileselect
5671       \else 1\fi\fi\fi\relax
5672     \Hy@Error{%
5673       Field option `comb' cannot used together with\MessageBreak
5674       `multiline', `password', or `fileselect'%
5675     }\@ehc
5676   \else
5677     \HyField@UseFlag{Ff}{Comb}%
5678   \fi
5679 \fi
5680 \HyField@UseFlag{Ff}{RichText}%
5681 \HyField@PrintFlags{Ff}{text field}%
5682 \bitsetIsEmpty{HyField@Ff}{%
5683   \let\Fld@flags\ltx@empty
5684 }{%
5685   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5686 }%
5687 }

```

### 20.1.8 Choice fields

`\HyField@FlagsChoice`

```

5688 \def\HyField@FlagsChoice{%
5689   \HyField@FlagsAnnot{choice field}%
5690   \bitsetReset{HyField@Ff}%
5691   \HyField@UseFlag{Ff}{ReadOnly}%
5692   \HyField@UseFlag{Ff}{Required}%
5693   \HyField@UseFlag{Ff}{NoExport}%
5694   \HyField@UseFlag{Ff}{Combo}%
5695   \ifFld@combo
5696     \HyField@UseFlag{Ff}{Edit}%
5697   \fi
5698   \HyField@UseFlag{Ff}{Sort}%
5699   \HyField@UseFlag{Ff}{MultiSelect}%
5700   \ifFld@combo
5701     \ifFld@edit
5702       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5703     \fi
5704   \fi
5705   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5706   \HyField@PrintFlags{Ff}{choice field}%
5707   \bitsetIsEmpty{HyField@Ff}{%
5708     \let\Fld@flags\ltx@empty
5709   }{%
5710     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5711   }%
5712 }
```

### 20.2 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`.

```

5713 \def\HyField@PDFChoices#1{%
5714   \begingroup
5715   \global\let\Fld@choices\ltx@empty
5716   \let\HyTmp@optlist\ltx@empty
5717   \let\HyTmp@optitem\relax
5718   \count@=0 %
5719   \kv@parse{#1}{%
5720     \Hy@pdfstringdef\kv@key\kv@key
5721     \ifx\kv@value\relax
5722       \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5723         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5724       \else
5725         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5726       \fi

```

```

5727 \else
5728 \Hy@pdfstringdef\kv@value\kv@value
5729 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5730 \fi
5731 \edef\HyTmp@optlist{%
5732 \HyTmp@optlist
5733 \HyTmp@optitem{\the\count@}{\kv@key}0%
5734 }%
5735 \advance\count@ by 1 %
5736 \@gobbletwo
5737 }%
5738 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5739 \ifFld@multiselect
5740 \HyField@@PDFChoices{DV}\Fld@default
5741 \HyField@@PDFChoices{V}\Fld@value
5742 \else
5743 \ifx\Fld@default\relax
5744 \else
5745 \pdfstringdef\Hy@gtemp\Fld@default
5746 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5747 \fi
5748 \ifx\Fld@value\relax
5749 \else
5750 \pdfstringdef\Hy@gtemp\Fld@value
5751 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5752 \fi
5753 \fi
5754 \endgroup
5755 }

```

\HyField@@PDFChoices

```

5756 \def\HyField@@PDFChoices#1#2{%
5757 \ifx#2\relax
5758 \else
5759 \count@=0 %
5760 \def\HyTmp@optitem##1##2##3{%
5761 \def\HyTmp@key{##2}%
5762 \ifx\HyTmp@key\Hy@gtemp
5763 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5764 \HyTmp@optlist
5765 \HyTmp@optitem{##1}{##2}1%
5766 }%
5767 \let\HyTmp@found=Y%
5768 \else
5769 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5770 \HyTmp@optlist
5771 \HyTmp@optitem{##1}{##2}##3%
5772 }%
5773 \fi
5774 }%

```

```

5775 \expandafter\comma@parse\expandafter{#2}{%
5776 \pdfstringdef\Hy@gtemp\comma@entry
5777 \let\HyTmp@found=N %
5778 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5779 \HyTmp@optlist
5780 \ifx\HyTmp@found Y%
5781 \advance\count@ by 1 %
5782 \else
5783 \@onelevel@sanitize\comma@entry
5784 \PackageWarning{hyperref}{%
5785 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5786 \MessageBreak
5787 it cannot be found in the choices%
5788 }%
5789 \fi
5790 \@gobble
5791 }%
5792 \def\HyTmp@optitem##1##2##3{%
5793 \ifnum##3=1 %
5794 (##2)%
5795 \fi
5796 }%
5797 \ifcase\count@
5798 \or
5799 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5800 \else
5801 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5802 \ifx#1V%
5803 \def\HyTmp@optitem##1##2##3{%
5804 \ifnum##3=1 %
5805 \@firstofone{ ##1}%
5806 \fi
5807 }%
5808 \edef\HyTmp@optlist{\HyTmp@optlist}%
5809 \xdef\Fld@choices{%
5810 \Fld@choices
5811 /I\expandafter\@firstofone\HyTmp@optlist}%
5812 }%
5813 \fi
5814 \fi
5815 \fi
5816 }

```

## 20.3 Forms

\HyField@SetKeys

```

5817 \def\HyField@SetKeys{%
5818 \kvsetkeys{Field}%
5819 }

```

```

5820 \newif\ifFld@checked
5821 \newif\ifFld@disabled
5822 \Fld@checkedfalse
5823 \Fld@disabledfalse
5824 \newcount\Fld@menulength
5825 \newdimen\Field@Width
5826 \newdimen\Fld@charsize
5827 \Fld@charsize=10\p@
5828 \def\Fld@maxlen{0}
5829 \def\Fld@align{0}
5830 \def\Fld@color{0 0 0 rg}
5831 \def\Fld@bcolor{1 1 1}
5832 \def\Fld@bordercolor{1 0 0}
5833 \def\Fld@bordersep{1\p@}
5834 \def\Fld@borderwidth{1}
5835 \def\Fld@borderstyle{S}
5836 \def\Fld@cbsymbol{4}
5837 \def\Fld@radiosymbol{H}
5838 \def\Fld@rotation{0}
5839 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5840 \def\endForm{\@endForm}
5841 \newif\ifForm@html
5842 \Form@htmlfalse
5843 \def\Form@boolkey#1#2{%
5844   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5845 }
5846 \define@key{Form}{action}{%
5847   \hyper@normalise\Hy@DefFormAction{#1}%
5848 }
5849 \def\Hy@DefFormAction{\def\Form@action}
5850 \def\enc@html{html}
5851 \define@key{Form}{encoding}{%
5852   \def\Hy@tempa{#1}%
5853   \ifx\Hy@tempa\enc@html
5854     \Form@htmltrue
5855     \def\Fld@export{html}%
5856   \else
5857     \Hy@Warning{%
5858       Form `encoding' key with \MessageBreak
5859       unknown value `#1'%
5860     }%
5861     \Form@htmlfalse
5862   \fi
5863 }
5864 \define@key{Form}{method}{%
5865   \lowercase{\def\Hy@temp{#1}}%
5866   \@ifundefined{Form@method@\Hy@temp}{%
5867     \@onelevel@sanitize\Hy@temp
5868     \Hy@Error{%
5869       Unknown method ``\Hy@temp'.\MessageBreak

```



```

5870     Known values are `post' and `get'%
5871   }\@ehc
5872 }\{%
5873   \let\Form@method\Hy@temp
5874   \ifcase\@nameuse{Form@method@\Hy@temp} %
5875     \Fld@getmethodfalse
5876   \else
5877     \Fld@getmethodtrue
5878   \fi
5879 }\%
5880 }
5881 \def\Form@method{}
5882 \@namedef{Form@method@post}{0}
5883 \@namedef{Form@method@get}{1}

5884 \newif\ifHyField@NeedAppearances
5885 \def\HyField@NeedAppearancesfalse{%
5886   \global\let\ifHyField@NeedAppearances\iffalse
5887 }
5888 \def\HyField@NeedAppearancetrue{%
5889   \global\let\ifHyField@NeedAppearances\iftrue
5890 }
5891 \HyField@NeedAppearancetrue
5892 \define@key{Form}{NeedAppearances}[true]{%
5893   \edef\Hy@tempa{#1}%
5894   \ifx\Hy@tempa\Hy@true
5895     \HyField@NeedAppearancetrue
5896   \else
5897     \ifx\Hy@tempa\Hy@false
5898       \HyField@NeedAppearancesfalse
5899     \else
5900       \Hy@Error{%
5901         Unexpected value ``\Hy@tempa'\MessageBreak
5902         of option `NeedAppearances' instead of\MessageBreak
5903         `true' or `false'%
5904       }\@ehc
5905     \fi
5906   \fi
5907 }
5908 \def\Field@boolkey#1#2{%
5909   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5910 }
5911 \ifHy@texht
5912   \newtoks\Field@toks
5913   \Field@toks={ }%
5914   \def\Field@addtoks#1#2{%
5915     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5916     \@processme
5917   }%
5918 \else

```

```

5919 \def\Hy@WarnHTMLFieldOption#1{%
5920   \Hy@Warning{%
5921     HTML field option `#1'\MessageBreak
5922     is ignored%
5923   }%
5924 }%
5925 \fi
5926 \def\Fld@checkequals#1=#2=#3\\{%
5927   \def\@currDisplay{#1}%
5928   \ifx\\#2\\%
5929     \def\@currValue{#1}%
5930   \else
5931     \def\@currValue{#2}%
5932   \fi
5933   \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5934 }
5935 \define@key{Field}{loc}{%
5936   \def\Fld@loc{#1}%
5937 }
5938 \define@key{Field}{checked}[true]{%
5939   \lowercase{\Field@boolkey{#1}}{checked}%
5940 }
5941 \define@key{Field}{disabled}[true]{%
5942   \lowercase{\Field@boolkey{#1}}{disabled}%
5943 }
5944 \ifHy@texht
5945   \define@key{Field}{accesskey}{%
5946     \Field@addtoks{accesskey}{#1}%
5947   }%
5948   \define@key{Field}{tabkey}{%
5949     \Field@addtoks{tabkey}{#1}%
5950   }%
5951 \else
5952   \define@key{Field}{accesskey}{%
5953     \Hy@WarnHTMLFieldOption{accesskey}%
5954   }%
5955   \define@key{Field}{tabkey}{%
5956     \Hy@WarnHTMLFieldOption{tabkey}%
5957   }%
5958 \fi
5959 \define@key{Field}{name}{%
5960   \def\Fld@name{#1}%
5961 }
5962 \let\Fld@altname\relax
5963 \define@key{Field}{altname}{%
5964   \def\Fld@altname{#1}%
5965 }
5966 \let\Fld@mappingname\relax
5967 \define@key{Field}{mappingname}{%
5968   \def\Fld@mappingname{#1}%

```

```

5969 }
5970 \define@key{Field}{width}{%
5971   \def\Fld@width{#1}%
5972   \Field@Width#1\setbox0=\hbox{m}%
5973 }
5974 \define@key{Field}{maxlen}{%
5975   \def\Fld@maxlen{#1}%
5976 }
5977 \define@key{Field}{menulength}{%
5978   \Fld@menulength=#1\relax
5979 }
5980 \define@key{Field}{height}{%
5981   \def\Fld@height{#1}%
5982 }
5983 \define@key{Field}{charsize}{%
5984   \setlength{\Fld@charsize}{#1}%
5985 }
5986 \define@key{Field}{borderwidth}{%
5987   \Hy@defaultbp\Fld@borderwidth{#1}%
5988 }
5989 \def\Hy@defaultbp#1#2{%
5990   \begingroup
5991   \afterassignment\Hy@defaultbpAux
5992   \dimen@=#2bp\relax{#1}{#2}%
5993 }
5994 \begingroup\expandafter\expandafter\expandafter\endgroup
5995 \expandafter\ifx\csname dimexpr\endcsname\relax
5996   \def\Hy@defaultbpAux#1\relax#2#3{%
5997     \ifx!#1!%
5998       \endgroup
5999       \def#2{#3}%
6000     \else
6001       \dimen@=.99626\dimen@
6002       \edef\x{\endgroup
6003         \def\noexpand#2{%
6004           \strip@pt\dimen@
6005         }%
6006       }\x
6007     \fi
6008   }%
6009 \else
6010   \def\Hy@defaultbpAux#1\relax#2#3{%
6011     \ifx!#1!%
6012       \endgroup
6013       \def#2{#3}%
6014     \else
6015       \edef\x{\endgroup
6016         \def\noexpand#2{%
6017           \strip@pt\dimexpr\dimen@*800/803\relax
6018         }%

```

```

6019     }\x
6020   \fi
6021 }%
6022 \fi
6023 \define@key{Field}{borderstyle}{%
6024   \let\Hy@temp\Fld@borderstyle
6025   \def\Fld@borderstyle{#1}%
6026   \Hy@Match\Fld@borderstyle}{}%
6027   ^[SDBIU]$%
6028 }{}{%
6029   \Hy@Warning{%
6030     Invalid value ` \@pdfborderstyle'\MessageBreak
6031     for option `pdfborderstyle'. Valid values:\MessageBreak
6032     \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6033     \space\space I (Inset), U (Underline)\MessageBreak
6034     Option setting is ignored%
6035   }%
6036   \let\Fld@borderstyle\Hy@temp
6037 }%
6038 }
6039 \define@key{Field}{bordersep}{%
6040   \def\Fld@bordersep{#1}%
6041 }
6042 \define@key{Field}{default}{%
6043   \Hy@pdfstringdef\Fld@default{#1}%
6044 }
6045 \define@key{Field}{align}{%
6046   \def\Fld@align{#1}%
6047 }
6048 \define@key{Field}{value}{%
6049   \Hy@pdfstringdef\Fld@value{#1}%
6050 }
6051 \define@key{Field}{checkboxsymbol}{%
6052   \Fld@DingDef\Fld@cbsymbol{#1}%
6053 }
6054 \define@key{Field}{radiosymbol}{%
6055   \Fld@DingDef\Fld@radiosymbol{#1}%
6056 }
6057 \def\Fld@DingDef#1#2{%
6058   \let\Fld@temp\ltx@empty
6059   \Fld@@@DingDef#2\ding{}\@nil
6060   \let#1\Fld@temp
6061 }
6062 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6063   \expandafter\def\expandafter\Fld@temp\expandafter{%
6064     \Fld@temp
6065     #1%
6066   }%
6067   \ifx\\#3\\%
6068     \expandafter\@gobble

```

```

6069 \else
6070 \begingroup
6071 \lccode`0=#2\relax
6072 \lowercase{\endgroup
6073 \expandafter\def\expandafter\Fld@temp\expandafter{%
6074 \Fld@temp
6075 0%
6076 }%
6077 }%
6078 \expandafter\@firstofone
6079 \fi
6080 {%
6081 \Fld@@DingDef#3\@nil
6082 }%
6083 }

6084 \define@key{Field}{rotation}{%
6085 \def\Fld@rotation{#1}%
6086 }

6087 \define@key{Field}{backgroundcolor}{%
6088 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6089 }

6090 \define@key{Field}{bordercolor}{%
6091 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6092 }

6093 \define@key{Field}{color}{%
6094 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6095 }

6096 \let\Fld@onclick@code\ltx@empty
6097 \let\Fld@format@code\ltx@empty
6098 \let\Fld@validate@code\ltx@empty
6099 \let\Fld@calculate@code\ltx@empty
6100 \let\Fld@keystroke@code\ltx@empty
6101 \let\Fld@onfocus@code\ltx@empty
6102 \let\Fld@onblur@code\ltx@empty
6103 \let\Fld@onmousedown@code\ltx@empty
6104 \let\Fld@onmouseup@code\ltx@empty
6105 \let\Fld@onenter@code\ltx@empty
6106 \let\Fld@onexit@code\ltx@empty
6107 \def\Hy@temp#1{%
6108 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6109 }
6110 \def\Hy@@temp#1#2{%
6111 \ifHy@pdfa
6112 \define@key{Field}{#2}{%
6113 \Hy@Error{%
6114 PDF/A: Additional action `#2' is prohibited%
6115 }\@ehc
6116 }%
6117 \else

```

```

6118 \define@key{Field}{#2}{%
6119 \def#1{##1}%
6120 }%
6121 \fi
6122 }
6123 \Hy@temp{keystroke}
6124 \Hy@temp{format}
6125 \Hy@temp{validate}
6126 \Hy@temp{calculate}
6127 \Hy@temp{onfocus}
6128 \Hy@temp{onblur}
6129 \Hy@temp{onenter}
6130 \Hy@temp{onexit}

6131 \let\Fld@calculate@sortkey\ltx@empty
6132 \define@key{Field}{calculatesortkey}[1]{%
6133 \def\Fld@calculate@sortkey{#1}%
6134 }

6135 \ifHy@texht
6136 \def\Hy@temp#1{%
6137 \define@key{Field}{#1}{%
6138 \Fld@addtoks{#1}{##1}%
6139 }%
6140 }%
6141 \else
6142 \def\Hy@temp#1{%
6143 \define@key{Field}{#1}{%
6144 \Hy@WarnHTMLFieldOption{#1}%
6145 }%
6146 }%
6147 \fi
6148 \Hy@temp{ondblclick}
6149 \Hy@temp{onmousedown}
6150 \Hy@temp{onmouseup}
6151 \Hy@temp{onmouseover}
6152 \Hy@temp{onmousemove}
6153 \Hy@temp{onmouseout}
6154 \Hy@temp{onkeydown}
6155 \Hy@temp{onkeyup}
6156 \Hy@temp{onselect}
6157 \Hy@temp{onchange}
6158 \Hy@temp{onkeypress}
6159 \ifHy@texht
6160 \define@key{Field}{onclick}{%
6161 \Fld@addtoks{onclick}{#1}%
6162 }%
6163 \else
6164 \ifHy@pdfa
6165 \define@key{Field}{onclick}{%
6166 \Hy@Error{%

```

```

6167     PDF/A: Action `onclick' is prohibited%
6168   }\@ehc
6169  }%
6170 \else
6171   \define@key{Field}{onclick}{%
6172     \def\Fld@onclick@code{#1}%
6173  }%
6174 \fi
6175 \fi

6176 \DeclareRobustCommand\TextField{%
6177   \@ifnextchar[{\@TextField}{\@TextField[]}%
6178 }
6179 \DeclareRobustCommand\ChoiceMenu{%
6180   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6181 }
6182 \DeclareRobustCommand\CheckBox{%
6183   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6184 }
6185 \DeclareRobustCommand\PushButton{%
6186   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6187 }
6188 \DeclareRobustCommand\Gauge{%
6189   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6190 }
6191 \DeclareRobustCommand\Submit{%
6192   \@ifnextchar[{\@Submit}{\@Submit[]}%
6193 }
6194 \DeclareRobustCommand\Reset{%
6195   \@ifnextchar[{\@Reset}{\@Reset[]}%
6196 }
6197 \def\LayoutTextField#1#2{% label, field
6198   \def\Hy@temp{#1}%
6199   \ifx\Hy@temp\@empty
6200     #2%
6201   \else
6202     #1 #2%
6203   \fi
6204 }
6205 \def\LayoutChoiceField#1#2{% label, field
6206   \def\Hy@temp{#1}%
6207   \ifx\Hy@temp\@empty
6208     #2%
6209   \else
6210     #1 #2%
6211   \fi
6212 }
6213 \def\LayoutCheckField#1#2{% label, field
6214   \def\Hy@temp{#1}%
6215   \ifx\Hy@temp\@empty

```

```

6216     #2%
6217 \else
6218     #1 #2%
6219 \fi
6220 }
6221 \def\LayoutPushButtonField#1{% button
6222     #1%
6223 }
6224 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6225 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6226 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6227 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6228 \def\MakeButtonField#1{%
6229     \sbox0{%
6230         \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6231     }%
6232     \@tempdima\ht0 %
6233     \advance\@tempdima by \Fld@borderwidth bp %
6234     \advance\@tempdima by \Fld@borderwidth bp %
6235     \ht0\@tempdima
6236     \@tempdima\dp0 %
6237     \advance\@tempdima by \Fld@borderwidth bp %
6238     \advance\@tempdima by \Fld@borderwidth bp %
6239     \dp0\@tempdima
6240     \box0\relax
6241 }
6242 \def\DefaultHeightofSubmit{14pt}
6243 \def\DefaultWidthofSubmit{2cm}
6244 \def\DefaultHeightofReset{14pt}
6245 \def\DefaultWidthofReset{2cm}
6246 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6247 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6248 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6249 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6250 \def\DefaultHeightofText{\normalbaselineskip}
6251 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6252 \def\DefaultWidthofText{3cm}
6253 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6254 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6255 \def\DefaultOptionsofPushButton{print}
6256 \def\DefaultOptionsofCheckBox{print}
6257 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6258 \def\DefaultOptionsofListBox{print}
6259 \def\DefaultOptionsofComboBox{print,edit,sort}
6260 \def\DefaultOptionsofPopdownBox{print}
6261 \def\DefaultOptionsofRadio{print,notoggetooff}

```



## 21 Setup

```
6262 \ifHy@hyperfigures
6263   \Hy@Info{Hyper figures ON}%
6264 \else
6265   \Hy@Info{Hyper figures OFF}%
6266 \fi
6267 \ifHy@nesting
6268   \Hy@Info{Link nesting ON}%
6269 \else
6270   \Hy@Info{Link nesting OFF}%
6271 \fi
6272 \ifHy@hyperindex
6273   \Hy@Info{Hyper index ON}%
6274 \else
6275   \Hy@Info{Hyper index OFF}%
6276 \fi
6277 \ifHy@backref
6278   \Hy@Info{backreferencing ON}%
6279 \else
6280   \Hy@Info{backreferencing OFF}%
6281 \fi
6282 \ifHy@colorlinks
6283   \Hy@Info{Link coloring ON}%
6284 \else
6285   \Hy@Info{Link coloring OFF}%
6286 \fi
6287 \ifHy@ocgcolorlinks
6288   \Hy@Info{Link coloring with OCG ON}%
6289 \else
6290   \Hy@Info{Link coloring with OCG OFF}%
6291 \fi
6292 \ifHy@pdfa
6293   \Hy@Info{PDF/A mode ON}%
6294 \else
6295   \Hy@Info{PDF/A mode OFF}%
6296 \fi
```

## 22 Low-level utility macros

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

```
6297 \edef\hyper@hash{\string#}
6298 \edef\hyper@tilde{\string~}
6299 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6300 \def\@currentHref{Doc-Start}
6301 \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.

```

6302 \Hy@AtBeginDocument{%
6303   \Hy@pdfstringtrue
6304   \PDF@SetupDoc
6305   \let\PDF@SetupDoc\@empty
6306   \Hy@DisableOption{pdfpagescrop}%
6307   \Hy@DisableOption{pdfpagemode}%
6308   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6309   \Hy@DisableOption{pdfdirection}%
6310   \Hy@DisableOption{pdfviewarea}%
6311   \Hy@DisableOption{pdfviewclip}%
6312   \Hy@DisableOption{pdfprintarea}%
6313   \Hy@DisableOption{pdfprintclip}%
6314   \Hy@DisableOption{pdfprintscaling}%
6315   \Hy@DisableOption{pdfduplex}%
6316   \Hy@DisableOption{pdfpicktraybypdfsize}%
6317   \Hy@DisableOption{pdfprintpagerange}%
6318   \Hy@DisableOption{pdfnumcopies}%
6319   \Hy@DisableOption{pdfstartview}%
6320   \Hy@DisableOption{pdfstartpage}%
6321   \Hy@DisableOption{pdftoolbar}%
6322   \Hy@DisableOption{pdfmenubar}%
6323   \Hy@DisableOption{pdfwindowui}%
6324   \Hy@DisableOption{pdffitwindow}%
6325   \Hy@DisableOption{pdfcenterwindow}%
6326   \Hy@DisableOption{pdfdisplaydoctitle}%
6327   \Hy@DisableOption{pdfpagelayout}%
6328   \Hy@DisableOption{pdflang}%
6329   \Hy@DisableOption{baseurl}%
6330   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6331   \Hy@pdfstringfalse
6332 }

```

Ignore star from referencing macros:

```

6333 \LetLtxMacro\NoHy@OrgRef\ref
6334 \DeclareRobustCommand*\ref{%
6335   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6336 }
6337 \LetLtxMacro\NoHy@OrgPageRef\pageref
6338 \DeclareRobustCommand*\pageref{%
6339   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6340 }

```

## 23 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.

```

6341 \def\NoHyper{%
6342   \def\hyper@link@[#1]##2##3##4{##4\Hy@xspace@end}%
6343   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6344   \global\let\hyper@livelink\hyper@link
6345   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6346   \let\hyper@anchor\ltx@gobble
6347   \let\hyper@anchorstart\ltx@gobble
6348   \def\hyper@anchorend{\Hy@xspace@end}%
6349   \let\hyper@linkstart\ltx@gobbletwo
6350   \def\hyper@linkend{\Hy@xspace@end}%
6351   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6352   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6353   \let\Hy@backout\@gobble
6354 }
6355 \def\stop@hyper{%
6356   \def\hyper@link@[#1]##2##3##4{##4\Hy@xspace@end}%
6357   \let\Hy@backout\@gobble
6358   \let\hyper@@anchor\ltx@gobble
6359   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6360   \let\hyper@anchor\ltx@gobble
6361   \let\hyper@anchorstart\ltx@gobble
6362   \def\hyper@anchorend{\Hy@xspace@end}%
6363   \let\hyper@linkstart\ltx@gobbletwo
6364   \def\hyper@linkend{\Hy@xspace@end}%
6365   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6366   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6367 }
6368 \def\endNoHyper{%
6369   \global\let\hyper@link\hyper@livelink
6370 }
6371 \</package>

```

## 24 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:

```

6372 \*nohyperref
6373 \RequirePackage{letltxmacro}[2008/06/13]
6374 \let\hyper@@anchor\@gobble
6375 \def\hyper@link##1##2##3{##3}%
6376 \let\hyper@anchorstart\@gobble
6377 \let\hyper@anchorend\@empty

```

```

6378 \let\hyper@linkstart\@gobbletwo
6379 \let\hyper@linkend\@empty
6380 \def\hyper@linkurl#1#2{#1}%
6381 \def\hyper@linkfile#1#2#3{#1}%
6382 \def\hyper@link@[#1]#2#3{#1}%
6383 \let\PDF@SetupDoc\@empty
6384 \let\PDF@FinishDoc\@empty
6385 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6386 \def\Acrobatmenu#1#2{\leavevmode#2}
6387 \let\pdfstringdefDisableCommands\@gobbletwo
6388 \let\texorpdfstring\@firstoftwo
6389 \let\pdfbookmark\@undefined
6390 \newcommand\pdfbookmark[3]{}{}
6391 \let\phantomsection\@empty
6392 \let\hypersetup\@gobble
6393 \let\hyperbaseurl\@gobble
6394 \newcommand*{\href}[3]{}{#3}
6395 \let\hyperdef\@gobbletwo
6396 \let\hyperlink\@gobble
6397 \let\hypertarget\@gobble
6398 \def\hyperref{%
6399   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6400 }
6401 \long\def\@gobbleopt[#1]{}
6402 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6403 \LetLtxMacro\NoHy@OrgRef\ref
6404 \DeclareRobustCommand*\ref}{%
6405   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6406 }
6407 \LetLtxMacro\NoHy@OrgPageRef\pageref
6408 \DeclareRobustCommand*\pageref}{%
6409   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6410 }
6411 \</nohyperref>

```

## 25 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}`

```

6412 \<{*package}
6413 \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 `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

```

6414 \if@filesw
6415 \ifHy@typexml
6416 \immediate\closeout\@mainaux
6417 \immediate\openout\@mainaux\jobname.aux\relax
6418 \immediate\write\@auxout{<relaxxml>\relax}%
6419 \fi
6420 \immediate\write\@auxout{%
6421 \string\providecommand\string\HyperFirstAtBeginDocument{%
6422 \string\AtBeginDocument}^^J%
6423 \string\HyperFirstAtBeginDocument{%
6424 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6425 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6426 \string\gdef\string\contentsline%
6427 \string#1\string#2\string#3\string#4{%
6428 \string\oldcontentsline%
6429 {\string#1}{\string#2}{\string#3}}^^J%
6430 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6431 \string\gdef\string\newlabel\string#1\string#2{%
6432 \string\newlabelxx{\string#1}\string#2}^^J%
6433 \string\gdef\string\newlabelxx%
6434 \string#1\string#2\string#3\string#4\string#5\string#6{%
6435 \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.

```

6436 \string\AtEndDocument{%
6437 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6438 \string\let\string\contentsline\string\oldcontentsline^^J%
6439 \string\let\string\newlabel\string\oldnewlabel^^J%
6440 \string\fi%
6441 }^^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.

```

6442 \string\fi%
6443 }^^J%
6444 \string\global\string\let\string\hyper@last\relax^^J%
6445 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6446 }%
6447 \fi
6448 \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. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

6449 \ifx\hyper@last\@undefined
6450 \def\@starttoc#1{%
6451 \begingroup

```

```

6452 \makeatletter
6453 \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6454 \IfFileExists{\jobname.#1}{%
6455   \Hy@WarningNoLine{%
6456     old #1 file detected, not used; run LaTeX again%
6457   }%
6458 }{}%
6459 \if@filesw
6460   \expandafter\newwrite\csname tf@#1\endcsname
6461   \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6462 \fi
6463 \@nobreakfalse
6464 \endgroup
6465 }%
6466 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{}}{}%
6467 \fi
6468 }

```

## 26 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`.

```

6469 \ifHy@pdfusetitle
6470 \let\HyOrg@title\title
6471 \let\HyOrg@author\author
6472 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6473 \def\Hy@scanopttitle[#1]{%
6474   \gdef\Hy@title{#1}%
6475   \HyOrg@title{#1}%
6476 }%
6477 \def\Hy@scantitle#1{%
6478   \gdef\Hy@title{#1}%
6479   \HyOrg@title{#1}%
6480 }%
6481 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6482 \def\Hy@scanoptauthor[#1]{%
6483   \gdef\Hy@author{#1}%
6484   \HyOrg@author{#1}%
6485 }%
6486 \def\Hy@scanauthor#1{%
6487   \gdef\Hy@author{#1}%
6488   \HyOrg@author{#1}%
6489 }%

```

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.

```

6490 \begingroup
6491 \def\process@me#1\@nil#2{%

```

```

6492 \expandafter\let\expandafter\x\csname @#2\endcsname
6493 \edef\y{\expandafter\strip@prefix\meaning\x}%
6494 \def\c##1##2\@nil{%
6495 \ifx\\##1\\%
6496 \else
6497 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6498 \expandafter{\x}%
6499 \fi
6500 }%
6501 \expandafter\c\y\relax#1\@nil
6502 }%
6503 \expandafter\process@me\string\@latex@\@nil{title}%
6504 \expandafter\process@me\string\@latex@\@nil{author}%
6505 \endgroup
6506 \fi
6507 \Hy@DisableOption{pdfusetitle}

```

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

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

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

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

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

```

6508 \def\Hy@UseMaketitleString#1{%
6509 \ltx@ifundefined{Hy@#1}{-}{%
6510 \begingroup
6511 \let\Hy@saved@hook\pdfstringdefPreHook
6512 \pdfstringdefDisableCommands{%
6513 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6514 \let\newline\\%
6515 \def\and{; }%
6516 \let\thanks\@gobble%
6517 }%
6518 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6519 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6520 \csname Hy@#1\endcsname\@empty
6521 }%
6522 \fi
6523 \global\let\pdfstringdefPreHook\Hy@saved@hook
6524 \endgroup
6525 }%
6526 }
6527 \def\Hy@newline@title#1{ #1}
6528 \def\Hy@newline@author#1{, #1}
6529 \def\Hy@UseMaketitleInfos{%

```

```

6530 \Hy@UseMaketitleString{title}%
6531 \Hy@UseMaketitleString{author}%
6532 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6533 \RequirePackage{atbegshi}[2007/09/09]
6534 \let\Hy@EveryPageHook\ltx@empty
6535 \let\Hy@EveryPageBoxHook\ltx@empty
6536 \let\Hy@FirstPageHook\ltx@empty
6537 \AtBeginShipout{%
6538   \Hy@EveryPageHook
6539   \ifx\Hy@EveryPageBoxHook\ltx@empty
6540     \else
6541       \setbox\AtBeginShipoutBox=\vbox{%
6542         \offinterlineskip
6543         \Hy@EveryPageBoxHook
6544         \box\AtBeginShipoutBox
6545       }%
6546   \fi
6547 }
6548 \ltx@iffileloaded{hpdftex.def}{%
6549   \AtBeginShipout{%
6550     \Hy@FirstPageHook
6551     \global\let\Hy@FirstPageHook\ltx@empty
6552   }%
6553 }{%
6554   \AtBeginShipoutFirst{%
6555     \Hy@FirstPageHook
6556   }%
6557 }
6558 \g@addto@macro\Hy@FirstPageHook{%
6559   \PDF@FinishDoc
6560 \global\let\PDF@FinishDoc\ltx@empty
6561 }

```

### 28.1 PDF /PageLabels

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

```

6562 \ifHy@pdfpagelabels
6563   \begingroup\expandafter\expandafter\expandafter\endgroup
6564   \expandafter\ifx\csname thepage\endcsname\relax
6565     \Hy@pdfpagelabelsfalse
6566     \Hy@WarningNoLine{%

```



```

6567 Option `pdfpagelabels' is turned off\MessageBreak
6568 because \string\thepage\space is undefined%
6569 }%
6570 \csname fi\endcsname
6571 \csname iffalse\expandafter\endcsname
6572 \fi

```

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

```

6573 \def\thispdfpagelabel#1{%
6574   \gdef\HyPL@thisLabel{#1}%
6575 }%
6576 \global\let\HyPL@thisLabel\relax

```

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

```

6577 \let\HyPL@Labels\ltx@empty

```

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

```

6578 \newcount\Hy@abspage
6579 \Hy@abspage=0 %

```

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

```

6580 \def\HyPL@LastType{init}%
6581 \def\HyPL@LastNumber{0}%
6582 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6583 \def\HyPL@arabic{D}%
6584 \def\HyPL@Roman{R}%
6585 \def\HyPL@roman{r}%
6586 \def\HyPL@Alph{A}%
6587 \def\HyPL@alph{a}%

6588 \let\HyPL@SlidesSetPage\ltx@empty
6589 \ltx@ifclassloaded{slides}{%
6590   \def\HyPL@SlidesSetPage{%
6591     \advance\c@page\ltx@one
6592     \ifnum\value{page}>\ltx@one
6593       \protected@edef\HyPL@SlidesOptionalPage{%
6594         \Hy@SlidesFormatOptionalPage{\thepage}%
6595       }%
6596     \else
6597       \let\HyPL@SlidesOptionalPage\ltx@empty
6598     \fi
6599     \advance\c@page-\ltx@one
6600   \def\HyPL@page{%
6601     \csname the\Hy@SlidesPage\endcsname
6602     \HyPL@SlidesOptionalPage
6603   }%

```

```

6604 }%
6605 }{}%

```

`\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.

```

6606 \def\HyPL@EveryPage{%
6607   \begingroup
6608   \ifx\HyPL@thisLabel\relax
6609     \let\HyPL@page\thepage
6610     \HyPL@SlidesSetPage
6611   \else
6612     \let\HyPL@page\HyPL@thisLabel
6613     \global\let\HyPL@thisLabel\relax
6614   \fi
6615   \let\HyPL@Type\relax
6616   \ifnum\c@page>0 %
6617     \ifx\HyPL@SlidesSetPage\ltx@empty
6618       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6619     \fi
6620   \fi
6621   \let\Hy@temp Y%
6622   \ifx\HyPL@Type\HyPL@LastType
6623   \else
6624     \let\Hy@temp N%
6625   \fi
6626   \ifx\HyPL@Type\relax
6627     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6628   \else
6629     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6630   \fi
6631   \ifx\HyPL@Prefix\HyPL@LastPrefix
6632   \else
6633     \let\Hy@temp N%
6634   \fi
6635   \if Y\Hy@temp
6636     \advance\c@page by -1 %
6637     \ifnum\HyPL@LastNumber=\the\c@page\relax
6638     \else
6639       \let\Hy@temp N%
6640     \fi
6641     \Hy@StepCount\c@page
6642   \fi
6643   \if N\Hy@temp
6644     \ifx\HyPL@Type\relax
6645       \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6646     \else
6647       \HyPL@storePageLabel{%
6648         \ifx\HyPL@Prefix\@empty
6649         \else
6650           /P(\HyPL@Prefix)%

```

```

6651         \fi
6652         /S/\csname HyPL\HyPL@Type\endcsname
6653         \ifnum\the\c@page=1 %
6654         \else
6655         \space/St \the\c@page
6656         \fi
6657     }%
6658     \fi
6659     \fi
6660     \xdef\HyPL@LastNumber{\the\c@page}%
6661     \global\let\HyPL@LastType\HyPL@Type
6662     \global\let\HyPL@LastPrefix\HyPL@Prefix
6663 \endgroup
6664 \Hy@GlobalStepCount\Hy@abspage
6665 }%

```

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

```

6666 \def\HyPL@CheckThePage#1\@nil{%
6667   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6668 }%

```

`\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`.

```

6669 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6670   \def\Hy@tempa{#4}%
6671   \def\Hy@tempb{\csname\endcsname\c@page}%
6672   \ifx\Hy@tempa\Hy@tempb
6673     \expandafter\ifx\csname HyPL#3\endcsname\relax
6674     \else
6675       \def\HyPL@Type{#3}%
6676       \def\HyPL@Prefix{#2}%
6677     \fi
6678   \else
6679     \begingroup
6680     \let\Hy@next\endgroup
6681     \let\HyPL@found\@undefined
6682     \def\arabic{\HyPL@Format{arabic}}%
6683     \def\Roman{\HyPL@Format{Roman}}%
6684     \def\roman{\HyPL@Format{roman}}%
6685     \def\Alph{\HyPL@Format{Alph}}%
6686     \def\alph{\HyPL@Format{alph}}%
6687     \protected@edef\Hy@temp{#1}%
6688     \ifx\HyPL@found\relax
6689       \toks@\expandafter{\Hy@temp}%
6690       \edef\Hy@next{\endgroup
6691         \noexpand\HyPL@@@CheckThePage\the\toks@

```

```

6692         \noexpand\HyPL@found\relax\noexpand\@nil
6693     }%
6694     \fi
6695     \Hy@next
6696 \fi
6697 }%

```

**\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**.

```

6698 \def\HyPL@Format#1#2{%
6699     \ifx\HyPL@found\@undefined
6700         \expandafter\ifx\csname c@#2\endcsname\c@page
6701         \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6702     \else
6703         \expandafter\noexpand\csname#1\endcsname{#2}%
6704     \fi
6705 \else
6706     \expandafter\noexpand\csname#1\endcsname{#2}%
6707 \fi
6708 }%

```

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

```

6709 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6710     \def\Hy@tempa{#3}%
6711     \def\Hy@tempb{\HyPL@found\relax}%
6712     \ifx\Hy@tempa\Hy@tempb
6713         \def\HyPL@Type{#2}%
6714         \def\HyPL@Prefix{#1}%
6715     \fi
6716 }%

```

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

```

6717 \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**.

```

6718 \def\HyPL@Useless{0<</S/D>>}%
6719 \@onelevel@sanitize\HyPL@Useless

```

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

```

6720 \def\HyPL@SetPageLabels{%
6721     \@onelevel@sanitize\HyPL@Labels
6722     \ifx\HyPL@Labels\@empty
6723     \else
6724         \ifx\HyPL@Labels\HyPL@Useless

```

```

6725     \else
6726       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>>}%
6727     \fi
6728   \fi
6729 }%

6730 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6731 \fi

Option ‘pdfpagelabels’ has been used and is now disabled.
6732 \Hy@DisableOption{pdfpagelabels}
6733 </package>

```

### 28.1.1 pdfTeX and VTeX

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

```

\Hy@PutCatalog
6734 <*pdftex>
6735 \pdf@ifdraftmode{%
6736   \let\Hy@PutCatalog\ltx@gobble
6737 }{%
6738   \let\Hy@PutCatalog\pdfcatalog
6739 }
6740 </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.

```

6741 <*vtex>
6742 \providecommand*{\XR@ext}{pdf}
6743 \edef\Hy@VTeXversion{%
6744   \ifx\VTeXversion\@undefined
6745     \z@
6746   \else
6747     \ifx\VTeXversion\relax
6748       \z@
6749     \else
6750       \VTeXversion
6751     \fi
6752   \fi
6753 }
6754 \begingroup
6755 \ifnum\Hy@VTeXversion<660 %
6756   \gdef\Hy@PutCatalog#1{%
6757     \Hy@WarningNoLine{%
6758       VTeX 6.59g or above required for pdfpagelabels%

```

```

6759 }%
6760 }%
6761 \else
6762 \gdef\Hy@PutCatalog#1{%
6763 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6764 }%
6765 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6766 \ifx\#2\%
6767 \else
6768 \immediate\special{!pdfpagelabels #2}%
6769 \fi
6770 }%
6771 \fi
6772 \endgroup
6773 \</vtex>
6774 \<*pdftex | vtex>

```

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

```

6775 \ifHy@pdfpagelabels
6776 \def\HyPL@StorePageLabel#1{%
6777 \toks@\expandafter{\HyPL@Labels}%
6778 \xdef\HyPL@Labels{%
6779 \the\toks@
6780 \the\Hy@abspage<<#1>>%
6781 }%
6782 }%

```

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.

```

6783 \RequirePackage{atveryend}[2009/12/07]%
6784 \AtVeryEndDocument{%
6785 \HyPL@SetPageLabels
6786 }%
6787 \fi
6788 \</pdftex | vtex>

```

### 28.1.2 xetex

```

6789 \<*xetex>
6790 \HyPsd@LoadUnicode
6791 \Hy@unicodetrue
6792 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6793 \else
6794 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6795 \fi
6796 \HyPsd@LoadStringEnc
6797 \define@key{Hyp}{unicode}[true]{%

```

```

6798 \Hy@boolkey{unicode}{#1}%
6799 \ifHy@unicode
6800 \else
6801 \Hy@Warning{%
6802   XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6803   option setting `unicode=false'%
6804 }%
6805 \Hy@unicodetrue
6806 \fi
6807 }
6808 \define@key{Hyp}{pdfencoding}{%
6809 \edef\HyPsd@temp{#1}%
6810 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6811 \let\HyPsd@pdfencoding\HyPsd@temp
6812 \else
6813 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6814 \let\HyPsd@pdfencoding\HyPsd@temp
6815 \else
6816 \Hy@Warning{%
6817   XeTeX driver only supports\MessageBreak
6818   `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6819   setting `pdfencoding=\HyPsd@temp'%
6820 }%
6821 \fi
6822 \fi
6823 }
6824 \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:

```

6825 \def\setpdfinkmargin#1{%
6826 \begingroup
6827 \setlength{\dimen@}{#1}%
6828 \special{dvipdfmx:config g \strip@pt\dimen@}%
6829 \endgroup}
6830 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6831 <*pdfmarkbase>
6832 \begingroup
6833 \@ifundefined{headerps@out}{-}{%
6834 \toks@\expandafter{\Hy@FirstPageHook}%
6835 \xdef\Hy@FirstPageHook{%
6836 \noexpand\headerps@out{%
6837   systemdict /pdfmark known%
6838   {%
6839     userdict /?pdfmark systemdict /exec get put%
6840   }{%
6841     userdict /?pdfmark systemdict /pop get put %
6842     userdict /pdfmark systemdict /cleartomark get put%

```

```

6843     }%
6844     ifelse%
6845     }%
6846     \the\toks@
6847     }%
6848     }%
6849 \endgroup
6850 \pdfmarkbase)

\Hy@PutCatalog
6851 \dvi\pdfm | xetex\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
6852 \*pdfmarkbase)
6853 \def\Hy@PutCatalog#1{%
6854   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6855 }
6856 \pdfmarkbase)

6857 \*pdfmarkbase | dvi\pdfm | xetex)
6858 \ifHy@pdfpagelabels

```

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

```

6859 \def\HyPL@StorePageLabel#1{%
6860   \if@filesw
6861     \begingroup
6862     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6863     \immediate\write\@mainaux{%
6864       \string\HyPL@Entry{\Hy@tempa}%
6865     }%
6866   \endgroup
6867   \fi
6868 }%

```

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.

```

6869 \Hy@AtBeginDocument{%
6870   \if@filesw
6871     \immediate\write\@mainaux{%
6872       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6873     }%
6874   \fi
6875   \ifx\HyPL@Labels\@empty
6876     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6877   \else
6878     \HyPL@SetPageLabels
6879   \fi
6880   \let\HyPL@Entry\@gobble
6881 }%

```

\HyPL@Entry



```

6882 \def\HyPL@Entry#1{%
6883   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6884     \HyPL@Labels
6885     #1%
6886   }%
6887 }%

6888 \fi
6889 </pdfmarkbase | dvipdfm | xetex>
6890 <*package>

6891 \ifx\MaybeStopEarly\relax
6892 \else
6893   \Hy@stoppedearlytrue
6894   \expandafter\MaybeStopEarly
6895 \fi
6896 \Hy@stoppedearlyfalse

```

## 29 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

```

6897 \def\Hy@CounterExists#1{%
6898   \begingroup\expandafter\expandafter\expandafter\endgroup
6899   \expandafter\ifx\csname c@#1\endcsname\relax
6900     \expandafter\@gobble
6901   \else
6902     \begingroup\expandafter\expandafter\expandafter\endgroup
6903     \expandafter\ifx\csname the#1\endcsname\relax
6904       \expandafter\expandafter\expandafter\@gobble
6905     \else

```

```

6906 \expandafter\expandafter\expandafter\@firstofone
6907 \fi
6908 \fi
6909 }
6910 \Hy@CounterExists{section}{%
6911 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6912 }
6913 \Hy@CounterExists{part}{%
6914 \providecommand\theHpart{\arabic{part}}}%
6915 }
6916 \ltx@ifundefined{thechapter}{%
6917 \providecommand\theHsection {\arabic{section}}}%
6918 \providecommand\theHfigure {\arabic{figure}}}%
6919 \providecommand\theHtable {\arabic{table}}}%
6920 }{%
6921 \providecommand\theHchapter {\arabic{chapter}}}%
6922 \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
6923 \providecommand\theHtable {\theHchapter.\arabic{table}}}%
6924 \providecommand\theHsection {\theHchapter.\arabic{section}}}%
6925 }
6926 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6927 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6928 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6929 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6930 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6931 \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.

```

6932 \let\H@item\item
6933 \newcounter{Item}
6934 \def\theHItem{\arabic{Item}}
6935 \def\item{%
6936 \@hyper@itemfalse
6937 \if@nmbrlist\@hyper@itemtrue\fi
6938 \H@item
6939 }
6940 \providecommand\theHenumi {\theHItem}
6941 \providecommand\theHenumii {\theHItem}
6942 \providecommand\theHenumiii {\theHItem}
6943 \providecommand\theHenumiv {\theHItem}
6944 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6945 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6946 \ifundefined{theHHmpfootnote}{%
6947 \let\theHHmpfootnote\theHHfootnote
6948 }{}

```

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.

```
6949 \let\H@refstepcounter\refstepcounter
6950 \edef\name@of@eq{equation}%
6951 \edef\name@of@slide{slide}%
```

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.

```
6952 \newif\if@hyper@item
6953 \newif\if@skiphyperref
6954 \@hyper@itemfalse
6955 \@skiphyperreffalse
6956 \def\refstepcounter#1{%
6957   \ifHy@pdfstring
6958   \else
6959     \H@refstepcounter{#1}%
6960     \edef\This@name{#1}%
6961     \ifx\This@name\name@of@slide
6962     \else
6963       \if@skiphyperref
6964       \else
6965         \if@hyper@item
6966         \stepcounter{Item}%
6967         \hyper@refstepcounter{Item}%
6968         \@hyper@itemfalse
6969       \else
6970         \hyper@refstepcounter{#1}%
6971       \fi
6972     \fi
6973   \fi
6974 \fi
6975 }
6976 \let\Hy@saved@refstepcounter\refstepcounter
```

AMS $\text{\LaTeX}$  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.

```
6977 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6978 \def\hyper@refstepcounter#1{%
6979   \edef\This@name{#1}%
6980   \ifx\This@name\name@of@eq
6981     \@ifundefined{theHequation}{%
6982       \make@stripped@name{\theequation}%
6983       \let\theHequation\newname
6984     }{}%
6985   \fi
6986   \HyCnt@ProvideTheHCounter{#1}%
6987   \hyper@makecurrent{#1}%
```

```

6988 \ifmeasuring@
6989 \else
6990 \Hy@raisedlink{%
6991   \hyper@anchorstart{\@currentHref}\hyper@anchorend
6992 }%
6993 \fi
6994 }

```

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

```

6995 \def\HyCnt@ProvideTheHCounter#1{%
6996   \ifundefined{theH#1}{%
6997     \expandafter\def\csname theH#1\endcsname{%
6998       \def\Hy@temp{\@elt{#1}}%
6999       \ltx@onelevel@sanitize\Hy@temp
7000       \let\HyOrg@elt\@elt
7001       \edef\@elt{%
7002         \noexpand\HyCnt@LookForParentCounter
7003         \expandafter\noexpand\csname theH#1\endcsname
7004       }%
7005       \cl@ckpt
7006       \let\@elt\HyOrg@elt
7007       \expandafter
7008       \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7009       \expandafter{%
7010         \expandafter\@arabic\csname c@#1\endcsname
7011       }%
7012     }{}%
7013 }

```

`\Hy@LookForParentCounter`

```

7014 \def\HyCnt@LookForParentCounter#1#2{%
7015   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7016   \ltx@ifundefined{cl@#2}{%
7017   }{%
7018     \ltx@onelevel@sanitize\Hy@temp@A
7019     \edef\Hy@temp@A{%
7020       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7021     }\Hy@temp@A
7022     \ifin@
7023     \ltx@ifundefined{theH#2}{%
7024       \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7025       \expandafter{%
7026         \expandafter\@arabic\csname c@#2\endcsname.%

```

```

7027     }%
7028   }{%
7029     \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7030     \expandafter{%
7031       \csname theH#2\endcsname.%
7032     }%
7033   }%
7034   \fi
7035 }%
7036 }

```

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`.

```

7037 \begingroup\expandafter\expandafter\expandafter\endgroup
7038 \expandafter\ifx\csname chapter\endcsname\relax
7039   \def\Hy@chapterstring{section}%
7040 \else
7041   \def\Hy@chapterstring{chapter}%
7042 \fi
7043 \def\Hy@appendixstring{appendix}
7044 \def\Hy@chapapp{\Hy@chapterstring}
7045 \ltx@ifundefined{appendix}{%
7046 }{%
7047   \let\HyOrg@appendix\appendix
7048   \def\Hy@AlphNoErr#1{%
7049     \ifnum\value{#1}>26 %
7050       Alph\number\value{#1}%
7051     \else
7052       \ifnum\value{#1}<1 %
7053         Alph\number\value{#1}%
7054       \else
7055         \Alph{#1}%
7056       \fi
7057     \fi
7058   }%
7059   \def\appendix{%
7060     \ltx@ifundefined{chapter}{%
7061       \gdef\theHsection{\Hy@AlphNoErr{section}}%
7062     }{%
7063       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7064     }%
7065     \xdef\Hy@chapapp{\Hy@appendixstring}%
7066     \HyOrg@appendix
7067   }%
7068 }

```

\Hy@Test@alph

```
7069 \def\Hy@Test@alph#1{%
7070   \ifcase#1\or
7071     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7072     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7073     u\or v\or w\or x\or y\or z%
7074   \else
7075     \@ctrerr
7076   \fi
7077 }
```

\Hy@Test@Alph

```
7078 \def\Hy@Test@Alph#1{%
7079   \ifcase#1\or
7080     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7081     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7082     U\or V\or W\or X\or Y\or Z%
7083   \else
7084     \@ctrerr
7085   \fi
7086 }
```

\hyper@makecurrent Because of Babel mucking around, nullify \textlatin when making names. And  
\@number because of babel's lrbabel.def.

```
7087 \def\hyper@makecurrent#1{%
7088   \begingroup
7089   \Hy@safe@activetrue
7090   \edef\Hy@param{#1}%
7091   \ifx\Hy@param\Hy@chapterstring
7092     \let\Hy@param\Hy@chapapp
7093   \fi
7094   \ifHy@hypertextnames
7095     \let\@number\@firstofone
7096     \def\@fnsymbol##1{fnsymbol\number##1}%
7097     \def\@arabic##1{\number##1}%
7098     \ifx\@alph\Hy@Test@alph
7099       \else
7100         \def\@alph{alph\number}%
7101       \fi
7102     \ifx\@Alph\Hy@Test@Alph
7103       \else
7104         \def\@Alph{Alph\number}%
7105       \fi
7106     \ifHy@naturalnames
7107       \let\textlatin\@firstofone
7108       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7109     \else
7110       \xdef\HyperGlobalCurrentHref{%
7111         \csname
```

```

7112         the%
7113         \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7114         #1%
7115     \endcsname
7116 }%
7117 \fi
7118 \xdef\HyperGlobalCurrentHref{%
7119     \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7120 }%
7121 \else
7122     \Hy@GlobalStepCount\Hy@linkcounter
7123     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7124 \fi
7125 \endgroup
7126 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7127 \ifHy@localanchorname
7128     \let\@currentHref\HyperLocalCurrentHref
7129 \else
7130     \global\let\@currentHref\HyperGlobalCurrentHref
7131 \fi
7132 }

```

`\Hy@MakeCurrentHref`

```

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

```

`\Hy@MakeCurrentHrefAuto`

```

7144 \def\Hy@MakeCurrentHrefAuto#1{%
7145     \Hy@GlobalStepCount\Hy@linkcounter
7146     \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7147 }

```

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

```

7148 \def\@currentHlabel{\@currentHref}

```

## 30 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\last-`

`page@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package `lastpage` is loaded after package `hyperref`. The same algorithm (options `hypertextnames` and `plainpages`) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 39). The link will not work if option `pageanchor` is set to `false`.

`\lastpage@putlabel`

```

7149 \Hy@AtBeginDocument{%
7150   \@ifclassloaded{revtex4}{%
7151     \@namedef{ver@lastpage.sty}{1994/06/25}%
7152   }{}%
7153   \@ifpackageloaded{lastpage}{%
7154     \ifHy@pageanchor
7155     \else
7156       \Hy@WarningNoLine{%
7157         The \string\pageref{LastPage} link doesn't work\MessageBreak
7158         with disabled option `pageanchor'%
7159       }%
7160     \fi
7161     \def\lastpage@putlabel{%
7162       \addtocounter{page}{-1}%
7163       \if@filesw
7164         \begingroup
7165         \let\@number\@firstofone
7166         \ifHy@pageanchor
7167           \ifHy@hypertextnames
7168             \ifHy@plainpages
7169               \def\Hy@temp{\arabic{page}}%
7170             \else
7171               \Hy@unicodedefalse
7172               \pdfstringdef\Hy@temp{\thepage}%
7173             \fi
7174           \else
7175             \def\Hy@temp{\the\Hy@pagecounter}%
7176           \fi
7177         \fi
7178         \immediate\write\@auxout{%
7179           \string\newlabel
7180             {LastPage}{\the\thepage}{\thepage}{%
7181               \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7182       }%
7183     \endgroup
7184   \fi
7185   \addtocounter{page}{1}%
7186 }{}%
7187 \@ifclassloaded{revtex4}{%
7188   \begingroup
7189   \toks@\expandafter{\lastpage@putlabel}%
7190   \edef\x{\endgroup
7191     \def\noexpand\lastpage@putlabel{%

```



```

7192      \noexpand\stepcounter{page}%
7193      \the\toks@
7194      \noexpand\addtocounter{page}\noexpand\m@ne
7195    }%
7196  }%
7197  \x
7198  }{}%
7199  }{}%
7200 }
7201 </package>
7202 <*check>
7203 \checkpackage{lastpage}[1994/06/25]
7204 \checkcommand\def\lastpage@putlabel{%
7205   \addtocounter{page}{-1}%
7206   \immediate\write\@auxout{%
7207     \string\newlabel{LastPage}{\the\thepage}}%
7208   }%
7209   \addtocounter{page}{1}%
7210 }
7211 </check>
7212 <*package>

```

## 31 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.

```

7213 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
7214 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7215 \@ifpackageloaded{titlesec}{%
7216   \def\ttl@Hy@steplink#1{%
7217     \Hy@MakeCurrentHrefAuto{#1*}%
7218     \edef\ttl@Hy@saveanchor{%
7219       \noexpand\Hy@raisedlink{%
7220         \noexpand\hyper@anchorstart{\@currentHref}%
7221         \noexpand\hyper@anchorend
7222         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7223         \noexpand\ttl@Hy@PatchSaveWrite
7224       }%
7225     }%
7226   }%
7227   \def\ttl@Hy@PatchSaveWrite{%

```

```

7228 \begingroup
7229 \toks@\expandafter{\ttl@savewrite}%
7230 \edef\x{\endgroup
7231 \def\noexpand\ttl@savewrite{%
7232 \let\noexpand\@currentHref
7233 \noexpand\ttl@Hy@SavedCurrentHref
7234 \the\toks@
7235 }%
7236 }%
7237 \x
7238 }%
7239 \def\ttl@Hy@refstepcounter#1{%
7240 \let\ttl@b\Hy@raisedlink
7241 \def\Hy@raisedlink##1{%
7242 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7243 }%
7244 \refstepcounter{#1}%
7245 \let\Hy@raisedlink\ttl@b
7246 }%
7247 }{}

```

Package titletoc support:

```

7248 \@ifpackageloaded{titletoc}{%
7249 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7250 }{}

```

### 33 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)).

```

7251 \AtBeginDocument{%
7252 \def\Hy@varioref@undefined{{??}{??}{}}{}%
7253 \@ifpackageloaded{varioref}{%
7254 \def\href@pagenum#1#2{%
7255 \@ifundefined{r@#2}{%
7256 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7257 }{}%
7258 \edef#1{\getpagerefnumber{#2}}%
7259 }%
7260 }{}

```

Package varioref redefines `\refstepcounter`, thus it needs fixing, if the package is loaded *after* `hyperref`.

```

7261 \def\Hy@varioref@refstepcounter#1{%
7262 \stepcounter{#1}%
7263 \protected@edef\@currentlabel{%
7264 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7265 }%
7266 }

```

```

7267 \ifx\refstepcounter\Hy@varioref\refstepcounter
7268 \let\H@refstepcounter\refstepcounter
7269 \let\refstepcounter\Hy@saved@refstepcounter
7270 \fi
7271 }

```

## 34 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

```

7272 \@ifpackageloaded{longtable}{%
7273 \begingroup
7274 \def\y{\LT@array}%
7275 \@ifundefined{scr@LT@array}{%
7276 \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7277 }{\def\y{\scr@LT@array}}%
7278 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7279 \expandafter\endgroup
7280 \expandafter\def\y[##1]##2{%
7281 \H@refstepcounter{#1}%
7282 \hyper@makecurrent{table}%
7283 \let\Hy@LT@currentHref\@currentHref
7284 #2\@sharp###4%
7285 }%
7286 }%
7287 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7288 \begingroup
7289 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7290 \endgroup
7291 \def\LT@start{%
7292 #1%
7293 \ifvoid\LT@foot#2\fi
7294 \let\@currentHref\Hy@LT@currentHref
7295 \Hy@raisedlink{%
7296 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7297 }%
7298 #3%
7299 }%
7300 }%
7301 \expandafter\x\LT@start\@nil
7302 }{}

```

## 35 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 42). 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.

```

7303 \let\new@refstepcounter\refstepcounter
7304 \let\H@equation\equation
7305 \let\H@endequation\endequation

7306 \@ifpackageloaded{amsmath}{%
7307   \long\def\Hy@temp{%
7308     \incr@eqnum
7309     \mathdisplay@push
7310     \st@rredfalse \global\@eqnswtrue
7311     \mathdisplay{equation}%
7312   }%
7313   \ifx\Hy@temp\equation
7314     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7315       \csname iftrue\endcsname
7316   \else
7317     \long\def\equation{%
7318       \mathdisplay@push
7319       \st@rredfalse \global\@eqnswtrue
7320       \mathdisplay{equation}%
7321       \incr@eqnum
7322     }%
7323   \fi
7324 \fi
7325 }{%
7326 \def\equation{%
7327   \let\refstepcounter\H@refstepcounter
7328   \H@equation
7329   \@ifundefined{theHequation}{%
7330     \make@stripped@name{\theequation}%
7331     \let\theHequation\newname
7332   }{}%
7333   \hyper@makecurrent{equation}%

```

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

```

7334 \mathopen{%
7335   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
7336 }%
7337 \let\refstepcounter\new@refstepcounter
7338 }%
7339 \def\endequation{%
7340   \ifx\Hy@raisedlink\ltx@empty
7341     \hyper@anchorend
7342   \else

```

```

7343     \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7344     \fi
7345     \H@endequation
7346   }%
7347 }

```

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.

```

7348 \newif\if@eqnstar
7349 \@eqnstarfalse
7350 \let\H@eqnarray\eqnarray
7351 \let\H@endeqnarray\endeqnarray
7352 \def\eqnarray{%
7353   \let\Hy@reserved@a\relax
7354   \def\@currentHref{}%
7355   \H@eqnarray
7356   \if@eqnstar
7357   \else
7358     \ifx\\\@currentHref\\%
7359     \else
7360       \ifundefined{theHequation}{%
7361         \make@stripped@name{\theequation}%
7362         \let\theHequation\newname
7363       }{}%
7364       \hyper@makecurrent{equation}%
7365       \mathopen{%
7366         \Hy@raisedlink{%
7367           \hyper@anchorstart{\@currentHref}\hyper@anchorend
7368         }%
7369       }%
7370     \fi
7371   \fi
7372 }
7373 \def\endeqnarray{%
7374   \H@endeqnarray
7375 }

```

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.

```

7376 \@namedef{eqnarray*}{%
7377   \def\@eqncr{\nonumber\@eqncr}\@eqnstartrue\eqnarray
7378 }
7379 \@namedef{endeqnarray*}{%
7380   \nonumber\endeqnarray\@eqnstarfalse
7381 }

```

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

```

7382 \ltx@ifundefined{subeqnarray}{}{%
7383   \let\H@subeqnarray\subeqnarray
7384   \let\H@endsubeqnarray\endsubeqnarray
7385   \def\subeqnarray{%
7386     \let\Hy@reserved@a\relax
7387     \H@subeqnarray
7388     \@ifundefined{theHequation}{%
7389       \make@stripped@name{\theequation}%
7390       \let\theHequation\newname
7391     }{}%
7392     \hyper@makecurrent{equation}%
7393     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7394   }%
7395   \def\endsubeqnarray{%
7396     \H@endsubeqnarray
7397   }%
7398   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7399 }
```

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

```

7400 \def\make@stripped@name#1{%
7401   \begingroup
7402   \escapechar\m@ne
7403   \global\let\newname\@empty
7404   \protected@edef\Hy@tempa{#1}%
7405   \edef\@tempb{%
7406     \noexpand\@tfor\noexpand\Hy@tempa:=%
7407     \expandafter\strip@prefix\meaning\Hy@tempa
7408   }%
7409   \@tempb\do{%
7410     \if{\Hy@tempa\else
7411       \if}\Hy@tempa\else
7412       \xdef\newname{\newname\Hy@tempa}%
7413     \fi
7414   \fi
7415   }%
7416   \endgroup
7417 }
```

Support for amsmath's subequations:

```

7418 \begingroup\expandafter\expandafter\expandafter\endgroup
7419 \expandafter\ifx\csname subequations\endcsname\relax
7420 \else
7421   \let\HyOrg@subequations\subequations
7422   \def\subequations{%
7423     \stepcounter{equation}%
7424     \protected@edef\theHparentequation{%
```

```

7425 \ifundefined{theHequation}\theequation\theHequation
7426 }%
7427 \addtocounter{equation}{-1}%
7428 \HyOrg@subequations
7429 \def\theHequation{\theHparentequation\alph{equation}}%
7430 \ignorespaces
7431 }%
7432 \fi

```

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

```

7433 \Hy@AtBeginDocument{%
7434 \ifpackageloaded{cleveref}{%
7435 \let\Hy@savedthm\@thm
7436 \def\@thm{\ifhmode\unskip\fi\Hy@savedthm}%
7437 }{%
7438 \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

7439 \def\Hy@temp#1#2#3{%
7440 \ifhmode\unskip\unskip\par\fi
7441 \normalfont
7442 \trivlist
7443 \let\thmheadnl\relax
7444 \let\thm@swap\@gobble
7445 \let\thm@indent\indent % indent
7446 \thm@headfont{\scshape}% heading font small caps
7447 \thm@notefont{\fontseries\mddefault\upshape}%
7448 \thm@headpunct{.}% add period after heading
7449 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7450 \thm@space@setup
7451 #1% style overrides
7452 \@topsep \thm@preskip % used by thm head
7453 \@topsepadd \thm@postskip % used by \@endparenv
7454 \def\@tempa{#2}\ifx\@empty\@tempa
7455 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7456 \else
7457 \refstepcounter{#2}%
7458 \def\@tempa{%
7459 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7460 }%
7461 \fi
7462 \@tempa
7463 }%
7464 \ifx\Hy@temp\@thm
7465 \def\@thm#1#2#3{%
7466 \ifhmode
7467 \unskip\unskip\par

```

```

7468 \fi
7469 \normalfont
7470 \trivlist
7471 \let\thmheadnl\relax
7472 \let\thm@swap\@gobble
7473 \let\thm@indent\indent % indent
7474 \thm@headfont{\scshape}% heading font small caps
7475 \thm@notefont{\fontseries\mddefault\upshape}%
7476 \thm@headpunct{.}% add period after heading
7477 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7478 \thm@space@setup
7479 #1% style overrides
7480 \@topsep \thm@preskip % used by thm head
7481 \@topsepadd \thm@postskip % used by \@endparenv
7482 \def\dth@counter{#2}%
7483 \ifx\@empty\dth@counter
7484 \def\@tempa{%
7485 \oparg{\@begintheorem{#3}{}}[]%
7486 }%
7487 \else
7488 \H@refstepcounter{#2}%
7489 \hyper@makecurrent{#2}%
7490 \let\Hy@dth@currentHref\@currentHref
7491 \def\@tempa{%
7492 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7493 }%
7494 \fi
7495 \@tempa
7496 }%
7497 \else
7498 \def\@thm#1#2#3{%
7499 \ifhmode
7500 \unskip\unskip\par
7501 \fi
7502 \normalfont
7503 \trivlist
7504 \let\thmheadnl\relax
7505 \let\thm@swap\@gobble
7506 \thm@notefont{\fontseries\mddefault\upshape}%
7507 \thm@headpunct{.}% add period after heading
7508 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7509 \thm@space@setup
7510 #1% style overrides
7511 \@topsep \thm@preskip % used by thm head
7512 \@topsepadd \thm@postskip % used by \@endparenv
7513 \def\dth@counter{#2}%
7514 \ifx\@empty\dth@counter
7515 \def\@tempa{%
7516 \oparg{\@begintheorem{#3}{}}[]%
7517 }%

```



```

7518 \else
7519 \H@refstepcounter{#2}%
7520 \hyper@makecurrent{#2}%
7521 \let\Hy@dth@currentHref\@currentHref
7522 \def\@tempa{%
7523 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7524 }%
7525 \fi
7526 \@tempa
7527 }%
7528 \fi
7529 \dth@everypar={%
7530 \@minipagefalse
7531 \global\@newlistfalse
7532 \noparitemfalse
7533 \if@inlabel
7534 \global\@inlabelfalse
7535 \begingroup
7536 \setbox\z@\lastbox
7537 \ifvoid\z@
7538 \kern-\itemindent
7539 \fi
7540 \endgroup
7541 \ifx\@empty\dth@counter
7542 \else
7543 \Hy@raisedlink{%
7544 \hyper@anchorstart{%
7545 \ltx@ifundefined{Hy@dth@currentHref}%
7546 \@currentHref\Hy@dth@currentHref
7547 }\hyper@anchorend
7548 }%
7549 \fi
7550 \unhbox\@labels
7551 \fi
7552 \if@nobreak
7553 \@nobreakfalse \clubpenalty\@M
7554 \else
7555 \clubpenalty\@clubpenalty \everypar{}%
7556 \fi
7557 }%
7558 }%

```

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

```

7559 {%
7560 \let\Hy@savethm\@thm
7561 \def\@thm{\ifhmode\unskip\fi\Hy@savethm}%
7562 }%
7563 }%
7564 }

```

## 36 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.

```
7565 \ifHy@hyperfootnotes
7566   \newcounter{Hfootnote}%
7567   \let\H@@footnotetext\@footnotetext
7568   \let\H@@footnotemark\@footnotemark
7569   \def\@xfootnotenext[#1]{%
7570     \begingroup
7571       \csname c@\@mpfn\endcsname #1\relax
7572       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7573     \endgroup
7574     \ifx\@footnotetext\@mpfootnotetext
7575       \expandafter\H@@mpfootnotetext
7576     \else
7577       \expandafter\H@@footnotetext
7578     \fi
7579   }%
7580   \def\@xfootnotemark[#1]{%
7581     \begingroup
7582       \c@footnote #1\relax
7583       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7584     \endgroup
7585     \H@@footnotemark
7586   }%
7587   \let\H@@mpfootnotetext\@mpfootnotetext
7588   \long\def\@mpfootnotetext#1{%
7589     \H@@mpfootnotetext{%
7590       \ifHy@nesting
7591         \expandafter\ltx@firstoftwo
7592       \else
7593         \expandafter\ltx@secondoftwo
7594       \fi
7595     }{%
7596       \expandafter\hyper@@anchor\expandafter{%
7597         \Hy@footnote@currentHref
7598       }\ignorespaces #1}%
7599   }{%
7600     \Hy@raisedlink{%
7601       \expandafter\hyper@@anchor\expandafter{%
7602         \Hy@footnote@currentHref
7603       }\relax}%
7604     }\ignorespaces #1%
7605   }%
7606 }
```

```

7607 }%
7608 \long\def\@footnotetext#1{%
7609   \H@@footnotetext{%
7610     \ifHy@nesting
7611       \expandafter\ltx@firstoftwo
7612     \else
7613       \expandafter\ltx@secondoftwo
7614     \fi
7615   {%
7616     \expandafter\hyper@@anchor\expandafter{%
7617       \Hy@footnote@currentHref
7618     }\ignorespaces #1}%
7619   }{%
7620     \Hy@raisedlink{%
7621       \expandafter\hyper@@anchor\expandafter{%
7622         \Hy@footnote@currentHref
7623       }\relax}%
7624   }%
7625   \let\@currentHref\Hy@footnote@currentHref
7626   \let\@currentlabelname\@empty
7627   \ignorespaces #1%
7628 }%
7629 }%
7630 }%

```

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.

```

7631 \def\@footnotemark{%
7632   \leavevmode
7633   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7634   \stepcounter{Hfootnote}%
7635   \global\let\Hy@saved@currentHref\@currentHref
7636   \hyper@makecurrent{Hfootnote}%
7637   \global\let\Hy@footnote@currentHref\@currentHref
7638   \global\let\@currentHref\Hy@saved@currentHref
7639   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7640   \@makefnmark
7641   \hyper@linkend
7642   \ifhmode\spacefactor\@x@sf\fi
7643   \relax
7644 }%

```

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

```

7645 \@ifpackageloaded{tabularx}{%
7646   \let\HyOrg@TX@endtabularx\TX@endtabularx
7647   \def\Hy@tabularx@hook{%

```

```

7648 \let\@footnotetext\H@@footnotetext
7649 \let\@footnotemark\H@@footnotemark
7650 \let\@mpfootnotetext\H@@mpfootnotetext
7651 }%
7652 \begingroup
7653 \toks@\expandafter{\TX@endtabularx}%
7654 \xdef\Hy@gtemp{%
7655 \noexpand\Hy@tabularx@hook
7656 \the\toks@
7657 }%
7658 \endgroup
7659 \let\TX@endtabularx\Hy@gtemp
7660 }{}%

```

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

```

7661 \ifpackageloaded{longtable}{%
7662 \CheckCommand*{\LT@p@ftntext}[1]{%
7663 \edef\@tempa{%
7664 \the\LT@p@ftn
7665 \noexpand\footnotetext[\the\c@footnote]%
7666 }%
7667 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7668 }%
7669 \long\def\LT@p@ftntext#1{%
7670 \edef\@tempa{%
7671 \the\LT@p@ftn
7672 \begingroup
7673 \noexpand\c@footnote=\the\c@footnote\relax
7674 \noexpand\protected@xdef\noexpand\@thefnmark{%
7675 \noexpand\thempfn
7676 }%
7677 \noexpand\Hy@LT@footnotetext{%
7678 \Hy@footnote@currentHref
7679 }%
7680 }%
7681 \global\LT@p@ftn\expandafter{%
7682 \@tempa{#1}%
7683 \endgroup
7684 }%
7685 }%
7686 \long\def\Hy@LT@footnotetext#1#2{%
7687 \H@@footnotetext{%
7688 \ifHy@nesting
7689 \hyper@@anchor{#1}{#2}%
7690 \else
7691 \Hy@raisedlink{%
7692 \hyper@@anchor{#1}{\relax}%

```

```

7693     }%
7694     \def\@currentHref{#1}%
7695     \let\@currentlabelname\@empty
7696     #2%
7697     \fi
7698   }%
7699 }%
7700 }{}%

```

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

```

7701 \ifpackageloaded{fancyvrb}{%
7702   \def\V@@footnotetext{%
7703     \insert\footins\bgroup
7704     \csname reset@font\endcsname
7705     \footnotesize
7706     \interlinepenalty\interfootnotelinepenalty
7707     \splittopskip\footnotesep
7708     \splitmaxdepth\dp\strutbox
7709     \floatingpenalty \@MM
7710     \hsize\columnwidth
7711     \@parboxrestore
7712     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7713     \@makefnmark}%
7714   \rule{\z@}{\footnotesep}%
7715   \bgroup
7716   \aftergroup\V@@@footnotetext
7717   \Hy@raisedlink{%
7718     \expandafter\hyper@@anchor\expandafter{%
7719       \Hy@footnote@currentHref
7720     }{\relax}%
7721   }%
7722   \let\@currentHref\Hy@footnote@currentHref
7723   \let\@currentlabelname\@empty
7724   \ignorespaces
7725 }%
7726 }{}%

```

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

```

7727 \def\Hy@temp#1{%
7728   \begingroup
7729   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7730   \endgroup
7731   \@footnotemark
7732 }%
7733 \ifx\Hy@temp\footref
7734   \def\footref#1{%
7735     \begingroup
7736     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7737     \endgroup
7738     \H@@@footnotemark

```

```

7739 }%
7740 \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.

```

7741 \let\HyOrg@maketitle\maketitle
7742 \def\maketitle{%
7743   \let\Hy@saved@footnotemark\@footnotemark
7744   \let\Hy@saved@footnotetext\@footnotetext
7745   \let\@footnotemark\H@@footnotemark
7746   \let\@footnotetext\H@@footnotetext
7747   \ifnextchar[\Hy@maketitle@optarg{% ]
7748     \HyOrg@maketitle
7749     \Hy@maketitle@end
7750   }%
7751 }%
7752 \def\Hy@maketitle@optarg[#1]{%
7753   \HyOrg@maketitle[#1]}%
7754   \Hy@maketitle@end
7755 }%
7756 \def\Hy@maketitle@end{%
7757   \ifx\@footnotemark\H@@footnotemark
7758     \let\@footnotemark\Hy@saved@footnotemark
7759   \fi
7760   \ifx\@footnotetext\H@@footnotetext
7761     \let\@footnotetext\Hy@saved@footnotetext
7762   \fi
7763 }%

```

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

```

7764 \def\realfootnote{%
7765   \ifnextchar[\@xfootnote{%
7766     \stepcounter{\@mpfn}%
7767     \protected@xdef\@thefnmark{\thempfn}%
7768     \H@@@footnotemark\H@@@footnotetext
7769   }%
7770 }%

7771 \fi
7772 \Hy@DisableOption{hyperfootnotes}

7773 </package>
7774 <*check>
7775 \checklatex
7776 \checkcommand\def\@xfootnotenext[#1]{%
7777   \begingroup
7778     \csname c@\@mpfn\endcsname #1\relax
7779   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7780 \endgroup
7781 \@footnotetext

```

```

7782 }
7783 \checkcommand\def\@xfootnotemark[#1]{%
7784   \begingroup
7785     \c@footnote #1\relax
7786     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7787   \endgroup
7788   \@footnotemark
7789 }
7790 \checkcommand\def\@footnotemark{%
7791   \leavevmode
7792   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7793   \@makefnmark
7794   \ifhmode\spacefactor\@x@sf\fi
7795   \relax
7796 }
7797 </check>
7798 <*package>

```

## 37 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.

```

7799 \def\caption{%
7800   \ifx\@captype\@undefined
7801     \@latex@error{\noexpand\caption outside float}\@ehd
7802     \expandafter\@gobble
7803   \else
7804     \H@refstepcounter\@captype
7805     \let\Hy@tempa\@caption
7806     \@ifundefined{float@caption}{%
7807       {%
7808         \expandafter\ifx\csname @float@c@\@captype\endcsname
7809           \float@caption
7810         \let\Hy@tempa\Hy@float@caption
7811       \fi
7812     }%
7813     \expandafter\@firstofone
7814   \fi
7815   {\@dblarg{\Hy@tempa\@captype}}}%
7816 }
7817 \long\def\@caption#1[#2]#3{%
7818   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7819     \csname iftrue\endcsname
7820     \global\let\@currentHref\hc@currentHref
7821   \else
7822     \hyper@makecurrent{\@captype}%
7823   \fi
7824   \@ifundefined{NR@gettitle}{%

```

```

7825 \def\@currentlabelname{#2}%
7826 }{%
7827 \NR@gettitle{#2}%
7828 }%
7829 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7830 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7831 }%
7832 \begingroup
7833 \@parboxrestore
7834 \if@minipage
7835 \setminipage
7836 \fi
7837 \normalsize
7838 \expandafter\ifx\csname if@capstart\endcsname
7839 \csname iftrue\endcsname
7840 \global\@capstartfalse
7841 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7842 \else
7843 \@makecaption{\csname fnum@#1\endcsname}{%
7844 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7845 \ifHy@nesting
7846 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7847 \else
7848 \Hy@raisedlink{%
7849 \expandafter\hyper@@anchor\expandafter{%
7850 \@currentHref
7851 }{\relax}%
7852 }%
7853 #3%
7854 \fi
7855 }%
7856 \fi
7857 \par
7858 \endgroup
7859 }

```

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’.

```

7860 \let\Hy@float@caption\@caption
7861 \newcommand{\HyNew@float@makebox}[1]{%
7862 \HyOrg@float@makebox{%
7863 #1\relax
7864 \ifx\Hy@float@currentHref\@undefined
7865 \else
7866 \expandafter\hyper@@anchor\expandafter{%

```



```

7867     \Hy@float@currentHref
7868     }{\relax}%
7869     \global\let\Hy@float@currentHref\@undefined
7870     \fi
7871   }%
7872 }%
7873 \ifpackageloaded{float}{%
7874   \def\Hy@float@caption{%
7875     \ifx\Hy@float@currentHref\@undefined
7876       \hyper@makecurrent{\@cuptype}%
7877       \global\let\Hy@float@currentHref\@currentHref
7878     \else
7879       \let\@currentHref\Hy@float@currentHref
7880     \fi
7881     \float@caption
7882   }%
7883   \let\HyOrg@float@makebox\float@makebox
7884   \let\float@makebox\HyNew@float@makebox
7885 }{}

7886 </package>
7887 <*check>
7888 \checklatex[1999/06/01 - 2000/06/01]
7889 \checkcommand\def\caption{%
7890   \ifx\@cuptype\@undefined
7891     \@latex@error{\noexpand\caption outside float}\@ehd
7892     \expandafter\@gobble
7893   \else
7894     \refstepcounter\@cuptype
7895     \expandafter\@firstofone
7896   \fi
7897   {\@dblarg{\@caption\@cuptype}}}%
7898 }
7899 \checkcommand\long\def\@caption#1[#2]#3{%
7900   \par
7901   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7902     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7903   }%
7904   \begingroup
7905     \@parboxrestore
7906     \if@minipage
7907       \@setminipage
7908     \fi
7909     \normalsize
7910     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7911   \endgroup
7912 }
7913 </check>
7914 <*package>

```

## 38 Bibliographic references

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

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

```

7915 \def\hyper@natlinkstart#1{%
7916   \Hy@backout{#1}%
7917   \hyper@linkstart{cite}{cite.#1}%
7918   \def\hyper@nat@current{#1}%
7919 }
7920 \def\hyper@natlinkend{%
7921   \hyper@linkend
7922 }
7923 \def\hyper@natlinkbreak#1#2{%
7924   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7925 }
7926 \def\hyper@natanchorstart#1{%
7927   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7928 }
7929 \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.

```

7930 \ltx@ifundefined{NAT@parse}{%
7931   \providecommand*\@extra@binfo{}%
7932   \providecommand*\@extra@b@citeb{}%
7933   \def\bibtex#1#2{%
7934     \@newl@bel{b}{#1\@extra@binfo}{%
7935       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7936     }%
7937   }%
7938   \gdef\@extra@binfo{}%

```

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

```

7939 \let\Hy@bibtex\bibtex
7940 \begingroup
7941   \@ifundefined{bbl@cite@choice}{}{%
7942     \g@addto@macro\bbl@cite@choice{%
7943       \let\bibtex\Hy@bibtex
7944     }%
7945   }%

```

```

7946 \endgroup
\@BIBLABEL is working around a 'feature' of RevTeX.
7947 \providecommand*{\@BIBLABEL}{\@biblabel}%
7948 \def\@bibitem[#1]#2{%
7949   \@skiphyperreftrue
7950   \H@item[%
7951     \ifx\Hy@raisedlink\@empty
7952       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7953       \@BIBLABEL{#1}%
7954       \hyper@anchorend
7955     \else
7956       \Hy@raisedlink{%
7957         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7958       }%
7959       \@BIBLABEL{#1}%
7960     \fi
7961     \hfill
7962   ]%
7963   \@skiphyperreffalse
7964   \if@filesw
7965     \begingroup
7966     \let\protect\noexpand
7967     \immediate\write\@auxout{%
7968       \string\bibcite{#2}{#1}%
7969     }%
7970   \endgroup
7971   \fi
7972   \ignorespaces
7973 }%

Since \bibitem is doing its own labelling, call the raw version of \item, to avoid
extra spurious labels
7974 \def\@bibitem#1{%
7975   \@skiphyperreftrue\H@item\@skiphyperreffalse
7976   \Hy@raisedlink{%
7977     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7978   }%
7979   \if@filesw
7980     \begingroup
7981     \let\protect\noexpand
7982     \immediate\write\@auxout{%
7983       \string\bibcite{#1}{\the\value{\@listctr}}%
7984     }%
7985   \endgroup
7986   \fi
7987   \ignorespaces
7988 }%
7989 }{}

7990 </package>

```

```

7991 <*check>
7992 \checklatex
7993 \checkcommand\def\@bibitem[#1]#2{%
7994   \item[\@biblabel{#1}\hfill]%
7995   \if@filesw
7996     {%
7997       \let\protect\noexpand
7998       \immediate\write\@auxout{%
7999         \string\bibcite{#2}{#1}%
8000       }%
8001     }%
8002   \fi
8003   \ignorespaces
8004 }
8005 \checkcommand\def\@bibitem#1{%
8006   \item
8007   \if@filesw
8008     \immediate\write\@auxout{%
8009       \string\bibcite{#1}{\the\value{\@listctr}}}%
8010   }%
8011   \fi
8012   \ignorespaces
8013 }
8014 </check>
8015 <*package>

```

RevTeX (bless its little heart) takes over `\bibcite` and looks at the result to measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

```

8016 \ifclassloaded{revtex}{%
8017   \Hy@Info{*** compatibility with revtex **** }%
8018   \def\revtex@checking#1#2{%
8019     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8020     \expandafter\def\csname b@#1\endcsname{#2}%
8021     \@SetMaxRnhefLabel{#1}%
8022     \expandafter\let\csname b@#1\endcsname\T@temp
8023   }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

8024 \ifundefined{@CITE}{\def\@CITE{\@cite}}{}%
8025 \providecommand*{\@extra@b@citeb}{}%
8026 \def\@CITE[#1]#2{%
8027   \let\@citea\@empty
8028   \leavevmode
8029   \unskip
8030   $~{%
8031     \scriptstyle
8032     \@CITE{%
8033       \@for\@citeb:=#2\do{%

```

```

8034 \citea
8035 \def\citea{\penalty\@m\}%
8036 \edef\citeb{\expandafter\@firstofone\citeb}%
8037 \if@filesw
8038 \immediate\write\@auxout{\string\citation{\citeb}}%
8039 \fi
8040 \ifundefined{b@\citeb\extra@b\citeb}{%
8041 \mbox{\reset@font\bfseries ?}%
8042 \G@refundefinedtrue
8043 \@latex@warning{%
8044 Citation `'\citeb' on page \thepage \space undefined%
8045 }%
8046 }{%
8047 {\csname b@\citeb\extra@b\citeb\endcsname}%
8048 }%
8049 }%
8050 }{#1}%
8051 }$%
8052 }%

```

No, life is too short. I am not going to understand the Revtex \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

```

8053 \def\citex[#1]#2{%
8054 \let\citea\@empty
8055 \cite{%
8056 \@for\citeb:=#2\do{%
8057 \citea
8058 \def\citea{\penalty\@m\}%
8059 \edef\citeb{\expandafter\@firstofone\citeb}%
8060 \if@filesw
8061 \immediate\write\@auxout{\string\citation{\citeb}}%
8062 \fi
8063 \ifundefined{b@\citeb\extra@b\citeb}{%
8064 \mbox{\reset@font\bfseries ?}%
8065 \G@refundefinedtrue
8066 \@latex@warning{%
8067 Citation `'\citeb' on page \thepage \space undefined%
8068 }%
8069 }{%
8070 \hbox{\csname b@\citeb\extra@b\citeb\endcsname}%
8071 }%
8072 }%
8073 }{#1}%
8074 }%
8075 }{}

```

### 38.1 Package harvard

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

backreference section for each bibliography entry.

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

```

8076 \ifpackageloaded{harvard}{%
8077   \Hy@AtBeginDocument{%
8078     \Hy@Info{*** compatibility with harvard **** }%
8079     \Hy@raiselinksfalse
8080     \def\harvardcite#1#2#3#4{%
8081       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8082       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8083       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8084       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8085     }%
8086     \def\HAR@citetoaux#1{%
8087       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8088       \ifHy@backref
8089         \ifx\@empty\@currentlabel
8090           \else
8091             \@bsphack
8092             \if@filesw
8093               \protected@write\@auxout{}{%
8094                 \string\@writefile{brf}{%
8095                   \string\backcite{#1}{%
8096                     {\thepage}{\@currentlabel}{\@currentHref}%
8097                   }%
8098                 }%
8099               }%
8100             \fi
8101             \@esphack
8102           \fi
8103         \fi
8104       }%
8105     \def\harvarditem{%
8106       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
8107     }%
8108     \def\@harvarditem[#1]#2#3#4#5\par{%
8109       \item[]%
8110       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8111       \if@filesw
8112         \begingroup
8113         \def\protect##1{\string ##1\space}%
8114         \ifthenelse{\equal{#1}{\null}}{%
8115           {\def\next{{#4}{#2}{#2}{#3}}}%
8116           {\def\next{{#4}{#2}{#1}{#3}}}%
8117         \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8118       \endgroup
8119     \fi

```

```

8120 \protect\hspace*{-\labelwidth}%
8121 \protect\hspace*{-\labelsep}%
8122 \ignorespaces
8123 #5%
8124 \ifHy@backref
8125 \newblock
8126 \backref{\csname br@#4\endcsname}%
8127 \fi
8128 \par
8129 }%

```

\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:

```

8130 \long\def\HAR@checkcitations#1#2#3#4{%
8131 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
8132 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8133 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
8134 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8135 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
8136 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8137 \else
8138 \@tempswatruetrue
8139 \fi
8140 \else
8141 \@tempswatruetrue
8142 \fi
8143 \else
8144 \@tempswatruetrue
8145 \fi
8146 }%
8147 }%

8148 }{}

```

## 38.2 Package chicago

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

```

8149 \ifpackageloaded{chicago}{%

```

\citeN

```

8150 \def\citeN{%
8151 \def\@citesep{-1000}%
8152 \def\@cite##1##2{##1}%
8153 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8154 \@citedata@opt
8155 }%

```

\shortciteN

```

8156 \def\shortciteN{%
8157   \def\@citesep{-1000}%
8158   \def\@cite##1##2{##1}%
8159   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8160   \@citedata@opt
8161 }%

\@citedata@opt
8162 \def\@citedata@opt{%
8163   \let\@cite@opt\@empty
8164   \@ifnextchar [{%
8165     \@tempswatrue
8166     \@citedatax@opt
8167   }{%
8168     \@tempswafalse
8169     \@citedatax[]%
8170   }%
8171 }%

\@citedatax@opt
8172 \def\@citedatax@opt[#1]{%
8173   \def\@cite@opt{, #1}%
8174   \@citedatax[{#1}]%
8175 }%

8176 }{}

```

## 39 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.

```

8177 \ltx@ifclassloaded{slides}{%
8178   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8179   \def\Hy@PageAnchorSlidesPlain{%
8180     \advance\c@page\ltx@one
8181     \edef\Hy@TempPageAnchor{%
8182       \noexpand\hyper@@@anchor{%
8183         page.\the\c@slide.\the\c@overlay.\the\c@note%
8184         \ifnum\c@page=\ltx@one
8185           \else
8186             .\the\c@page
8187           \fi
8188       }%
8189     }%

```



```

8190 \advance\c@page-\ltx@one
8191 }%
8192 \def\Hy@PageAnchorSlide{%
8193 \advance\c@page\ltx@one
8194 \ifnum\c@page>\ltx@one
8195 \ltx@ifundefined{theHpage}{%
8196 \protected@edef\Hy@TheSlideOptionalPage{%
8197 \Hy@SlidesFormatOptionalPage{theHpage}%
8198 }%
8199 }{%
8200 \protected@edef\Hy@TheSlideOptionalPage{%
8201 \Hy@SlidesFormatOptionalPage{theHpage}%
8202 }%
8203 }%
8204 \else
8205 \def\Hy@TheSlideOptionalPage{}%
8206 \fi
8207 \advance\c@page-\ltx@one
8208 \pdfstringdef\the@H@page{%
8209 \csname
8210 the%
8211 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8212 \Hy@SlidesPage
8213 \endcsname
8214 \Hy@TheSlideOptionalPage
8215 }%
8216 \ltx@gobblethree
8217 }%
8218 \def\Hy@SlidesPage{slide}%
8219 \g@addto@macro\slide{%
8220 \def\Hy@SlidesPage{slide}%
8221 }%
8222 \g@addto@macro\overlay{%
8223 \def\Hy@SlidesPage{overlay}%
8224 }%
8225 \g@addto@macro\note{%
8226 \def\Hy@SlidesPage{note}%
8227 }%
8228 }{%
8229 \def\Hy@PageAnchorSlidesPlain{}%
8230 \def\Hy@PageAnchorSlide{}%
8231 }
8232 \def\Hy@EveryPageAnchor{%
8233 \Hy@DistillerDestFix
8234 \ifHy@pageanchor
8235 \ifHy@hypertextnames
8236 \ifHy@plainpages
8237 \def\Hy@TempPageAnchor{\hyper@anchor{page.\the\c@page}}%
8238 \Hy@PageAnchorSlidesPlain
8239 \else

```

```

8240 \begingroup
8241 \let\@number\@firstofone
8242 \Hy@unicodedefalse
8243 \Hy@PageAnchorSlide
8244 \pdfstringdef\@the@H@page{\thepage}%
8245 \endgroup
8246 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8247 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8248 \fi
8249 \else
8250 \Hy@GlobalStepCount\Hy@pagecounter
8251 \def\Hy@TempPageAnchor{%
8252 \hyper@@anchor{page.\the\Hy@pagecounter}%
8253 }%
8254 \fi
8255 \vbox to 0pt{%
8256 \kern\voffset
8257 \kern\topmargin
8258 \kern-1bp\relax
8259 \hbox to 0pt{%
8260 \kern\hoffset
8261 \kern\ifodd\value{page}%
8262 \oddsidemargin
8263 \else
8264 \evensidemargin
8265 \fi
8266 \kern-1bp\relax
8267 \Hy@TempPageAnchor\relax
8268 \hss
8269 }%
8270 \vss
8271 }%
8272 \fi
8273 }
8274 \g@addto@macro\Hy@EveryPageBoxHook{%
8275 \Hy@EveryPageAnchor
8276 }

```

## 40 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.

```

8277 % In newer \LaTeX\ releases this is defined to put a \verb|%| at the end of the
8278 % line in the \textt{toc}file.
8279 % \begin{macrocode}
8280 \providecommand\protected@file@percent{}
8281 \def\addcontentsline#1#2#3{% toc extension, type, tag

```

```

8282 \begingroup
8283 \let\label\@gobble
8284 \ifx\@currentHref\@empty
8285   \Hy@Warning{%
8286     No destination for bookmark of \string\addcontentsline,%
8287     \MessageBreak destination is added%
8288   }%
8289 \phantomsection
8290 \fi
8291 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8292 \begingroup
8293 \def\Hy@tempa{#1}%
8294 \ifx\Hy@tempa\Hy@bookmarkstype
8295   \Hy@WarningNoLine{%
8296     bookmark level for unknown #2 defaults to 0%
8297   }%
8298 \else
8299   \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8300 \fi
8301 \endgroup
8302 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8303 \fi
8304 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
8305 \Hy@writebookmark{\csname the#2\endcsname}%
8306 {#3}%
8307 {\@currentHref}%
8308 {\Hy@toclevel}%
8309 {#1}%
8310 \ifHy@verbose
8311 \begingroup
8312 \def\Hy@tempa{#3}%
8313 \@onelevel@sanitize\Hy@tempa
8314 \let\temp@online\on@line
8315 \let\on@line\@empty
8316 \Hy@Info{%
8317   bookmark\temp@online:\MessageBreak
8318   thecounter {\csname the#2\endcsname}\MessageBreak
8319   text {\Hy@tempa}\MessageBreak
8320   reference {\@currentHref}\MessageBreak
8321   toplevel {\Hy@toclevel}\MessageBreak
8322   type {#1}%
8323 }%
8324 \endgroup
8325 \fi
8326 \addtocontents{#1}{%
8327 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8328 }%
8329 \endgroup
8330 }

```

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

```

8331 \def\contentsline#1#2#3#4{%
8332   \begingroup
8333   \Hy@safe@activetrue
8334   \edef\x{\endgroup
8335     \def\noexpand\Hy@tocdestname{#4}%
8336   }\x
8337   \ifx\Hy@tocdestname\ltx@empty
8338     \csname l@#1\endcsname{#2}{#3}%
8339   \else
8340     \ifcase\Hy@linktoc % none
8341       \csname l@#1\endcsname{#2}{#3}%
8342     \or % section
8343       \csname l@#1\endcsname{%
8344         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8345       }{#3}%
8346     \or % page
8347       \def\Hy@temp{#3}%
8348       \ifx\Hy@temp\ltx@empty
8349         \csname l@#1\endcsname{#2}{#3}%
8350       \else
8351         \csname l@#1\endcsname{{#2}}{%
8352           \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8353         }%
8354       \fi
8355     \else % all
8356       \def\Hy@temp{#3}%
8357       \ifx\Hy@temp\ltx@empty
8358         \csname l@#1\endcsname{%
8359           \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8360         }{}%
8361       \else
8362         \csname l@#1\endcsname{%
8363           \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8364         }{%
8365           \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8366         }%
8367       \fi
8368     \fi
8369   \fi
8370 }

8371 \</package>
8372 \<*check>
8373 \checklatex
8374 \checkcommand\def\addcontentsline#1#2#3{%
8375   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8376 }
8377 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}

```

```
8378 </check>
8379 <*package>
```

## 41 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.

```
8380 \let\H@definecounter\@definecounter
8381 \def\@definecounter#1{%
8382   \H@definecounter{#1}%
8383   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8384 }
```

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.

```
8385 \let\H@newctr\@newctr
8386 \def\@newctr#1[#2]{%
8387   \H@newctr#1[{#2}]%
8388   \expandafter\gdef\csname theH#1\endcsname{%
8389     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8390   }%
8391 }
```

## 42 AMS $\text{\LaTeX}$ 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.

```
8392 \@ifpackageloaded{amsmath}{%
8393   \def\Hy@make@anchor{%
8394     \Hy@MakeCurrentHrefAuto{AMS}%
8395     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8396   }%
8397   \def\Hy@make@df@tag@@#1{%
8398     \gdef\df@tag{%
8399       \maketag@@@{\Hy@make@anchor#1}%
8400       \def\@currentlabel{#1}%
8401     }%
8402   }%
8403   \def\Hy@make@df@tag@@@#1{%
8404     \gdef\df@tag{%
8405       \tagform@{\Hy@make@anchor#1}%
8406       \toks@{\@xp{\p@equation{#1}}}%
8407       \edef\@currentlabel{\the\toks@}%

```

```

8408 }%
8409 }%
8410 \let\HyOrg@make@df@tag@@\make@df@tag@@
8411 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8412 \let\make@df@tag@@\Hy@make@df@tag@@
8413 \let\make@df@tag@@@\Hy@make@df@tag@@@
8414 }{}

```

Only play with `\seteqlebal` if we are using pdf<sub>tex</sub>. Other drivers cause problems; requested by Michael Downes (AMS).

```

8415 \ifpackagewith{hyperref}{pdftex}{%
8416   \let\H@seteqlabel\@seteqlabel
8417   \def\@seteqlabel#1{%
8418     \H@seteqlabel{#1}%
8419     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8420     \Hy@raisedlink{%
8421       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8422     }%
8423   }%
8424 }{}

```

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}}}

```

## 42.1 `\@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.

```

8425 \let\HyOrg@addtoreset\@addtoreset
8426 \def\@addtoreset#1#2{%
8427   \HyOrg@addtoreset{#1}{#2}%
8428   \expandafter\xdef\csname theH#1\endcsname{%
8429     \expandafter\noexpand
8430     \csname the\@ifundefined{theH#2}{H#2\endcsname
8431     .\noexpand\the\noexpand\value{#1}%
8432   }%
8433 }

```

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

```

8434 \</package>

```

```

8435 <*check>
8436 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8437 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8438   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8439     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8440       \addtoreset{#2}{#3}%
8441       \exp\xdef\csname the#2\endcsname{%
8442         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8443       }%
8444     }%
8445   }%
8446 }%
8447 </check>
8448 <*package>
8449 \@ifpackageloaded{amsmath}{%
8450   \@ifpackagelater{amsmath}{1999/12/14}{%
8451     \renewcommand*\numberwithin}[3][\arabic]{%
8452       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8453         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8454           \HyOrg@addtoreset{#2}{#3}%
8455           \exp\xdef\csname the#2\endcsname{%
8456             \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8457           }%
8458           \exp\xdef\csname theH#2\endcsname{%
8459             \exp\@nx
8460             \csname the\@ifundefined{theH#3}{H#3}\endcsname
8461             .\@nx#1{#2}%
8462           }%
8463         }%
8464       }%
8465     }%
8466   }{%
8467     \Hy@WarningNoLine{%
8468       \string\numberwithin\space of package `amsmath' %
8469       only fixed\MessageBreak
8470       for version 2000/06/06 v2.12 or newer%
8471     }%
8472   }%
8473 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8474 \ifHy@hyperfigures
8475   \let\Hy@Gin@setfile\Gin@setfile
8476   \def\Gin@setfile#1#2#3{%
8477     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8478   }%

```

```

8479 \fi
8480 \Hy@DisableOption{hyperfigures}

```

## 44 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.

```

8481 \ifHy@hyperindex
8482 \def\HyInd@ParenLeft{()%
8483 \def\HyInd@ParenRight{}}%
8484 \def\hyperindexformat#1#2{%
8485 \let\HyOrg@hyperpage\hyperpage
8486 \let\hyperpage\@firstofone
8487 #1{\HyOrg@hyperpage{#2}}%
8488 \let\hyperpage\HyOrg@hyperpage
8489 }%
8490 \Hy@nextfalse
8491 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8492 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8493 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8494 \begingroup
8495 \lccode`|= \expandafter`\HyInd@EncapChar\relax
8496 \lccode`\/= ``\relax
8497 \lowercase{\endgroup
8498 \ifHy@next
8499 \let\HyInd@org@wrindex\@wrindex
8500 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||}%
8501 \def\HyInd@@wrindex#1#2|#3|#4\{%
8502 \ifx\#3\%
8503 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8504 \else
8505 \HyInd@@@wrindex{#1}{#2}#3\%
8506 \fi
8507 }%
8508 \def\HyInd@@@wrindex#1#2#3#4\{%
8509 \def\Hy@temp@A{#3}%
8510 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8511 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8512 \relax
8513 \HyInd@org@wrindex{#1}{%
8514 #2|hyperindexformat{/#3#4}%

```



```

8515     }%
8516 \else
8517 \ifx\\#4\\%
8518 \ifx\Hy@temp@A\HyInd@ParenRight
8519 \HyInd@org@wrindex{#1}{#2|#3}%
8520 \else
8521 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8522 \fi
8523 \else
8524 \HyInd@org@wrindex{#1}{%
8525 #2|#3hyperindexformat{/#4}%
8526 }%
8527 \fi
8528 \fi
8529 }%
8530 \else
8531 \def\@wrindex#1{\@@wrindex#1||\}%
8532 \def\@@wrindex#1|#2|#3\\{%
8533 \if@filesw
8534 \ifx\\#2\\%
8535 \protected@write\@indexfile{}{%
8536 \string\indexentry{#1|hyperpage}{\thepage}%
8537 }%
8538 \else
8539 \HyInd@@@wrindex{#1}#2\\%
8540 \fi
8541 \fi
8542 \endgroup
8543 \@esphack
8544 }%
8545 \def\HyInd@@@wrindex#1#2#3\\{%
8546 \def\Hy@temp@A{#2}%
8547 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8548 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8549 \relax
8550 \protected@write\@indexfile{}{%
8551 \string\indexentry{%
8552 #1|hyperindexformat{/#2#3}%
8553 }{\thepage}%
8554 }%
8555 \else
8556 \ifx\\#3\\%
8557 \ifx\Hy@temp@A\HyInd@ParenRight
8558 \HyInd@DefKey{#1}%
8559 \ltx@ifundefined{HyInd@(\HyInd@key)}{%
8560 \let\Hy@temp\ltx@empty
8561 }{%
8562 \expandafter\let\expandafter\Hy@temp
8563 \csname HyInd@(\HyInd@key)\endcsname
8564 }%

```

```

8565         \protected@write\@indexfile{}\{%
8566             \string\indexentry{#1|#2\Hy@temp}\thepage}%
8567     }%
8568 \else
8569     \protected@write\@indexfile{}\{%
8570         \string\indexentry{#1|#2hyperpage}\thepage}%
8571     }%
8572     \HyInd@DefKey{#1}%
8573     \expandafter
8574     \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8575         hyperpage%
8576     }%
8577 \fi
8578 \else
8579     \protected@write\@indexfile{}\{%
8580         \string\indexentry{%
8581             #1|#2hyperindexformat{/#3}%
8582         }\thepage}%
8583     }%
8584     \ifx\Hy@temp@A\HyInd@ParenLeft
8585         \HyInd@DefKey{#1}%
8586         \expandafter
8587         \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8588             hyperindexformat{/#3}%
8589         }%
8590     \fi
8591 \fi
8592 \fi
8593 }%
8594 \def\HyInd@DefKey#1{%
8595     \begingroup
8596     \let\protect\@unexpandable@protect
8597     \edef\Hy@temp{#1}%
8598     \ltx@onelevel@sanitize\Hy@temp
8599     \global\let\HyInd@key\Hy@temp
8600     \endgroup
8601 }%
8602 \fi
8603 }%
8604 \fi
8605 \Hy@DisableOption{hyperindex}
8606 \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.

```
8607 \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.

```

8608 \def\hyperpage#1{%
8609   \HyInd@hyperpage#1\nohyperpage{}\@nil
8610 }
8611 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8612   \HyInd@@hyperpage{#1}%
8613   #2%
8614   \def\Hy@temp{#3}%
8615   \ifx\Hy@temp\@empty
8616   \else
8617     \ltx@ReturnAfterFi{%
8618       \HyInd@hyperpage#3\@nil
8619     }%
8620   \fi
8621 }
8622 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8623 \def\@hyperpage#1--#2--#3\{\{%
8624   \ifx\#2\%
8625     \@commahyperpage{#1}%
8626   \else
8627     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8628   \fi
8629 }
8630 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8631 \def\@commahyperpage#1, #2,#3\{\{%
8632   \ifx\#2\%
8633     \HyInd@pagelink{#1}%
8634   \else
8635     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8636   \fi
8637 }

```

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

```

8638 \def\HyInd@pagelink#1{%
8639   \begingroup
8640     \toks@={}%
8641     \HyInd@removespaces#1 \@nil
8642   \endgroup
8643 }
8644 \def\HyInd@removespaces#1 #2\@nil{%
8645   \toks@=\expandafter{\the\toks@#1}%
8646   \ifx\#2\%
8647     \edef\x{\the\toks@}%
8648     \ifx\x\@empty
8649     \else
8650       \hyperlink{page.\the\toks@}{\the\toks@}%
8651     \fi
8652   \else
8653     \ltx@ReturnAfterFi{%
8654       \HyInd@removespaces#2\@nil

```

```

8655 }%
8656 \fi
8657 }

```

## 45 Compatibility with foiltex

```

8658 \@ifclassloaded{foils}{%
8659 \providecommand*\ext@table{lot}%
8660 \providecommand*\ext@figure{lof}%
8661 }{}

```

## 46 Compatibility with seminar slide package

This requires `seminar.bg2`, version 1.6 or later. Contributions by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)).

```

8662 \@ifclassloaded{seminar}{%
8663 \Hy@seminarslidestrue
8664 \providecommand\theHslide{\arabic{slide}}}%
8665 }{%
8666 \Hy@seminarslidesfalse
8667 }
8668 \@ifpackageloaded{slidesec}{%
8669 \providecommand\theHslidesection {\arabic{slidesection}}%
8670 \providecommand\theHslidesubsection{%
8671 \theHslidesection.\arabic{slidesubsection}}%
8672 }%
8673 \def\slide@heading[#1]#2{%
8674 \H@refstepcounter{slidesection}%
8675 \@addtoreset{slidesubsection}{slidesection}%
8676 \addtocontents{los}{%
8677 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8678 {\@SCTR}{slideheading.\theslide\section}}%
8679 }%
8680 \def\Hy@tempa{#2}%
8681 \ifx\Hy@tempa\@empty
8682 \else
8683 {%
8684 \edef\@currentlabel{%
8685 \csname p@slidesection\endcsname\theslide\section
8686 }%
8687 \makeslideheading{#2}%
8688 }%
8689 \fi
8690 \gdef\theslideheading{#1}%
8691 \gdef\theslidesubheading{}%
8692 \ifHy@bookmarksnumbered
8693 \def\Hy@slidetitle{\theslide\section\space #1}%
8694 \else

```

```

8695 \def\Hy@slidetitle{#1}%
8696 \fi
8697 \ifHy@hypertextnames
8698 \ifHy@naturalnames
8699 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8700 \Hy@writebookmark
8701 {\theslidesection}%
8702 {\Hy@slidetitle}%
8703 {slideheading.\theslidesection}%
8704 {1}%
8705 {toc}%
8706 \else
8707 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8708 \Hy@writebookmark
8709 {\theslidesection}%
8710 {\Hy@slidetitle}%
8711 {slideheading.\theHslidesection}%
8712 {1}%
8713 {toc}%
8714 \fi
8715 \else
8716 \Hy@GlobalStepCount\Hy@linkcounter
8717 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8718 \Hy@writebookmark
8719 {\theslidesection}%
8720 {\Hy@slidetitle}%
8721 {slideheading.\the\Hy@linkcounter}%
8722 {1}%
8723 {toc}%
8724 \fi
8725 }%
8726 \def\slide@subheading[#1]#2{%
8727 \H@refstepcounter{slidesubsection}%
8728 \addtocontents{los}{%
8729 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8730 {\@SC^TR}{slideheading.\theslidesubsection}%
8731 }%
8732 \def\Hy@tempa{#2}%
8733 \ifx\Hy@tempa\@empty
8734 \else
8735 {%
8736 \edef\@currentlabel{%
8737 \csname p@slidesubsection\endcsname\theslidesubsection
8738 }%
8739 \makeslidesubheading{#2}%
8740 }%
8741 \fi
8742 \gdef\theslidesubheading{#1}%
8743 \ifHy@bookmarksnumbered
8744 \def\Hy@slidetitle{\theslidesubsection\space #1}%

```

```

8745 \else
8746 \def\Hy@slidetitle{#1}%
8747 \fi
8748 \ifHy@hypertextnames
8749 \ifHy@naturalnames
8750 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8751 \Hy@writebookmark
8752 {\theslidesubsection}%
8753 {\Hy@slidetitle}%
8754 {slideheading.\theslidesubsection}%
8755 {2}%
8756 {toc}%
8757 \else
8758 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8759 \Hy@writebookmark
8760 {\theslidesubsection}%
8761 {\Hy@slidetitle}%
8762 {slideheading.\theHslidesubsection}%
8763 {2}%
8764 {toc}%
8765 \fi
8766 \else
8767 \Hy@GlobalStepCount\Hy@linkcounter
8768 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8769 \Hy@writebookmark
8770 {\theslidesubsection}%
8771 {\Hy@slidetitle}%
8772 {slideheading.\the\Hy@linkcounter}%
8773 {1}%
8774 {toc}%
8775 \fi
8776 }%
8777 \providecommand*\listslidenamename{List of Slides}%
8778 \def\listofslides{%
8779 \section*{%
8780 \listslidenamename
8781 \@mkboth{%
8782 \expandafter\MakeUppercase\listslidenamename
8783 }{%
8784 \expandafter\MakeUppercase\listslidenamename
8785 }%
8786 }%
8787 \def\l@slide##1##2##3##4{%
8788 \slide@undottedcline{%
8789 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
8790 }{}%
8791 }%
8792 \let\l@subslide\l@slide
8793 \@startlos
8794 }%

```

```

8795 \def\slide@contents{%
8796   \def\l@slide##1##2##3##4{%
8797     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8798   }%
8799   \let\l@subslide\@gobblefour
8800   \@startlos
8801 }%
8802 \def\Slide@contents{%
8803   \def\l@slide##1##2##3##4{%
8804     \ifcase\lslide@flag
8805       \message{##1 ** \the\c@slidesection}%
8806       \ifnum##1>\c@slidesection
8807         \def\lslide@flag{1}%
8808         {%
8809           \large
8810           \slide@cline{%
8811             \slidenumberline{$\Rightarrow\bullet$}%
8812             {\hyperlink{##4}{##2}}%
8813           }{##3}%
8814         }%
8815       \else
8816         {%
8817           \large
8818           \slide@cline{%
8819             \slidenumberline{$\surd\;\bullet$}%
8820             {\hyperlink{##4}{##2}}%
8821           }{##3}%
8822         }%
8823       \fi
8824     \or
8825     \def\lslide@flag{2}%
8826     {%
8827       \large
8828       \slide@cline{%
8829         \slidenumberline{$\bullet$}%
8830         {\hyperlink{##4}{##2}}%
8831       }{##3}%
8832     }%
8833     \or
8834     {%
8835       \large
8836       \slide@cline{%
8837         \slidenumberline{$\bullet$}%
8838         {\hyperlink{##4}{##2}}%
8839       }{##3}%
8840     }%
8841     \fi
8842   }%
8843   \def\l@subslide##1##2##3##4{%
8844     \ifnum\lslide@flag=1 %

```

```

8845 \undottedto{2}{3.8em}{3.2em}{\hyperlink{###4}{##2}}{}%
8846 \fi
8847 }%
8848 \def\lslide@flag{0}%
8849 \@startlos
8850 }%
8851 }{}

```

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.)

```

8852 \ifHy@texht
8853 \expandafter\endinput
8854 \fi
8855 \let\real@setref\@setref
8856 \def\@setref#1#2#3{% csname, extract group, refname
8857 \ifx#1\relax
8858 \protect\G@refundefinedtrue
8859 \nfss@text{\reset@font\bfseries ??}%
8860 \@latex@warning{%
8861 Reference `#3' on page \thepage \space undefined%
8862 }%
8863 \else
8864 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8865 \fi
8866 }

```

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

```

8867 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8868 \begingroup
8869 \toks0={\hyper@@link{#5}{#4}}%
8870 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8871 \edef\x{\endgroup
8872 \the\toks0 {\the\toks1 }%
8873 }%
8874 \x
8875 }
8876 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8877 \ifx#1\relax
8878 \protect\G@refundefinedtrue
8879 \nfss@text{\reset@font\bfseries ??}%
8880 \@latex@warning{%
8881 Reference `#3' on page \thepage \space undefined%
8882 }%
8883 \else
8884 \protect\hyper@@link
8885 {\expandafter\@fifthoffive#1}%
8886 {page.\expandafter\@secondoffive#1}%
8887 {\expandafter\@secondoffive#1}%

```



```

8888 \fi
8889 }

8890 </package>
8891 <*check>
8892 \checklatex
8893 \checkcommand\def\@setref#1#2#3{%
8894   \ifx#1\relax
8895     \protect\G@refundefinedtrue
8896     \nfss@text{\reset@font\bfseries ??}%
8897     \@latex@warning{%
8898       Reference `#3' on page \thepage\space undefined%
8899     }%
8900   \else
8901     \expandafter#2#1\null
8902   \fi
8903 }
8904 </check>
8905 <*package>

```

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

```

8906 \def\HyRef@StarSetRef#1{%
8907   \begingroup
8908   \Hy@safe@activetrue
8909   \edef\x{#1}%
8910   \@onelevel@sanitize\x
8911   \edef\x{\endgroup
8912     \noexpand\HyRef@@StarSetRef
8913     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8914   }%
8915   \x
8916 }
8917 \def\HyRef@@StarSetRef#1#2#3{%
8918   \ifx#1\@undefined
8919     \let#1\relax
8920   \fi
8921   \real@setref#1#3{#2}%
8922 }
8923 \def\@refstar#1{%
8924   \HyRef@StarSetRef{#1}\@firstoffive
8925 }
8926 \def\@pagerefstar#1{%
8927   \HyRef@StarSetRef{#1}\@secondoffive
8928 }
8929 \def\@namerefstar#1{%
8930   \HyRef@StarSetRef{#1}\@thirdoffive
8931 }
8932
8933 \Hy@AtBeginDocument{%
8934   \@ifpackageloaded{varioref}{%

```

```

8935 \def\@Refstar#1{%
8936   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8937 }%
8938 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8939   \MakeUppercase#1%
8940 }%
8941 \DeclareRobustCommand*\Ref*{%
8942   \@ifstar\@Refstar\HyRef@Ref
8943 }%
8944 \def\HyRef@Ref#1{%
8945   \hyperref[{#1}]{\Ref*{#1}}%
8946 }%

```

Test if we are running new 2019 varioref or old one:

```

8947 %Fmi
8948 \ifdefined\vp@gerefstar
8949 \renewcommand\Vref@star[2][]{%
8950   \begingroup
8951     \let\T@pageref\@pagerefstar
8952     \Ref*{#2}
8953     \vpageref[#1]{#2}%
8954   \endgroup
8955 }%
8956 \renewcommand\Vr@f[2][]{%
8957   \begingroup
8958     \let\T@pageref\@pagerefstar
8959     \hyperref[{#2}]{%
8960       \Ref*{#2}
8961       \vpageref[#1]{#2}%
8962     }%
8963   \endgroup
8964 }%
8965 \renewcommand\vr@f[2][]{%
8966   \begingroup
8967     \let\T@pageref\@pagerefstar
8968     \hyperref[{#2}]{%
8969       \ref*{#2}
8970       \vpageref[#1]{#2}%
8971     }%
8972   \endgroup
8973 }%
8974 \renewcommand\vref@star[2][]{%
8975   \begingroup
8976     \let\T@pageref\@pagerefstar
8977     \ref*{#2}
8978     \vpageref[#1]{#2}%
8979   \endgroup
8980 }%

```

old varioref:

```

8981 \else

```

```

8982 \def\Vr@f#1{%
8983   \leavevmode\unskip\vref@space
8984   \hyperref[{#1}]{%
8985     \Ref*{#1}%
8986     \let\vref@space\nobreakspace
8987     \@vpageref[\unskip]{#1}%
8988   }%
8989 }%
8990 \def\vr@f#1{%
8991   \leavevmode\unskip\vref@space
8992   \begingroup
8993   \let\T@pageref\@pagerefstar
8994   \hyperref[{#1}]{%
8995     \ref*{#1}%
8996     \vpageref[\unskip]{#1}%
8997   }%
8998   \endgroup
8999 }%
9000 \fi
9001 %FMi -end mod
9002 }{}%
9003 }
9004
9005 \DeclareRobustCommand*{\autopageref}{%
9006   \@ifstar{%
9007     \HyRef@autopagerefname\pageref*%
9008   }\HyRef@autopageref
9009 }
9010 \def\HyRef@autopageref#1{%
9011   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
9012 }
9013 \def\HyRef@autopagerefname{%
9014   \ifx\IfUndefined{pageautorefname}{%
9015     \ifx\IfUndefined{pagename}{%
9016       \Hy@Warning{No autoref name for `page'}%
9017     }{%
9018       \pagename\nobreakspace
9019     }%
9020   }{%
9021     \pageautorefname\nobreakspace
9022   }%
9023 }

```

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

```

9024 \DeclareRobustCommand*{\autoref}{%
9025   \leavevmode
9026   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
9027 }
9028 \def\HyRef@autoref#1#2{%

```

```

9029 \begingroup
9030 \Hy@safe@activetrue
9031 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9032 \endgroup
9033 }
9034 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9035 \HyRef@ShowKeysRef{#2}%
9036 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
9037 \edef\HyRef@thisref{%
9038 \expandafter\@fourthoffive#1\@empty\@empty\@empty
9039 }%
9040 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9041 \Hy@safe@activesfalse
9042 #3{%
9043 \expandafter\@fifthoffive#1\@empty\@empty\@empty
9044 }{%
9045 \expandafter\@fourthoffive#1\@empty\@empty\@empty
9046 }{%
9047 \HyRef@currentHtag
9048 \expandafter\@firstoffive#1\@empty\@empty\@empty
9049 \null
9050 }%
9051 \else
9052 \protect\G@refundefinedtrue
9053 \nfss@text{\reset@font\bfseries ??}%
9054 \@latex@warning{%
9055 Reference `#2' on page \thepage\space undefined%
9056 }%
9057 \fi
9058 }
9059 \def\HyRef@testreftype#1.#2\{%
9060 \ltx@ifundefined{#1autorefname}{%
9061 \ltx@ifundefined{#1name}{%
9062 \HyRef@StripStar#1\*\@nil{#1}%
9063 \ltx@ifundefined{\HyRef@name autorefname}{%
9064 \ltx@ifundefined{\HyRef@name name}{%
9065 \def\HyRef@currentHtag{%
9066 \Hy@Warning{No autoref name for `#1'}%
9067 }{%
9068 \edef\HyRef@currentHtag{%
9069 \expandafter\noexpand\csname\HyRef@name name\endcsname
9070 \noexpand~%
9071 }%
9072 }%
9073 }{%
9074 \edef\HyRef@currentHtag{%
9075 \expandafter\noexpand
9076 \csname\HyRef@name autorefname\endcsname
9077 \noexpand~%
9078 }%

```

```

9079 }%
9080 }{%
9081 \edef\HyRef@currentHtag{%
9082 \expandafter\noexpand\csname#1name\endcsname
9083 \noexpand~%
9084 }%
9085 }%
9086 }{%
9087 \edef\HyRef@currentHtag{%
9088 \expandafter\noexpand\csname#1autorefname\endcsname
9089 \noexpand~%
9090 }%
9091 }%
9092 }
9093 \def\HyRef@StripStar#1*\##2\@nil#3{%
9094 \def\HyRef@name{#2}%
9095 \ifx\HyRef@name\HyRef@CaseStar
9096 \def\HyRef@name{#1}%
9097 \else
9098 \def\HyRef@name{#3}%
9099 \fi
9100 }
9101 \def\HyRef@CaseStar{*\\}
9102 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

9103 \let\HyRef@ShowKeysRef\@gobble
9104 \def\HyRef@ShowKeysInit{%
9105 \begingroup\expandafter\expandafter\endgroup
9106 \expandafter\ifx\csname SK@@label\endcsname\relax
9107 \else
9108 \ifx\SK@ref\@empty
9109 \else
9110 \def\HyRef@ShowKeysRef{%
9111 \SK@\SK@@ref
9112 }%
9113 \fi
9114 \fi
9115 }
9116 \@ifpackageloaded{showkeys}{%
9117 \HyRef@ShowKeysInit
9118 }{%
9119 \Hy@AtBeginDocument{%
9120 \@ifpackageloaded{showkeys}{%
9121 \HyRef@ShowKeysInit
9122 }{}%
9123 }%
9124 }

```

Defaults for the names that `\autoref` uses.

```

9125 \providecommand*{\AMSautorefname}{\equationautorefname}
9126 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
9127 \providecommand*{\Itemautorefname}{\itemautorefname}
9128 \providecommand*{\itemautorefname}{item}
9129 \providecommand*{\equationautorefname}{Equation}
9130 \providecommand*{\footnoteautorefname}{footnote}
9131 \providecommand*{\itemautorefname}{item}
9132 \providecommand*{\figureautorefname}{Figure}
9133 \providecommand*{\tableautorefname}{Table}
9134 \providecommand*{\partautorefname}{Part}
9135 \providecommand*{\appendixautorefname}{Appendix}
9136 \providecommand*{\chapterautorefname}{chapter}
9137 \providecommand*{\sectionautorefname}{section}
9138 \providecommand*{\subsectionautorefname}{subsection}
9139 \providecommand*{\subsubsectionautorefname}{subsubsection}
9140 \providecommand*{\paragraphautorefname}{paragraph}
9141 \providecommand*{\subparagraphautorefname}{subparagraph}
9142 \providecommand*{\FancyVerbLineautorefname}{line}
9143 \providecommand*{\theoremautorefname}{Theorem}
9144 \providecommand*{\pageautorefname}{page}
9145 </package>

```

## 47 Configuration files

### 47.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers `\pdfescapestring`.

```

9146 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9147 \begingroup\expandafter\expandafter\expandafter\endgroup
9148 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
9149   \begingroup
9150     \catcode`\|=0 %
9151     \@makeother\|%
9152     |@firstofone{|endgroup
9153     |def|Hy@pstringdef#1#2{%
9154       |begingroup
9155         |edef~{|string~}%
9156         |xdef|Hy@gtemp{#2}%
9157       |endgroup
9158       |let#1|Hy@gtemp
9159       |@onelevel@sanitize#1%

```

```

9160 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
9161 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9162 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9163 }%
9164 |def|Hy@ExchangeBackslash#1\#2|@nil{%
9165 #1%
9166 |ifx|\#2|\%%
9167 |else
9168 \\\%
9169 |ltx@ReturnAfterFi{%
9170 |Hy@ExchangeBackslash#2|@nil
9171 }%
9172 |fi
9173 }%
9174 }%
9175 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9176 #1%
9177 \ifx\#2\%%
9178 \else
9179 \@backslashchar(%
9180 \ltx@ReturnAfterFi{%
9181 \Hy@ExchangeLeftParenthesis#2\@nil
9182 }%
9183 \fi
9184 }%
9185 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9186 #1%
9187 \ifx\#2\%%
9188 \else
9189 \@backslashchar)%
9190 \ltx@ReturnAfterFi{%
9191 \Hy@ExchangeRightParenthesis#2\@nil
9192 }%
9193 \fi
9194 }%
9195 \else
9196 \def\Hy@pstringdef#1#2{%
9197 \begingroup
9198 \edef~{\string~}%
9199 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9200 \endgroup
9201 \let#1\Hy@gtemp
9202 }%
9203 \fi
9204 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9205 <*pdfTeX>
9206 \providecommand*{\XR@ext}{pdf}

```

```

9207 \Hy@setbreaklinks{true}
9208 \def\HyPat@ObjRef{%
9209   [0-9]*[1-9][0-9]* 0 R%
9210 }

```

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

```

9211 \let\Hy@pdfminorversion\relax
9212 \begingroup\expandafter\expandafter\expandafter\endgroup
9213 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9214   \begingroup\expandafter\expandafter\expandafter\endgroup
9215   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9216     \else
9217       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9218     \fi
9219   \else
9220     \def\Hy@pdfminorversion{\pdfminorversion}%
9221   \fi
9222 \@ifundefined{Hy@pdfminorversion}{%
9223   \PackageInfo{hyperref}{%
9224     PDF version is not set, because pdfTeX is too old (<1.10a)%
9225   }%
9226 }{%
9227   \ifHy@ocgcolorlinks
9228     \ifnum\Hy@pdfmajorminor@version<105 %
9229       \kvsetkeys{Hyp}{pdfversion=1.5}%
9230     \fi
9231   \fi
9232   \ifHy@setpdfversion
9233     \ifnum\Hy@pdf@majorminor@version<105 %
9234       \ltx@ifundefined{pdfobjcompresslevel}{%
9235         }{%
9236           \ifHy@verbose
9237             \Hy@InfoNoLine{%
9238               PDF object streams are disabled, because they are%
9239               \MessageBreak
9240               not supported in requested PDF version %
9241               \Hy@pdf@majorversion.\Hy@pdf@minorversion
9242             }%
9243           \fi
9244           \pdfobjcompresslevel=\ltx@zero
9245         }%
9246       \fi
9247     \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
9248     \else

```



```

9249 \let\Hy@temp\ltx@empty
9250 \def\Hy@temp@A#1#2{%
9251   \ifnum#1>\ltx@zero
9252     \edef\Hy@temp{%
9253       \Hy@temp
9254       \space\space
9255       \the#1\space #2%
9256       \ifnum#1=\ltx@one\else s\fi
9257       \MessageBreak
9258     }%
9259   \fi
9260 }%
9261 \Hy@temp@A\pdfastobj{PDF object}%
9262 \Hy@temp@A\pdfastxform{form XObject}%
9263 \Hy@temp@A\pdfastximage{image XObject}%
9264 \Hy@temp@A\pdfastannot{annotation}%
9265 \ltx@ifundefined{pdfastlink}{%
9266 }{%
9267   \Hy@temp@A\pdfastlink{link}%
9268 }%
9269 \ifx\Hy@temp\ltx@empty
9270   \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
9271   \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
9272 \else
9273   \let\Hy@temp@A\ltx@empty
9274   \ifnum\Hy@pdf@majorminor@version=104 %
9275     \IfFileExists{pdf14.sty}{%
9276       \def\Hy@temp@A{%
9277         \MessageBreak
9278         Or \string\RequirePackage{pdf14} can be used%
9279         \MessageBreak
9280         before \string\documentclass\space as shortcut%
9281       }%
9282     }{}%
9283   \fi
9284   \Hy@WarningNoLine{%
9285     The PDF version number could not be set,\MessageBreak
9286     because some PDF objects are already written:%
9287     \MessageBreak
9288     \Hy@temp
9289     The version should be set as early as possible:%
9290     \MessageBreak
9291     \space\space
9292     \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
9293     \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
9294     \string\relax
9295     \ifnum\Hy@pdf@majorminor@version<105 %
9296       \ltx@ifundefined{pdfobjcompresslevel}{%
9297     }{%
9298       \MessageBreak

```

```

9299         \space\space
9300         \string\pdfobjcompresslevel=0\string\relax
9301     }%
9302     \fi
9303     \Hy@temp@A
9304 }%
9305 \fi
9306 \fi
9307 \PackageInfo{hyperref}{%
9308   \expandafter\string\Hy@pdfmajorversion.%
9309   \expandafter\string\Hy@pdfminorversion
9310   :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
9311 }%
9312 \fi
9313 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
9314 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
9315 }
9316 \Hy@DisableOption{pdfversion}%

9317 \ifHy@ocgcolorlinks
9318   \pdf@ifdraftmode{}{%
9319     \immediate\pdfobj{%
9320       <<%
9321         /Type/OCG%
9322         /Name(View)%
9323         /Usage<<%
9324         /Print<<%
9325         /PrintState/OFF%
9326       >>%
9327         /View<<%
9328         /ViewState/ON%
9329       >>%
9330     >>%
9331   >>%
9332 }%
9333 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9334 \immediate\pdfobj{%
9335   <<%
9336     /Type/OCG%
9337     /Name(Print)%
9338     /Usage<<%
9339     /Print<<%
9340     /PrintState/ON%
9341   >>%
9342     /View<<%
9343     /ViewState/OFF%
9344   >>%
9345 >>%
9346 >>%
9347 }%

```

```

9348 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9349 \immediate\pdfobj{%
9350 [%
9351 \OBJ@OCG@view\space\OBJ@OCG@print
9352 ]%
9353 }%
9354 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9355 \pdfcatalog{%
9356 /OCProperties<<%
9357 /OCGs \OBJ@OCGs
9358 /D<<%
9359 /OFF[\OBJ@OCG@print]%
9360 /AS[%
9361 <<%
9362 /Event/View%
9363 /OCGs \OBJ@OCGs
9364 /Category[/View]%
9365 >>%
9366 <<%
9367 /Event/Print%
9368 /OCGs \OBJ@OCGs
9369 /Category[/Print]%
9370 >>%
9371 <<%
9372 /Event/Export%
9373 /OCGs \OBJ@OCGs
9374 /Category[/Print]%
9375 >>%
9376 ]%
9377 >>%
9378 >>%
9379 }%
9380 \begin{group}
9381 \edef\x{\end{group}}
9382 \pdfpageresources{%
9383 \the\pdfpageresources
9384 /Properties<<%
9385 /OCView \OBJ@OCG@view
9386 /OCPrint \OBJ@OCG@print
9387 >>%
9388 }%
9389 }%
9390 \x
9391 }%
9392 \Hy@AtBeginDocument{%
9393 \def\Hy@colorlink#1{%
9394 \begin{group}
9395 \ifHy@ocgcolorlinks
9396 \def\Hy@ocgcolor{#1}%
9397 \setbox0=\hbox\bgroup\color@begin{group}

```

```

9398     \else
9399         \HyColor@UseColor#1%
9400     \fi
9401 }%
9402 \def\Hy@endcolorlink{%
9403     \ifHy@ocgcolorlinks
9404         \color@endgroup\egroup
9405         \mbox{%
9406             \pdfliteral page{/OC/OCPrint BDC}%
9407             \rlap{\copy0}%
9408             \pdfliteral page{EMC/OC/OCView BDC}%
9409             \begingroup
9410                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9411                 \box0 %
9412             \endgroup
9413             \pdfliteral page{EMC}%
9414         }%
9415     \fi
9416 \endgroup
9417 }%
9418 }%
9419 \else
9420     \Hy@DisableOption{ocgcolorlinks}%
9421 \fi

```

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

```

9422 \def\setpdfinkmargin#1{%
9423     \begingroup
9424         \setlength{\dimen@}{#1}%
9425     \expandafter\endgroup
9426     \expandafter\pdfinkmargin\the\dimen@\relax
9427 }
9428 \ifx\pdfstartlink\@undefined% less than version 14
9429     \let\pdfstartlink\pdfannotlink
9430     \let\pdfinkmargin\@tempdima
9431     \let\pdfxform\pdfform
9432     \let\pdfastxform\pdfastform
9433     \let\pdfrefxform\pdfrefform
9434 \else
9435     \pdfinkmargin1pt %
9436 \fi

```

First set up the default linking

```

9437 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9438 \Hy@WrapperDef\new@pdfink#1{%
9439     \ifhmode
9440         \@savsf\spacefactor
9441     \fi
9442     \Hy@SaveLastskip

```

```

9443 \Hy@VerboseAnchor{#1}%
9444 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9445 \Hy@DestName\Hy@pstringDest\@pdfview
9446 \Hy@RestoreLastskip
9447 \ifhmode
9448 \spacefactor\@savs
9449 \fi
9450 }
9451 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```

9452 \def\Hy@DestName#1#2{%
9453 \pdfdest name{#1}#2\relax
9454 }

```

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.

```

9455 \providecommand*\@pdfborder{0 0 1}
9456 \providecommand*\@pdfborderstyle{}
9457 \def\Hy@undefinedname{UNDEFINED}
9458 \def\find@pdflink#1#2{%
9459 \leavevmode
9460 \protected@edef\Hy@testname{#2}%
9461 \ifx\Hy@testname\@empty
9462 \Hy@Warning{%
9463 Empty destination name,\MessageBreak
9464 using '\Hy@undefinedname'%
9465 }%
9466 \let\Hy@testname\Hy@undefinedname
9467 \else
9468 \Hy@pstringdef\Hy@testname{%
9469 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9470 }%
9471 \fi
9472 \Hy@StartlinkName{%
9473 \ifHy@pdfa /F 4\fi
9474 \Hy@setpdfborder
9475 \Hy@setpdfhighlight
9476 \ifx\CurrentBorderColor\relax
9477 \else
9478 /C[\CurrentBorderColor]%
9479 \fi
9480 }\Hy@testname
9481 \expandafter\Hy@colorlink\csname @#1color\endcsname
9482 }
9483 \def\Hy@StartlinkName#1#2{%

```

```

9484 \pdfstartlink attr{#1}goto name{#2}\relax
9485 }
9486 \def\close@pdfink{%
9487   \Hy@endcolorlink
9488   \Hy@VerboseLinkStop
9489 \pdfendlink
9490 }
9491 \def\hyper@anchor#1{%
9492   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9493 }
9494 \def\hyper@anchorstart#1{%
9495   \new@pdfink{#1}%
9496   \Hy@activeanchortrue
9497 }
9498 \def\hyper@anchorend{%
9499   \pdf@endanchor
9500   \Hy@activeanchorfalse
9501 }
9502 \def\hyper@linkstart#1#2{%
9503   \Hy@VerboseLinkStart{#1}{#2}%
9504   \ltx@ifundefined{@#1bordercolor}{%
9505     \let\CurrentBorderColor\relax
9506   }{%
9507     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9508   }%
9509   \find@pdfink{#1}{#2}%
9510 }
9511 \def\hyper@linkend{\close@pdfink}
9512 \def\hyper@link#1#2#3{%
9513   \Hy@VerboseLinkStart{#1}{#2}%
9514   \ltx@ifundefined{@#1bordercolor}{%
9515     \let\CurrentBorderColor\relax
9516   }{%
9517     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9518   }%
9519   \find@pdfink{#1}{#2}#3\Hy@xspace@end
9520   \close@pdfink
9521 }
9522 \let\CurrentBorderColor\@linkbordercolor
9523 \def\hyper@linkurl#1#2{%
9524   \begingroup
9525     \Hy@pstringdef\Hy@pstringURI{#2}%
9526     \hyper@chars
9527     \leavevmode
9528     \pdfstartlink
9529       attr{%
9530         \Hy@setpdfborder
9531         \Hy@setpdfhighlight
9532         \ifx\@urlbordercolor\relax
9533         \else

```

```

9534      /C[\@urlbordercolor]%
9535      \fi
9536    }%
9537    user{%
9538      /Subtype/Link%
9539      \ifHy@pdfa /F 4\fi
9540      /A<<%
9541      /Type/Action%
9542      /S/URI%
9543      /URI(\Hy@pstringURI)%
9544      \ifHy@href@ismap
9545      /IsMap true%
9546      \fi
9547      \Hy@href@nextactionraw
9548    >>%
9549    }%
9550    \relax
9551    \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9552    \close@pdflink
9553  \endgroup
9554 }
9555 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9556 \begingroup
9557   \def\Hy@pstringF{#2}%
9558   \Hy@CleanupFile\Hy@pstringF
9559   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9560   \Hy@pstringdef\Hy@pstringD{#3}%
9561   \Hy@MakeRemoteAction
9562   \leavevmode
9563   \pdfstartlink
9564   attr{%
9565     \Hy@setpdfborder
9566     \Hy@setpdfhighlight
9567     \ifx\@filebordercolor\relax
9568     \else
9569       /C[\@filebordercolor]%
9570     \fi
9571   }%
9572   user {%
9573     /Subtype/Link%
9574     \ifHy@pdfa /F 4\fi
9575     /A<<%
9576     /F(\Hy@pstringF)%
9577     /S/GoToR%
9578     \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}

9579      \ifx\#3\%
9580      /D[\Hy@href@page\@pdfremotestartview]%
9581      \else
9582      /D(\Hy@pstringD)%
9583      \fi
9584      \Hy@href@nextactionraw
9585      >>%
9586      }%
9587      \relax
9588      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9589      \close@pdflink
9590      \endgroup
9591      }
9592      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9593      \begingroup
9594      \Hy@pstringdef\Hy@pstringF{#1}%
9595      \Hy@pstringdef\Hy@pstringP{#3}%
9596      \leavevmode
9597      \pdfstartlink
9598      attr{%
9599      \Hy@setpdfborder
9600      \Hy@setpdfhighlight
9601      \ifx\@runbordercolor\relax
9602      \else
9603      /C[\@runbordercolor]%
9604      \fi
9605      }%
9606      user {%
9607      /Subtype/Link%
9608      \ifHy@pdfa /F 4\fi
9609      /A<%
9610      /F(\Hy@pstringF)%
9611      /S/Launch%
9612      \Hy@SetNewWindow
9613      \ifx\#3\%
9614      \else
9615      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9616      \fi
9617      \Hy@href@nextactionraw
9618      >>%
9619      }%
9620      \relax

```



```

9621 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9622 \close@pdfink
9623 \endgroup
9624 }

```

\PDF@SetupDox

```

9625 \def\PDF@SetupDoc{%
9626 \ifx\@pdfpagescrop\@empty
9627 \else
9628 \edef\process@me{%
9629 \pdfpagesattr={%
9630 /CropBox[\@pdfpagescrop]%
9631 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9632 \else
9633 ^^J\the\pdfpagesattr
9634 \fi
9635 }%
9636 }%
9637 \process@me
9638 \fi
9639 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9640 \pdfcatalog{%
9641 /PageMode/\@pdfpagemode
9642 \ifx\@baseurl\@empty
9643 \else
9644 /URI<</Base(\Hy@pstringB)>>%
9645 \fi
9646 }%
9647 \ifx\@pdfstartpage\@empty
9648 \else
9649 \ifx\@pdfstartview\@empty
9650 \else
9651 openaction goto page\@pdfstartpage{\@pdfstartview}%
9652 \fi
9653 \fi
9654 \edef\Hy@temp{%
9655 \ifHy@pdftoolbar\else /HideToolbar true\fi
9656 \ifHy@pdfmenubar\else /HideMenubar true\fi
9657 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9658 \ifHy@pdffitwindow /FitWindow true\fi
9659 \ifHy@pdfcenterwindow /CenterWindow true\fi
9660 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9661 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9662 \Hy@UseNameKey{Direction}\@pdfdirection
9663 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9664 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9665 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9666 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9667 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9668 \Hy@UseNameKey{Duplex}\@pdfduplex

```

```

9669 \ifx\@pdfpicktraybypdfsize\@empty
9670 \else
9671 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9672 \fi
9673 \ifx\@pdfprintpagerange\@empty
9674 \else
9675 /PrintPageRange[\@pdfprintpagerange]%
9676 \fi
9677 \ifx\@pdfnumcopies\@empty
9678 \else
9679 /NumCopies \@pdfnumcopies
9680 \fi
9681 }%
9682 \pdfcatalog{%
9683 \ifx\Hy@temp\@empty
9684 \else
9685 /ViewerPreferences<<\Hy@temp>>%
9686 \fi
9687 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9688 \ifx\@pdflang\relax
9689 \else
9690 /Lang(\@pdflang)%
9691 \fi
9692 }%
9693 }

```

\PDF@FinishDoc

```

9694 \def\PDF@FinishDoc{%
9695 \pdf@ifdraftmode{ }{%
9696 \Hy@UseMaketitleInfos
9697 \HyInfo@GenerateAddons
9698 \pdfinfo{%
9699 /Author(\@pdfauthor)%
9700 /Title(\@pdftitle)%
9701 /Subject(\@pdfsubject)%
9702 /Creator(\@pdfcreator)%
9703 \ifx\@pdfcreationdate\@empty
9704 \else
9705 /CreationDate(\@pdfcreationdate)%
9706 \fi
9707 \ifx\@pdfmoddate\@empty
9708 \else
9709 /ModDate(\@pdfmoddate)%
9710 \fi
9711 \ifx\@pdfproducer\relax
9712 \else
9713 /Producer(\@pdfproducer)%
9714 \fi
9715 /Keywords(\@pdfkeywords)%
9716 \ifx\@pdftrapped\@empty

```

```

9717 \else
9718 /Trapped/\@pdftrapped
9719 \fi
9720 \HyInfo@Addons
9721 }%
9722 }%
9723 \Hy@DisableOption{pdfauthor}%
9724 \Hy@DisableOption{pdftitle}%
9725 \Hy@DisableOption{pdfsubject}%
9726 \Hy@DisableOption{pdfcreator}%
9727 \Hy@DisableOption{addtopdfcreator}%
9728 \Hy@DisableOption{pdfcreationdate}%
9729 \Hy@DisableOption{pdfmoddate}%
9730 \Hy@DisableOption{pdfproducer}%
9731 \Hy@DisableOption{pdfkeywords}%
9732 \Hy@DisableOption{pdftrapped}%
9733 \Hy@DisableOption{pdfinfo}%
9734 }

```

`\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`.

```

9735 \def\hyper@pagetransition{%
9736 \ifx\@pdfpagetransition\relax
9737 \else
9738 \expandafter\Hy@RemoveTransPageAttr
9739 \the\pdfpageattr^^J/Trans{}>>\END
9740 \ifx\@pdfpagetransition\@empty
9741 \else
9742 \edef\@processme{%
9743 \global\pdfpageattr{%
9744 \the\pdfpageattr
9745 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9746 }%
9747 }%
9748 \@processme
9749 \fi
9750 \fi
9751 }

```

`\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.

```

9752 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9753 \ifx\#2\%
9754 \global\pdfpageattr{#1}%
9755 \else

```

```

9756 \Hy@RemoveTransPageAttr#1#4\END
9757 \fi
9758 }

```

`\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`.

```

9759 \def\hyper@pageduration{%
9760 \ifx\@pdfpageduration\relax
9761 \else
9762 \expandafter
9763 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9764 \ifx\@pdfpageduration\@empty
9765 \else
9766 \edef\@processme{%
9767 \global\pdfpageattr{%
9768 \the\pdfpageattr
9769 ^^J/Dur \@pdfpageduration\space
9770 }%
9771 }%
9772 \@processme
9773 \fi
9774 \fi
9775 }

```

`\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.

```

9776 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9777 \ifx\#2\%
9778 \global\pdfpageattr{#1}%
9779 \else
9780 \Hy@RemoveDurPageAttr#1#4\END
9781 \fi
9782 }

```

```

9783 \pdf@ifdraftmode{}{%
9784 \g@addto@macro\Hy@EveryPageHook{%
9785 \hyper@pagetransition
9786 \hyper@pageduration
9787 }%
9788 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9789 </pdfTeX>
9790 <*pdfTeX | xetex>
9791 \Hy@AtBeginDocument{%

```

```

9792 \ifHy@setpagesize
9793   \expandafter\@firstofone
9794   \else
9795     \expandafter\@gobble
9796   \fi
9797   {%
9798     \@ifclassloaded{seminar}{%
9799 \*pdftex>
9800   \setlength{\pdfhorigin}{1truein}%
9801   \setlength{\pdfvorigin}{1truein}%
9802 \</pdftex>
9803   \ifportrait
9804     \ifdim\paperwidth=\z@
9805     \else
9806       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9807     \fi
9808     \ifdim\paperheight=\z@
9809     \else
9810       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9811     \fi
9812   \else
9813     \ifdim\paperheight=\z@
9814     \else
9815       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9816     \fi
9817     \ifdim\paperwidth=\z@
9818     \else
9819       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9820     \fi
9821   \fi
9822 }{%
9823   \ltx@ifundefined{stockwidth}{%
9824     \ifdim\paperwidth>\z@
9825     \setlength{\pdfpagewidth}{\paperwidth}%
9826   \fi
9827   \ifdim\paperheight>\z@
9828     \setlength{\pdfpageheight}{\paperheight}%
9829   \fi
9830 }{%
9831   \ifdim\stockwidth>\z@
9832     \setlength{\pdfpagewidth}{\stockwidth}%
9833   \fi
9834   \ifdim\stockheight>\z@
9835     \setlength{\pdfpageheight}{\stockheight}%
9836   \fi
9837 }%
9838 }%
9839 }%
9840 \Hy@DisableOption{setpagesize}%
9841 }

```

```

9842 </pdfTeX | xetex>
9843 <*pdfTeX>
9844 \def\Acrobatmenu#1#2{%
9845   \Hy@Acrobatmenu{#1}{#2}{%
9846     \leavevmode
9847     \edef\EscapeName\Hy@temp@menu{#1}%
9848     \pdfstartlink
9849       attr{%
9850         \Hy@setpdfborder
9851         \Hy@setpdfhighlight
9852         \ifx\@menubordercolor\relax
9853         \else
9854           /C[\@menubordercolor]%
9855         \fi
9856       }%
9857       user{%
9858         /Subtype/Link%
9859         \ifHy@pdfa /F 4\fi
9860         /A<<%
9861         /S/Named%
9862         /N/\Hy@temp@menu
9863         \Hy@href@nextactionraw
9864       >>%
9865       }%
9866       \relax
9867     \Hy@colorlink\@menucolor#2%
9868     \close@pdflink
9869   }%
9870 }

```

#### 47.2.1 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.

```

9871 </pdfTeX>

```

### 47.3 hypertex

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\spe-`

cial 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.

```
9872 <*hypertext>
9873 \providecommand*{\XR@ext}{dvi}
9874 \let\PDF@FinishDoc\ltx@empty
9875 \def\PDF@SetupDoc{%
9876   \ifx\@baseurl\@empty
9877     \else
9878       \special{html:<base href="\@baseurl">}%
9879     \fi
9880 }
9881 \Hy@WrapperDef\hyper@anchor#1{%
9882   \Hy@SaveLastskip
9883   \Hy@VerboseAnchor{#1}%
9884   \begingroup
9885     \let\protect=\string
9886     \hyper@chars
9887     \special{html:<a name=%
9888       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9889   \endgroup
9890   \Hy@activeanchortrue
```

```

9891 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9892 \special{html:</a>}%
9893 \Hy@activeanchorfalse
9894 \Hy@RestoreLastskip
9895 }
9896 \Hy@WrapperDef\hyper@anchorstart#1{%
9897 \Hy@SaveLastskip
9898 \Hy@VerboseAnchor{#1}%
9899 \begingroup
9900 \hyper@chars
9901 \special{html:<a name=%
9902 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9903 \endgroup
9904 \Hy@activeanchortrue
9905 }
9906 \def\hyper@anchorend{%
9907 \special{html:</a>}%
9908 \Hy@activeanchorfalse
9909 \Hy@RestoreLastskip
9910 }
9911 \def\@urltype{url}
9912 \def\hyper@linkstart#1#2{%
9913 \Hy@VerboseLinkStart{#1}{#2}%
9914 \expandafter\Hy@colorlink\csname @#1color\endcsname
9915 \def\Hy@tempa{#1}%
9916 \ifx\Hy@tempa\@urltype
9917 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9918 \else
9919 \begingroup
9920 \hyper@chars
9921 \special{html:<a href=%
9922 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9923 \endgroup
9924 \fi
9925 }
9926 \def\hyper@linkend{%
9927 \special{html:</a>}%
9928 \Hy@endcolorlink
9929 }
9930 \def\hyper@linkfile#1#2#3{%
9931 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9932 }
9933 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

9934 \leavevmode
9935 \ifHy@raiselinks
9936 \Hy@SaveSpaceFactor

```



```

9937 \Hy@SaveSavedSpaceFactor
9938 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9939 \Hy@RestoreSavedSpaceFactor
9940 \@linkdim\dp\@tempboxa
9941 \lower\@linkdim\hbox{%
9942   \hyper@chars
9943   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9944 }%
9945 \Hy@colorlink\@urlcolor
9946 \Hy@RestoreSpaceFactor
9947 #1%
9948 \Hy@SaveSpaceFactor
9949 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

9950 \advance\@linkdim by -6.5\p@
9951 \raise\@linkdim\hbox{\special{html:</a>}}}%
9952 \Hy@endcolorlink
9953 \Hy@RestoreSpaceFactor
9954 \else
9955 \begingroup
9956   \hyper@chars
9957   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9958   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9959   \special{html:</a>}}%
9960   \Hy@endcolorlink
9961 \endgroup
9962 \fi
9963 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

9964 \def\hyper@link#1#2#3{%
9965   \Hy@VerboseLinkStart{#1}{#2}%
9966   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9967 }

9968 \def\hyper@image#1#2{%
9969   \begingroup
9970   \hyper@chars
9971   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9972 \endgroup
9973 }
9974 </hypertex>
9975 <*dviwindo>

```

## 47.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can de-

fine this command before or after loading the hyperref package if the default `c:/netscape/netscape` is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertex cfg. For dviwindo, L<sup>A</sup>T<sub>E</sub>X 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.

```

9976 \providecommand*\XR@ext}{dvi}
9977 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9978 \Hy@WrapperDef\hyper@anchor#1{%
9979   \Hy@SaveLastskip
9980   \Hy@VerboseAnchor{#1}%
9981   \begingroup
9982     \let\protect=\string
9983     \special{mark: #1}%
9984   \endgroup
9985   \Hy@activeanchortrue
9986   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9987   \Hy@activeanchorfalse
9988   \Hy@RestoreLastskip
9989 }
9990 \Hy@WrapperDef\hyper@anchorstart#1{%
9991   \Hy@SaveLastskip
9992   \Hy@VerboseAnchor{#1}%
9993   \special{mark: #1}%
9994   \Hy@activeanchortrue
9995 }
9996 \def\hyper@anchorend{%
9997   \Hy@activeanchorfalse
9998   \Hy@RestoreLastskip
9999 }
10000 \def\hyper@linkstart#1#2{%
10001   \Hy@VerboseLinkStart{#1}{#2}%
10002   \expandafter\Hy@colorlink\csname @#1color\endcsname
10003   \special{button: %
10004     10000000 %
10005     \number\baselineskip\space
10006     #2%
10007   }%
10008 }
10009 \def\hyper@linkend{%
10010   \Hy@endcolorlink
10011 }
10012 \def\hyper@link#1#2#3{%
10013   \Hy@VerboseLinkStart{#1}{#2}%
10014   \leavevmode
10015   \ifHy@raiselinks

```

```

10016 \Hy@SaveSpaceFactor
10017 \Hy@SaveSavedSpaceFactor
10018 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10019 \Hy@RestoreSavedSpaceFactor
10020 \@linkdim\dp\@tempboxa
10021 \lower\@linkdim\hbox{%
10022   \special{button: %
10023     \number\wd\@tempboxa\space
10024     \number\ht\@tempboxa\space
10025     #2%
10026   }%
10027   \expandafter\Hy@colorlink\csname @#1color\endcsname
10028   \Hy@RestoreSpaceFactor
10029   #3\Hy@xspace@end
10030   \Hy@SaveSpaceFactor
10031   \Hy@endcolorlink
10032 }%
10033 \@linkdim\ht\@tempboxa
10034 \advance\@linkdim by -6.5\p@
10035 \raise\@linkdim\hbox{}%
10036 \Hy@RestoreSpaceFactor
10037 \else
10038 \special{button: %
10039   \number\wd\@tempboxa\space
10040   \number\ht\@tempboxa\space
10041   #2%
10042 }%
10043 \expandafter\Hy@colorlink\csname @#1color\endcsname
10044 #3\Hy@xspace@end
10045 \Hy@endcolorlink
10046 \fi
10047 }
10048 \def\hyper@linkurl#1#2{%
10049 \begingroup
10050 \hyper@chars
10051 \leavevmode
10052 \ifHy@raiselinks
10053   \Hy@SaveSpaceFactor
10054   \Hy@SaveSavedSpaceFactor
10055   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10056   \Hy@RestoreSavedSpaceFactor
10057   \@linkdim\dp\@tempboxa
10058   \lower\@linkdim\hbox{%
10059     \special{button: %
10060       \number\wd\@tempboxa\space
10061       \number\ht\@tempboxa\space
10062       launch: \wwwbrowser\space
10063       #2%
10064     }%
10065     \Hy@colorlink\@urlcolor

```

```

10066      \Hy@RestoreSpaceFactor
10067      #1\Hy@xspace@end
10068      \Hy@SaveSpaceFactor
10069      \Hy@endcolorlink
10070    }%
10071    \@linkdim\ht\@tempboxa
10072    \advance\@linkdim by -6.5\p@
10073    \raise\@linkdim\hbox{}%
10074    \Hy@RestoreSpaceFactor
10075  \else
10076    \special{button: %
10077      \number\wd\@tempboxa\space
10078      \number\ht\@tempboxa\space
10079      launch: \wwwbrowser\space
10080      #2%
10081    }%
10082    \Hy@colorlink\@urlcolor
10083    #1\Hy@xspace@end
10084    \Hy@endcolorlink
10085  \fi
10086 \endgroup
10087 }
10088 \def\hyper@linkfile#1#2#3{%
10089 \begingroup
10090 \hyper@chars
10091 \leavevmode
10092 \ifHy@raiselinks
10093   \Hy@SaveSpaceFactor
10094   \Hy@SaveSavedSpaceFactor
10095   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10096   \Hy@RestoreSavedSpaceFactor
10097   \@linkdim\dp\@tempboxa
10098   \lower\@linkdim\hbox{%
10099     \special{button: %
10100       \number\wd\@tempboxa\space
10101       \number\ht\@tempboxa\space
10102       #3,%
10103       file: #2%
10104     }%
10105     \Hy@colorlink\@filecolor
10106     \Hy@RestoreSpaceFactor
10107     #1\Hy@xspace@end
10108     \Hy@SaveSpaceFactor
10109     \Hy@endcolorlink
10110   }%
10111   \@linkdim\ht\@tempboxa
10112   \advance\@linkdim by -6.5\p@
10113   \raise\@linkdim\hbox{}%
10114   \Hy@RestoreSpaceFactor
10115 \else

```

```

10116 \special{button: %
10117 \number\wd\@tempboxa\space
10118 \number\ht\@tempboxa\space
10119 #3,%
10120 file: #2%
10121 }%
10122 \Hy@colorlink\@filecolor
10123 #1\Hy@xspace@end
10124 \Hy@endcolorlink
10125 \fi
10126 \endgroup
10127 }
10128 \HyInfo@AddonUnsupportedtrue
10129 \def\PDF@FinishDoc{%
10130 \Hy@UseMaketitleInfos
10131 \HyInfo@TrappedUnsupported
10132 \special{PDF: Keywords \@pdfkeywords}%
10133 \special{PDF: Title \@pdftitle}%
10134 \special{PDF: Creator \@pdfcreator}%
10135 \ifx\@pdfcreationdate\@empty
10136 \else
10137 \special{PDF: CreationDate \@pdfcreationdate}%
10138 \fi
10139 \ifx\@pdfmoddate\@empty
10140 \else
10141 \special{PDF: ModDate \@pdfmoddate}%
10142 \fi
10143 \special{PDF: Author \@pdfauthor}%
10144 \ifx\@pdfproducer\relax
10145 \else
10146 \special{PDF: Producer \@pdfproducer}%
10147 \fi
10148 \special{PDF: Subject \@pdfsubject}%
10149 \Hy@DisableOption{pdfauthor}%
10150 \Hy@DisableOption{pdftitle}%
10151 \Hy@DisableOption{pdfsubject}%
10152 \Hy@DisableOption{pdfcreator}%
10153 \Hy@DisableOption{addtopdfcreator}%
10154 \Hy@DisableOption{pdfcreationdate}%
10155 \Hy@DisableOption{pdfcreationdate}%
10156 \Hy@DisableOption{pdfmoddate}%
10157 \Hy@DisableOption{pdfproducer}%
10158 \Hy@DisableOption{pdfkeywords}%
10159 \Hy@DisableOption{pdftrapped}%
10160 \Hy@DisableOption{pdfinfo}%
10161 }
10162 \def\PDF@SetupDoc{%
10163 \ifx\@baseurl\@empty
10164 \else
10165 \special{PDF: Base \@baseurl}%

```

```

10166 \fi
10167 \ifx\@pdfpagescrop\@empty\else
10168 \special{PDF: BBox \@pdfpagescrop}%
10169 \fi
10170 \def\Hy@temp{}%
10171 \ifx\@pdfstartpage\@empty
10172 \else
10173 \ifx\@pdfstartview\@empty
10174 \else
10175 \edef\Hy@temp{%
10176     ,Page=\@pdfstartpage
10177     ,View=\@pdfstartview
10178 }%
10179 \fi
10180 \fi
10181 \edef\Hy@temp{%
10182 \noexpand\pdfmark{%
10183     pdfmark=/DOCVIEW,%
10184     PageMode=/\@pdfpagemode
10185     \Hy@temp
10186 }%
10187 }%
10188 \Hy@temp
10189 \ifx\@pdfpagescrop\@empty
10190 \else
10191 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10192 \fi
10193 \edef\Hy@temp{%
10194 \ifHy@pdftoolbar\else /HideToolbar true\fi
10195 \ifHy@pdfmenubar\else /HideMenubar true\fi
10196 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10197 \ifHy@pdfwindow /FitWindow true\fi
10198 \ifHy@pdfcenterwindow /CenterWindow true\fi
10199 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10200 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10201 \Hy@UseNameKey{Direction}\@pdfdirection
10202 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10203 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10204 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10205 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10206 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10207 \Hy@UseNameKey{Duplex}\@pdfduplex
10208 \ifx\@pdfpicktraybypdfsize\@empty
10209 \else
10210 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10211 \fi
10212 \ifx\@pdfprintpagerange\@empty
10213 \else
10214 /PrintPageRange[\@pdfprintpagerange]%
10215 \fi

```

```

10216 \ifx\@pdfnumcopies\@empty
10217 \else
10218 /NumCopies \@pdfnumcopies
10219 \fi
10220 }%
10221 \pdfmark{pdfmark=/PUT,%
10222 Raw={%
10223 \string{Catalog\string}<<%
10224 \ifx\Hy@temp\@empty
10225 \else
10226 /ViewerPreferences<<\Hy@temp>>%
10227 \fi
10228 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10229 \ifx\@pdflang\relax
10230 \else
10231 /Lang(\@pdflang)%
10232 \fi
10233 >>%
10234 }%
10235 }%
10236 }
10237 </dviwindo>
10238 <*dvi pdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10239 \providecommand*\XR@ext{pdf}
10240 \Hy@setbreaklinks{true}
10241 \def\HyPat@ObjRef{%
10242 @[\~ ]+}%
10243 }
10244 \newsavebox{\pdfm@box}
10245 \def\@pdfm@mark#1{\special{pdf:#1}}
10246 \Hy@WrapperDef\@pdfm@dest#1{%
10247 \Hy@SaveLastskip
10248 \Hy@VerboseAnchor{#1}%
10249 \begingroup
10250 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10251 \def\x{XYZ}%
10252 \ifx\x\@pdfview
10253 \def\x{XYZ @xpos @ypos null}%
10254 \else
10255 \def\x{FitH}%
10256 \ifx\x\@pdfview
10257 \def\x{FitH @ypos}%
10258 \else
10259 \def\x{FitBH}%
10260 \ifx\x\@pdfview

```

```

10261     \def\x{FitBH @ypos}%
10262   \else
10263     \def\x{FitV}%
10264     \ifx\x\@pdfview
10265       \def\x{FitV @xpos}%
10266     \else
10267       \def\x{FitBV}%
10268       \ifx\x\@pdfview
10269         \def\x{FitBV @xpos}%
10270       \else
10271         \def\x{Fit}%
10272         \ifx\x\@pdfview
10273           \let\x\@pdfview
10274         \else
10275           \def\x{FitB}%
10276           \ifx\x\@pdfview
10277             \let\x\@pdfview
10278           \else
10279             \def\x{FitR}%
10280             \ifx\x\@pdfview
10281               \Hy@Warning{'pdfview=FitR' is not supported}%
10282               \def\x{XYZ @xpos @ypos null}%
10283             \else
10284               \@onelevel@sanitize\@pdfview
10285               \Hy@Warning{%
10286                 Unknown value '\@pdfview' for pdfview%
10287               }%
10288               \def\x{XYZ @xpos @ypos null}%
10289             \fi
10290           \fi
10291         \fi
10292       \fi
10293     \fi
10294   \fi
10295 \fi
10296 \fi
10297 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10298 \endgroup
10299 \Hy@RestoreLastskip
10300 }
10301 \providecommand*\@pdfview{XYZ}
10302 \providecommand*\@pdfborder{0 0 1}
10303 \providecommand*\@pdfborderstyle{}
10304 \def\hyper@anchor#1{%
10305   \@pdfm@dest{#1}%
10306 }
10307 \def\hyper@anchorstart#1{%
10308   \Hy@activeanchortrue
10309   \@pdfm@dest{#1}%
10310 }

```



```

10311 \def\hyper@anchorend{%
10312 \Hy@activeanchorfalse
10313 }

10314 \newcounter{Hy@AnnotLevel}

10315 \ifHy@ocgcolorlinks
10316 \def\OBJ@OCG@view{@OCG@view}%
10317 \@pdfm@mark{%
10318   obj \OBJ@OCG@view <<%
10319     /Type/OCG%
10320     /Name(View)%
10321     /Usage<<%
10322     /Print<<%
10323     /PrintState/OFF%
10324     >>%
10325     /View<<%
10326     /ViewState/ON%
10327     >>%
10328     >>%
10329     >>%
10330   }%
10331   \@pdfm@mark{close \OBJ@OCG@view}%
10332 \def\OBJ@OCG@print{@OCG@print}%
10333 \@pdfm@mark{%
10334   obj \OBJ@OCG@print <<%
10335     /Type/OCG%
10336     /Name(Print)%
10337     /Usage<<%
10338     /Print<<%
10339     /PrintState/ON%
10340     >>%
10341     /View<<%
10342     /ViewState/OFF%
10343     >>%
10344     >>%
10345     >>%
10346   }%
10347   \@pdfm@mark{close \OBJ@OCG@print}%
10348 \def\OBJ@OCGs{@OCGs}%
10349 \@pdfm@mark{%
10350   obj \OBJ@OCGs [%
10351     \OBJ@OCG@view\space\OBJ@OCG@print
10352   ]%
10353   }%
10354   \@pdfm@mark{close \OBJ@OCGs}%
10355 \@pdfm@mark{%
10356   put @catalog <<%
10357     /OCProperties<<%
10358     /OCGs \OBJ@OCGs
10359     /D<<%

```

```

10360      /OFF[\OBJ@OCG@print]%
10361      /AS[%
10362      <<%
10363          /Event/View%
10364          /OCGs \OBJ@OCGs
10365          /Category[/View]%
10366      >>%
10367      <<%
10368          /Event/Print%
10369          /OCGs \OBJ@OCGs
10370          /Category[/Print]%
10371      >>%
10372      <<%
10373          /Event/Export%
10374          /OCGs \OBJ@OCGs
10375          /Category[/Print]%
10376      >>%
10377      ]%
10378      >>%
10379      >>%
10380      >>%
10381  }%
10382  \AtBeginShipout{%
10383      \setbox\AtBeginShipoutBox=\hbox{%
10384          \copy\AtBeginShipoutBox
10385          \@pdfm@mark{%
10386              put @resources <<%
10387                  /Properties<<%
10388                  /OCView \OBJ@OCG@view
10389                  /OCPrint \OBJ@OCG@print
10390              >>%
10391              >>%
10392          }%
10393      }%
10394  }%
10395  \Hy@AtBeginDocument{%
10396      \def\Hy@colorlink#1{%
10397          \begingroup
10398          \ifHy@ocgcolorlinks
10399              \def\Hy@ocgcolor{#1}%
10400              \setbox0=\hbox\bgroup\color@begingroup
10401          \else
10402              \HyColor@UseColor#1%
10403          \fi
10404      }%
10405      \def\Hy@endcolorlink{%
10406          \ifHy@ocgcolorlinks
10407              \color@endgroup\egroup
10408          \mbox{%
10409              \@pdfm@mark{content /OC/OCPrint BDC}%

```

```

10410      \rlap{\copy0}%
10411      \@pdfm@mark{content EMC/OC/OCView BDC}%
10412      \begingroup
10413        \expandafter\HyColor@UseColor\Hy@ocgcolor
10414        \box0 %
10415      \endgroup
10416      \@pdfm@mark{content EMC}%
10417    }%
10418  \fi
10419  \endgroup
10420 }%
10421 }%
10422 \else
10423   \Hy@DisableOption{ocgcolorlinks}%
10424 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

10425 \def\Hy@BeginAnnot#1{%
10426   \global\advance\c@Hy@AnnotLevel\@ne
10427   \ifnum\c@Hy@AnnotLevel=\@ne
10428     #1%
10429   \fi
10430 }
10431 \def\Hy@endAnnot{%
10432   \ifnum\value{Hy@AnnotLevel}=\@ne
10433     \Hy@endcolorlink
10434     \@pdfm@mark{eann}%
10435   \fi
10436   \global\advance\c@Hy@AnnotLevel\m@ne
10437 }
10438 \def\Hy@undefinedname{UNDEFINED}
10439 \def\hyper@linkstart#1#2{%
10440   \Hy@VerboseLinkStart{#1}{#2}%
10441   \leavevmode
10442   \Hy@BeginAnnot{%
10443     \protected@edef\Hy@testname{#2}%
10444     \ifx\Hy@testname\@empty
10445       \Hy@Warning{%
10446         Empty destination name,\MessageBreak
10447         using ``\Hy@undefinedname'%
10448       }%
10449       \let\Hy@testname\Hy@undefinedname
10450     \else
10451       \Hy@pstringdef\Hy@testname{%
10452         \expandafter\HyperDestNameFilter\expandafter{%
10453           \Hy@testname
10454         }%
10455       }%
10456     \fi

```

```

10457 \@pdfm@mark{%
10458   bann<<%
10459   /Type/Annot%
10460   /Subtype/Link%
10461   \ifHy@pdfa /F 4\fi
10462   \Hy@setpdfborder
10463   \Hy@setpdfhighlight
10464   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10465   \else
10466     /C[\csname @#1bordercolor\endcsname]%
10467   \fi
10468   /A<<%
10469   /S/GoTo%
10470   /D(\Hy@testname)%
10471   \Hy@href@nextactionraw
10472   >>%
10473   >>%
10474   }%
10475   \expandafter\Hy@colorlink\csname @#1color\endcsname
10476   }%
10477 }
10478 \def\hyper@linkend{\Hy@EndAnnot}%
10479 \def\hyper@link#1#2#3{%
10480   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10481 }
10482 \def\hyper@linkfile#1#2#3{%
10483   \leavevmode
10484   \Hy@BeginAnnot{%
10485     \def\Hy@pstringF{#2}%
10486     \Hy@CleanupFile\Hy@pstringF
10487     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10488     \Hy@pstringdef\Hy@pstringD{#3}%
10489     \Hy@MakeRemoteAction
10490     \@pdfm@mark{%
10491       bann<<%
10492       /Type/Annot%
10493       /Subtype/Link%
10494       \ifHy@pdfa /F 4\fi
10495       \Hy@setpdfborder
10496       \Hy@setpdfhighlight
10497       \ifx\@filebordercolor\relax
10498       \else
10499         /C[\@filebordercolor]%
10500       \fi
10501       /A<<%
10502       /S/GoToR%
10503       /F(\Hy@pstringF)%
10504       /D%
10505       \ifx\#3\%
10506         [\Hy@href@page\@pdfremotestartview]%

```

```

10507         \else
10508             (\Hy@pstringD)%
10509         \fi
10510         \Hy@SetNewWindow
10511         \Hy@href@nextactionraw
10512     >>%
10513 >>%
10514 }%
10515 \Hy@colorlink\@filecolor
10516 }%
10517 #1\Hy@xspace@end
10518 \Hy@endAnnot
10519 }
10520 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10521 \leavevmode
10522 \Hy@BeginAnnot{%
10523 \Hy@pstringdef\Hy@pstringF{#1}%
10524 \Hy@pstringdef\Hy@pstringP{#3}%
10525 \@pdfm@mark{%
10526     bann<<%
10527     /Type/Annot%
10528     /Subtype/Link%
10529     \ifHy@pdfa /F 4\fi
10530     \Hy@setpdfborder
10531     \Hy@setpdfhighlight
10532     \ifx\@runbordercolor\relax
10533     \else
10534         /C[\@runbordercolor]%
10535     \fi
10536     /A<<%
10537     /F(\Hy@pstringF)%
10538     /S/Launch%
10539     \Hy@SetNewWindow
10540     \ifx\#3\%
10541     \else
10542         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10543     \fi
10544     \Hy@href@nextactionraw
10545     >>%
10546     >>%
10547 }%
10548 \Hy@colorlink\@runcolor
10549 }%
10550 #2\Hy@xspace@end
10551 \Hy@endAnnot
10552 }
10553 \def\hyper@linkurl#1#2{%
10554 \leavevmode
10555 \Hy@BeginAnnot{%
10556 \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

10557 \pdfmark{
10558   bann<<
10559     /Type/Annot
10560     /Subtype/Link
10561     \ifHy@pdfa /F 4\fi
10562     \Hy@setpdfborder
10563     \Hy@setpdfhighlight
10564     \ifx\@urlbordercolor\relax
10565     \else
10566       /C[\@urlbordercolor]%
10567     \fi
10568     /A<<
10569     /S/URI
10570     /URI(\Hy@pstringURI)%
10571     \ifHy@href@ismap
10572       /IsMap true%
10573     \fi
10574     \Hy@href@nextactionraw
10575   >>
10576 >>
10577 }%
10578 \Hy@colorlink\@urlcolor
10579 }%
10580 #1\Hy@xspace@end
10581 \Hy@EndAnnot
10582 }
10583 \def\Acrobatmenu#1#2{%
10584   \Hy@Acrobatmenu{#1}{#2}{%
10585     \Hy@BeginAnnot{%
10586       \edef\EscapeName\Hy@temp@menu{#1}%
10587       \pdfmark{
10588         bann<<
10589         /Type/Annot
10590         /Subtype/Link
10591         \ifHy@pdfa /F 4\fi
10592         \Hy@setpdfborder
10593         \Hy@setpdfhighlight
10594         \ifx\@menubordercolor\relax
10595         \else
10596           /C[\@menubordercolor]%
10597         \fi
10598         /A<<
10599         /S/Named
10600         /N/\Hy@temp@menu
10601         \Hy@href@nextactionraw
10602       >>
10603     >>
10604   }%
10605   \Hy@colorlink\@menucolor
10606 }%

```

```

10607    #2\Hy@xspace@end
10608    \Hy@EndAnnot
10609  }%
10610 }
10611
10612 \def\PDF@FinishDoc{%
10613   \Hy@UseMaketitleInfos
10614   \HyInfo@GenerateAddons
10615   \@pdfm@mark{%
10616     docinfo<<%
10617     /Title(\@pdftitle)%
10618     /Subject(\@pdfsubject)%
10619     /Creator(\@pdfcreator)%
10620     \ifx\@pdfcreationdate\@empty
10621     \else
10622       /CreationDate(\@pdfcreationdate)%
10623     \fi
10624     \ifx\@pdfmoddate\@empty
10625     \else
10626       /ModDate(\@pdfmoddate)%
10627     \fi
10628     /Author(\@pdfauthor)%
10629     \ifx\@pdfproducer\relax
10630     \else
10631       /Producer(\@pdfproducer)%
10632     \fi
10633     /Keywords(\@pdfkeywords)%
10634     \ifx\@pdftrapped\@empty
10635     \else
10636       /Trapped/\@pdftrapped
10637     \fi
10638     \HyInfo@Addons
10639   >>%
10640 }%
10641 \Hy@DisableOption{pdfauthor}%
10642 \Hy@DisableOption{pdftitle}%
10643 \Hy@DisableOption{pdfsubject}%
10644 \Hy@DisableOption{pdfcreator}%
10645 \Hy@DisableOption{addtopdfcreator}%
10646 \Hy@DisableOption{pdfcreationdate}%
10647 \Hy@DisableOption{pdfcreationdate}%
10648 \Hy@DisableOption{pdfmoddate}%
10649 \Hy@DisableOption{pdfproducer}%
10650 \Hy@DisableOption{pdfkeywords}%
10651 \Hy@DisableOption{pdftrapped}%
10652 \Hy@DisableOption{pdfinfo}%
10653 }
10654 \def\PDF@SetupDoc{%
10655   \edef\Hy@temp{%

```

```

10656 \ifHy@pdftoolbar\else /HideToolbar true\fi
10657 \ifHy@pdfmenubar\else /HideMenubar true\fi
10658 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10659 \ifHy@pdffitwindow /FitWindow true\fi
10660 \ifHy@pdfcenterwindow /CenterWindow true\fi
10661 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10662 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10663 \Hy@UseNameKey{Direction}\@pdfdirection
10664 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10665 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10666 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10667 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10668 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10669 \Hy@UseNameKey{Duplex}\@pdfduplex
10670 \ifx\@pdfpicktraybypdfsize\@empty
10671 \else
10672 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10673 \fi
10674 \ifx\@pdfprintpagerange\@empty
10675 \else
10676 /PrintPageRange[\@pdfprintpagerange]%
10677 \fi
10678 \ifx\@pdfnumcopies\@empty
10679 \else
10680 /NumCopies \@pdfnumcopies
10681 \fi
10682 }%
10683 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10684 \@pdfm@mark{%
10685 docview<<%
10686 \ifx\@pdfstartpage\@empty
10687 \else
10688 \ifx\@pdfstartview\@empty
10689 \else
10690 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10691 \fi
10692 \fi
10693 \ifx\@baseurl\@empty
10694 \else
10695 /URI<</Base(\Hy@pstringB)>>%
10696 \fi
10697 /PageMode/\@pdfpagemode
10698 \ifx\Hy@temp\@empty
10699 \else
10700 /ViewerPreferences<<\Hy@temp>>%
10701 \fi
10702 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10703 \ifx\@pdflang\relax
10704 \else
10705 /Lang(\@pdflang)%

```



```

10706    \fi
10707    >>%
10708  }%
10709  \ifx\@pdfpagescrop\@empty
10710  \else
10711    \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
10712  \fi
10713 }
10714 </dvi pdfm | xetex>
10715 <*dvi pdfm | xetex>

```

\hyper@pagetransition

```

10716 \def\hyper@pagetransition{%
10717   \ifx\@pdfpagetransition\relax
10718   \else
10719     \ifx\@pdfpagetransition\@empty
10720     \else
10721       \special{pdf:put @thispage %
10722         <</Trans<</S/\@pdfpagetransition>>>>%
10723       }%
10724     \fi
10725   \fi
10726 }

```

\hyper@pageduration

```

10727 \def\hyper@pageduration{%
10728   \ifx\@pdfpageduration\relax
10729   \else
10730     \ifx\@pdfpageduration\@empty
10731     \else
10732       \special{pdf:put @thispage %
10733         <</Dur \@pdfpageduration>>>%
10734       }%
10735     \fi
10736   \fi
10737 }

10738 \g@addto@macro\Hy@EveryPageBoxHook{%
10739   \hyper@pagetransition
10740   \hyper@pageduration
10741 }

10742 </dvi pdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10743 <*dvi pdfm>
10744 \AtBeginShipoutFirst{%
10745   \ifHy@setpagesize
10746     \begingroup

```

```

10747 \ifundefined{stockwidth}{%
10748 \ifdim\paperwidth>\z@
10749 \ifdim\paperheight>\z@
10750 \special{papersize=\the\paperwidth,\the\paperheight}%
10751 \fi
10752 \fi
10753 }{%
10754 \ifdim\stockwidth>\z@
10755 \ifdim\stockheight>\z@
10756 \special{papersize=\the\stockwidth,\the\stockheight}%
10757 \fi
10758 \fi
10759 }%
10760 \endgroup
10761 \fi
10762 \Hy@DisableOption{setpagesize}%
10763 }
10764 </dvi pdfm>

```

## 47.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10765 <*vtexhtml>
10766 \providecommand*{\XR@ext}{.htm}
10767 \RequirePackage{vtexhtml}
10768 \newif\if@Localurl
10769 \let\PDF@FinishDoc\ltx@empty
10770 \def\PDF@SetupDoc{%
10771 \ifx\@baseurl\@empty
10772 \else
10773 \special{!direct <base href="\@baseurl">}%
10774 \fi
10775 }
10776 \def\@urltype{url}
10777 \def\hyper@link#1#2#3{%
10778 \Hy@VerboseLinkStart{#1}{#2}%
10779 \leavevmode
10780 \special{!direct <a href=%
10781 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10782 #3\Hy@xspace@end
10783 \special{!direct </a>}%
10784 }
10785 \def\hyper@linkurl#1#2{%
10786 \begingroup
10787 \hyper@chars
10788 \leavevmode
10789 \MathBSuppress=1\relax
10790 \special{!direct <a href=%

```

```

10791     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10792     #1\Hy@xspace@end
10793     \MathBSuppress=0\relax
10794     \special{!direct </a>}%
10795 \endgroup
10796 }
10797 \def\hyper@linkfile#1#2#3{%
10798 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10799 }
10800 \def\hyper@linkstart#1#2{%
10801 \Hy@VerboseLinkStart{#1}{#2}%
10802 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10803 \@Localurltrue
10804 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10805 \else
10806 \@Localurlfalse
10807 \begingroup
10808 \hyper@chars
10809 \special{!aref \HyperDestNameFilter{#2}}%
10810 \endgroup
10811 \fi
10812 }
10813 \def\hyper@linkend{%
10814 \if@Localurl
10815 \special{!endaref}%
10816 \else
10817 \special{!direct </a>}%
10818 \fi
10819 }
10820 \Hy@WrapperDef\hyper@anchorstart#1{%
10821 \Hy@SaveLastskip
10822 \Hy@VerboseAnchor{#1}%
10823 \begingroup
10824 \hyper@chars
10825 \special{!aname #1}%
10826 \special{!direct <a name=%
10827 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10828 \endgroup
10829 \Hy@activeanchortrue
10830 }
10831 \def\hyper@anchorend{%
10832 \special{!direct </a>}%
10833 \Hy@activeanchorfalse
10834 \Hy@RestoreLastskip
10835 }
10836 \Hy@WrapperDef\hyper@anchor#1{%
10837 \Hy@SaveLastskip
10838 \Hy@VerboseAnchor{#1}%
10839 \begingroup
10840 \let\protect=\string

```

```

10841 \hyper@chars
10842 \leavevmode
10843 \special{!aname #1}%
10844 \special{!direct <a name=%
10845     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10846 \endgroup
10847 \Hy@activeanchortrue
10848 \bgroup\anchor@spot\egroup
10849 \special{!direct </a>}%
10850 \Hy@activeanchorfalse
10851 \Hy@RestoreLastskip
10852 }
10853 \def\@Form[#1]{%
10854   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10855 }
10856 \let\@endForm\ltx@empty
10857 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10858   \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10859 }
10860 \def\@TextField[#1]#2{% parameters, label
10861   \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10862 }
10863 \def\@CheckBox[#1]#2{% parameters, label
10864   \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10865 }
10866 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10867   \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10868 }
10869 \def\@PushButton[#1]#2{% parameters, label
10870   \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10871 }
10872 \def\@Reset[#1]#2{%
10873   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10874 }
10875 \def\@Submit[#1]#2{%
10876   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10877 }
10878 \</vtexhtml>
10879 \<*vtex>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

10880 \ifx\mediaheight\@undefined
10881 \else
10882   \ifx\mediaheight\relax
10883   \else
10884     \ifHy@setpagesize
10885       \providecommand*\{VTeXInitMediaSize}{%
10886         \ltx@ifUndefined{stockwidth}{%

```

```

10887     \ifdim\paperheight>0pt %
10888         \setlength\mediaheight\paperheight
10889     \fi
10890     \ifdim\paperheight>0pt %
10891         \setlength\mediawidth\paperwidth
10892     \fi
10893 }{%
10894     \ifdim\stockheight>0pt %
10895         \setlength\mediaheight\stockheight
10896     \fi
10897     \ifdim\stockwidth>0pt %
10898         \setlength\mediawidth\stockwidth
10899     \fi
10900 }%
10901 }%
10902 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10903 \fi
10904 \Hy@DisableOption{setpagesize}%
10905 \fi
10906 \fi

```

Older versions of VTeX require xyz in lower case.

```

10907 \providecommand*\@pdfview{xyz}
10908 \providecommand*\@pdfborder{0 0 1}
10909 \providecommand*\@pdfborderstyle{}
10910 \let\CurrentBorderColor\@linkbordercolor
10911 \Hy@WrapperDef\hyper@anchor#1{%
10912     \Hy@SaveLastskip
10913     \Hy@VerboseAnchor{#1}%
10914     \begingroup
10915         \let\protect=\string
10916         \hyper@chars
10917         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10918     \endgroup
10919     \Hy@activeanchortrue
10920     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10921     \Hy@activeanchorfalse
10922     \Hy@RestoreLastskip
10923 }
10924 \Hy@WrapperDef\hyper@anchorstart#1{%
10925     \Hy@SaveLastskip
10926     \Hy@VerboseAnchor{#1}%
10927     \begingroup
10928         \hyper@chars
10929         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10930     \endgroup
10931     \Hy@activeanchortrue
10932 }
10933 \def\hyper@anchorend{%
10934     \Hy@activeanchorfalse

```

```

10935 \Hy@RestoreLastskip
10936 }
10937 \def\@urltype{url}
10938 \def\Hy@undefinedname{UNDEFINED}
10939 \def\hyper@linkstart#1#2{%
10940 \Hy@VerboseLinkStart{#1}{#2}%
10941 \Hy@pstringdef\Hy@pstringURI{#2}%
10942 \expandafter\Hy@colorlink\csname @#1color\endcsname
10943 \ltx@ifundefined{@#1bordercolor}{%
10944 \let\CurrentBorderColor\relax
10945 }{%
10946 \edef\CurrentBorderColor{%
10947 \csname @#1bordercolor\endcsname
10948 }%
10949 }%
10950 \def\Hy@tempa{#1}%
10951 \ifx\Hy@tempa\@urltype
10952 \special{!%
10953   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10954   \ifHy@href@ismap
10955     /IsMap true%
10956   \fi
10957   \Hy@href@nextactionraw
10958   >;%
10959   a=<%
10960   \ifHy@pdfa /F 4\fi
10961   \Hy@setpdfborder
10962   \ifx\CurrentBorderColor\relax
10963   \else
10964     /C [\CurrentBorderColor]%
10965   \fi
10966   >%
10967   }%
10968 \else
10969 \protected@edef\Hy@testname{#2}%
10970 \ifx\Hy@testname\@empty
10971 \Hy@Warning{%
10972   Empty destination name,\MessageBreak
10973   using '\Hy@undefinedname'%
10974   }%
10975 \let\Hy@testname\Hy@undefinedname
10976 \fi
10977 \special{!%
10978   aref \expandafter\HyperDestNameFilter
10979   \expandafter{\Hy@testname};%
10980   a=<%
10981   \ifHy@pdfa /F 4\fi
10982   \Hy@setpdfborder
10983   \ifx\CurrentBorderColor\relax
10984   \else

```

```

10985         /C [\CurrentBorderColor]%
10986     \fi
10987     >%
10988 }%
10989 \fi
10990 }
10991 \def\hyper@linkend{%
10992 \special{!endaref}%
10993 \Hy@endcolorlink
10994 }
10995 \def\hyper@linkfile#1#2#3{%
10996 \leavevmode
10997 \def\Hy@pstringF{#2}%
10998 \Hy@CleanupFile\Hy@pstringF
10999 \special{!%
11000   aref <%
11001   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11002   f=\Hy@pstringF>#3;%
11003   a=<%
11004   \ifHy@pdfa /F 4\fi
11005   \Hy@setpdfborder
11006   \ifx\@filebordercolor\relax
11007   \else
11008     /C [\@filebordercolor]%
11009   \fi
11010   >%
11011 }%
11012 \Hy@colorlink\@filecolor
11013 #1\Hy@xspace@end
11014 \Hy@endcolorlink
11015 \special{!endaref}%
11016 }
11017 \def\hyper@linkurl#1#2{%
11018 \begingroup
11019 \Hy@pstringdef\Hy@pstringURI{#2}%
11020 \hyper@chars
11021 \leavevmode
11022 \special{!%
11023   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11024   \ifHy@href@ismap
11025     /IsMap true%
11026   \fi
11027   \Hy@href@nextactionraw
11028   >;%
11029   a=<%
11030   \ifHy@pdfa /F 4\fi
11031   \Hy@setpdfborder
11032   \ifx\@urlbordercolor\relax
11033   \else
11034     /C [\@urlbordercolor]%

```

```

11035     \fi
11036     >%
11037 }%
11038 \Hy@colorlink\@urlcolor
11039 #1\Hy@xspace@end
11040 \Hy@endcolorlink
11041 \special{!endaref}%
11042 \endgroup
11043 }
11044 \def\hyper@link#1#2#3{%
11045 \Hy@VerboseLinkStart{#1}{#2}%
11046 \ltx@ifundefined{@#1bordercolor}{%
11047 \let\CurrentBorderColor\relax
11048 }{%
11049 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11050 }%
11051 \leavevmode
11052 \protected@edef\Hy@testname{#2}%
11053 \ifx\Hy@testname\@empty
11054 \Hy@Warning{%
11055     Empty destination name,\MessageBreak
11056     using '\Hy@undefinedname'%
11057 }%
11058 \let\Hy@testname\Hy@undefinedname
11059 \fi
11060 \special{!%
11061 aref \expandafter\HyperDestNameFilter
11062 \expandafter{\Hy@testname};%
11063 a=<%
11064 \ifHy@pdfa /F 4\fi
11065 \Hy@setpdfborder
11066 \ifx\CurrentBorderColor\relax
11067 \else
11068 /C [\CurrentBorderColor]%
11069 \fi
11070 >%
11071 }%
11072 \expandafter
11073 \Hy@colorlink\csname @#1color\endcsname
11074 #3\Hy@xspace@end
11075 \Hy@endcolorlink
11076 \special{!endaref}%
11077 }
11078 \def\hyper@image#1#2{%
11079 \hyper@linkurl{#2}{#1}%
11080 }
11081 \def\@hyper@launch run:#1\#2#3{%
11082 \Hy@pstringdef\Hy@pstringF{#1}%
11083 \Hy@pstringdef\Hy@pstringP{#3}%
11084 \leavevmode

```



```

11085 \special{!aref %
11086 <u=%
11087 /Type/Action%
11088 /S/Launch%
11089 /F(\Hy@pstringF)%
11090 \Hy@SetNewWindow
11091 \ifx\#3\%
11092 \else
11093 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11094 \fi
11095 \Hy@href@nextactionraw
11096 >;%
11097 a=<%
11098 \ifHy@pdfa /F 4\fi
11099 \Hy@setpdfborder
11100 \ifx\@runbordercolor\relax
11101 \else
11102 /C[\@runbordercolor]%
11103 \fi
11104 >%
11105 }%
11106 \Hy@colorlink\@runcolor
11107 #2\Hy@xspace@end
11108 \Hy@endcolorlink
11109 \special{!endaref}%
11110 }
11111 \def\Acrobatmenu#1#2{%
11112 \EdefEscapeName\Hy@temp@menu{#1}%
11113 \Hy@Acrobatmenu{#1}{#2}{%
11114 \special{!%
11115 aref <u=/S /Named /N /\Hy@temp@menu>;%
11116 a=<%
11117 \ifHy@pdfa /F 4\fi
11118 \Hy@setpdfborder
11119 \ifx\@menubordercolor\relax
11120 \else
11121 /C[\@menubordercolor]%
11122 \fi
11123 >%
11124 }%
11125 \Hy@colorlink\@menucolor
11126 #2\Hy@xspace@end
11127 \Hy@endcolorlink
11128 \special{!endaref}%
11129 }%
11130 }

```

The following code (transition effects) is made by Alex Kostin.  
The code below makes sense for VTeX 7.02 or later.  
Please never use \@ifundefined{VTeXversion}{..}{..} *globally*.

```

11131 \ifnum\Hy@VTeXversion<702 %
11132 \else
11133 \def\hyper@pagetransition{%
11134 \ifx\@pdfpagetransition\relax
11135 \else
11136 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

11137 \else
11138 \hvtex@parse@trans\@pdfpagetransition
11139 \fi
11140 \fi
11141 }%

```

I have to write an “honest” parser to convert raw PDF code into VTeX \special.  
(AVK)

Syntax of VTeX \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:

```

11142 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11143 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11144 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11145 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11146 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11147 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11148 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11149 \def\hvtex@par@dimension{/Dm}%
11150 \def\hvtex@par@direction{/Di}%
11151 \def\hvtex@par@duration{/D}%
11152 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

11153 \def\hvtex@gettoken{%

```

```

11154 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11155 }%

```

Notice that tokens in the input buffer must be space delimited.

```

11156 \def\hvtex@gettoken@#1 #2\@nil{%
11157 \edef\hvtex@token{#1}%
11158 \edef\hvtex@buffer{#2}%
11159 }%
11160 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11161 \let\hvtex@trans@code\@empty
11162 \let\hvtex@param@dimension\@empty
11163 \let\hvtex@param@direction\@empty
11164 \let\hvtex@param@duration\@empty
11165 \let\hvtex@param@motion\@empty
11166 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11167 \hvtex@gettoken
11168 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11169 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11170 \else
11171 \hvtex@gettoken
11172 \fi
11173 \fi
11174 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

11175 \hvtex@trans@params
11176 }%

```

Reentrant macro to parse optional parameters.

```

11177 \def\hvtex@trans@params{%
11178 \ifx\hvtex@buffer\@empty
11179 \else
11180 \hvtex@gettoken
11181 \let\hvtex@trans@par\hvtex@token
11182 \ifx\hvtex@buffer\@empty
11183 \else
11184 \hvtex@gettoken
11185 \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.

```

11186 \let\hvtex@param@duration\hvtex@token
11187 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

11188 \expandafter\edef\expandafter\hvtex@param@motion

```

```

11189      \expandafter{\expandafter\@gobble\hvtex@token}%
11190      \else \ifx\hvtex@trans@par\hvtex@par@dimension
/Dm can be either /H or /V
11191      \expandafter\edef\expandafter\hvtex@param@dimension
11192      \expandafter{\expandafter\@gobble\hvtex@token}%
11193      \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).

```

11194      \let\hvtex@param@direction\hvtex@token
11195      \fi\fi\fi\fi
11196      \fi
11197      \fi
11198      \ifx\hvtex@buffer\@empty
11199      \let\next\hvtex@produce@trans
11200      \else
11201      \let\next\hvtex@trans@params
11202      \fi
11203      \next
11204  }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

11205 \def\hvtex@produce@trans{%
11206   \let\vtex@trans@special\@empty
11207   \if S\hvtex@trans@code
11208     \edef\vtex@trans@special{\hvtex@trans@code
11209       \hvtex@param@dimension\hvtex@param@motion}%
11210   \else\if B\hvtex@trans@code
11211     \edef\vtex@trans@special{%
11212       \hvtex@trans@code\hvtex@param@dimension
11213     }%
11214   \else\if X\hvtex@trans@code
11215     \edef\vtex@trans@special{%
11216       \hvtex@trans@code\hvtex@param@motion
11217     }%
11218   \else\if W\hvtex@trans@code
11219     \edef\vtex@trans@special{%
11220       \hvtex@trans@code\hvtex@param@direction
11221     }%
11222   \else\if D\hvtex@trans@code
11223     \let\vtex@trans@special\hvtex@trans@code
11224   \else\if R\hvtex@trans@code
11225     \let\vtex@trans@special\hvtex@trans@code
11226   \else\if G\hvtex@trans@code
11227     \edef\vtex@trans@special{%
11228       \hvtex@trans@code\hvtex@param@direction
11229     }%
11230   \fi\fi\fi\fi\fi\fi
11231   \ifx\vtex@trans@special\@empty

```

```

11232 \else
11233 \ifx\hvtex@param@duration\@empty
11234 \else
11235 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11236 \multiply\dimen@\@m
11237 \edef\vtex@trans@special{%
11238 \vtex@trans@special,\strip@pt\dimen@
11239 }%
11240 \fi

```

And all the mess is just for this.

```

11241 \special{!trans \vtex@trans@special}%
11242 \fi
11243 }%

11244 \def\hyper@pageduration{%
11245 \ifx\@pdfpageduration\relax
11246 \else
11247 \ifx\@pdfpageduration\@empty
11248 \special{!duration-}%
11249 \else
11250 \special{!duration \@pdfpageduration}%
11251 \fi
11252 \fi
11253 }%
11254 \g@addto@macro\Hy@EveryPageBoxHook{%
11255 \hyper@pagetransition
11256 \hyper@pageduration
11257 }%
11258 \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

```

11259 \ifx\@pdfproducer\relax
11260 \def\@pdfproducer{VTeX}%
11261 \ifnum\Hy@VTeXversion>\z@
11262 \count@\VTeXversion
11263 \divide\count@ 100 %
11264 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11265 \multiply\count@ -100 %

```

```

11266 \advance\count@\VTeXversion
11267 \edef\@pdfproducer{%
11268   \@pdfproducer
11269   .\ifnum\count@<10 0\fi\the\count@
11270   \ifx\VTeXOS\@undefined\else
11271     \ifnum\VTeXOS>0 %
11272       \ifnum\VTeXOS<6 %
11273         \space(%
11274         \ifcase\VTeXOS
11275         \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11276         \fi
11277         )%
11278       \fi
11279     \fi
11280   \fi
11281   ,\space
11282   \ifnum\OpMode=\@ne PDF\else PS\fi
11283   \space backend%
11284   \ifx\gexmode\@undefined\else
11285     \ifnum\gexmode>\z@\space with GeX\fi
11286   \fi
11287 }%
11288 \fi
11289 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>Author</b>	String
<b>b</b>	<b>CropBox</b>	String
<b>c</b>	<b>Creator</b>	String
<b>k</b>	<b>Keywords</b>	String
<b>l</b>	<b>PageLayout</b>	PS
<b>p</b>	<b>PageMode</b>	PS
<b>r</b>	<b>Producer</b>	String
<b>s</b>	<b>Subject</b>	String
<b>t</b>	<b>Title</b>	String
<b>u</b>	<b>URI</b>	PS
<b>v</b>	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<.>>> (yuck; no choice).

```

11290 \def\PDF@SetupDoc{%
11291   \ifx\@pdfpagescrop\@empty
11292   \else
11293     \special{!pdfinfo b=<\@pdfpagescrop>}%
11294   \fi
11295   \ifx\@pdfstartpage\@empty
11296   \else
11297     \ifx\@pdfstartview\@empty
11298     \else
11299       \special{!onopen Page\@pdfstartpage}%

```

```

11300 \fi
11301 \fi
11302 \special{!pdfinfo p=</\@pdfpagemode>}%
11303 \ifx\@baseurl\@empty
11304 \else
11305 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11306 \fi
11307 \special{!pdfinfo v=<<<%
11308 \ifHy@pdftoolbar\else /HideToolbar true\fi
11309 \ifHy@pdfmenubar\else /HideMenubar true\fi
11310 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11311 \ifHy@pdfwindow /FitWindow true\fi
11312 \ifHy@pdfcenterwindow /CenterWindow true\fi
11313 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11314 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11315 \Hy@UseNameKey{Direction}\@pdfdirection
11316 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11317 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11318 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11319 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11320 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11321 \Hy@UseNameKey{Duplex}\@pdfduplex
11322 \ifx\@pdfpicktraybypdfsize\@empty
11323 \else
11324 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11325 \fi
11326 \ifx\@pdfprintpagerange\@empty
11327 \else
11328 /PrintPageRange[\@pdfprintpagerange]%
11329 \fi
11330 \ifx\@pdfnumcopies\@empty
11331 \else
11332 /NumCopies \@pdfnumcopies
11333 \fi
11334 >>>}%
11335 \ifx\@pdfpagelayout\@empty
11336 \else
11337 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11338 \fi
11339 }%
11340 \HyInfo@AddonUnsupportedtrue
11341 \define@key{Hyp}{pdfcreationdate}{%
11342 \Hy@Warning{%
11343 VTeX does not support pdfcreationdate.\MessageBreak
11344 Therefore its setting is ignored%
11345 }%
11346 }
11347 \define@key{Hyp}{pdfmoddate}{%
11348 \Hy@Warning{%
11349 VTeX does not support pdfmoddate.\MessageBreak

```

```

11350   Therefore its setting is ignored%
11351 }%
11352 }
11353 \def\PDF@FinishDoc{%
11354   \Hy@UseMaketitleInfos
11355   \HyInfo@TrappedUnsupported
11356   \special{!pdfinfo a=<\@pdfauthor>}%
11357   \special{!pdfinfo t=<\@pdftitle>}%
11358   \special{!pdfinfo s=<\@pdfsubject>}%
11359   \special{!pdfinfo c=<\@pdfcreator>}%
11360   \ifx\@pdfproducer\relax
11361   \else
11362     \special{!pdfinfo r=<\@pdfproducer>}%
11363   \fi
11364   \special{!pdfinfo k=<\@pdfkeywords>}%
11365   \Hy@DisableOption{pdfauthor}%
11366   \Hy@DisableOption{pdftitle}%
11367   \Hy@DisableOption{pdfsubject}%
11368   \Hy@DisableOption{pdfcreator}%
11369   \Hy@DisableOption{addtopdfcreator}%
11370   \Hy@DisableOption{pdfcreationdate}%
11371   \Hy@DisableOption{pdfcreationdate}%
11372   \Hy@DisableOption{pdfmoddate}%
11373   \Hy@DisableOption{pdfproducer}%
11374   \Hy@DisableOption{pdfkeywords}%
11375   \Hy@DisableOption{pdftrapped}%
11376   \Hy@DisableOption{pdfinfo}%
11377 }
11378 </vtx>

```

## 47.7 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.

```

11379 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11380 <package>\providecommand*{\Hy@DistillerDestFix}{%
11381 <*pdfmark | dviwindo>
11382 \def\Hy@DistillerDestFix{%
11383   \begingroup
11384   \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.



```

11385 \ifnum \@ifundefined{OpMode}{0}{%
11386     \@ifundefined{gexmode}{0}{%
11387         \ifnum\gexmode>0 \OpMode\else 0\fi
11388     }>1 %
11389     \def\x###1{%
11390         \immediate\special{!=###1}%
11391     }%
11392 \fi
11393 \x{%
11394     /product where{%
11395         pop %
11396         product(Distiller)search{%
11397             pop pop pop %
11398             version(.)search{%
11399                 exch pop exch pop%
11400                 (3011)eq{%
11401                     gsave %
11402                     newpath 0 0 moveto closepath clip%
11403                     /Courier findfont 10 scalefont setfont %
11404                     72 72 moveto(.)show %
11405                     grestore%
11406                 }if%
11407             }{pop}ifelse%
11408         }{pop}ifelse%
11409     }if%
11410 }%
11411 \endgroup
11412 }
11413 </pdfmark | dviwindo>

```

## 47.8 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

```

```

11414 <*pdfmark>
11415 \Hy@breaklinks@unsupported
11416 \def\HyPat@ObjRef{%
11417     \[~{}]+\}%

```

```

11418 }
11419 \Hy@WrapperDef\hyper@anchor#1{%
11420   \Hy@SaveLastskip
11421   \Hy@VerboseAnchor{#1}%
11422   \begingroup
11423     \pdfmark[\anchor@spot]{%
11424       pdfmark=/DEST,%
11425       linktype=anchor,%
11426       View=/\@pdfview \@pdfviewparams,%
11427       DestAnchor={#1}%
11428     }%
11429   \endgroup
11430   \Hy@RestoreLastskip
11431 }
11432 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11433 \Hy@WrapperDef\hyper@anchorstart#1{%
11434   \Hy@SaveLastskip
11435   \Hy@VerboseAnchor{#1}%
11436   \literalps@out{H.S}%
11437   \Hy@AllowHyphens
11438   \xdef\hyper@currentanchor{#1}%
11439   \Hy@activeanchortrue
11440 }
11441 \def\hyper@anchorend{%
11442   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11443   \pdfmark{%
11444     pdfmark=/DEST,%
11445     linktype=anchor,%
11446     View=/\@pdfview \@pdfviewparams,%
11447     DestAnchor=\hyper@currentanchor,%
11448   }%
11449   \Hy@activeanchorfalse
11450   \Hy@RestoreLastskip
11451 }
11452 \def\hyper@linkstart#1#2{%
11453   \Hy@VerboseLinkStart{#1}{#2}%
11454   \ifHy@breaklinks
11455   \else
11456     \leavevmode
11457     \ifmmode
11458       \def\Hy@LinkMath{$}%
11459     \else
11460       \let\Hy@LinkMath\ltx@empty
11461     \fi
11462     \Hy@SaveSpaceFactor
11463     \hbox\bgroup
11464     \Hy@RestoreSpaceFactor
11465     \Hy@LinkMath
11466   \fi
11467   \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

11468 \literalps@out{H.S}%
11469 \Hy@AllowHyphens
11470 \xdef\hyper@currentanchor{#2}%
11471 \gdef\hyper@currentlinktype{#1}%
11472 }
11473 \def\hyper@linkend{%
11474 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11475 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11476 \let\Hy@tempcolor\relax
11477 }{%
11478 \edef\Hy@tempcolor{%
11479 \csname @\hyper@currentlinktype bordercolor\endcsname
11480 }%
11481 }%
11482 \pdfmark{%
11483 pdfmark=/ANN,%
11484 linktype=link,%
11485 Subtype=/Link,%
11486 PDFAFlags=4,%
11487 Dest=\hyper@currentanchor,%
11488 AcroHighlight=\@pdfhighlight,%
11489 Border=\@pdfborder,%
11490 BorderStyle=\@pdfborderstyle,%
11491 Color=\Hy@tempcolor,%
11492 Raw=H.B%
11493 }%
11494 \Hy@endcolorlink
11495 \ifHy@breaklinks
11496 \else
11497 \Hy@LinkMath
11498 \Hy@SaveSpaceFactor
11499 \egroup
11500 \Hy@RestoreSpaceFactor
11501 \fi
11502 }

```

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.

```

11503 \begingroup
11504 \catcode`P=12 %
11505 \catcode`T=12 %
11506 \lowercase{\endgroup
11507 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11508 }
11509 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1}

```

`\hyper@pagetransition`

```

11510 \def\hyper@pagetransition{%
11511 \ifx\@pdfpagetransition\relax

```

```

11512 \else
11513 \ifx\@pdfpagetransition\@empty
11514 % 1. Does an old entry have to be deleted?
11515 % 2. If 1=yes, how to delete?
11516 \else
11517 \pdfmark{%
11518 pdfmark=/PUT,%
11519 Raw={%
11520 \string{ThisPage\string}%
11521 <</Trans << /S /\@pdfpagetransition\space >> >>%
11522 }%
11523 }%
11524 \fi
11525 \fi
11526 }

```

\hyper@pageduration

```

11527 \def\hyper@pageduration{%
11528 \ifx\@pdfpageduration\relax
11529 \else
11530 \ifx\@pdfpageduration\@empty
11531 % 1. Does an old entry have to be deleted?
11532 % 2. If 1=yes, how to delete?
11533 \else
11534 \pdfmark{%
11535 pdfmark=/PUT,%
11536 Raw={%
11537 \string{ThisPage\string}%
11538 <</Dur \@pdfpageduration>>%
11539 }%
11540 }%
11541 \fi
11542 \fi
11543 }

11544 \g@addto@macro\Hy@EveryPageBoxHook{%
11545 \hyper@pagetransition
11546 \hyper@pageduration
11547 }

11548 \def\hyper@image#1#2{%
11549 \hyper@linkurl{#2}{#1}%
11550 }
11551 \def\Hy@undefinedname{UNDEFINED}
11552 \def\hyper@link#1#2#3{%
11553 \Hy@VerboseLinkStart{#1}{#2}%
11554 \ltx@ifundefined{@#1bordercolor}{%
11555 \let\Hy@tempcolor\relax
11556 }{%
11557 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11558 }%

```

```

11559 \begingroup
11560 \protected@edef\Hy@testname{#2}%
11561 \ifx\Hy@testname\@empty
11562   \Hy@Warning{%
11563     Empty destination name,\MessageBreak
11564     using ``\Hy@undefinedname'%
11565   }%
11566   \let\Hy@testname\Hy@undefinedname
11567 \fi
11568 \pdfmark[#{3}]{%
11569   Color=\Hy@tempcolor,%
11570   linktype={#1},%
11571   AcroHighlight=\@pdfhighlight,%
11572   Border=\@pdfborder,%
11573   BorderStyle=\@pdfborderstyle,%
11574   pdfmark=/ANN,%
11575   Subtype=/Link,%
11576   PDFAFlags=4,%
11577   Dest=\Hy@testname
11578 }%
11579 \endgroup
11580 }
11581 \newtoks\pdf@docset
11582 \def\PDF@FinishDoc{%
11583   \Hy@UseMaketitleInfos
11584   \Hy@Info@GenerateAddons
11585   \let\Hy@temp\@empty
11586   \ifx\@pdfcreationdate\@empty
11587   \else
11588     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11589   \fi
11590   \ifx\@pdfmoddate\@empty
11591   \else
11592     \expandafter\def\expandafter\Hy@temp\expandafter{%
11593       \Hy@temp
11594       ModDate=\@pdfmoddate,%
11595     }%
11596   \fi
11597   \ifx\@pdfproducer\relax
11598   \else
11599     \expandafter\def\expandafter\Hy@temp\expandafter{%
11600       \Hy@temp
11601       Producer=\@pdfproducer,%
11602     }%
11603   \fi
11604   \expandafter
11605   \pdfmark\expandafter{%
11606     \Hy@temp
11607     pdfmark=/DOCINFO,%
11608     Title=\@pdftitle,%

```

```

11609 Subject=\@pdfsubject,%
11610 Creator=\@pdfcreator,%
11611 Author=\@pdfauthor,%
11612 Keywords=\@pdfkeywords,%
11613 Trapped=\@pdftrapped
11614 }%
11615 \ifx\HyInfo@Addons\@empty
11616 \else
11617 \pdfmark{%
11618 pdfmark=/DOCINFO,%
11619 Raw={\HyInfo@Addons}%
11620 }%
11621 \fi
11622 \Hy@DisableOption{pdfauthor}%
11623 \Hy@DisableOption{pdftitle}%
11624 \Hy@DisableOption{pdfsubject}%
11625 \Hy@DisableOption{pdfcreator}%
11626 \Hy@DisableOption{addtopdfcreator}%
11627 \Hy@DisableOption{pdfcreationdate}%
11628 \Hy@DisableOption{pdfcreationdate}%
11629 \Hy@DisableOption{pdfmoddate}%
11630 \Hy@DisableOption{pdfproducer}%
11631 \Hy@DisableOption{pdfkeywords}%
11632 \Hy@DisableOption{pdftrapped}%
11633 \Hy@DisableOption{pdfinfo}%
11634 }
11635 \def\PDF@SetupDoc{%
11636 \def\Hy@temp{}%
11637 \ifx\@pdfstartpage\@empty
11638 \else
11639 \ifx\@pdfstartview\@empty
11640 \else
11641 \edef\Hy@temp{%
11642 ,Page=\@pdfstartpage
11643 ,View=\@pdfstartview
11644 }%
11645 \fi
11646 \fi
11647 \edef\Hy@temp{%
11648 \noexpand\pdfmark{%
11649 pdfmark=/DOCVIEW,%
11650 PageMode=/\@pdfpagemode
11651 \Hy@temp
11652 }%
11653 }%
11654 \Hy@temp
11655 \ifx\@pdfpagescrop\@empty
11656 \else
11657 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11658 \fi

```

```

11659 \edef\Hy@temp{%
11660   \ifHy@pdftoolbar\else /HideToolbar true\fi
11661   \ifHy@pdfmenubar\else /HideMenubar true\fi
11662   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11663   \ifHy@pdfwindow /FitWindow true\fi
11664   \ifHy@pdfcenterwindow /CenterWindow true\fi
11665   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11666   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11667   \Hy@UseNameKey{Direction}\@pdfdirection
11668   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11669   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11670   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11671   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11672   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11673   \Hy@UseNameKey{Duplex}\@pdfduplex
11674   \ifx\@pdfpicktraybypdfsize\@empty
11675   \else
11676     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11677   \fi
11678   \ifx\@pdfprintpagerange\@empty
11679   \else
11680     /PrintPageRange[\@pdfprintpagerange]%
11681   \fi
11682   \ifx\@pdfnumcopies\@empty
11683   \else
11684     /NumCopies \@pdfnumcopies
11685   \fi
11686 }%
11687 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11688 \pdfmark{%
11689   pdfmark=/PUT,%
11690   Raw={%
11691     \string{Catalog}\string}<<%
11692     \ifx\Hy@temp\@empty
11693     \else
11694       /ViewerPreferences<<\Hy@temp>>%
11695     \fi
11696     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11697     \ifx\@pdflang\relax
11698     \else
11699       /Lang(\@pdflang)%
11700     \fi
11701     \ifx\@baseurl\@empty
11702     \else
11703       /URI<</Base(\Hy@pstringB)>>%
11704     \fi
11705     >>%
11706   }%
11707 }%
11708 }

```

```

11709 </pdfmark>
11710 <*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.

```

11711 \newif\ifHy@pdfmarkerror
11712 \def\pdfmark{\@ifnextchar[\pdfmark@]{\pdfmark@[]}}
11713 \def\pdfmark@[#1]#2{%
11714   \Hy@pdfmarkerrorfalse
11715   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11716   \@processme
11717   \let\pdf@type\relax
11718   \let\pdf@objdef\ltx@empty
11719   \kvsetkeys{PDF}{#2}%
11720   \ifHy@pdfmarkerror
11721   \else
11722     \ifx\pdf@type\relax
11723       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11724       \ifx\#1\%
11725       \else
11726         \pdf@rect{#1}%
11727       \fi
11728     \else
11729       \ifx\#1\%
11730         \literalps@out{%
11731           [%
11732           \ifx\pdf@objdef\ltx@empty
11733           \else
11734             /_objdef\string{\pdf@objdef\string}%
11735           \fi
11736           \the\pdf@toks\space\pdf@type\space pdfmark%
11737           }%
11738         \else
11739           \ltx@ifundefined{@\pdf@linktype color}{%
11740             \Hy@colorlink\@linkcolor
11741           }{%
11742             \expandafter\Hy@colorlink
11743             \csname @\pdf@linktype color\endcsname
11744           }%
11745           \pdf@rect{#1}%
11746         \literalps@out{%
11747           [%
11748           \ifx\pdf@objdef\ltx@empty
11749           \else
11750             /_objdef\string{\pdf@objdef\string}%
11751           \fi

```



```

11752      \the\pdf@toks\space\pdf@type\space pdfmark%
11753      }%
11754      \Hy@endcolorlink
11755      \fi
11756      \fi
11757      \fi
11758 }

```

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 ([tobyth@netspace.net.au](mailto:tobyth@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}

```

```

11759 \newsavebox{\pdf@box}
11760 \providecommand*{\Hy@setouterhbox}{\sbox}
11761 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11762 \def\Hy@DEST{/DEST}
11763 \def\pdf@rect#1{%
11764   \begingroup
11765   \chardef\x=1 %
11766   \def\Hy@temp{#1}%
11767   \ifx\Hy@temp\ltx@empty
11768     \chardef\x=0 %
11769   \else
11770     \def\y{\anchor@spot}%
11771     \ifx\Hy@temp\y
11772       \def\y{\relax}%
11773       \ifx\anchor@spot\y
11774         \chardef\x=0 %
11775       \fi
11776     \fi
11777   \fi
11778   \expandafter\endgroup
11779   \ifcase\x
11780     \literalps@out{H.S}%
11781     \literalps@out{H.R}%
11782   \else
11783     \leavevmode
11784     \Hy@SaveSpaceFactor
11785     \ifmmode
11786       \def\Hy@LinkMath{$}%
11787     \else

```

```

11788 \let\Hy@LinkMath\ltx@empty
11789 \fi
11790 \ifHy@breaklinks
11791 \Hy@setouterhbox\pdf@box{%
11792 \Hy@RestoreSpaceFactor
11793 \Hy@LinkMath
11794 \Hy@AllowHyphens#1\Hy@xspace@end
11795 \Hy@LinkMath
11796 \Hy@SaveSpaceFactor
11797 }%
11798 \else
11799 \sbox\pdf@box{%
11800 \Hy@RestoreSpaceFactor
11801 \Hy@LinkMath
11802 #1\Hy@xspace@end
11803 \Hy@LinkMath
11804 \Hy@SaveSpaceFactor
11805 }%
11806 \fi
11807 \dimen@ \ht\pdf@box
11808 \ifdim\dp\pdf@box=\z@
11809 \literalps@out{H.S}%
11810 \else
11811 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11812 \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...).

```

11813 \ifHy@breaklinks
11814 \ifhmode
11815 \Hy@breaklinksunhbox\pdf@box
11816 \else
11817 \box\pdf@box
11818 \fi
11819 \else
11820 \expandafter\box\pdf@box
11821 \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

11822 \ifdim\dimen@=\z@
11823 \literalps@out{H.R}%
11824 \else
11825 \raise\dimen@\hbox{\literalps@out{H.R}}%
11826 \fi
11827 \Hy@RestoreSpaceFactor
11828 \fi

```

```

11829 \ifx\pdf@type\Hy@DEST
11830 \else
11831 \pdf@addtoksx{H.B}%
11832 \fi
11833 }

```

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.

```

11834 \newtoks\pdf@toks
11835 \newtoks\pdf@defaulttoks
11836 \pdf@defaulttoks={}
11837 \def\pdf@addtoks#1#2{%
11838 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11839 \@processme
11840 }
11841 \def\pdf@addtoksx#1{%
11842 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11843 \@processme
11844 }
11845 \def\PDFdefaults#1{%
11846 \pdf@defaulttoks={#1}%
11847 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11848 % what is the type of pdfmark?
11849 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11850 % what is the link type?
11851 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11852 \def\pdf@linktype{link}
11853 % named object?
11854 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11855 \let\pdf@objdef\ltx@empty
11856 % parameter is a stream of PDF
11857 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11858 % parameter is a name
11859 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11860 % parameter is a array
11861 \define@key{PDF}{Border}{%
11862 \edef\Hy@temp{#1}%
11863 \ifx\Hy@temp\@empty
11864 \else
11865 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11866 \fi
11867 }
11868 \let\Hy@BorderArrayPatch\@empty
11869 % parameter is a dictionary
11870 \define@key{PDF}{BorderStyle}{%
11871 \edef\Hy@temp{#1}%
11872 \ifx\Hy@temp\@empty

```

```

11873 \else
11874 \pdf@addtoks{<<#1>>}{BS}%
11875 \fi
11876 }
11877 % parameter is a array
11878 \define@key{PDF}{Color}{%
11879 \ifx\relax#1\relax
11880 \else
11881 \pdf@addtoks{[#1]}{Color}% hash-ok
11882 \fi
11883 }
11884 % parameter is a string
11885 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11886 % parameter is a integer
11887 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11888 % parameter is a array
11889 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11890 % parameter is a string
11891 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11892 % parameter is a string or file
11893 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11894 % parameter is a destination
11895 \define@key{PDF}{Dest}{%
11896 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11897 \ifx\Hy@pstringDest\@empty
11898 \Hy@pdfmarkerrortrue
11899 \Hy@Warning{Destination with empty name ignored}%
11900 \else
11901 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11902 \fi
11903 }
11904 \define@key{PDF}{DestAnchor}{%
11905 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11906 \ifx\Hy@pstringDest\@empty
11907 \Hy@pdfmarkerrortrue
11908 \Hy@Warning{Destination with empty name ignored}%
11909 \else
11910 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11911 \fi
11912 }
11913 % parameter is a string
11914 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11915 % parameter is a string
11916 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11917 % parameter is a int
11918 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11919 \define@key{PDF}{PDFAFlags}{%
11920 \ifHy@pdfa
11921 \pdf@addtoks{#1}{F}%
11922 \fi

```

```

11923 }
11924 % parameter is a name
11925 \define@key{PDF}{AcroHighlight}{%
11926   \begingroup
11927   \edef\x{#1}%
11928   \expandafter\endgroup\ifx\x\@empty
11929   \else
11930   \pdf@addtoks{#1}{H}%
11931   \fi
11932 }
11933 % parameter is a string
11934 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11935 % parameter is a string
11936 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11937 % parameter is a string
11938 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11939 % parameter is a string
11940 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11941 % parameter is a Boolean
11942 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11943 % parameter is a integer or name
11944 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11945 % parameter is a name
11946 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11947 % parameter is a string
11948 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11949 % parameter is a array
11950 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11951 % parameter is a integer
11952 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11953 % parameter is a name
11954 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11955 % parameter is a string
11956 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11957 % parameter is a string
11958 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11959 % parameter is a string
11960 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11961 % parameter is an array
11962 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11963 % parameter is a string
11964 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11965 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11966 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11967 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11968 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11969 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11970 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}

```

```

11971 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11972 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11973 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11974 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11975 \define@key{PDF}{Trapped}{%
11976   \edef\Hy@temp{#1}%
11977   \ifx\Hy@temp\@empty
11978   \else
11979     \pdf@addtoks{/#1}{Trapped}%
11980   \fi
11981 }
11982
11983 </pdfmarkbase>
11984 <*pdfmark>
11985 \def\Acrobatmenu#1#2{%
11986   \EdefEscapeName\Hy@temp@menu{#1}%
11987   \Hy@Acrobatmenu{#1}{#2}{%
11988     \pdfmark[{#2}]{%
11989       linktype=menu,%
11990       pdfmark=/ANN,%
11991       AcroHighlight=\@pdfhighlight,%
11992       Border=\@pdfborder,%
11993       BorderStyle=\@pdfborderstyle,%
11994       Color=\@menubordercolor,%
11995       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11996       Subtype=/Link,%
11997       PDFAFlags=4%
11998     }%
11999   }%
12000 }

```

And now for some useful examples:

```

12001 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
12002 \def\PDFNextPage@[#1]#2{%
12003   \pdfmark[{#2}]{%
12004     #1,%
12005     Border=\@pdfborder,%
12006     BorderStyle=\@pdfborderstyle,%
12007     Color=.2 .1 .5,%
12008     pdfmark=/ANN,%
12009     Subtype=/Link,%
12010     PDFAFlags=4,%
12011     Page=/Next%
12012   }%
12013 }
12014 \def\PDFPreviousPage{%
12015   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12016 }
12017 \def\PDFPreviousPage@[#1]#2{%
12018   \pdfmark[{#2}]{%

```

```

12019  #1,%
12020  Border=\@pdfborder,%
12021  BorderStyle=\@pdfborderstyle,%
12022  Color=.4 .4 .1,%
12023  pdfmark=/ANN,%
12024  Subtype=/Link,%
12025  PDFAFlags=4,%
12026  Page=/Prev%
12027 }%
12028 }
12029 \def\PDFOpen#1{%
12030  \pdfmark{#1,pdfmark=/DOCVIEW}%
12031 }

```

This will only work if you use Distiller 2.1 or higher.

```

12032 \def\hyper@linkurl#1#2{%
12033  \begingroup
12034  \Hy@pstringdef\Hy@pstringURI{#2}%
12035  \hyper@chars
12036  \leavevmode
12037  \pdfmark[{#1}]{%
12038    pdfmark=/ANN,%
12039    linktype=url,%
12040    AcroHighlight=\@pdfhighlight,%
12041    Border=\@pdfborder,%
12042    BorderStyle=\@pdfborderstyle,%
12043    Color=\@urlbordercolor,%
12044    Action={<<%
12045      /Subtype/URI%
12046      /URI(\Hy@pstringURI)%
12047      \ifHy@href@ismap
12048        /IsMap true%
12049      \fi
12050    >>},%
12051    Subtype=/Link,%
12052    PDFAFlags=4%
12053  }%
12054  \endgroup
12055 }
12056 \def\hyper@linkfile#1#2#3{%
12057  \begingroup
12058  \def\Hy@pstringF{#2}%
12059  \Hy@CleanupFile\Hy@pstringF
12060  \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12061  \Hy@pstringdef\Hy@pstringD{#3}%
12062  \Hy@MakeRemoteAction
12063  \leavevmode
12064  \pdfmark[{#1}]{%
12065    pdfmark=/ANN,%
12066    Subtype=/Link,%

```

```

12067     PDFAFlags=4,%
12068     AcroHighlight=\@pdfhighlight,%
12069     Border=\@pdfborder,%
12070     BorderStyle=\@pdfborderstyle,%
12071     linktype=file,%
12072     Color=\@filebordercolor,%
12073     Action={%
12074         <<%
12075             /S/GoToR%
12076             \Hy@SetNewWindow
12077             /F(\Hy@pstringF)%
12078             /D%
12079             \ifx\#3\%
12080                 [\Hy@href@page\@pdfremotestartview]%
12081             \else
12082                 (\Hy@pstringD)cvn%
12083             \fi
12084             \Hy@href@nextactionraw
12085         >>%
12086     }%
12087 }%
12088 \endgroup
12089 }
12090 \def\@hyper@launch run:#1\#2#3{%
12091     \begingroup
12092     \Hy@pstringdef\Hy@pstringF{#1}%
12093     \Hy@pstringdef\Hy@pstringP{#3}%
12094     \leavevmode
12095     \pdfmark[{#2}]{%
12096         pdfmark=/ANN,%
12097         Subtype=/Link,%
12098         PDFAFlags=4,%
12099         AcroHighlight=\@pdfhighlight,%
12100         Border=\@pdfborder,%
12101         BorderStyle=\@pdfborderstyle,%
12102         linktype=run,%
12103         Color=\@runbordercolor,%
12104         Action={%
12105             <<%
12106                 /S/Launch%
12107                 \Hy@SetNewWindow
12108                 /F(\Hy@pstringF)%
12109                 \ifx\#3\%
12110                     \else
12111                         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12112                     \fi
12113                 \Hy@href@nextactionraw
12114             >>%
12115         }%
12116     }%

```



```

12117 \endgroup
12118 }
12119 </pdfmark>

```

Unfortunately, some parts of the `pdfmark` PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

## 47.9 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.

```

12120 <*dvips>
12121 \providecommand*\XR@ext}{pdf}
12122 \let\Hy@raisedlink\ltx@empty
12123 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12124 \def\headerps@out#1{\special{! #1}}%
12125 \input{pdfmark.def}%
12126 \ifx\@pdfproducer\relax
12127 \def\@pdfproducer{dvips + Distiller}%
12128 \fi
12129 \providecommand*\@pdfborder{0 0 1}
12130 \providecommand*\@pdfborderstyle{}
12131 \providecommand*\@pdfview{XYZ}
12132 \providecommand*\@pdfviewparams{ H.V}
12133 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12134 \g@addto@macro\Hy@FirstPageHook{%
12135 \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.

```

12136 /DvipsToPDF{72.27 mul Resolution div} def%
12137 /PDFToDvips{72.27 div Resolution mul} def%
12138 /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.

```

12139   product (Ghostscript) search {pop pop pop revision 927 gt}%
12140   {pop false} ifelse%
12141   {%
12142     /BorderArrayPatch{} def%
12143   }%
12144   {%
12145     /BorderArrayPatch{%
12146       [exch{%
12147         dup dup type/integertype eq exch type/realtype eq or%
12148         {BPToDvips}if%
12149       }forall]%
12150     }def%
12151   } 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.

```

12152   /HyperBorder {1 PDFToDvips} def%
12153   /H.V {pdf@hoff pdf@voff null} def%
12154   /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

```

12155   /H.S {%
12156     currentpoint %
12157     HyperBorder add /pdf@lly exch def %
12158     dup DvipsToPDF 72 add /pdf@hoff exch def %
12159     HyperBorder sub /pdf@llx exch def%
12160   } 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

```

12161   /H.L {%
12162     2 sub dup%
12163     /HyperBasePt exch def %
12164     PDFToDvips /HyperBaseDvips exch def %
12165     currentpoint %
12166     HyperBaseDvips sub /pdf@ury exch def%
12167     /pdf@urx exch def%
12168   } def%
12169   /H.A {%
12170     H.L %

```

```

12171 % | /pdf@voff| = the distance from the top of the page to a point
12172 % | \baselineskip| above the current point in PDF coordinates
12173     currentpoint exch pop %
12174     vsize 72 sub exch DvipsToPDF %
12175     HyperBasePt sub % baseline skip
12176     sub /pdf@voff exch def%
12177 } def%
12178 /H.R { %
12179     currentpoint %
12180     HyperBorder sub /pdf@ury exch def %
12181     HyperBorder add /pdf@urx exch def %
12182 % | /pdf@voff| = the distance from the top of the page to the current point, in
12183 % PDF coordinates
12184     currentpoint exch pop vsize 72 sub %
12185     exch DvipsToPDF sub /pdf@voff exch def%
12186 } def%
12187 } %
12188 }
12189 \AtBeginShipoutFirst{ %
12190     \ifHy@setpagesize
12191         \begingroup
12192             \@ifundefined{stockwidth}{ %
12193                 \ifdim\paperwidth>\z@
12194                     \ifdim\paperheight>\z@
12195                         \special{papersize=\the\paperwidth,\the\paperheight} %
12196                     \fi
12197                 \fi
12198             }{ %
12199                 \ifdim\stockwidth>\z@
12200                     \ifdim\stockheight>\z@
12201                         \special{papersize=\the\stockwidth,\the\stockheight} %
12202                     \fi
12203                 \fi
12204             } %
12205         \endgroup
12206     \fi
12207     \Hy@DisableOption{setpagesize} %
12208 }

12209 \def\setpdfinkmargin#1{ %
12210     \begingroup
12211     \setlength{\dimen@}{#1} %
12212     \literalps@out{ %
12213         /HyperBorder{\strip@pt\dimen@\space PDFToDvips} def %
12214     } %
12215     \endgroup
12216 }

12217 </dvips>

```

## 47.10 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.

```

12218 (*vtexpdfmark)
12219 \providecommand*\XR@ext}{pdf}
12220 \let\Hy@raisedlink\ltx@empty
12221 \def\literalps@out#1{\special{pS:#1}}%
12222 \def\headerps@out#1{\immediate\special{pS:#1}}%
12223 \input{pdfmark.def}%
12224 \ifx\@pdfproducer\relax
12225   \ifnum\OpMode=\@ne
12226     \def\@pdfproducer{VTeX}%
12227   \else
12228     \def\@pdfproducer{VTeX + Distiller}%
12229   \fi
12230 \fi
12231 \providecommand*\@pdfborder{0 0 1}
12232 \providecommand*\@pdfborderstyle{}
12233 \providecommand*\@pdfview{XYZ}
12234 \providecommand*\@pdfviewparams{ H.V}

12235 \g@addto@macro\Hy@FirstPageHook{%
12236   \headerps@out{%
12237     /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.

```

12238   /HyperBorder {1} def%
12239   /H.V {pdf@hoff pdf@voff null} def%
12240   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12241   /H.S {%
12242     currentpoint %
12243     HyperBorder sub%
12244     /pdf@lly exch def %
12245     dup 72 add /pdf@hoff exch def %
12246     HyperBorder sub%
12247     /pdf@llx exch def%
12248   } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12249   /H.L {%
12250     2 sub%
12251     /HyperBasePt exch def %

```

```

12252     currentpoint %
12253     HyperBasePt add HyperBorder add%
12254     /pdf@ury exch def %
12255     HyperBorder add%
12256     /pdf@urx exch def%
12257   } def%
12258   /H.A {%
12259     H.L %
12260     currentpoint exch pop %
12261     vsize 72 sub exch %
12262     HyperBasePt add add%
12263     /pdf@voff exch def%
12264   } def%

pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
12265   /H.R {%
12266     currentpoint %
12267     HyperBorder add%
12268     /pdf@ury exch def %
12269     HyperBorder add%
12270     /pdf@urx exch def %
12271     currentpoint exch pop vsize 72 sub add%
12272     /pdf@voff exch def%
12273   } def%
12274 }%
12275 }

12276 \def\setpdfinkmargin#1{%
12277   \begingroup
12278     \setlength{\dimen@}{#1}%
12279     \literalps@out{%
12280       /HyperBorder{\strip@pt\dimen@}def%
12281     }%
12282   \endgroup
12283 }

12284 \</vtxpdfmark>

```

## 47.11 Textures

```

12285 <*textures>
12286 \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.

```

12287 \begingroup
12288 \obeylines %
12289 \gdef\Hy@ps@CR{\noexpand
12290 }%
12291 \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`.

```

12292 \def\literalps@out#1{%
12293   \special{postscript 0 0 transform}%
12294   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12295 }%
12296 %

```

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.

```

12297 \def\headerps@out#1{%
12298   \special{%
12299     prepostscript TeXdict begin\Hy@ps@CR
12300       #1\Hy@ps@CR
12301     end%
12302   }%
12303 }%
12304 %

```

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.

```

12305 \g@addto@macro\Hy@FirstPageHook{%
12306   \headerps@out{%
12307     /betterpdfmark {%
12308       systemdict begin %
12309         dup /BP eq%
12310         {cleartomark gsave nulldevice []}%
12311         {dup /EP eq%
12312           {cleartomark cleartomark grestore}%
12313           {cleartomark}%
12314         }ifelse%
12315       }ifelse %

```

```

12316     end%
12317   }def\Hy@ps@CR
12318   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12319 }% end of \headerps@out
12320 }% end of \AtBeginShipoutFirst
12321 %
12322 \input{pdfmark.def}%
12323 %
12324 \ifx\@pdfproducer\relax
12325   \def\@pdfproducer{Textures + Distiller}%
12326 \fi
12327 \providecommand*\@pdfborder{0 0 1}
12328 \providecommand*\@pdfborderstyle{}
12329 \providecommand*\@pdfview{XYZ}
12330 \providecommand*\@pdfviewparams{ H.V}
12331 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to  $\text{\TeX}$ .

```

12332 \Hy@AtBeginDocument{%
12333   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12334   /vsize {\Hy@pageheight} def%
12335   /DvipsToPDF {} def%
12336   /PDFToDvips {} def%
12337   /BPToDvips {} def%
12338   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12339   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12340   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12341   /H.S {%
12342     currentpoint %
12343     HyperBorder add /pdf@lly exch def %
12344     dup DvipsToPDF 72 add /pdf@hoff exch def %
12345     HyperBorder sub /pdf@llx exch def%
12346   } def\Hy@ps@CR
12347   /H.L {%
12348     2 sub %
12349     PDFToDvips /HyperBase exch def %
12350     currentpoint %
12351     HyperBase sub /pdf@ury exch def%
12352     /pdf@urx exch def%
12353   } def\Hy@ps@CR
12354   /H.A {%
12355     H.L %
12356     currentpoint exch pop %

```

```

12357     vsize 72 sub exch DvipsToPDF %
12358     HyperBase sub % baseline skip
12359     sub /pdf@voff exch def%
12360   } def\Hy@ps@CR
12361 /H.R {%
12362     currentpoint %
12363     HyperBorder sub /pdf@ury exch def %
12364     HyperBorder add /pdf@urx exch def %
12365     currentpoint exch pop vsize 72 sub %
12366     exch DvipsToPDF sub /pdf@voff exch def%
12367   } def\Hy@ps@CR
12368 }%
12369 }

12370 \def\setpdfinkmargin#1{%
12371   \begingroup
12372     \setlength{\dimen@}{#1}%
12373     \literalps@out{%
12374       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12375     }%
12376   \endgroup
12377 }

12378 \Hy@AtBeginDocument{%
12379   \ifHy@colorlinks
12380     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12381   \fi
12382 }

```

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.

```

12383 \expandafter\let\expandafter\keepPDF@SetupDoc
12384   \csname PDF@SetupDoc\endcsname
12385 \def\PDF@SetupDoc{%
12386   \ifx\@baseurl\@empty
12387     \else
12388       \special{html:<base href="\@baseurl">}%
12389     \fi
12390   \keepPDF@SetupDoc
12391 }

12392 \Hy@WrapperDef\hyper@anchor#1{%
12393   \Hy@SaveLastskip
12394   \Hy@VerboseAnchor{#1}%
12395   \begingroup
12396     \let\protect=\string
12397     \special{html:<a name=%
12398       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12399   \endgroup
12400   \Hy@activeanchortrue
12401   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```



```

12402 \special{html:</a>}%
12403 \Hy@activeanchorfalse
12404 \Hy@RestoreLastskip
12405 }
12406 \Hy@WrapperDef\hyper@anchorstart#1{%
12407 \Hy@SaveLastskip
12408 \Hy@VerboseAnchor{#1}%
12409 \begingroup
12410 \hyper@chars
12411 \special{html:<a name=%
12412 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12413 \endgroup
12414 \Hy@activeanchortrue
12415 }
12416 \def\hyper@anchorend{%
12417 \special{html:</a>}%
12418 \Hy@activeanchorfalse
12419 \Hy@RestoreLastskip
12420 }
12421 \def\@urlltype{url}
12422 \def\hyper@linkstart#1#2{%
12423 \Hy@VerboseLinkStart{#1}{#2}%
12424 \expandafter\Hy@colorlink\csname @#1color\endcsname
12425 \def\Hy@tempa{#1}%
12426 \ifx\Hy@tempa\@urlltype
12427 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12428 \else
12429 \begingroup
12430 \hyper@chars
12431 \special{%
12432 html:<a href=%
12433 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12434 }%
12435 \endgroup
12436 \fi
12437 }
12438 \def\hyper@linkend{%
12439 \special{html:</a>}%
12440 \Hy@endcolorlink
12441 }
12442 \def\hyper@linkfile#1#2#3{%
12443 \hyper@linkurl{#1}{%
12444 \Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi
12445 }%
12446 }
12447 \def\hyper@linkurl#1#2{%
12448 \leavevmode
12449 \ifHy@raiselinks
12450 \Hy@SaveSpaceFactor
12451 \Hy@SaveSavedSpaceFactor

```

```

12452 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12453 \Hy@RestoreSavedSpaceFactor
12454 \@linkdim\dp\@tempboxa
12455 \lower\@linkdim\hbox{%
12456   \hyper@chars
12457   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12458 }%
12459 \Hy@colorlink\@urlcolor
12460 \Hy@RestoreSpaceFactor
12461 #1\Hy@xspace@end
12462 \Hy@SaveSpaceFactor
12463 \@linkdim\ht\@tempboxa
12464 \advance\@linkdim by -6.5\p@
12465 \raise\@linkdim\hbox{\special{html:</a>}}%
12466 \Hy@endcolorlink
12467 \Hy@RestoreSpaceFactor
12468 \else
12469 \begingroup
12470   \hyper@chars
12471   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12472   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12473   \special{html:</a>}}%
12474   \Hy@endcolorlink
12475 \endgroup
12476 \fi
12477 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

12478 \def\hyper@link#1#2#3{%
12479   \Hy@VerboseLinkStart{#1}{#2}%
12480   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12481 }
12482 \def\hyper@image#1#2{%
12483   \begingroup
12484     \hyper@chars
12485     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12486   \endgroup
12487 }
12488 </textures>

```

## 47.12 dvipsone

```

12489 % \subsection{dvipsone driver}
12490 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12491 % |\special| commands.
12492 (*dvipsone)
12493 \providecommand*\XR@ext{pdf}
12494 \let\Hy@raisedlink\ltx@empty
12495 \providecommand*\@pdfborder{0 0 1}
12496 \providecommand*\@pdfborderstyle{}

```

```

12497 \def\literalps@out#1{\special{ps:#1}}%
12498 \def\headerps@out#1{\special{headertext=#1}}%
12499 \input{pdfmark.def}%
12500 \HyInfo@AddonUnsupportedtrue
12501 \def\PDF@FinishDoc{%
12502   \Hy@UseMaketitleInfos
12503   \HyInfo@TrappedUnsupported
12504   \special{PDF: Keywords \@pdfkeywords}%
12505   \special{PDF: Title \@pdftitle}%
12506   \special{PDF: Creator \@pdfcreator}%
12507   \ifx\@pdfcreationdate\@empty
12508   \else
12509     \special{PDF: CreationDate \@pdfcreationdate}%
12510   \fi
12511   \ifx\@pdfmoddate\@empty
12512   \else
12513     \special{PDF: ModDate \@pdfmoddate}%
12514   \fi
12515   \special{PDF: Author \@pdfauthor}%
12516   \ifx\@pdfproducer\relax
12517   \else
12518     \special{PDF: Producer \@pdfproducer}%
12519   \fi
12520   \special{PDF: Subject \@pdfsubject}%
12521   \Hy@DisableOption{pdfauthor}%
12522   \Hy@DisableOption{pdftitle}%
12523   \Hy@DisableOption{pdfsubject}%
12524   \Hy@DisableOption{pdfcreator}%
12525   \Hy@DisableOption{addtopdfcreator}%
12526   \Hy@DisableOption{pdfcreationdate}%
12527   \Hy@DisableOption{pdfcreationdate}%
12528   \Hy@DisableOption{pdfmoddate}%
12529   \Hy@DisableOption{pdfproducer}%
12530   \Hy@DisableOption{pdfkeywords}%
12531   \Hy@DisableOption{pdftrapped}%
12532   \Hy@DisableOption{pdfinfo}%
12533 }
12534 \def\PDF@SetupDoc{%
12535   \def\Hy@temp{}%
12536   \ifx\@pdfstartpage\@empty
12537   \else
12538     \ifx\@pdfstartview\@empty
12539     \else
12540       \edef\Hy@temp{%
12541         ,Page=\@pdfstartpage
12542         ,View=\@pdfstartview
12543       }%
12544     \fi
12545   \fi
12546   \edef\Hy@temp{%

```

```

12547 \noexpand\pdfmark{%
12548 pdfmark=/DOCVIEW,%
12549 PageMode=/\@pdfpagemode
12550 \Hy@temp
12551 }%
12552 }%
12553 \Hy@temp
12554 \ifx\@pdfpagescrop\@empty
12555 \else
12556 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12557 \fi
12558 \edef\Hy@temp{%
12559 \ifHy@pdftoolbar\else /HideToolbar true\fi
12560 \ifHy@pdfmenubar\else /HideMenubar true\fi
12561 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12562 \ifHy@pdfwindow /FitWindow true\fi
12563 \ifHy@pdfcenterwindow /CenterWindow true\fi
12564 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12565 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12566 \Hy@UseNameKey{Direction}\@pdfdirection
12567 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12568 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12569 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12570 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12571 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12572 \Hy@UseNameKey{Duplex}\@pdfduplex
12573 \ifx\@pdfpicktraybypdfsize\@empty
12574 \else
12575 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12576 \fi
12577 \ifx\@pdfprintpagerange\@empty
12578 \else
12579 /PrintPageRange[\@pdfprintpagerange]%
12580 \fi
12581 \ifx\@pdfnumcopies\@empty
12582 \else
12583 /NumCopies \@pdfnumcopies
12584 \fi
12585 }%
12586 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12587 \pdfmark{%
12588 pdfmark=/PUT,%
12589 Raw={%
12590 \string{Catalog\string}<<%
12591 \ifx\Hy@temp\@empty
12592 \else
12593 /ViewerPreferences<<\Hy@temp>>%
12594 \fi
12595 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12596 \ifx\@pdflang\relax

```

```

12597     \else
12598         /Lang(\@pdflang)%
12599     \fi
12600     \ifx\@baseurl\@empty
12601     \else
12602         /URI<</Base(\Hy@pstringB)>>%
12603     \fi
12604     >>%
12605 }%
12606 }%
12607 }
12608 \providecommand*\@pdfview{XYZ}
12609 \providecommand*\@pdfviewparams{ %
12610     gsave revscl currentpoint grestore %
12611     72 add exch pop null exch null%
12612 }
12613 \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  $\TeX$ .

```

12614 \g@addto@macro\Hy@FirstPageHook{%
12615     \headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
12616     /DvipsToPDF { 65781 div } def%
12617     /PDFToDvips { 65781 mul } def%
12618     /BPToDvips{65781 mul}def%
12619     /HyperBorder { 1 PDFToDvips } def%
12620     /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.

```

12621     /BorderArrayPatch{%
12622         [exch{%
12623             dup dup type/integertype eq exch type/realtype eq or%
12624             {BPToDvips}if%
12625         }forall]%
12626     }def%
12627     /H.S {%
12628         currentpoint %
12629         HyperBorder add /pdf@lly exch def %
12630         dup DvipsToPDF 72 add /pdf@hoff exch def %
12631         HyperBorder sub /pdf@llx exch def%
12632     } def%
12633     /H.L {%
12634         2 sub %
12635         PDFToDvips /HyperBase exch def %

```

```

12636     currentpoint %
12637     HyperBase sub /pdf@ury exch def%
12638     /pdf@urx exch def%
12639 } def%
12640 /H.A {%
12641     H.L %
12642     currentpoint exch pop %
12643     HyperBase sub % baseline skip
12644     DvipsToPDF /pdf@voff exch def%
12645 } def%
12646 /H.R {%
12647     currentpoint %
12648     HyperBorder sub /pdf@ury exch def %
12649     HyperBorder add /pdf@urx exch def %
12650     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12651 } def%
12652 }%
12653 }

12654 \def\setpdfinkmargin#1{%
12655     \begingroup
12656     \setlength{\dimen@}{#1}%
12657     \literalps@out{%
12658         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12659     }%
12660     \endgroup
12661 }

12662 </dvipsone>

```

### 47.13 TeX4ht

```

12663 <*tex4ht>
12664 \providecommand*\XR@ext\{html}
12665 \let\Hy@raisedlink\ltx@empty
12666 \@ifpackageloaded{tex4ht}{%
12667     \Hy@InfoNoLine{tex4ht is already loaded}%
12668 }{%
12669     \RequirePackage[hTeX4ht]{tex4ht}%
12670 }

12671 \hyperlinkfileprefix{}
12672 \let\PDF@FinishDoc\ltx@empty
12673 \def\PDF@SetupDoc{%
12674     \ifx\@baseurl\@empty
12675     \else
12676         \special{t4ht=<base href="\@baseurl">}%
12677     \fi
12678 }

12679 \Hy@WrapperDef\hyper@anchor#1{%
12680     \Hy@SaveLastskip
12681     \Hy@VerboseAnchor{#1}%
12682     \begingroup

```

```

12683 \let\protect=\string
12684 \special{t4ht=<a name=%
12685     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12686 \endgroup
12687 \Hy@activeanchortrue
12688 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12689 \special{t4ht=</a>}%
12690 \Hy@activeanchorfalse
12691 \Hy@RestoreLastskip
12692 }
12693 \Hy@WrapperDef\hyper@anchorstart#1{%
12694 \Hy@SaveLastskip
12695 \Hy@VerboseAnchor{#1}%
12696 \begingroup
12697 \hyper@chars\special{t4ht=<a name=%
12698     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12699 \endgroup
12700 \Hy@activeanchortrue
12701 }
12702 \def\hyper@anchorend{%
12703 \special{t4ht=</a>}%
12704 \Hy@activeanchorfalse
12705 \Hy@RestoreLastskip
12706 }
12707 \def\@urlltype{url}
12708 \def\hyper@linkstart#1#2{%
12709 \Hy@VerboseLinkStart{#1}{#2}%
12710 \expandafter\Hy@colorlink\csname @#1color\endcsname
12711 \def\Hy@tempa{#1}%
12712 \ifx\Hy@tempa\@urlltype
12713 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12714 \else
12715 \begingroup
12716 \hyper@chars
12717 \special{t4ht=<a href=%
12718     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12719 \endgroup
12720 \fi
12721 }
12722 \def\hyper@linkend{%
12723 \special{t4ht=</a>}%
12724 \Hy@endcolorlink
12725 }
12726 \def\hyper@linkfile#1#2#3{%
12727 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12728 }
12729 \def\hyper@linkurl#1#2{%
12730 \leavevmode
12731 \ifHy@raiselinks
12732 \Hy@SaveSpaceFactor

```

```

12733 \Hy@SaveSavedSpaceFactor
12734 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12735 \Hy@RestoreSavedSpaceFactor
12736 \@linkdim\dp\@tempboxa
12737 \lower\@linkdim\hbox{%
12738   \begingroup
12739     \hyper@chars
12740     \special{%
12741       t4ht=<a href=\hyper@quote#2\hyper@quote>%
12742     }%
12743   \endgroup
12744 }%
12745 \Hy@colorlink\@urlcolor
12746 \Hy@RestoreSpaceFactor
12747 #1\Hy@xspace@end
12748 \Hy@SaveSpaceFactor
12749 \Hy@endcolorlink
12750 \@linkdim\ht\@tempboxa
12751 \advance\@linkdim by -6.5\p@
12752 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12753 \Hy@RestoreSpaceFactor
12754 \else
12755 \begingroup
12756 \hyper@chars
12757 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12758 \Hy@colorlink\@urlcolor
12759 #1\Hy@xspace@end
12760 \Hy@endcolorlink
12761 \special{t4ht=</a>}%
12762 \endgroup
12763 \fi
12764 }

```

Poor implementation of `\hyper@link` without considering `#1`.

```

12765 \def\hyper@link#1#2#3{%
12766   \Hy@VerboseLinkStart{#1}{#2}%
12767   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12768 }
12769 \def\hyper@image#1#2{%
12770   \begingroup
12771   \hyper@chars
12772   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12773   \endgroup
12774 }
12775 \let\autoref\ref
12776 \ifx \rEfLiNK \UnDef
12777   \def\rEfLiNK #1#2{#2}%
12778 \fi
12779 \let\backref\ltx@gobble

```

Fix for `tex4ht`.



```

12780 \AtBeginDocument{%
12781   \expandafter
12782   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12783   \expandafter\def\csname Make:Label\endcsname#1#2{%
12784     \ifhmode
12785       \Hy@SaveSpaceFactor
12786     \else
12787       \global\Hy@SavedSpaceFactor=1000 %
12788     \fi
12789     \Hy@OrgMakeLabel{#1}{%
12790       \Hy@RestoreSpaceFactor
12791       #2\Hy@xspace@end%
12792     \Hy@SaveSpaceFactor
12793   }%
12794   \Hy@RestoreSpaceFactor
12795 }%
12796 }
12797 </tex4ht>
12798 <*tex4htcfg>
12799 \IfFileExists{\jobname.cfg}{\endinput}{}
12800 \Preamble{html}
12801   \begin{document}%
12802 \EndPreamble
12803 \def\TeX{\TeX}
12804 \def\OMEGA{\Omega}
12805 \def\LaTeX{\LaTeX}
12806 \def\LaTeXe{\LaTeXe}
12807 \def\eTeX{e-TeX}
12808 \def\MF{Metafont}
12809 \def\MP{MetaPost}
12810 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```

12811 <*pdfmark>
12812 \long\def\@Form[#1]{%
12813 \g@addto@macro\Hy@FirstPageHook{%
12814   \headerps@out{%
12815 [%
12816   /_objdef{pdfDocEncoding}%
12817   /type/dict%
12818   /OBJ pdfmark%
12819 [%
12820   {pdfDocEncoding}%
12821   <<%
12822   /Type/Encoding%
12823   /Differences[%

```

12824 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
 12825 /tilde %  
 12826 39/quotesingle %  
 12827 96/grave %  
 12828 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
 12829 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
 12830 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
 12831 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
 12832 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
 12833 160/Euro %  
 12834 164/currency %  
 12835 166/brokenbar %  
 12836 168/dieresis/copyright/ordfeminine %  
 12837 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
 12838 /twosuperior/threesuperior/acute/mu %  
 12839 183/periodcentered/cedilla/onesuperior/ordmasculine %  
 12840 188/onequarter/onehalf/threequarters %  
 12841 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
 12842 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
 12843 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
 12844 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
 12845 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
 12846 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
 12847 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
 12848 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
 12849 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
 12850 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
 12851 ]%  
 12852 >>%  
 12853 /PUT pdfmark%  
 12854 [%  
 12855 /\_objdef{ZaDb}%  
 12856 /type/dict%  
 12857 /OBJ pdfmark%  
 12858 [%  
 12859 {ZaDb}%  
 12860 <<%  
 12861 /Type/Font%  
 12862 /Subtype/Type1%  
 12863 /Name/ZaDb%  
 12864 /BaseFont/ZapfDingbats%  
 12865 >>%  
 12866 /PUT pdfmark%  
 12867 [%  
 12868 /\_objdef{Helv}%  
 12869 /type/dict%  
 12870 /OBJ pdfmark%  
 12871 [%  
 12872 {Helv}%  
 12873 <<%

```

12874 /Type/Font%
12875 /Subtype/Type1%
12876 /Name/Helv%
12877 /BaseFont/Helvetica%
12878 /Encoding{pdfDocEncoding}%
12879 >>%
12880 /PUT pdfmark%
12881 [%
12882 /_objdef{aform}%
12883 /type/dict%
12884 /OBJ pdfmark%
12885 [%
12886 /_objdef{afields}%
12887 /type/array%
12888 /OBJ pdfmark%
12889 [%
12890 /_objdef{corder}%
12891 /type/array%
12892 /OBJ pdfmark%
12893 {%
12894 [%
12895 /BBox[0 0 100 100]%
12896 /_objdef{Check}%
12897 /BP pdfmark %
12898 1 0 0 setrgbcolor%
12899 /ZapfDingbats 80 selectfont %
12900 20 20 moveto%
12901 (4)show%
12902 [/EP pdfmark%
12903 [%
12904 /BBox[0 0 100 100]%
12905 /_objdef{Cross}%
12906 /BP pdfmark %
12907 1 0 0 setrgbcolor%
12908 /ZapfDingbats 80 selectfont %
12909 20 20 moveto%
12910 (8)show%
12911 [/EP pdfmark%
12912 [%
12913 /BBox[0 0 250 100]%
12914 /_objdef{Submit}%
12915 /BP pdfmark %
12916 0.6 setgray %
12917 0 0 250 100 rectfill %
12918 1 setgray %
12919 2 2 moveto %
12920 2 98 lineto %
12921 248 98 lineto %
12922 246 96 lineto %
12923 4 96 lineto %

```

```

12924 4 4 lineto %
12925 fill %
12926 0.34 setgray %
12927 248 98 moveto %
12928 248 2 lineto %
12929 2 2 lineto %
12930 4 4 lineto %
12931 246 4 lineto %
12932 246 96 lineto %
12933 fill%
12934 /Helvetica 76 selectfont %
12935 0 setgray %
12936 8 22.5 moveto%
12937 (Submit)show%
12938 [/EP pdfmark%
12939 [%
12940 /BBox[0 0 250 100]%
12941 /_objdef{SubmitP}%
12942 /BP pdfmark %
12943 0.6 setgray %
12944 0 0 250 100 rectfill %
12945 0.34 setgray %
12946 2 2 moveto %
12947 2 98 lineto %
12948 248 98 lineto %
12949 246 96 lineto %
12950 4 96 lineto %
12951 4 4 lineto %
12952 fill %
12953 1 setgray %
12954 248 98 moveto %
12955 248 2 lineto %
12956 2 2 lineto %
12957 4 4 lineto %
12958 246 4 lineto %
12959 246 96 lineto %
12960 fill%
12961 /Helvetica 76 selectfont %
12962 0 setgray %
12963 10 20.5 moveto%
12964 (Submit)show%
12965 [/EP pdfmark%
12966 } ?pdfmark%
12967 [%
12968 {aform}%
12969 <<%
12970 /Fields{afields}%
12971 /DR<<%
12972 /Font<<%
12973 /ZaDb{ZaDb}%

```

```

12974      /Helv{Helv}%
12975      >>%
12976  >>%
12977  /DA(/Helv 10 Tf 0 g)%
12978  /CO{corder}%
12979  \ifHy@pdfa
12980  \else
12981    \ifHyField@NeedAppearances
12982      /NeedAppearances true%
12983    \fi
12984  \fi
12985  >>%
12986  /PUT pdfmark%
12987  [%
12988    {Catalog}%
12989    <<%
12990      /AcroForm{aform}%
12991    >>%
12992  /PUT pdfmark%
12993  }]%
12994  \kvsetkeys{Form}{#1}%
12995  }
12996  \let\@endForm\ltx@empty
12997  \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12998  \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12999  }

13000  \newcount\HyField@AnnotCount
13001  \HyField@AnnotCount=\z@
13002  \def\HyField@AdvanceAnnotCount{%
13003    \global\advance\HyField@AnnotCount\@ne
13004  }
13005  \def\HyField@TheAnnotCount{%
13006    \the\HyField@AnnotCount
13007  }

13008  \edef\Fld@pageobjref{/P\string{ThisPage\string}}

13009  \def\HyField@AddToFields#1{%
13010    \pdfmark{%
13011      pdfmark=/APPEND,%
13012      Raw={%
13013        \string{afields\string}%
13014        \string{#1\HyField@TheAnnotCount\string}%
13015      }%
13016    }%
13017    \ifx\Fld@calculate@code\ltx@empty
13018    \else
13019      \pdfmark{%
13020        pdfmark=/APPEND,%
13021        Raw={%
13022          \string{corder\string}%

```

```

13023     \string{#1\HyField@TheAnnotCount\string}%
13024   }%
13025 }%
13026 \fi
13027 }

13028 \def\@TextField[#1]#2{% parameters, label
13029   \def\Fld@name{#2}%
13030   \let\Fld@default\ltx@empty
13031   \let\Fld@value\@empty
13032   \def\Fld@width{\DefaultWidthofText}%
13033   \def\Fld@height{%
13034     \ifFld@multiline
13035       \DefaultHeightofTextMultiline
13036     \else
13037       \DefaultHeightofText
13038     \fi
13039   }%
13040   \begingroup
13041     \expandafter\HyField@SetKeys\expandafter{%
13042       \DefaultOptionsofText,#1%
13043     }%
13044     \HyField@FlagsText
13045     \ifFld@hidden\def\Fld@width{1sp}\fi
13046     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13047     \HyField@AdvanceAnnotCount
13048     \LayoutTextField{#2}{%
13049       \leavevmode
13050       \Hy@escapeform\PDFForm@Text
13051       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13052         pdfmark=/ANN,%
13053         objdef=text\HyField@TheAnnotCount,%
13054         Raw={\PDFForm@Text}%
13055       }%
13056     }%
13057     \HyField@AddToFields{text}%
13058   \endgroup
13059 }

13060 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13061   \def\Fld@name{#2}%
13062   \let\Fld@default\relax
13063   \let\Fld@value\relax
13064   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13065   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13066   \begingroup
13067     \Fld@menulength=0 %
13068     \@tempdima\z@
13069     \@for\@curropt:=#3\do{%
13070       \expandafter\Fld@checkequals\@curropt==\%
13071       \Hy@StepCount\Fld@menulength

```

```

13072 \settowidth{\@tempdimb}{\@currDisplay}%
13073 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13074 }%
13075 \advance\@tempdima by 15\p@
13076 \begingroup
13077 \HyField@SetKeys{#1}%
13078 \edef\x{\endgroup
13079 \noexpand\expandafter
13080 \noexpand\HyField@SetKeys
13081 \noexpand\expandafter{%
13082 \expandafter\noexpand\csname DefaultOptionsof%
13083 \ifFld@radio
13084 Radio%
13085 \else
13086 \ifFld@combo
13087 \ifFld@popdown
13088 PopdownBox%
13089 \else
13090 ComboBox%
13091 \fi
13092 \else
13093 ListBox%
13094 \fi
13095 \fi
13096 \endcsname
13097 }%
13098 }\x
13099 \HyField@SetKeys{#1}%
13100 \ifFld@hidden\def\Fld@width{1sp}\fi
13101 \ifx\Fld@value\relax
13102 \let\Fld@value\Fld@default
13103 \fi
13104 \LayoutChoiceField{#2}{%
13105 \ifFld@radio
13106 \HyField@FlagsRadioButton
13107 \@@Radio{#3}%
13108 \else
13109 \begingroup
13110 \HyField@FlagsChoice
13111 \ifdim\Fld@width<\@tempdima
13112 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13113 \edef\Fld@width{\the\@tempdima}%
13114 \fi
13115 \ifFld@combo
13116 \else
13117 \@tempdima=\the\Fld@menulength\Fld@charsize
13118 \advance\@tempdima by \Fld@borderwidth bp %
13119 \advance\@tempdima by \Fld@borderwidth bp %
13120 \edef\Fld@height{\the\@tempdima}%
13121 \fi

```

```

13122      \@@ListBox{#3}%
13123      \endgroup
13124      \fi
13125    }%
13126  \endgroup
13127 }
13128 \def\@@Radio#1{%
13129   \Fld@listcount=0 %
13130   \EdefEscapeName\Fld@default{\Fld@default}%
13131   \for\@curropt:=#1\do{%
13132     \expandafter\Fld@checkequals\@curropt==\\%
13133     \EdefEscapeName\@currValue{\@currValue}%
13134     \Hy@StepCount\Fld@listcount
13135     \@currDisplay\space
13136     \Hy@escapeform\PDFForm@Radio
13137     \ifnum\Fld@listcount=1 %
13138       \HyField@AdvanceAnnotCount
13139       \fi
13140     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13141       pdfmark=/ANN,%
13142       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
13143       Raw={%
13144         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13145       }%
13146     } % deliberate space between radio buttons
13147     \ifnum\Fld@listcount=1 %
13148       \HyField@AddToFields{radio}%
13149     \fi
13150   }%
13151 }
13152 \newcount\Fld@listcount
13153 \def\@@ListBox#1{%
13154   \HyField@PDFChoices{#1}%
13155   \Hy@escapeform\PDFForm@List
13156   \HyField@AdvanceAnnotCount
13157   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13158     pdfmark=/ANN,%
13159     objdef=list\HyField@TheAnnotCount,%
13160     Raw={\PDFForm@List}%
13161   }%
13162   \HyField@AddToFields{list}%
13163 }
13164 \def\@PushButton[#1]#2{% parameters, label
13165   \def\Fld@name{#2}%
13166   \begingroup
13167     \expandafter\HyField@SetKeys\expandafter{%
13168       \DefaultOptionsofPushButton,#1%
13169     }%
13170     \ifHy@pdfa
13171       \Hy@Error{%

```



```

13172     PDF/A: Push button with JavaScript is prohibited%
13173   }\@ehc
13174   \LayoutPushButtonField{%
13175     \leavevmode
13176     \MakeButtonField{#2}%
13177   }%
13178 \else
13179   \HyField@FlagsPushButton
13180   \ifFld@hidden\def\Fld@width{1sp}\fi
13181   \HyField@AdvanceAnnotCount
13182   \LayoutPushButtonField{%
13183     \leavevmode
13184     \Hy@escapeform\PDFForm@Push
13185     \pdfmark[\MakeButtonField{#2}]{%
13186       pdfmark=/ANN,%
13187       objdef=push\HyField@TheAnnotCount,%
13188       Raw={\PDFForm@Push}%
13189     }%
13190   }%
13191   \HyField@AddToFields{push}%
13192 \fi
13193 \endgroup
13194 }
13195 \def\@Submit[#1]#2{%
13196   \def\Fld@width{\DefaultWidthofSubmit}%
13197   \def\Fld@height{\DefaultHeightofSubmit}%
13198 \begingroup
13199   \expandafter\HyField@SetKeys\expandafter{%
13200     \DefaultOptionsofSubmit,#1%
13201   }%
13202   \HyField@FlagsPushButton
13203   \HyField@FlagsSubmit
13204   \ifFld@hidden\def\Fld@width{1sp}\fi
13205   \Hy@escapeform\PDFForm@Submit
13206   \HyField@AdvanceAnnotCount
13207   \pdfmark[\MakeButtonField{#2}]{%
13208     pdfmark=/ANN,%
13209     objdef=submit\HyField@TheAnnotCount,%
13210     Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
13211   }%
13212   \HyField@AddToFields{submit}%
13213 \endgroup
13214 }
13215 \def\@Reset[#1]#2{%
13216   \def\Fld@width{\DefaultWidthofReset}%
13217   \def\Fld@height{\DefaultHeightofReset}%
13218 \begingroup
13219   \expandafter\HyField@SetKeys\expandafter{%
13220     \DefaultOptionsofReset,#1%
13221   }%

```

```

13222 \leavevmode
13223 \ifHy@pdfa
13224   \Hy@Error{%
13225     PDF/A: Reset action is prohibited%
13226   }\@ehc
13227   \MakeButtonField{#2}%
13228 \else
13229   \HyField@FlagsPushButton
13230   \ifFld@hidden\def\Fld@width{1sp}\fi
13231   \Hy@escapeform\PDFForm@Reset
13232   \HyField@AdvanceAnnotCount
13233   \pdfmark[\MakeButtonField{#2}]{%
13234     pdfmark=/ANN,%
13235     objdef=reset\HyField@TheAnnotCount,%
13236     Raw={\PDFForm@Reset}%
13237   }%
13238   \HyField@AddToFields{reset}%
13239 \fi
13240 \endgroup
13241 }%
13242 \def\@CheckBox[#1]#2{% parameters, label
13243   \def\Fld@name{#2}%
13244   \def\Fld@default{0}%
13245   \begingroup
13246     \def\Fld@width{\DefaultWidthofCheckBox}%
13247     \def\Fld@height{\DefaultHeightofCheckBox}%
13248     \expandafter\HyField@SetKeys\expandafter{%
13249       \DefaultOptionsofCheckBox,#1%
13250     }%
13251     \HyField@FlagsCheckBox
13252     \ifFld@hidden\def\Fld@width{1sp}\fi
13253     \HyField@AdvanceAnnotCount
13254     \LayoutCheckField{#2}{%
13255       \leavevmode
13256       \Hy@escapeform\PDFForm@Check
13257       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13258         pdfmark=/ANN,%
13259         objdef=check\HyField@TheAnnotCount,%
13260         Raw={\PDFForm@Check}%
13261       }%
13262     }%
13263     \HyField@AddToFields{check}%
13264   \endgroup
13265 }
13266 \pdfmark

```

## 48.2 HyperTeX

```

13267 \hypertex
13268 \def\@Form[#1]{%

```

```

13269 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13270 }
13271 \let\@endForm\ltx@empty
13272 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13273 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13274 }
13275 \def\@TextField[#1]#2{% parameters, label
13276 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13277 }
13278 \def\@CheckBox[#1]#2{% parameters, label
13279 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13280 }
13281 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13282 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13283 }
13284 \def\@PushButton[#1]#2{% parameters, label
13285 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13286 }
13287 \def\@Reset[#1]#2{%
13288 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13289 }
13290 \def\@Submit[#1]#2{%
13291 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13292 }
13293 \</hypertex>

```

### 48.3 TeX4ht

```

13294 \<tex4ht>
13295 \def\@Form[#1]{%
13296 \kvsetkeys{Form}{#1}%
13297 \HCode{<form action="\Form@action" method="\Form@method">}%
13298 }
13299 \def\@endForm{\HCode{</form>}}
13300 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13301 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13302 }
13303 \def\@TextField[#1]#2{% parameters, label
13304 \let\Hy@reserved@a\@empty
13305 \def\Fld@name{#2}%
13306 \let\Fld@default\ltx@empty
13307 \bgroup
13308 \Field@toks={ }%
13309 \kvsetkeys{Field}{#1}%
13310 \HCode{<label for="\Fld@name">#2</label>}%
13311 \ifFld@password
13312 \@@PasswordField
13313 \else
13314 \@@TextField
13315 \fi

```

```

13316 \egroup
13317 }
13318 \def\@@PasswordField{%
13319 \HCode{%
13320 <input type="password" %
13321 id="\Fld@name" %
13322 name="\Fld@name" %
13323 \ifFld@hidden type="hidden" \fi
13324 value="\Fld@default" %
13325 \the\Field@toks
13326 >%
13327 }%
13328 }
13329 \def\@@TextField{%
13330 \ifFld@multiline
13331 \HCode{<textarea %
13332 \ifFld@readonly readonly \fi
13333 id="\Fld@name" %
13334 name="\Fld@name" %
13335 \ifFld@hidden type="hidden" \fi
13336 \the\Field@toks>%
13337 }%
13338 \Fld@default
13339 \HCode{</textarea>}%
13340 \else
13341 \HCode{<input type="text" %
13342 \ifFld@readonly readonly \fi
13343 id="\Fld@name" %
13344 name="\Fld@name" %
13345 \ifFld@hidden type="hidden" \fi
13346 value="\Fld@default" %
13347 \the\Field@toks>%
13348 }%
13349 \fi
13350 }
13351 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13352 \def\Fld@name{#2}%
13353 \let\Fld@default\ltx@empty
13354 \let\Hy@reserved@a\relax
13355 \begingroup
13356 \expandafter\Fld@findlength#3\\%
13357 \Field@toks={ }%
13358 \kvsetkeys{Field}{#1}%
13359 #2%
13360 \ifFld@radio
13361 \expandafter\@@Radio#3\\%
13362 \else
13363 \expandafter\@@Menu#3\\%
13364 \fi
13365 \endgroup

```

```

13366 }
13367 \def\Fld@findlength#1\\{%
13368   \Fld@menulength=0 %
13369   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13370 }
13371 \def\@@Menu#1\\{%
13372   \HCode{<select size="\the\Fld@menulength" %
13373     name="\Fld@name" %
13374     \the\Field@toks>%
13375   }%
13376   \@for\@curropt:=#1\do{%
13377     \expandafter\Fld@checkequals\@curropt==\\%
13378     \HCode{<option %
13379       \ifx\@curropt\Fld@default selected \fi
13380       value="\@currValue">\@currDisplay</option>%
13381     }%
13382   }%
13383   \HCode{</select>}%
13384 }
13385 \def\@@Radio#1\\{%
13386   \@for\@curropt:=#1\do{%
13387     \expandafter\Fld@checkequals\@curropt==\\%
13388     \HCode{<input type="radio" %
13389       \ifx\@curropt\Fld@default checked \fi
13390       name="\Fld@name" %
13391       value="\@currValue" %
13392       \the\Field@toks>%
13393     }%
13394     \@currDisplay
13395   }%
13396 }
13397 \def\@PushButton[#1]#2{% parameters, label
13398   \def\Fld@name{#2}%
13399   \bgroup
13400     \Field@toks={ }%
13401     \kvsetkeys{Field}{#1}%
13402     \HCode{<input type="button" %
13403       name="\Fld@name" %
13404       value="#2" %
13405       \the\Field@toks>%
13406     }%
13407     \HCode{</button>}%
13408   \egroup
13409 }
13410 \def\@Submit[#1]#2{%
13411   \HCode{<button type="submit">#2</button>}%
13412 }
13413 \def\@Reset[#1]#2{%
13414   \HCode{<button type="reset">#2</button>}%
13415 }

```

```

13416 \def\@CheckBox[#1]#2{% parameters, label
13417   \let\Hy@reserved@a\@empty
13418   \def\Fld@name{#2}%
13419   \def\Fld@default{0}%
13420   \bgroup
13421     \Field@toks={ }%
13422     \kvsetkeys{Field}{#1}%
13423     \HCode{<input type="checkbox" %
13424       \ifFld@checked checked \fi
13425       \ifFld@disabled disabled \fi
13426       \ifFld@readonly readonly \fi
13427       name="\Fld@name" %
13428       \ifFld@hidden type="hidden" \fi
13429       value="\Fld@default" %
13430       \the\Field@toks>%
13431     #2%
13432   }%
13433 \egroup
13434 }
13435 </tex4ht>

```

## 48.4 pdfTeX

```

13436 <*pdfTeX>
13437 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13438   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13439 }
13440 \def\MakeFieldObject#1#2{\sbox0{#1}%
13441   \immediate\pdfxform0 %
13442   \expandafter\edef\csname #2Object\endcsname{%
13443     \the\pdflastxform\space 0 R%
13444   }%
13445   % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
13446 }%
13447 \let\HyField@afields\ltx@empty
13448 \let\HyField@cofields\ltx@empty
13449 \begingroup\expandafter\expandafter\expandafter\endgroup
13450 \expandafter\ifx\csname pdflastlink\endcsname\relax
13451   \let\HyField@AddToFields\relax
13452   \PackageInfo{hyperref}{%
13453     You need pdfTeX 1.40.0 for setting the /Fields entry.%
13454     \MessageBreak
13455     Adobe Reader/Acrobat accepts an empty /Field array,%
13456     \MessageBreak
13457     but other PDF viewers might complain%
13458   }%
13459 \else
13460   \let\HyField@AuxAddToFields\ltx@gobble
13461   \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13462   \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.

```

13463 \def\HyField@ABD@AuxAddToCoFields#1#2{%
13464   \begingroup
13465   \Hy@safe@activetrue
13466   \let\ltx@secondoftwo\relax
13467   \ifx\HyField@cofields\ltx@empty
13468     \xdef\HyField@cofields{%
13469       \ltx@secondoftwo{#1}{ #2 0 R}%
13470     }%
13471   \else
13472     \let\ltx@secondoftwo\relax
13473     \def\HyField@AddCoField##1##2##3{%
13474       \ifx##1\ltx@empty
13475         \ltx@secondoftwo{#1}{ #2 0 R}%
13476         \expandafter\ltx@gobble
13477       \else
13478         \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13479           \ltx@secondoftwo{#1}{ #2 0 R}%
13480           \ltx@secondoftwo{##2}{##3}%
13481           \expandafter\expandafter\expandafter\ltx@gobble
13482         \else
13483           \ltx@secondoftwo{##2}{##3}%
13484         \fi
13485       \fi
13486       \HyField@AddCoField
13487     }%
13488     \xdef\HyField@cofields{%
13489       \expandafter\HyField@AddCoField
13490       \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13491     }%
13492   \fi
13493 \endgroup
13494 }%
13495 \Hy@AtBeginDocument{%
13496   \if@files
13497     \immediate\write\@mainaux{%
13498       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13499     }%
13500     \immediate\write\@mainaux{%
13501       \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13502     }%
13503   \fi
13504   \let\HyField@AfterAuxOpen\@firstofone
13505   \def\HyField@AuxAddToFields#1{%
13506     \xdef\HyField@afields{%
13507       \ifx\HyField@afields\@empty
13508       \else
13509         \HyField@afields
13510         \space

```

```

13511     \fi
13512     #1 0 R%
13513   }%
13514 }%
13515 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13516 }%
13517 \def\HyField@AddToFields{%
13518   \expandafter\HyField@@AddToFields\expandafter{%
13519     \the\pdfastlink
13520   }%
13521   \ifx\Fld@calculate@code\ltx@empty
13522   \else
13523     \begingroup
13524     \Hy@safe@activetrue
13525     \edef\Hy@temp{%
13526       \endgroup
13527       \if@filesw
13528         \write\@mainaux{%
13529           \string\HyField@AuxAddToCoFields{%
13530             \Fld@calculate@sortkey
13531           }{%
13532             \the\pdfastlink
13533           }%
13534         }%
13535       \fi
13536     }%
13537     \Hy@temp
13538   \fi
13539 }%
13540 \def\HyField@@AddToFields#1{%
13541   \HyField@AfterAuxOpen{%
13542     \if@filesw
13543       \write\@mainaux{%
13544         \string\HyField@AuxAddToFields{#1}%
13545       }%
13546     \fi
13547   }%
13548 }%
13549 \fi
13550 \def\@Form[#1]{%
13551   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13552   \kvsetkeys{Form}{#1}%
13553   \pdf@ifdraftmode{}{%
13554     \Hy@FormObjects
13555     \ifnum\pdfTeXversion>13 %
13556       \pdfrefobj\OBJ@pdfdocencoding
13557       \pdfrefobj\OBJ@ZaDb
13558       \pdfrefobj\OBJ@Helv
13559     \fi
13560     \AtVeryEndDocument{%

```



```

13561 \immediate\pdfobj{%
13562 <<%
13563 /Fields[\HyField@afields]%
13564 \ifx\HyField@cofields\ltx@empty
13565 \else
13566 /CO[\romannumeral-`\Q\HyField@cofields]%
13567 \fi
13568 /DR<<%
13569 /Font<<%
13570 /ZaDb \OBJ@ZaDb\space 0 R%
13571 /Helv \OBJ@Helv\space 0 R%
13572 >>%
13573 >>%
13574 /DA(/Helv 10 Tf 0 g)%
13575 \ifHy@pdfa
13576 \else
13577 \ifHyField@NeedAppearances
13578 /NeedAppearances true%
13579 \fi
13580 \fi
13581 >>%
13582 }%
13583 \edef\OBJ@acroform{\the\pdfastobj}%
13584 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13585 }%
13586 }%
13587 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13588 \begingroup
13589 \fontfamily{pzd}%
13590 \fontencoding{U}%
13591 \fontseries{m}%
13592 \fontshape{n}%
13593 \selectfont
13594 \char123 %
13595 \endgroup
13596 }{Ding}%
13597 \MakeFieldObject{%
13598 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13599 }{Submit}%
13600 \MakeFieldObject{%
13601 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13602 }{SubmitP}%
13603 }
13604 \let\@endForm\ltx@empty
13605 \let\HyAnn@AbsPageLabel\ltx@empty
13606 \let\Fld@pageobjref\ltx@empty
13607 \ltx@ifundefined{pdfpageref}{%
13608 }{%

```

```

13609 \ltx@ifpackageloaded{zref-abspage}{%
13610   \newcount\HyAnn@Count
13611   \HyAnn@Count=\ltx@zero
13612   \def\HyAnn@AbsPageLabel{%
13613     \global\advance\HyAnn@Count by\ltx@one
13614     \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13615     \zref@refused{HyAnn@\the\HyAnn@Count}%
13616   }%
13617   \def\Fld@pageobjref{%
13618     \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13619       }{%
13620         \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13621           /P \pdfpageref
13622           \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13623           \space 0 R%
13624         }{%
13625         }%
13626       }%
13627     }%
13628   }{%
13629   }%
13630 }

13631 \def\@TextField[#1]#2{% parameters, label
13632   \def\Fld@name{#2}%
13633   \let\Fld@default\ltx@empty
13634   \let\Fld@value\@empty
13635   \def\Fld@width{\DefaultWidthofText}%
13636   \def\Fld@height{%
13637     \ifFld@multiline
13638       \DefaultHeightofTextMultiline
13639     \else
13640       \DefaultHeightofText
13641     \fi
13642   }%
13643   \begingroup
13644     \expandafter\HyField@SetKeys\expandafter{%
13645       \DefaultOptionsofText,#1%
13646     }%
13647     \PDFForm@Name
13648     \HyField@FlagsText
13649     \ifFld@hidden\def\Fld@width{1sp}\fi
13650     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13651     \LayoutTextField{#2}{%
13652       \leavevmode
13653       \HyAnn@AbsPageLabel
13654       \Hy@escapeform\PDFForm@Text
13655       \pdfstartlink user {\PDFForm@Text}\relax
13656       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13657       \HyField@AddToFields

```

```

13658 }%
13659 \endgroup
13660 }
13661 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13662 \def\Fld@name{#2}%
13663 \let\Fld@default\relax
13664 \let\Fld@value\relax
13665 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13666 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13667 \begingroup
13668 \Fld@menulength=0 %
13669 \@tempdima\z@
13670 \@for\@curropt:=#3\do{%
13671 \expandafter\Fld@checkequals\@curropt==\%
13672 \Hy@StepCount\Fld@menulength
13673 \settowidth{\@tempdimb}{\@currDisplay}%
13674 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13675 }%
13676 \advance\@tempdima by 15\p@
13677 \begingroup
13678 \HyField@SetKeys{#1}%
13679 \edef\x{\endgroup
13680 \noexpand\expandafter
13681 \noexpand\HyField@SetKeys
13682 \noexpand\expandafter{%
13683 \expandafter\noexpand\csname DefaultOptionsof%
13684 \ifFld@radio
13685 Radio%
13686 \else
13687 \ifFld@combo
13688 \ifFld@popdown
13689 PopdownBox%
13690 \else
13691 ComboBox%
13692 \fi
13693 \else
13694 ListBox%
13695 \fi
13696 \fi
13697 \endcsname
13698 }%
13699 }\x
13700 \HyField@SetKeys{#1}%
13701 \PDFForm@Name
13702 \ifFld@hidden\def\Fld@width{1sp}\fi
13703 \ifx\Fld@value\relax
13704 \let\Fld@value\Fld@default
13705 \fi
13706 \LayoutChoiceField{#2}{%
13707 \ifFld@radio

```

```

13708 \HyField@FlagsRadioButton
13709 \@@Radio{#3}%
13710 \else
13711 \begingroup
13712 \HyField@FlagsChoice
13713 \ifdim\Fld@width<\@tempdima
13714 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13715 \edef\Fld@width{\the\@tempdima}%
13716 \fi
13717 \ifFld@combo
13718 \else
13719 \@tempdima=\the\Fld@menulength\Fld@charsize
13720 \advance\@tempdima by \Fld@borderwidth bp %
13721 \advance\@tempdima by \Fld@borderwidth bp %
13722 \edef\Fld@height{\the\@tempdima}%
13723 \fi
13724 \@@ListBox{#3}%
13725 \endgroup
13726 \fi
13727 }%
13728 \endgroup
13729 }
13730 \def\@@Radio#1{%
13731 \Fld@listcount=0 %
13732 \EdefEscapeName\Fld@default{\Fld@default}%
13733 \@for\@curropt:=#1\do{%
13734 \expandafter\Fld@checkequals\@curropt==\%
13735 \EdefEscapeName\@currValue{\@currValue}%
13736 \Hy@StepCount\Fld@listcount
13737 \@currDisplay\space
13738 \leavevmode
13739 \HyAnn@AbsPageLabel
13740 \Hy@escapeform\PDFForm@Radio
13741 \pdfstartlink user {%
13742 \PDFForm@Radio
13743 /AP<<%
13744 /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.

```

13745 /\@currValue\space \DingObject
13746 >>%
13747 >>%
13748 }%
13749 \relax
13750 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13751 \ifnum\Fld@listcount=1 %
13752 \HyField@AddToFields
13753 \fi

```

```

13754 \space % deliberate space between radio buttons
13755 }%
13756 }
13757 \newcount\Fld@listcount
13758 \def\@@ListBox#1{%
13759 \HyField@PDFChoices{#1}%
13760 \leavevmode
13761 \HyAnn@AbsPageLabel
13762 \Hy@escapeform\PDFForm@List
13763 \pdfstartlink user {\PDFForm@List}\relax
13764 \MakeChoiceField{\Fld@width}{\Fld@height}%
13765 \pdfendlink
13766 \HyField@AddToFields
13767 }
13768 \def\@PushButton[#1]#2{% parameters, label
13769 \def\Fld@name{#2}%
13770 \begingroup
13771 \expandafter\HyField@SetKeys\expandafter{%
13772 \DefaultOptionsofPushButton,#1%
13773 }%
13774 \PDFForm@Name
13775 \ifHy@pdfa
13776 \Hy@Error{%
13777 PDF/A: Push button with JavaScript is prohibited%
13778 }\@ehc
13779 \LayoutPushButtonField{%
13780 \leavevmode
13781 \MakeButtonField{#2}%
13782 }%
13783 \else
13784 \HyField@FlagsPushButton
13785 \ifFld@hidden\def\Fld@width{1sp}\fi
13786 \LayoutPushButtonField{%
13787 \leavevmode
13788 \HyAnn@AbsPageLabel
13789 \Hy@escapeform\PDFForm@Push
13790 \pdfstartlink user {\PDFForm@Push}\relax
13791 \MakeButtonField{#2}%
13792 \pdfendlink
13793 \HyField@AddToFields
13794 }%
13795 \fi
13796 \endgroup
13797 }
13798 \def\@Submit[#1]#2{%
13799 \def\Fld@width{\DefaultWidthofSubmit}%
13800 \def\Fld@height{\DefaultHeightofSubmit}%
13801 \begingroup
13802 \expandafter\HyField@SetKeys\expandafter{%
13803 \DefaultOptionsofSubmit,#1%

```

```

13804 }%
13805 \HyField@FlagsPushButton
13806 \HyField@FlagsSubmit
13807 \ifFld@hidden\def\Fld@width{1sp}\fi
13808 \leavevmode
13809 \HyAnn@AbsPageLabel
13810 \Hy@escapeform\PDFForm@Submit
13811 \pdfstartlink user {%
13812 \PDFForm@Submit
13813 /AP<</N \SubmitObject/D \SubmitPObject>>%
13814 }%
13815 \relax
13816 \MakeButtonField{#2}%
13817 \pdfendlink
13818 \HyField@AddToFields
13819 \endgroup
13820 }
13821 \def\@Reset[#1]#2{%
13822 \def\Fld@width{\DefaultWidthofReset}%
13823 \def\Fld@height{\DefaultHeightofReset}%
13824 \begingroup
13825 \expandafter\HyField@SetKeys\expandafter{%
13826 \DefaultOptionsofReset,#1%
13827 }%
13828 \leavevmode
13829 \ifHy@pdfa
13830 \Hy@Error{%
13831 PDF/A: Reset action is prohibited%
13832 }\@ehc
13833 \MakeButtonField{#2}%
13834 \else
13835 \HyField@FlagsPushButton
13836 \ifFld@hidden\def\Fld@width{1sp}\fi
13837 \HyAnn@AbsPageLabel
13838 \Hy@escapeform\PDFForm@Reset
13839 \pdfstartlink user {\PDFForm@Reset}\relax
13840 \MakeButtonField{#2}%
13841 \pdfendlink
13842 \HyField@AddToFields
13843 \fi
13844 \endgroup
13845 }
13846 \def\@CheckBox[#1]#2{% parameters, label
13847 \def\Fld@name{#2}%
13848 \def\Fld@default{0}%
13849 \begingroup
13850 \def\Fld@width{\DefaultWidthofCheckBox}%
13851 \def\Fld@height{\DefaultHeightofCheckBox}%
13852 \expandafter\HyField@SetKeys\expandafter{%
13853 \DefaultOptionsofCheckBox,#1%

```

```

13854 }%
13855 \PDFForm@Name
13856 \HyField@FlagsCheckBox
13857 \ifFld@hidden\def\Fld@width{1sp}\fi
13858 \LayoutCheckField{#2}{%
13859 \leavevmode
13860 \HyAnn@AbsPageLabel
13861 \Hy@escapeform\PDFForm@Check
13862 \pdfstartlink user {\PDFForm@Check}\relax
13863 \MakeCheckField{\Fld@width}{\Fld@height}%
13864 \pdfendlink
13865 \HyField@AddToFields
13866 }%
13867 \endgroup
13868 }
13869 \def\Hy@FormObjects{%
13870 \pdfobj {%
13871 <<%
13872 /Type/Encoding%
13873 /Differences[%
13874 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13875 /ring/tilde %
13876 39/quotesingle %
13877 96/grave %
13878 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13879 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13880 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13881 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13882 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13883 160/Euro %
13884 164/currency %
13885 166/brokenbar %
13886 168/dieresis/copyright/ordfeminine %
13887 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13888 /twosuperior/threesuperior/acute/mu %
13889 183/periodcentered/cedilla/onesuperior/ordmasculine %
13890 188/onequarter/onehalf/threequarters %
13891 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13892 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13893 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13894 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13895 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13896 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13897 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13898 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13899 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13900 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13901 ]%
13902 >>%
13903 }%

```

```

13904 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13905 \pdfobj{%
13906   <<%
13907     /Type/Font%
13908     /Subtype/Type1%
13909     /Name/ZaDb%
13910     /BaseFont/ZapfDingbats%
13911   >>%
13912 }%
13913 \xdef\OBJ@ZaDb{\the\pdfastobj}%
13914 \pdfobj{%
13915   <<%
13916     /Type/Font%
13917     /Subtype/Type1%
13918     /Name/Helv%
13919     /BaseFont/Helvetica%
13920     /Encoding \OBJ@pdfdocencoding\space 0 R%
13921   >>%
13922 }%
13923 \xdef\OBJ@Helv{\the\pdfastobj}%
13924 \global\let\Hy@FormObjects\relax
13925 }
13926 </pdfTeX>

```

## 48.5 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.

```
13927 <*dvipdfm | xetex>
```

\@Gauge

```

13928 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13929   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13930 }

```

\@Form

```

13931 \def\@Form[#1]{%
13932   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13933   \kvsetkeys{Form}{#1}%
13934   \Hy@FormObjects
13935   \@pdfm@mark{obj @afields []}%
13936   \@pdfm@mark{obj @corder []}%
13937   \@pdfm@mark{%
13938     obj @aform <<%
13939       /Fields @afields%
13940       /DR<<%
13941       /Font<<%
13942       /ZaDb @OBJZaDb%
13943       /Helv @OBJHelv%
13944     >>%

```



```

13945    >>%
13946    /DA(/Helv 10 Tf 0 g)%
13947    /CO @corder%
13948    \ifHy@pdfa
13949    \else
13950        \ifHyField@NeedAppearances
13951            /NeedAppearances true%
13952        \fi
13953    \fi
13954    >>%
13955    }%
13956    \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13957 }

```

\@endForm

```

13958 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13959 \def\dvipdfm@setdim{%
13960     height \the\ht\pdfm@box\space
13961     width \the\wd\pdfm@box\space
13962     depth \the\dp\pdfm@box\space
13963 }

```

\HyField@AnnotCount

```

13964 \newcount\HyField@AnnotCount
13965 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13966 \def\HyField@AdvanceAnnotCount{%
13967     \global\advance\HyField@AnnotCount\@ne
13968 }

```

\HyField@TheAnnotCount

```

13969 \def\HyField@TheAnnotCount{%
13970     \the\HyField@AnnotCount
13971 }

```

\Fld@pageobjref

```

13972 \def\Fld@pageobjref{/P @thispage}%

```

\HyField@AddToFields

```

13973 \def\HyField@AddToFields#1{%
13974     \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
13975     \ifx\Fld@calculate@code\ltx@empty
13976     \else
13977         \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13978     \fi
13979 }

```

\@TextField

```
13980 \def\@TextField[#1]#2{% parameters, label
13981   \def\Fld@name{#2}%
13982   \let\Fld@default\ltx@empty
13983   \let\Fld@value\@empty
13984   \def\Fld@width{\DefaultWidthofText}%
13985   \def\Fld@height{%
13986     \ifFld@multiline
13987       \DefaultHeightofTextMultiline
13988     \else
13989       \DefaultHeightofText
13990     \fi
13991   }%
13992   \begingroup
13993     \expandafter\HyField@SetKeys\expandafter{%
13994       \DefaultOptionsofText,#1%
13995     }%
13996     \PDFForm@Name
13997     \HyField@FlagsText
13998     \ifFld@hidden\def\Fld@width{1sp}\fi
13999     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
14000     \setbox\pdfm@box=\hbox{%
14001       \MakeTextField{\Fld@width}{\Fld@height}%
14002     }%
14003     \HyField@AdvanceAnnotCount
14004     \LayoutTextField{#2}{%
14005       \leavevmode
14006       \Hy@escapeform\PDFForm@Text
14007       \@pdfm@mark{%
14008         ann @text\HyField@TheAnnotCount\space
14009         \dvipdfm@setdim << \PDFForm@Text >>%
14010       }%
14011     }%
14012     \unhbox\pdfm@box
14013     \HyField@AddToFields{text}%
14014     % record in @afields array
14015   \endgroup
14016 }
```

\@ChoiceMenu

```
14017 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14018   \def\Fld@name{#2}%
14019   \let\Fld@default\relax
14020   \let\Fld@value\relax
14021   \def\Fld@width{\DefaultWidthofChoiceMenu}%
14022   \def\Fld@height{\DefaultHeightofChoiceMenu}%
14023   \begingroup
14024     \Fld@menulength=0 %
14025     \@tempdima\z@
14026     \@for\@curropt:=#3\do{%
```

```

14027 \expandafter\Fld@checkequals\@curropt==\\%
14028 \Hy@StepCount\Fld@menulength
14029 \settowidth{\@tempdimb}{\@currDisplay}%
14030 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14031 }%
14032 \advance\@tempdima by 15\p@
14033 \begingroup
14034 \HyField@SetKeys{#1}%
14035 \edef\x{\endgroup
14036 \noexpand\expandafter
14037 \noexpand\HyField@SetKeys
14038 \noexpand\expandafter{%
14039 \expandafter\noexpand\csname DefaultOptionsof%
14040 \ifFld@radio
14041 Radio%
14042 \else
14043 \ifFld@combo
14044 \ifFld@popdown
14045 PopdownBox%
14046 \else
14047 ComboBox%
14048 \fi
14049 \else
14050 ListBox%
14051 \fi
14052 \fi
14053 \endcsname
14054 }%
14055 }\x
14056 \HyField@SetKeys{#1}%
14057 \PDFForm@Name
14058 \ifFld@hidden\def\Fld@width{1sp}\fi
14059 \ifx\Fld@value\relax
14060 \let\Fld@value\Fld@default
14061 \fi
14062 \LayoutChoiceField{#2}{%
14063 \ifFld@radio
14064 \HyField@FlagsRadioButton
14065 \@@Radio{#3}%
14066 \else
14067 \begingroup
14068 \HyField@FlagsChoice
14069 \ifdim\Fld@width<\@tempdima
14070 \ifdim\@tempdima<1cm\@tempdima1cm\fi
14071 \edef\Fld@width{\the\@tempdima}%
14072 \fi
14073 \ifFld@combo
14074 \else
14075 \@tempdima=\the\Fld@menulength\Fld@charsize
14076 \advance\@tempdima by \Fld@borderwidth bp %

```

```

14077         \advance\@tempdima by \Fld@borderwidth bp %
14078         \edef\Fld@height{\the\@tempdima}%
14079         \fi
14080         \@@Listbox{#3}%
14081     \endgroup
14082 \fi
14083 }%
14084 \endgroup
14085 }

\@@Radio
14086 \def\@@Radio#1{%
14087     \Fld@listcount=0 %
14088     \EdefEscapeName\Fld@default{\Fld@default}%
14089     \setbox\pdfm@box=\hbox{%
14090         \MakeRadioField{\Fld@width}{\Fld@height}%
14091     }%
14092     \for\@curropt:=#1\do{%
14093         \expandafter\Fld@checkequals\@curropt==\%
14094         \EdefEscapeName\@currValue{\@currValue}%
14095         \Hy@StepCount\Fld@listcount
14096         \@currDisplay\space
14097         \leavevmode
14098         \Hy@escapeform\PDFForm@Radio
14099         \ifnum\Fld@listcount=1 %
14100             \HyField@AdvanceAnnotCount
14101         \fi
14102         \@pdfm@mark{%
14103             ann %
14104             \ifnum\Fld@listcount=1 %
14105                 @radio\HyField@TheAnnotCount%
14106             \space
14107         \fi
14108         \dvipdfm@setdim
14109         <<%
14110             \PDFForm@Radio
14111             /AP<</N<</\@currValue /null>>>>%
14112         >>%
14113     }%
14114     \unhcopy\pdfm@box\space% deliberate space between radio buttons
14115     \ifnum\Fld@listcount=1 %
14116         \HyField@AddToFields{radio}%
14117     \fi
14118 }%
14119 }

\Fld@listcount
14120 \newcount\Fld@listcount

\@@Listbox

```

```

14121 \def\@@Listbox#1{%
14122   \HyField@PDFChoices{#1}%
14123   \setbox\pdfm@box=\hbox{%
14124     \MakeChoiceField{\Fld@width}{\Fld@height}%
14125   }%
14126   \leavevmode
14127   \Hy@escapeform\PDFForm@List
14128   \HyField@AdvanceAnnotCount
14129   \@pdfm@mark{%
14130     ann @list\HyField@TheAnnotCount\space
14131     \dvipdfm@setdim
14132     <<\PDFForm@List>>%
14133   }%
14134   \unhbox\pdfm@box
14135   \HyField@AddToFields{list}%
14136 }

```

\@PushButton

```

14137 \def\@PushButton[#1]#2{% parameters, label
14138   \def\Fld@name{#2}%
14139   \begingroup
14140     \expandafter\HyField@SetKeys\expandafter{%
14141       \DefaultOptionsofPushButton,#1%
14142     }%
14143     \PDFForm@Name
14144     \ifHy@pdfa
14145       \Hy@Error{%
14146         PDF/A: Push button with JavaScript is prohibited%
14147       }\@ehc
14148       \LayoutPushButtonField{%
14149         \leavevmode
14150         \MakeButtonField{#2}%
14151       }%
14152     \else
14153       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14154       \HyField@FlagsPushButton
14155       \ifFld@hidden\def\Fld@width{1sp}\fi
14156       \HyField@AdvanceAnnotCount
14157       \LayoutPushButtonField{%
14158         \leavevmode
14159         \Hy@escapeform\PDFForm@Push
14160         \@pdfm@mark{%
14161           ann @push\HyField@TheAnnotCount\space
14162           \dvipdfm@setdim
14163           <<\PDFForm@Push>>%
14164         }%
14165       }%
14166       \unhbox\pdfm@box
14167       \HyField@AddToFields{push}%
14168     \fi

```

```

14169 \endgroup
14170 }

\@Submit
14171 \def\@Submit[#1]#2{%
14172 \def\Fld@width{\DefaultWidthofSubmit}%
14173 \def\Fld@height{\DefaultHeightofSubmit}%
14174 \begingroup
14175 \expandafter\HyField@SetKeys\expandafter{%
14176 \DefaultOptionsofSubmit,#1%
14177 }%
14178 \HyField@FlagsPushButton
14179 \HyField@FlagsSubmit
14180 \ifFld@hidden\def\Fld@width{1sp}\fi
14181 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14182 \leavevmode
14183 \Hy@escapeform\PDFForm@Submit
14184 \HyField@AdvanceAnnotCount
14185 \@pdfm@mark{%
14186 ann @submit\HyField@TheAnnotCount\space
14187 \dvipdfm@setdim
14188 <<\PDFForm@Submit>>%
14189 }%
14190 \unhbox\pdfm@box%
14191 \HyField@AddToFields{submit}%
14192 \endgroup
14193 }

\@Reset
14194 \def\@Reset[#1]#2{%
14195 \def\Fld@width{\DefaultWidthofReset}%
14196 \def\Fld@height{\DefaultHeightofReset}%
14197 \begingroup
14198 \expandafter\HyField@SetKeys\expandafter{%
14199 \DefaultOptionsofReset,#1%
14200 }%
14201 \leavevmode
14202 \ifHy@pdfa
14203 \Hy@Error{%
14204 PDF/A: Reset action is prohibited%
14205 }\@ehc
14206 \MakeButtonField{#2}%
14207 \else
14208 \HyField@FlagsPushButton
14209 \ifFld@hidden\def\Fld@width{1sp}\fi
14210 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14211 \Hy@escapeform\PDFForm@Reset
14212 \HyField@AdvanceAnnotCount
14213 \@pdfm@mark{%
14214 ann @reset\HyField@TheAnnotCount\space

```

```

14215 \dvipdfm@setdim
14216 <<\PDFForm@Reset>>%
14217 }%
14218 \unhbox\pdfm@box
14219 \HyField@AddToFields{reset}%
14220 \fi
14221 \endgroup
14222 }

```

# \@CheckBox

```

14223 \def\@CheckBox[#1]#2{% parameters, label
14224 \def\Fld@name{#2}%
14225 \def\Fld@default{0}%
14226 \begingroup
14227 \def\Fld@width{\DefaultWidthofCheckBox}%
14228 \def\Fld@height{\DefaultHeightofCheckBox}%
14229 \expandafter\HyField@SetKeys\expandafter{%
14230 \DefaultOptionsofCheckBox,#1%
14231 }%
14232 \PDFForm@Name
14233 \HyField@FlagsCheckBox
14234 \ifFld@hidden\def\Fld@width{1sp}\fi
14235 \setbox\pdfm@box=\hbox{%
14236 \MakeCheckField{\Fld@width}{\Fld@height}%
14237 }%
14238 \HyField@AdvanceAnnotCount
14239 \LayoutCheckField{#2}{%
14240 \leavevmode
14241 \Hy@escapeform\PDFForm@Check
14242 \@pdfm@mark{%
14243 ann @check\HyField@TheAnnotCount\space
14244 \dvipdfm@setdim
14245 <<\PDFForm@Check>>%
14246 }%
14247 \unhbox\pdfm@box
14248 \HyField@AddToFields{check}%
14249 }%
14250 \endgroup
14251 }

14252 \def\Hy@FormObjects{%
14253 \@pdfm@mark{obj @OBJpdfdocencoding%
14254 <<%
14255 /Type/Encoding%
14256 /Differences%
14257 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14258 39/quotesingle %
14259 96/grave %
14260 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14261 /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

14262 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%  
14263 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%  
14264 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
14265 160/Euro %  
14266 164/currency %  
14267 166/brokenbar %  
14268 168/dieresis/copyright/ordfeminine %  
14269 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
14270 /twosuperior/threesuperior/acute/mu %  
14271 183/periodcentered/cedilla/onesuperior/ordmasculine %  
14272 188/onequarter/onehalf/threequarters %  
14273 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
14274 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%  
14275 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%  
14276 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%  
14277 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%  
14278 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%  
14279 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%  
14280 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%  
14281 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%  
14282 /thorn/ydieresis%  
14283 ]%  
14284 >>%  
14285 }%  
14286 \@pdfm@mark{obj @OBJZaDb%  
14287 <<%  
14288 /Type/Font%  
14289 /Subtype/Type1%  
14290 /Name/ZaDb%  
14291 /BaseFont/ZapfDingbats%  
14292 >>%  
14293 }%  
14294 \@pdfm@mark{obj @OBJHelv%  
14295 <<%  
14296 /Type/Font%  
14297 /Subtype/Type1%  
14298 /Name/Helv%  
14299 /BaseFont/Helvetica%  
14300 /Encoding @OBJpdfdocencoding%  
14301 >>%  
14302 }%  
14303 \global\let\Hy@FormObjects\relax  
14304 }  
14305 </dvipdfm | xetex>

## 48.6 Common forms part

14306 <\*pdfform>

\Fld@pageobjref



```

14307 \providecommand*{\Fld@pageobjref}{\}

\Hy@escapestring
14308 \begingroup\expandafter\expandafter\expandafter\endgroup
14309 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14310 \let\Hy@escapestring\@firstofone
14311 \def\Hy@escapeform#1{%
14312   \ifHy@pdfescapeform
14313     \def\Hy@escapestring##1{%
14314       \noexpand\Hy@escapestring{\noexpand##1}%
14315     }%
14316     \edef\Hy@temp{#1}%
14317     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14318   \def\Hy@escapestring##1{%
14319     \@ifundefined{Hy@esc@\string##1}{%
14320       ##1%
14321       \ThisShouldNotHappen
14322     }{%
14323       \csname Hy@esc@\string##1\endcsname
14324     }%
14325   }%
14326 \else
14327   \let\Hy@escapestring\@firstofone
14328 \fi
14329 }%
14330 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
14331   \ifx\#3\%
14332   \else
14333     \expandafter
14334     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14335     \ltx@ReturnAfterFi{%
14336       \Hy@@@escapeform#3\@nil
14337     }%
14338   \fi
14339 }%
14340 \else
14341   \def\Hy@escapeform#1{%
14342     \ifHy@pdfescapeform
14343       \let\Hy@escapestring\pdfescapestring
14344     \else
14345       \let\Hy@escapestring\@firstofone
14346     \fi
14347   }%
14348   \Hy@escapeform}%
14349 \fi

\PDFForm@Name
14350 \def\PDFForm@Name{%
14351   \PDFForm@@Name\Fld@name
14352   \ifx\Fld@altname\relax

```

```

14353 \else
14354 \PDFForm@@Name\Fld@altname
14355 \fi
14356 \ifx\Fld@mappingname\relax
14357 \else
14358 \PDFForm@@Name\Fld@mappingname
14359 \fi
14360 }

```

#### \PDFForm@@Name

```

14361 \def\PDFForm@@Name#1{%
14362 \begingroup
14363 \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
14364 \ifHy@unicode
14365 \Hy@unicodedefalse
14366 \fi
14367 \fi
14368 \pdfstringdef\Hy@gtemp#1%
14369 \endgroup
14370 \let#1\Hy@gtemp
14371 }

```

#### \Fld@additionalactions

```

14372 \def\Fld@@additionalactions{%
K input (keystroke) format
14373 \ifx\Fld@keystroke@code\@empty
14374 \else
14375 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14376 \fi
F display format
14377 \ifx\Fld@format@code\@empty
14378 \else
14379 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14380 \fi
V validation
14381 \ifx\Fld@validate@code\@empty
14382 \else
14383 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14384 \fi
C calculation
14385 \ifx\Fld@calculate@code\@empty
14386 \else
14387 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14388 \fi
Fo receiving the input focus
14389 \ifx\Fld@onfocus@code\@empty

```

```

14390 \else
14391 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14392 \fi

Bl loosing the input focus (blurred)
14393 \ifx\Fld@onblur@code\@empty
14394 \else
14395 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14396 \fi

D pressing the mouse button (down)
14397 \ifx\Fld@onmousedown@code\@empty
14398 \else
14399 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14400 \fi

U releasing the mouse button (up)
14401 \ifx\Fld@onmouseup@code\@empty
14402 \else
14403 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14404 \fi

E cursor enters the annotation's active area.
14405 \ifx\Fld@onenter@code\@empty
14406 \else
14407 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14408 \fi

X cursor exits the annotation's active area.
14409 \ifx\Fld@onexit@code\@empty
14410 \else
14411 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14412 \fi
14413 }
14414 \def\Fld@additionalactions{%
14415 \if\Fld@@additionalactions-%
14416 \else
14417 \ifHy@pdfa
14418 \else
14419 /AA<<\Fld@@additionalactions>>%
14420 \fi
14421 \fi
14422 }

\Fld@annotnames
14423 \def\Fld@annotnames{%
14424 /T(\Fld@name)%
14425 \ifx\Fld@altname\relax
14426 \else
14427 /TU(\Fld@altname)%
14428 \fi
14429 \ifx\Fld@mappingname\relax

```

```

14430 \else
14431 /TM(\Fld@mappingname)%
14432 \fi
14433 }

```

#### \PDFForm@Check

```

14434 \def\PDFForm@Check{%
14435 /Subtype/Widget%
14436 \Fld@annotflags
14437 \Fld@pageobjref
14438 \Fld@annotnames
14439 /FT/Btn%
14440 \Fld@flags
14441 /Q \Fld@align
14442 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14443 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
14444 /MK<<%
14445 \ifnum\Fld@rotation=\z@
14446 \else
14447 /R \Fld@rotation
14448 \fi
14449 \ifx\Fld@bordercolor\relax
14450 \else
14451 /BC[\Fld@bordercolor]%
14452 \fi
14453 \ifx\Fld@bcolor\relax
14454 \else
14455 /BG[\Fld@bcolor]%
14456 \fi
14457 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14458 >>%
14459 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14460 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14461 /H/P%
14462 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14463 \Fld@additionalactions
14464 }

```

#### \PDFForm@Push

```

14465 \ifHy@pdfa
14466 \else
14467 \def\PDFForm@Push{%
14468 /Subtype/Widget%
14469 \Fld@annotflags
14470 \Fld@pageobjref
14471 \Fld@annotnames
14472 /FT/Btn%
14473 \Fld@flags
14474 /H/P%
14475 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%

```

```

14476 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14477 \ifx\Fld@bordercolor\relax\else 1\fi
14478 \space
14479 \else
14480 /MK<<%
14481 \ifnum\Fld@rotation=\z@
14482 \else
14483 /R \Fld@rotation
14484 \fi
14485 \ifx\Fld@bordercolor\relax
14486 \else
14487 /BC[\Fld@bordercolor]%
14488 \fi
14489 >>%
14490 \fi
14491 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14492 \Fld@additionalactions
14493 }%
14494 \fi

```

\PDFForm@List

```

14495 \def\PDFForm@List{%
14496 /Subtype/Widget%
14497 \Fld@annotflags
14498 \Fld@pageobjref
14499 \Fld@annotnames
14500 /FT/Ch%
14501 \Fld@flags
14502 /Q \Fld@align
14503 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14504 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14505 \ifx\Fld@bordercolor\relax\else 1\fi
14506 \ifx\Fld@bcolor\relax \else 1\fi
14507 \space
14508 \else
14509 /MK<<%
14510 \ifnum\Fld@rotation=\z@
14511 \else
14512 /R \Fld@rotation
14513 \fi
14514 \ifx\Fld@bordercolor\relax
14515 \else
14516 /BC[\Fld@bordercolor]%
14517 \fi
14518 \ifx\Fld@bcolor\relax
14519 \else
14520 /BG[\Fld@bcolor]%
14521 \fi
14522 >>%
14523 \fi

```

```

14524 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14525     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14526 \Fld@choices
14527 \Fld@additionalactions
14528 }

```

#### \PDFForm@Radio

```

14529 \def\PDFForm@Radio{%
14530 /Subtype/Widget%
14531 \Fld@annotflags
14532 \Fld@pageobjref
14533 \Fld@annotnames
14534 /FT/Btn%
14535 \Fld@flags
14536 /H/P%
14537 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14538 /MK<<%
14539     \ifnum\Fld@rotation=\z@
14540     \else
14541         /R \Fld@rotation
14542     \fi
14543     \ifx\Fld@bordercolor\relax
14544     \else
14545         /BC[\Fld@bordercolor]%
14546     \fi
14547     \ifx\Fld@bcolor\relax
14548     \else
14549         /BG[\Fld@bcolor]%
14550     \fi
14551     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14552 >>%
14553 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14554     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14555 \ifx\Fld@default\@empty
14556     /V/Off%
14557     /DV/Off%
14558 \else
14559     /V/\Fld@default
14560     /DV/\Fld@default
14561 \fi
14562 \Fld@additionalactions
14563 }

```

#### \PDFForm@Text

```

14564 \def\PDFForm@Text{%
14565 /Subtype/Widget%
14566 \Fld@annotflags
14567 \Fld@pageobjref

```

```

14568 \Fld@annotnames
14569 /FT/Tx%
14570 \Fld@flags
14571 /Q \Fld@align
14572 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14573 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14574     \ifx\Fld@bordercolor\relax\else 1\fi
14575     \ifx\Fld@bcolor\relax \else 1\fi
14576     \space
14577 \else
14578 /MK<<%
14579     \ifnum\Fld@rotation=\z@
14580     \else
14581     /R \Fld@rotation
14582     \fi
14583     \ifx\Fld@bordercolor\relax
14584     \else
14585     /BC[\Fld@bordercolor]%
14586     \fi
14587     \ifx\Fld@bcolor\relax
14588     \else
14589     /BG[\Fld@bcolor]%
14590     \fi
14591 >>%
14592 \fi
14593 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14594     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14595 /DV(\Hy@escapestring{\Fld@default})%
14596 /V(\Hy@escapestring{\Fld@value})%
14597 \Fld@additionalactions
14598 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14599 }

```

\PDFForm@Submit

```

14600 \def\PDFForm@Submit{%
14601 /Subtype/Widget%
14602 \Fld@annotflags
14603 \Fld@pageobjref
14604 \Fld@annotnames
14605 /FT/Btn%
14606 \Fld@flags
14607 /H/P%
14608 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14609 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14610     \ifx\Fld@bordercolor\relax\else 1\fi
14611     \space
14612 \else
14613 /MK<<%
14614     \ifnum\Fld@rotation=\z@
14615     \else

```

```

14616      /R \Fld@rotation
14617      \fi
14618      \ifx\Fld@bordercolor\relax
14619      \else
14620      /BC[\Fld@bordercolor]%
14621      \fi
14622      >>%
14623      \fi
14624      /A<<%
14625      /S/SubmitForm%
14626      /F<<%
14627      /FS/URL%
14628      /F(\Hy@escapestring{\Form@action})%
14629      >>%
14630      \Fld@submitflags
14631      >>%
14632      \Fld@additionalactions
14633      }

```

\PDFForm@Reset

```

14634 \ifHy@pdfa
14635 \else
14636 \def\PDFForm@Reset{%
14637 /Subtype/Widget%
14638 \Fld@annotflags
14639 \Fld@pageobjref
14640 \Fld@annotnames
14641 /FT/Btn%
14642 \Fld@flags
14643 /H/P%
14644 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14645 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14646 \ifx\Fld@bordercolor\relax\else 1\fi
14647 \space
14648 \else
14649 /MK<<%
14650 \ifnum\Fld@rotation=\z@
14651 \else
14652 /R \Fld@rotation
14653 \fi
14654 \ifx\Fld@bordercolor\relax
14655 \else
14656 /BC[\Fld@bordercolor]%
14657 \fi
14658 % /CA (Clear)
14659 % /AC (Done)
14660 >>%
14661 \fi
14662 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14663 /A<</S/ResetForm>>%

```



```

14664 \Fld@additionalactions
14665 }%
14666 \fi

14667 </pdfform>
14668 <*package>

```

## 49 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`

```

14669 \def\phantomsection{%
14670 \Hy@MakeCurrentHrefAuto{section*}%
14671 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14672 }
14673 </package>

```

### 49.1 Bookmarks

```

14674 <*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.

```

14675 \def\Hy@writebookmark#1#2#3#4#5{%
14676 % section number, text, label, level, file
14677 \ifx\WriteBookmarks\relax%
14678 \else

```

```

14679 \ifnum#4>\Hy@bookmarksdepth\relax
14680 \else
14681 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14682 \fi
14683 \fi
14684 }
14685 \def\Hy@currentbookmarklevel{0}
14686 \def\Hy@numberline#1{#1 }
14687 \def\@@writetorep#1#2#3#4#5{%
14688 \begingroup
14689 \edef\Hy@tempa{#5}%
14690 \ifx\Hy@tempa\Hy@bookmarkstype
14691 \edef\Hy@level{#4}%
14692 \ifx\Hy@levelcheck Y%
14693 \@tempcnta\Hy@level\relax
14694 \advance\@tempcnta by -1 %
14695 \ifnum\Hy@currentbookmarklevel<\@tempcnta
14696 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14697 \advance\@tempcnta by 1 %
14698 \Hy@Warning{%
14699 Difference (\the\@tempcnta) between bookmark levels is %
14700 greater \MessageBreak than one, level fixed%
14701 }%
14702 \@tempcnta\Hy@currentbookmarklevel
14703 \advance\@tempcnta by 1 %
14704 \edef\Hy@level{\the\@tempcnta}%
14705 \fi
14706 \else
14707 \global\let\Hy@levelcheck Y%
14708 \fi
14709 \global\let\Hy@currentbookmarklevel\Hy@level
14710 \@tempcnta\Hy@level\relax
14711 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14712 \advance\@tempcnta by -1 %
14713 \edef\Hy@tempa{#3}%
14714 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14715 \ifx\Hy@tempa\Hy@tempb
14716 \Hy@Warning{%
14717 The anchor of a bookmark and its parent's must not%
14718 \MessageBreak be the same. Added a new anchor%
14719 }%
14720 \phantomsection
14721 \fi
14722 \ifHy@bookmarksnumbered
14723 \let\numberline\Hy@numberline
14724 \let\booknumberline\Hy@numberline
14725 \let\partnumberline\Hy@numberline
14726 \let\chapternumberline\Hy@numberline
14727 \else
14728 \let\numberline\@gobble

```

```

14729 \let\booknumberline\@gobble
14730 \let\partnumberline\@gobble
14731 \let\chapternumberline\@gobble
14732 \fi
14733 \pdfstringdef\Hy@tempa{#2}%
14734 \HyPsd@SanitizeForOutFile\Hy@tempa
14735 \if@filesw
14736 \stepcounter{bookmark@seq@number}%
14737 \@ifundefined{@outlinefile}{%
14738 }{%
14739 \protected@write\@outlinefile{}{%
14740 \protect\BOOKMARK
14741 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14742 {\Hy@tempa}{\Hy@tempb}%
14743 \@percentchar\space\thebookmark@seq@number
14744 }%
14745 }%
14746 \fi
14747 \fi
14748 \endgroup
14749 }
14750 \newcounter{bookmark@seq@number}

14751 \begingroup
14752 \lccode`=(`{%
14753 \lccode`=)`{%
14754 \lccode`1=\z@
14755 \lccode`2=\z@
14756 \lccode`3=\z@
14757 \lccode`5=\z@
14758 \lccode`7=\z@
14759 \lccode`\#=\z@
14760 \lccode`\`=\z@
14761 \lccode`\{=\z@
14762 \lccode`\}= \z@
14763 \lowercase{%
14764 \endgroup
14765 \def\HyPsd@SanitizeForOutFile#1{%
14766 \@onelevel@sanitize\Hy@tempa
14767 \escapechar`\\%
14768 \edef\Hy@tempa{%
14769 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14770 }%
14771 \edef\Hy@tempa{%
14772 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14773 }%
14774 }%
14775 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14776 #1%
14777 \ifx\\#2\\%

```

```

14778 \expandafter\ltx@gobble
14779 \else
14780 \expandafter\ltx@firstofone
14781 \fi
14782 {%
14783 \string\173%
14784 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14785 }%
14786 }%
14787 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14788 #1%
14789 \ifx\#2\%
14790 \expandafter\ltx@gobble
14791 \else
14792 \expandafter\ltx@firstofone
14793 \fi
14794 {%
14795 \string\175%
14796 \HyPsd@SanitizeOut@BraceRight#2\@nil
14797 }%
14798 }%
14799 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14800 \newcommand{\currentpdfbookmark}{%
14801 \pdfbookmark[\Hy@currentbookmarklevel]%
14802 }
14803 \newcommand{\subpdfbookmark}{%
14804 \@tempcnta\Hy@currentbookmarklevel
14805 \Hy@StepCount\@tempcnta
14806 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14807 }
14808 \newcommand{\belowpdfbookmark}[2]{%
14809 \@tempcnta\Hy@currentbookmarklevel
14810 \Hy@StepCount\@tempcnta
14811 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14812 \advance\@tempcnta by -1 %
14813 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14814 }

```

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.

```

14815 \renewcommand\pdfbookmark[3][0]{%
14816 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
14817 \hyper@anchorstart{#3.#1}\hyper@anchorend
14818 }
14819 \def\BOOKMARK{%
14820 \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%

```

```

14821 }
14822 \def\@BOOKMARK[#1]{%
14823   \ifnextchar{\@BOOKMARK[#1]]{\@BOOKMARK[#1]}[-]}%
14824 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo<sub>pdf</sub> macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14825 \RequirePackage{rerunfilecheck}[2009/12/10]
14826 \def\Hy@OutlineRerunCheck{%
14827   \RerunFileCheck{\jobname.out}{%
14828     \immediate\closeout\@outlinefile
14829   }{%
14830     Rerun to get outlines right\MessageBreak
14831     or use package `bookmark'%
14832   }%
14833 }

```

#### 49.1.2 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 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.

```

14834 ⟨*vtex⟩
14835 \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.

```

14836 \begingroup
14837 \catcode\'=12 %
14838 \ifnum\Hy@VTeXversion<650 %
14839   \catcode\'=12 %
14840   \gdef\hv@pdf@char#1#2#3{%
14841     \char
14842     \ifcase'#1#2#3 %
14843       "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14844       \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14845       \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14846       \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14847       \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14848       \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14849       \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14850       \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14851       \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14852       \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%

```

```

14853 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14854 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14855 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14856 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14857 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14858 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14859 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14860 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14861 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14862 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14863 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14864 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14865 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14866 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14867 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14868 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14869 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14870 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14871 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14872 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14873 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14874 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14875 \fi
14876 }%
14877 \else
14878 \gdef\hv@pdf@char{\char'}%
14879 \fi
14880 \endgroup

```

\@@BOOKMARK

```

14881 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14882 \expandafter\edef\csname @count@#3\endcsname{%
14883 \the\@serial@counter
14884 }%
14885 \edef\@mycount{\the\@serial@counter}%
14886 \Hy@StepCount\@serial@counter
14887 \edef\@parcount{%
14888 \expandafter\ifx\csname @count@#5\endcsname\relax
14889 0%
14890 \else
14891 \csname @count@#5\endcsname
14892 \fi
14893 }%
14894 \immediate\special{%
14895 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14896 s=\ifx#2-c\else o\fi,t=#4%
14897 }%
14898 }%

```

\ReadBookmarks

```

14899 \def\ReadBookmarks{%
14900   \begingroup
14901   \def\0{\hv@pdf@char 0}%
14902   \def\1{\hv@pdf@char 1}%
14903   \def\2{\hv@pdf@char 2}%
14904   \def\3{\hv@pdf@char 3}%
14905   \def\{({}%
14906   \def\)}{)%
14907   \def\do##1{%
14908     \ifnum\catcode`##1=\active
14909       \@makeother##1%
14910     \else
14911       \ifnum\catcode`##1=6 %
14912         \@makeother##1%
14913       \fi
14914     \fi
14915   }%
14916   \dospecials
14917   \Hy@safe@activetrue
14918   \InputIfFileExists{jobname.out}{\relax}%
14919 \endgroup
14920 \ifx\WriteBookmarks\relax
14921 \else
14922   \if@filesw
14923     \newwrite\@outlinefile
14924     \Hy@OutlineRerunCheck
14925     \immediate\openout\@outlinefile=jobname.out\relax
14926     \ifHy@typexml
14927       \immediate\write\@outlinefile{<relaxxml>\relax}%
14928     \fi
14929   \fi
14930 \fi
14931 }

14932 </vtex>

14933 <!*vtex>
14934 \def\ReadBookmarks{%
14935   \pdf@ifdraftmode{\relax}%
14936   \begingroup
14937   \def\do##1{%
14938     \ifnum\catcode`##1=\active
14939       \@makeother##1%
14940     \else
14941       \ifnum\catcode`##1=6 %
14942         \@makeother##1%
14943       \fi
14944     \fi
14945   }%
14946   \dospecials
14947   \Hy@safe@activetrue

```

```

14948 \escapechar=\%
14949 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14950 \calc@bm@number{##5}%
14951 }%
14952 \InputIfFileExists{\jobname.out}{-}{-}%
14953 \ifx\WriteBookmarks\relax
14954 \global\let\WriteBookmarks\relax
14955 \fi
14956 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14957 \def\Hy@temp{##4}%
14958 \*pdfTeX
14959 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14960 \Hy@OutlineName{\Hy@pstringName%
14961 ##2\check@bm@number{##3}%
14962 }{%
14963 \expandafter\strip@prefix\meaning\Hy@temp
14964 }%
14965 \*pdfTeX
14966 \*pdfmark
14967 \pdfmark{%
14968 pdfmark=/OUT,%
14969 Count={##2\check@bm@number{##3}},%
14970 Dest={##3},%
14971 Title=\expandafter\strip@prefix\meaning\Hy@temp
14972 }%
14973 \*pdfmark
14974 \*dvipdfm | xetex
14975 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14976 \*pdfmark{%
14977 outline \ifHy@DvipdfmxOutlineOpen
14978 [%
14979 \ifnum##21>\z@
14980 \else
14981 -%
14982 \fi
14983 ] %
14984 \fi
14985 ##1<<%
14986 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14987 /A<<%
14988 /S/GoTo%
14989 /D(\Hy@pstringName)%
14990 >>%
14991 >>%
14992 }%
14993 \*dvipdfm | xetex
14994 }%
14995 \begingroup
14996 \def\WriteBookmarks{0}%
14997 \InputIfFileExists{\jobname.out}{-}{-}%

```



```

14998 \endgroup
14999 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{\}}}%
15000 \endgroup
15001 }%
15002 \ifx\WriteBookmarks\relax
15003 \else
15004 \if@filesw
15005 \newwrite\@outlinefile
15006 \Hy@OutlineRerunCheck
15007 \immediate\openout\@outlinefile=\jobname.out\relax
15008 \ifHy@typexml
15009 \immediate\write\@outlinefile{<relaxxml>\relax}%
15010 \fi
15011 \fi
15012 \fi
15013 }
15014 <*pdfTeX>
15015 \def\Hy@OutlineName#1#2#3#4{%
15016 \pdfoutline goto name{#2}count#3{#4}%
15017 }
15018 </pdfTeX>
15019 \def\check@bm@number#1{%
15020 \expandafter\ifx\csname B_#1\endcsname\relax
15021 0%
15022 \else
15023 \csname B_#1\endcsname
15024 \fi
15025 }
15026 \def\calc@bm@number#1{%
15027 \@tempcnta=\check@bm@number{#1}\relax
15028 \advance\@tempcnta by 1 %
15029 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
15030 }
15031 </!vTeX>
15032 \ifHy@implicit
15033 \else
15034 \expandafter\endinput
15035 \fi
15036 </outlines>
15037 <*outlines | hypertext>
15038 \newlength\Hy@SectionHShift
15039 \def\Hy@SectionAnchorHRef#1{%
15040 \ifx\protect\@typeset@protect
15041 \Hy@@SectionAnchor{#1}%
15042 \fi
15043 }
15044 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
15045 \leavevmode
15046 \hbox to 0pt{%

```

```

15047 \kern-\Hy@SectionHShift
15048 \Hy@raisedlink{%
15049   \hyper@anchorstart{#1}\hyper@anchorend
15050 }%
15051 \hss
15052 }%
15053 }
15054 \let\H@old@ssect\@ssect
15055 \def\@ssect#1#2#3#4#5{%
15056   \Hy@MakeCurrentHrefAuto{section*}%
15057   \setlength{\Hy@SectionHShift}{#1}%
15058   \begingroup
15059     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
15060     \toks\tw@\expandafter{%
15061       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15062       #5%
15063     }%
15064   \edef\x{\endgroup
15065     \the\toks@\the\toks\tw@}%
15066   }\x
15067 }
15068 \let\H@old@schapter\@schapter
15069 \def\@schapter#1{%
15070   \begingroup
15071     \let\@mkboth\@gobbletwo
15072     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15073     \Hy@raisedlink{%
15074       \hyper@anchorstart{\@currentHref}\hyper@anchorend
15075     }%
15076   \endgroup
15077   \H@old@schapter{#1}%
15078 }

```

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:

```

15079 \ltx@ifundefined{@chapter}{-}{%
15080   \let\Hy@org@chapter\@chapter
15081   \def\@chapter{%
15082     \def\Hy@next{%
15083       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15084       \Hy@raisedlink{%
15085         \hyper@anchorstart{\@currentHref}\hyper@anchorend
15086       }%
15087     }%
15088     \ifnum\c@secnumdepth>\m@ne
15089       \ltx@ifundefined{if@mainmatter}%
15090       \iftrue{\csname if@mainmatter\endcsname}%
15091       \let\Hy@next\relax
15092     \fi

```

```

15093 \fi
15094 \Hy@next
15095 \Hy@org@chapter
15096 }%
15097 }

15098 \let\H@old@part\@part
15099 \begingroup\expandafter\expandafter\expandafter\endgroup
15100 \expandafter\ifx\csname chapter\endcsname\relax
15101 \let\Hy@secnum@part\z@
15102 \else
15103 \let\Hy@secnum@part\m@ne
15104 \fi
15105 \def\@part{%
15106 \ifnum\Hy@secnum@part>\c@secnumdepth
15107 \phantomsection
15108 \fi
15109 \H@old@part
15110 }

15111 \let\H@old@spart\@spart
15112 \def\@spart#1{%
15113 \Hy@MakeCurrentHrefAuto{part*}%
15114 \Hy@raisedlink{%
15115 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15116 }%
15117 \H@old@spart{#1}%
15118 }

15119 \let\H@old@sect\@sect
15120 \def\@sect#1#2#3#4#5#6[#7]#8{%
15121 \ifnum #2>\c@secnumdepth
15122 \expandafter\@firstoftwo
15123 \else
15124 \expandafter\@secondoftwo
15125 \fi
15126 {%
15127 \Hy@MakeCurrentHrefAuto{section*}%
15128 \setlength{\Hy@SectionHShift}{#3}%
15129 \begingroup
15130 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
15131 \toks\tw@\expandafter{%
15132 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15133 #8%
15134 }%
15135 \edef\x{\endgroup
15136 \the\toks@{\the\toks\tw@}}%
15137 }\x
15138 }{%
15139 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
15140 }%
15141 }

```

```

15142 </outlines | hypertex>
15143 <*outlines>

15144 \expandafter\def\csname Parent-4\endcsname{}
15145 \expandafter\def\csname Parent-3\endcsname{}
15146 \expandafter\def\csname Parent-2\endcsname{}
15147 \expandafter\def\csname Parent-1\endcsname{}
15148 \expandafter\def\csname Parent0\endcsname{}
15149 \expandafter\def\csname Parent1\endcsname{}
15150 \expandafter\def\csname Parent2\endcsname{}
15151 \expandafter\def\csname Parent3\endcsname{}
15152 \expandafter\def\csname Parent4\endcsname{}

15153 </outlines>

```

## 50 Compatibility with koma-script classes

```

15154 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrrprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

15155 \def\Hy@tempa{%
15156   \def\@addchap[##1]##2{%
15157     \typeout{##2}%
15158     \if@twoside
15159       \@mkboth{##1}{}%
15160     \else
15161       \@mkboth{}{##1}%
15162     \fi
15163     \addtocontents{lof}{\protect\addvspace{10\p@}}%
15164     \addtocontents{lot}{\protect\addvspace{10\p@}}%
15165     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15166     \Hy@raisedlink{%
15167       \hyper@anchorstart{\@currentHref}\hyper@anchorend
15168     }%
15169     \if@twocolumn
15170       \@topnewpage[\@makeschapterhead{##2}]%
15171     \else
15172       \@makeschapterhead{##2}%
15173       \@afterheading
15174     \fi
15175     \addcontentsline{toc}{chapter}{##1}%
15176   }%
15177 }
15178 \ifclassloaded{scrbook}{%
15179   \@ifclasslater{scrbook}{2001/01/01}{%
15180     \let\Hy@tempa\@empty
15181   }{}%

```

```

15182 }{%
15183 \ifclassloaded{scrreprt}{%
15184 \ifclasslater{scrreprt}{2001/01/01}{%
15185 \let\Hy@tempa\@empty
15186 }{}%
15187 }{%
15188 \let\Hy@tempa\@empty
15189 }%
15190 }%
15191 \Hy@tempa
15192 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15193 <*pd1enc>
15194 \DeclareFontEncoding{PD1}{}{}

```

#### Accents

```

15195 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
15196 \DeclareTextAccent{\'}{PD1}{\textacute}
15197 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
15198 \DeclareTextAccent{\~}{PD1}{\texttilde}
15199 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
15200 \DeclareTextAccent{\r}{PD1}{\textring}
15201 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
15202 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
15203 \DeclareTextAccent{\c}{PD1}{\textcedilla}
15204 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
15205 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
15206 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
15207 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
15208 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
15209 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
15210 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
15211 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
15212 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
15213 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
15214 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
15215 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
15216 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
15217 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
15218 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
15219 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
15220 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}

```

```

15221 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
15222 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
15223 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
15224 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textstring}
15225 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15226 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15227 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15228 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15229 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15230 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15231 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15232 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15233 \DeclareTextCommand{\newtie}{PD1}[1]{%
15234   \TextSymbolUnavailable{\newtie{#1}}#1%
15235 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15236 % U+0009 (CHARACTER TABULATION)
15237 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15238 % U+000A (LINE FEED)
15239 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15240 % U+000D (CARRIAGE RETURN)
15241 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15242 % U+02D8 BREVE; breve
15243 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15244 % U+02C7 CARON; caron
15245 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15246 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15247 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15248 % U+02D9 DOT ABOVE; dotaccent
15249 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15250 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15251 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15252 % U+02DB OGONEK; ogonek
15253 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15254 % U+02DA RING ABOVE; ring
15255 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15256 % U+02DC SMALL TILDE; ilde, *tilde
15257 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15258 % U+0022 QUOTATION MARK; quotedbl
15259 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15260 % U+0023 NUMBER SIGN; numbersign
15261 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
15262 % U+0024 DOLLAR SIGN; dollar
15263 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
15264 % U+0025 PERCENT SIGN; percent

```

15265 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 15266 % U+0026 AMPERSAND; ampersand  
 15267 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 15268 % U+0028 LEFT PARENTHESIS; parenleft  
 15269 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 15270 % U+0029 RIGHT PARENTHESIS; parenright  
 15271 \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  
 15272 % U+002E FULL STOP; period  
 15273 \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  
 15274 % U+003C LESS-THAN SIGN; less  
 15275 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 15276 % U+003E GREATER-THAN SIGN; greater  
 15277 \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  
 15278 % U+005C REVERSE SOLIDUS; backslash  
 15279 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15280 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15281 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15282 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15283 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15284 % U+005F LOW LINE; underscore  
 15285 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15286 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15287 % U+0060 GRAVE ACCENT; grave  
 15288 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

\141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 15289 % U+0069 LATIN SMALL LETTER I; i  
 15290 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 15291 % U+007B LEFT CURLY BRACKET; braceleft  
 15292 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 15293 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15294 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 15295 % U+007D RIGHT CURLY BRACKET; braceright  
 15296 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 15297 % U+007E TILDE; asciitilde  
 15298 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 15299 % U+2022 BULLET; bullet  
 15300 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 15301 % U+2020 DAGGER; dagger  
 15302 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 15303 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 15304 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 15305 \DeclareTextCommand{\textddagger}{PD1}{\textdagger}  
 15306 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15307 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 15308 % U+2014 EM DASH; emdash  
 15309 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 15310 % U+2013 EN DASH; endash  
 15311 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 15312 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 15313 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 15314 % U+2044 FRACTION SLASH; fraction  
 15315 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 15316 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 15317 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 15318 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 15319 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 15320 % U+2212 MINUS SIGN; minus  
 15321 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 15322 % U+2030 PER MILLE SIGN; perthousand  
 15323 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 15324 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15325 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 15326 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15327 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 15328 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright



15329 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15330 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15331 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15332 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15333 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15334 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15335 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15336 % U+2122 TRADE MARK SIGN; trademark  
15337 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15338 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15339 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15340 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15341 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15342 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15343 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15344 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15345 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15346 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15347 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15348 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15349 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
15350 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
15351 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15352 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15353 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15354 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15355 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15356 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15357 % U+0153 LATIN SMALL LIGATURE OE; oe  
15358 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15359 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15360 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15361 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15362 \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.  
15363 % U+20AC EURO SIGN; \*Euro, euro  
15364 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15365 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15366 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15367 % U+00A2 CENT SIGN; cent  
15368 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15369 % U+00A3 POUND SIGN; sterling  
15370 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15371 % U+00A4 CURRENCY SIGN; currency  
15372 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
15373 % U+00A5 YEN SIGN; yen  
15374 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15375 % U+00A6 BROKEN BAR; brokenbar

15376 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15377 % U+00A7 SECTION SIGN; section  
15378 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15379 % U+00A8 DIAERESIS; dieresis  
15380 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15381 % U+00A9 COPYRIGHT SIGN; copyright  
15382 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15383 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15384 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15385 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
15386 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15387 % U+00AC NOT SIGN; logicalnot  
15388 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15389 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
15390 % U+00AE REGISTERED SIGN; registered  
15391 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15392 % U+00AF MACRON; \*macron, overscore  
15393 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15394 % U+00B0 DEGREE SIGN; degree  
15395 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15396 % U+00B1 PLUS-MINUS SIGN; plusminus  
15397 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15398 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15399 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15400 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15401 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15402 % U+00B4 ACUTE ACCENT; acute  
15403 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15404 % U+00B5 MICRO SIGN; mu, mul  
15405 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15406 % U+00B6 PILCROW SIGN; paragraph  
15407 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15408 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15409 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15410 % U+00B8 CEDILLA; cedilla  
15411 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15412 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15413 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15414 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15415 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15416 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15417 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15418 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15419 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15420 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15421 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD

15422 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15423 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15424 % U+00BF INVERTED QUESTION MARK; questiondown  
15425 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15426 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15427 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15428 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15429 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15430 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15431 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15432 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15433 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15434 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15435 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15436 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15437 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15438 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15439 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15440 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15441 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15442 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15443 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15444 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15445 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15446 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15447 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15448 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15449 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15450 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15451 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15452 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15453 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15454 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15455 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15456 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15457 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15458 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15459 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15460 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15461 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15462 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15463 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15464 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15465 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15466 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15467 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15468 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15469 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15470 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15471 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis

15472 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
15473 % U+00D7 MULTIPLICATION SIGN; multiply  
15474 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15475 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15476 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15477 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15478 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
15479 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15480 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15481 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15482 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15483 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15484 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
15485 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15486 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15487 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15488 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15489 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15490 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15491 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15492 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15493 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
15494 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15495 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15496 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15497 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15498 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15499 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15500 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15501 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4  
15502 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15503 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15504 % U+00E6 LATIN SMALL LETTER AE; ae  
15505 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15506 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15507 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15508 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15509 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15510 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15511 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15512 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15513 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15514 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15515 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB  
15516 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15517 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15518 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15519 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15520 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15521 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED

```

15522 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15523 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE
15524 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
15525 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15526 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
15527 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
15528 % U+00F0 LATIN SMALL LETTER ETH; eth
15529 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
15530 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15531 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
15532 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15533 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
15534 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15535 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15536 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15537 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
15538 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15539 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
15540 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15541 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
15542 % U+00F7 DIVISION SIGN; divide
15543 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15544 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15545 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15546 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15547 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
15548 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15549 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15550 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15551 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
15552 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15553 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
15554 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15555 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15556 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15557 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15558 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15559 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15560 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15561 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15562 \DeclareTextCommand{\SS}{PD1}{SS}%
15563 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15564 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15565 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15566 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15567 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15568 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%

```

```

15569 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15570 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15571 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%
Aliases (math names)
15572 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15573 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15574 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15575 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15576 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15577 \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).
15578 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15579 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15580 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15581 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15582 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15583 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15584 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15585 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15586 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15587 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15588 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15589 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15590 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15591 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15592 </pdlenc>

```

## 51.2 PU encoding

```

15593 <*puenc>
15594 \DeclareFontEncoding{PU}{-}{-}

```

### 51.2.1 NFSS2 accents

```

15595 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15596 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15597 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15598 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15599 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15600 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15601 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15602 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15603 % U+0304 COMBINING MACRON; macroncmb
15604 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15605 % U+0306 COMBINING BREVE; brevecmb
15606 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15607 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15608 % U+0307 COMBINING DOT ABOVE; dotaccentcmb

```

```

15609 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15610 % U+0308 COMBINING DIAERESIS; dieresiscomb
15611 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15612 % U+030A COMBINING RING ABOVE; ringcmb
15613 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15614 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15615 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15616 % U+030C COMBINING CARON; caroncmb
15617 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15618 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15619 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15620 \ifx\CYRDZE\@undefined \else
15621 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15622 \fi
15623 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15624 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15625 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15626 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15627 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15628 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15629 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15630 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15631 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15632 % U+0327 COMBINING CEDILLA; cedillacmb
15633 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15634 % U+0328 COMBINING OGONEK; ogonekcmb
15635 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15636 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15637 % \textsubcircum (tipa)
15638 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15639 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15640 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15641 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15642 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15643 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15644 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15645 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15646 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15647 % U+20DD COMBINING ENCLOSING CIRCLE
15648 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15649 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15650 \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.

```

15651 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15652 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%

```

```

15653 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}%
15654 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15655 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15656 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15657 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15658 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15659 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15660 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15661 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15662 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15663 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15664 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15665 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311
15666 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324
15667 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15668 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}%
15669 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E
15670 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}%
15671 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15672 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15673 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15674 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15675 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15676 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U+
15677 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U+
15678 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15679 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15680 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15681 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15682 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15683 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15684 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15685 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15686 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15687 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15688 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15689 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15690 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15691 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15692 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311
15693 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324
15694 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15695 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15696 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E
15697 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%
15698 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15699 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15700 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%

```



```

15701 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15702 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15703 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\ \83\001\83\004}% U+0301 U+0304
15704 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\ \83\000\83\004}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15705 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15706 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15707 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15708 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15709 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15710 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15711 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%
15712 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15713 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15714 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15715 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15716 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15717 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
15718 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15719 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15720 % U+0009 (CHARACTER TABULATION)
15721 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15722 % U+000A (LINE FEED)
15723 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15724 % U+000D (CARRIAGE RETURN)
15725 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

15726 % U+0022 QUOTATION MARK; quotedbl
15727 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
15728 % U+0023 NUMBER SIGN; numbersign
15729 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15730 % U+0024 DOLLAR SIGN; dollar
15731 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15732 %* \textdollar -> \mathdollar
15733 %* \textdollar -> \EyesDollar (marvosym)
15734 % U+0025 PERCENT SIGN; percent
15735 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15736 % U+0026 AMPERSAND; ampersand
15737 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15738 %* \textampersand -> \binampersand (stmaryrd)
15739 %* \textampersand -> \with (cmll)
15740 % U+0027 APOSTROPHE; quotesingle
15741 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15742 % U+0028 LEFT PARENTHESIS; parenleft

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15743 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15744 % U+0029 RIGHT PARENTHESIS; parenright
15745 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15746 % U+002A ASTERISK; asterisk; (?)
15747 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15748 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15749 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15750 % U+002C COMMA; comma; \MVComma (marvosym)
15751 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15752 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15753 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15754 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15755 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15756 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15757 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15758 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15759 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
15760 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15761 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15762 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15763 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15764 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15765 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15766 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15767 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15768 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15769 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
15770 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
15771 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
15772 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
15773 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
15774 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
15775 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
15776 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
15777 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039
\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon
15778 % U+003C LESS-THAN SIGN; less
15779 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
15780 % U+003E GREATER-THAN SIGN; greater
15781 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E
\80\077: U+003F QUESTION MARK; question
15782 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)
15783 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%* U+0040
\80\101: U+0041 LATIN CAPITAL LETTER A; A
...

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$\backslash 80\backslash 132$ : U+005A LATIN CAPITAL LETTER Z; Z  
 $\backslash 80\backslash 133$ : U+005B LEFT SQUARE BRACKET; bracketleft  
15784 % U+005C REVERSE SOLIDUS; backslash  
15785  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbackslash}\}\{\text{PU}\}\{\backslash 80\backslash 134\}\%$  U+005C  
 $\backslash 80\backslash 135$ : U+005D RIGHT SQUARE BRACKET; bracketright  
15786 % U+005E CIRCUMFLEX ACCENT; asciicircum  
15787  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciicircum}\}\{\text{PU}\}\{\backslash 80\backslash 136\}\%$  U+005E  
15788 % U+005F LOW LINE; underscore  
15789  $\backslash \text{DeclareTextCommand}\{\backslash \text{textunderscore}\}\{\text{PU}\}\{\backslash 80\backslash 137\}\%$  U+005F  
15790 %\*  $\backslash \text{textunderscore} \rightarrow \backslash \text{mathunderscore}$  (LaTeX)  
15791 % U+0060 GRAVE ACCENT; grave  
15792  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciigrave}\}\{\text{PU}\}\{\backslash 80\backslash 140\}\%$  U+0060  
 $\backslash 80\backslash 141$ : U+0061 LATIN SMALL LETTER A; a  
...  
 $\backslash 80\backslash 150$ : U+0068 LATIN SMALL LETTER H; h  
15793 % U+0069 LATIN SMALL LETTER I; i  
15794  $\backslash \text{DeclareTextCompositeCommand}\{\backslash \cdot\}\{\text{PU}\}\{\backslash i\}\{\backslash i\}\%$   $\backslash 80\backslash 151$  U+0069  
15795  $\backslash \text{DeclareTextCompositeCommand}\{\backslash \cdot\}\{\text{PU}\}\{\backslash i\}\{\backslash i\}\%$   $\backslash 80\backslash 151$  U+0069  
 $\backslash 80\backslash 152$ : U+006A LATIN SMALL LETTER J; j  
...  
 $\backslash 80\backslash 172$ : U+007A LATIN SMALL LETTER Z; z  
15796 % U+007B LEFT CURLY BRACKET; braceleft  
15797  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceleft}\}\{\text{PU}\}\{\backslash 80\backslash 173\}\%$  U+007B  
15798 % U+007C VERTICAL LINE; \*bar, verticalbar  
15799  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbar}\}\{\text{PU}\}\{\backslash | \}\%$   $\backslash 80\backslash 174$  U+007C  
15800 %\*  $\backslash \text{textbar} \rightarrow \backslash \text{textvtrline}$  (tipa)  
15801 % U+007D RIGHT CURLY BRACKET; braceright  
15802  $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceright}\}\{\text{PU}\}\{\backslash 80\backslash 175\}\%$  U+007D  
15803 % U+007E TILDE; asciitilde  
15804  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciitilde}\}\{\text{PU}\}\{\backslash 80\backslash 176\}\%$  U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$ : U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
15805 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15806  $\backslash \text{DeclareTextCommand}\{\backslash \text{textexclamdown}\}\{\text{PU}\}\{\backslash 80\backslash 241\}\%$  U+00A1  
15807 % U+00A2 CENT SIGN; cent  
15808  $\backslash \text{DeclareTextCommand}\{\backslash \text{textcent}\}\{\text{PU}\}\{\backslash 80\backslash 242\}\%$  U+00A2  
15809 % U+00A3 POUND SIGN; sterling  
15810  $\backslash \text{DeclareTextCommand}\{\backslash \text{textsterling}\}\{\text{PU}\}\{\backslash 80\backslash 243\}\%$  U+00A3  
15811 %\*  $\backslash \text{textsterling} \rightarrow \backslash \text{mathsterling}$  (LaTeX)  
15812 %\*  $\backslash \text{textsterling} \rightarrow \backslash \text{pounds}$  (LaTeX)  
15813 % U+00A4 CURRENCY SIGN; currency  
15814  $\backslash \text{DeclareTextCommand}\{\backslash \text{textcurrency}\}\{\text{PU}\}\{\backslash 80\backslash 244\}\%$  U+00A4  
15815 % U+00A5 YEN SIGN; yen  
15816  $\backslash \text{DeclareTextCommand}\{\backslash \text{textyen}\}\{\text{PU}\}\{\backslash 80\backslash 245\}\%$  U+00A5  
15817 % U+00A6 BROKEN BAR; brokenbar

15818 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
15819 %\* \textbrokenbar -> \brokenvert (wasysym)  
15820 % U+00A7 SECTION SIGN; section  
15821 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
15822 %\* \textsection -> \mathsection (LaTeX)  
15823 %\* \textsection -> \S (LaTeX)  
15824 % U+00A8 DIAERESIS; dieresis  
15825 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
15826 % U+00A9 COPYRIGHT SIGN; copyright  
15827 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
15828 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15829 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
15830 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15831 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
15832 % U+00AC NOT SIGN; logicalnot  
15833 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
15834 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sftthyphen, softthyphen  
15835 % U+00AE REGISTERED SIGN; registered  
15836 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
15837 % U+00AF MACRON; \*macron, overscore  
15838 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
15839 % U+00B0 DEGREE SIGN; degree  
15840 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
15841 % U+00B1 PLUS-MINUS SIGN; plusminus  
15842 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
15843 % U+00B2 SUPERScript TWO; twosuperior  
15844 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
15845 % U+00B3 SUPERScript THREE; threesuperior  
15846 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
15847 % U+00B4 ACUTE ACCENT; acute  
15848 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
15849 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
15850 % U+00B5 MICRO SIGN; mu, mu1  
15851 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
15852 % U+00B6 PILCROW SIGN; paragraph  
15853 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
15854 %\* \textparagraph -> \mathparagraph (LaTeX)  
15855 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15856 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
15857 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
15858 %\* \textperiodcentered -> \Squaredot (marvosym)  
15859 % U+00B8 CEDILLA; cedilla  
15860 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
15861 % U+00B9 SUPERScript ONE; onesuperior  
15862 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
15863 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15864 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA

15865 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 15866 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 15867 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 15868 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 15869 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 15870 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 15871 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 15872 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
 15873 % U+00BF INVERTED QUESTION MARK; questiondown  
 15874 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
 15875 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 15876 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
 15877 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 15878 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 15879 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 15880 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
 15881 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 15882 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 15883 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 15884 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
 15885 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 15886 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
 15887 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 15888 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
 15889 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 15890 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
 15891 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 15892 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
 15893 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 15894 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 15895 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 15896 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
 15897 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 15898 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
 15899 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 15900 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
 15901 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 15902 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 15903 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 15904 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
 15905 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 15906 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
 15907 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
 15908 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
 15909 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
 15910 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
 15911 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
 15912 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
 15913 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute

15914 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15915 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15916 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15917 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15918 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15919 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15920 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15921 % U+00D7 MULTIPLICATION SIGN; multiply  
15922 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15923 %\* \textmultiply -> \vartimes (stmaryrd)  
15924 %\* \textmultiply -> \MVMultiplication (marvosym)  
15925 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15926 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15927 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15928 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
15929 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15930 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15931 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15932 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15933 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15934 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15935 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15936 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15937 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15938 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15939 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15940 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15941 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15942 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15943 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
15944 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15945 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15946 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15947 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15948 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15949 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15950 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15951 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15952 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15953 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15954 % U+00E6 LATIN SMALL LETTER AE; ae  
15955 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15956 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15957 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15958 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15959 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
15960 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15961 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15962 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15963 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA

15964 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15965 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB  
15966 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15967 \DeclareTextCompositeCommand{"}{PU}{i}{\80\354}% U+00EC  
15968 \DeclareTextCompositeCommand{"}{PU}{i}{\80\354}% U+00EC  
15969 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15970 \DeclareTextCompositeCommand{"}{PU}{i}{\80\355}% U+00ED  
15971 \DeclareTextCompositeCommand{"}{PU}{i}{\80\355}% U+00ED  
15972 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15973 \DeclareTextCompositeCommand{"}{PU}{i}{\80\356}% U+00EE  
15974 \DeclareTextCompositeCommand{"}{PU}{i}{\80\356}% U+00EE  
15975 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15976 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
15977 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
15978 % U+00F0 LATIN SMALL LETTER ETH; eth  
15979 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15980 %\* \dh -> \eth (wsuipa, phonetic)  
15981 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15982 \DeclareTextCompositeCommand{"}{PU}{n}{\80\361}% U+00F1  
15983 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15984 \DeclareTextCompositeCommand{"}{PU}{o}{\80\362}% U+00F2  
15985 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15986 \DeclareTextCompositeCommand{"}{PU}{o}{\80\363}% U+00F3  
15987 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15988 \DeclareTextCompositeCommand{"}{PU}{o}{\80\364}% U+00F4  
15989 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otild  
15990 \DeclareTextCompositeCommand{"}{PU}{o}{\80\365}% U+00F5  
15991 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15992 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
15993 % U+00F7 DIVISION SIGN; divide  
15994 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
15995 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15996 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
15997 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15998 \DeclareTextCompositeCommand{"}{PU}{u}{\80\371}% U+00F9  
15999 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
16000 \DeclareTextCompositeCommand{"}{PU}{u}{\80\372}% U+00FA  
16001 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
16002 \DeclareTextCompositeCommand{"}{PU}{u}{\80\373}% U+00FB  
16003 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
16004 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
16005 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
16006 \DeclareTextCompositeCommand{"}{PU}{y}{\80\375}% U+00FD  
16007 % U+00FE LATIN SMALL LETTER THORN; thorn;  
16008 % \th, \thorn (wasysym), \textthorn (tipa)  
16009 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
16010 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
16011 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
16012 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

### 51.2.4 Latin Extended-A: U+0080 to U+017F

16013 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
16014 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
16015 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
16016 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
16017 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
16018 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
16019 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
16020 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
16021 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
16022 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
16023 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
16024 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
16025 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
16026 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
16027 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
16028 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
16029 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
16030 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
16031 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
16032 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
16033 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
16034 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
16035 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
16036 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
16037 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
16038 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
16039 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
16040 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
16041 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
16042 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
16043 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
16044 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
16045 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
16046 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
16047 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
16048 % \textcrd (tipa)  
16049 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
16050 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
16051 %\* \textcrd -> \crossd (wsuipa)  
16052 % An alternate glyph with the stroke through the bowl:  
16053 %\* \textcrd -> \textbard (tipa)  
16054 %\* \textcrd -> \bard (wsuipa)  
16055 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
16056 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
16057 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
16058 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
16059 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve



16060 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
16061 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
16062 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
16063 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
16064 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
16065 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
16066 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
16067 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
16068 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
16069 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
16070 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
16071 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
16072 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
16073 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
16074 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
16075 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
16076 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
16077 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
16078 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
16079 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
16080 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
16081 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
16082 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
16083 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
16084 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
16085 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
16086 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
16087 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
maaccent  
16088 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
16089 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
16090 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
16091 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
16092 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
16093 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
16094 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
16095 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
16096 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
16097 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
16098 \DeclareTextCommand{\texthbar}{PU}{\81\047}%\* U+0127  
16099 %\* \texthbar -> \textcrh (tipa)  
16100 %\* \texthbar -> \crossh (wsuipa)  
16101 %\* \texthbar -> \planck (phonetic)  
16102 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
16103 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
16104 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
16105 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16106 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16107 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron

```

16108 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
16109 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
16110 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
16111 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\053}% U+012B
16112 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
16113 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
16114 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
16115 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
16116 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
16117 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
16118 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
16119 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
16120 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16121 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16122 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
16123 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
16124 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
16125 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
16126 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
16127 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
16128 % U+0133 LATIN SMALL LIGATURE IJ; ij
16129 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
16130 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
16131 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
16132 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
16133 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16134 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16135 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
16136 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
16137 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
16138 \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`.

```

16139 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
16140 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
16141 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
16142 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
16143 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
16144 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
16145 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
16146 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
16147 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
16148 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
16149 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
16150 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
16151 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron

```

16152 \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.  
16153 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-  
cent  
16154 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
16155 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
16156 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
16157 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
16158 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
16159 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
16160 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
16161 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
16162 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
16163 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
16164 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
16165 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
cent  
16166 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
16167 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
16168 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
16169 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
16170 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
16171 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
16172 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
16173 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
trophe, quoterightn  
16174 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
16175 % U+014A LATIN CAPITAL LETTER ENG; Eng  
16176 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
16177 % U+014B LATIN SMALL LETTER ENG; eng  
16178 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
16179 %\* \ng -> \eng (wsuipa)  
16180 %\* \ng -> \engma (phonetic)  
16181 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
16182 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
16183 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
16184 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
16185 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
16186 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
16187 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
16188 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
16189 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
16190 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
16191 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
16192 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151

16193 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
16194 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
16195 % U+0153 LATIN SMALL LIGATURE OE; oe  
16196 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
16197 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
16198 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
16199 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
16200 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
16201 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
16202 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
16203 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
16204 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
16205 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
16206 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
16207 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
16208 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
16209 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
16210 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
16211 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
16212 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
16213 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
16214 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
16215 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
16216 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
16217 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
16218 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
16219 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
16220 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
16221 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
16222 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
16223 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
16224 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
16225 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
16226 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
16227 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
16228 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
16229 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
16230 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
16231 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
16232 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
16233 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
16234 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
16235 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
16236 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
16237 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
16238 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
16239 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
16240 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169

16241 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 16242 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 16243 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 16244 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
 16245 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 16246 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 16247 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 16248 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 16249 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 16250 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 16251 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 16252 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 16253 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
 16254 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 16255 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
 16256 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 16257 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 16258 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 16259 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 16260 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 16261 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 16262 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 16263 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 16264 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 16265 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 16266 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 16267 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 16268 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 16269 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 16270 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 16271 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 16272 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 16273 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 16274 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 16275 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 16276 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 16277 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 16278 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 16279 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 16280 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 16281 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 16282 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 16283 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 16284 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16285 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 16286 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180

16287 %\* \textcrb -> \crossb (wsuipa)  
 16288 % An alternate glyph with the stroke through the bowl:  
 16289 %\* \textcrb -> \textbarb (tipa)  
 16290 %\* \textcrb -> \barb (wsuipa)  
 16291 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)  
 16292 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181  
 16293 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 16294 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 16295 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (phonetic)  
 16296 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
 16297 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed  
 16298 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E  
 16299 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
 16300 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 16301 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 16302 %\* \textflorin -> \Florin (marvosym)  
 16303 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
 16304 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
 16305 %\* \texthvlig -> \hv (wsuipa)  
 16306 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
 16307 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
 16308 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
 16309 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
 16310 %\* \texthtk -> \hausak (phonetic)  
 16311 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
 16312 % \textbarl (tipa), \barl (wsuipa)  
 16313 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
 16314 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
 16315 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
 16316 % \textcrlambda (tipa)  
 16317 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
 16318 %\* \textcrlambda -> \crossnilambda (wsuipa)  
 16319 %\* \textcrlambda -> \barlambd (phonetic)  
 16320 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
 16321 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
 16322 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-long;  
 16323 % \textnrleg (tipx)  
 16324 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
 16325 %\* \textPUnrleg -> \textnrleg (tipx)  
 16326 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
 16327 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
 16328 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
 16329 % \textlhookt (tipa)  
 16330 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
 16331 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
 16332 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD

16333 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
 16334 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
 16335 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
 16336 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
 16337 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
 16338 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
 16339 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
 16340 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
 16341 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
 16342 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
 16343 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
 tal;  
 16344 % \textpipe (tipa)  
 16345 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
 16346 %\* \textpipe -> \textpipevar (tipx)  
 16347 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
 16348 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
 16349 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
 16350 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
 16351 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
 BLE BAR;  
 16352 % clickalveolar; \textdoublebarpipe (tipa)  
 16353 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
 16354 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 16355 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 16356 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 16357 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón  
 16358 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 16359 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 16360 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 16361 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 16362 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16363 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 16364 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 16365 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 16366 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 16367 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 16368 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 16369 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 16370 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 16371 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 16372 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 16373 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 16374 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 16375 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 16376 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 16377 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 16378 %\* \textgslash -> \textcrg (tipa)  
 16379 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 16380 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6

16381 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
16382 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16383 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16384 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16385 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
16386 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16387 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16388 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
16389 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
16390 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16391 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16392 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16393 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16394 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16395 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16396 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16397 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16398 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16399 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
16400 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16401 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
16402 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16403 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16404 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16405 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16406 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16407 % \*Oslashacute, Ostrokeacute  
16408 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16409 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16410 % \*oslashacute, ostrokeacute  
16411 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16412 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Abdblgrave  
16413 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16414 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; abdblgrave  
16415 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16416 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblblgrave  
16417 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16418 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edlblgrave  
16419 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16420 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16421 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16422 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
breve  
16423 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16424 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16425 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16426 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16427 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16428 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209



16429 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; iinverted-  
 breve  
 16430 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
 16431 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
 breve  
 16432 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 16433 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\i}{\82\013}% U+020B  
 16434 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 16435 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 16436 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 16437 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 16438 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
 edbreve  
 16439 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
 16440 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
 breve  
 16441 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
 16442 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 16443 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 16444 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 16445 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 16446 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 16447 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 16448 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 16449 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 16450 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 16451 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 16452 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 16453 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 16454 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 16455 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 16456 % U+021F LATIN SMALL LETTER H WITH CARON  
 16457 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 16458 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 16459 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16460 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16461 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16462 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16463 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16464 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16465 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16466 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16467 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16468 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16469 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16470 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16471 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16472 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE

16473 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16474 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16475 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16476 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16477 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16478 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16479 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16480 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16481 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16482 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16483 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16484 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16485 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16486 %\* \textPUdblig -> \textdblig (tipx)  
 16487 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16488 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16489 %\* \textPUqplig -> \textqplig (tipx)  
 16490 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16491 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16492 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16493 % With bar instead of stroke:  
 16494 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16495 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16496 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16497 %\* \textturna -> \inva (wasysym)  
 16498 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16499 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16500 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 16501 %\* \textscripta -> \vara (phonetic)  
 16502 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16503 % \textturnscripta (tipa)  
 16504 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 16505 %\* \textturnscripta -> \invscripta (wsuipa)  
 16506 %\* \textturnscripta -> \rotvara (phonetic)  
 16507 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16508 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 16509 %\* \texthtb -> \hookb (wsuipa)  
 16510 %\* \texthtb -> \hausab (phonetic)  
 16511 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16512 % \textopeno (tipa), \openo (wasysym)  
 16513 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 16514 %\* \textopeno -> \varopeno (phonetic)  
 16515 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 16516 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 16517 %\* \textctc -> \curlyc (wsuipa)  
 16518 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 16519 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
 16520 %\* \textrtaild -> \taild (wsuipa)

16521 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16522 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16523 %\* \texthtd -> \hookd (wsuipa)  
16524 %\* \texthtd -> \hausad (phonetic)  
16525 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16526 % \textreve (tipa), \reve (wsuipa)  
16527 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16528 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16529 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16530 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16531 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16532 % \textrhookschwa (tipa)  
16533 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16534 %\* \textrhookschwa -> \er (wsuipa)  
16535 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16536 % \niepsilon (wsuipa)  
16537 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16538 %\* \textniepsilon -> \epsi (phonetic)  
16539 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16540 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16541 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16542 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16543 % \textrhookrevepsilon (tipa)  
16544 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16545 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16546 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16547 % \textcloserevepsilon (tipa)  
16548 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16549 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16550 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16551 % \textbardotlessj (tipa)  
16552 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16553 %\* \textbardotlessj -> \barj (phonetic)  
16554 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16555 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16556 %\* \texthtg -> \hookg (wsuipa)  
16557 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16558 % \textscriptg (tipa), \scriptg (wsuipa)  
16559 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
16560 %\* \textscriptg -> \varg (phonetic)  
16561 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16562 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16563 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
16564 % \ipagamma (wsuipa), \vod (phonetic)  
16565 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16566 %\* \textipagamma -> \vod (pnonetic)

16567 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
 16568 % \babygamma (wsuipa)  
 16569 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
 16570 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
 16571 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
 16572 %\* \textturnh -> \invh (wsuipa)  
 16573 %\* \textturnh -> \udesc (phonetic)  
 16574 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
 16575 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
 16576 %\* \texthth -> \hookh (wsuipa)  
 16577 %\* \texthth -> \voicedh (phonetic)  
 16578 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
 16579 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
 16580 %\* \texththeng -> \hookheng (wsuipa)  
 16581 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
 16582 % \textbari (tipa), \bari (wsuipa)  
 16583 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
 16584 %\* \textbari -> \ibar (phonetic)  
 16585 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
 16586 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
 16587 %\* \textniiota -> \vari (phonetic)  
 16588 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
 16589 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
 16590 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
 16591 % \textltilde (tipa)  
 16592 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
 16593 %\* \textltilde -> \tildel (wsuipa)  
 16594 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
 16595 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
 16596 %\* \textbeltl -> \latfric (wsuipa)  
 16597 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
 16598 % \hookretroflex; \textrtaill (tipa)  
 16599 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
 16600 %\* \textrtaill -> \taill (wsuipa)  
 16601 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
 16602 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
 16603 %\* \textlyoghlig -> \lz (wsuipa)  
 16604 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
 16605 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
 16606 %\* \textturnm -> \invm (wsuipa)  
 16607 %\* \textturnm -> \rotm (phonetic)  
 16608 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
 turned;  
 16609 % \textturnmrleg (tipa)  
 16610 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
 16611 %\* \textturnmrleg -> \legm (wsuipa)  
 16612 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
 16613 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
 16614 %\* \textltailm -> \labdentalnas (wsuipa)

16615 %\* \textltailm -> \emgma (phonetic)  
16616 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
16617 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16618 %\* \textltailn -> \nj (wsuipa)  
16619 %\* \textltailn -> \nya (phonetic)  
16620 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16621 % nhookretroflex; \textrtailn (tipa)  
16622 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16623 %\* \textrtailn -> \tailn (wsuipa)  
16624 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16625 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16626 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16627 % LATIN CAPITAL LETTER BARRED O; obarred;  
16628 % \textbaro (tipa), \baro (wsuipa)  
16629 % But \baro from stmaryrd is different!  
16630 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
16631 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)  
16632 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276  
16633 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatincloded;  
16634 % \textcloseomega (tipa)  
16635 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16636 %\* \textcloseomega -> \closedniomega (wsuipa)  
16637 %\* \textcloseomega -> \varomega (phonetic)  
16638 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)  
16639 \DeclareTextCommand{\textnphi}{PU}{\82\170}%\* U+0278  
16640 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16641 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16642 %\* \textturnr -> \invr (wsuipa)  
16643 %\* \textturnr -> \rotr (phonetic)  
16644 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16645 % rlonglegturned; \textturnlonglegr (tipa)  
16646 \DeclareTextCommand{\textturnlonglegr}{PU}{\82\172}% U+027A  
16647 %\* \textturnlonglegr -> \invlegr (wsuipa)  
16648 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhohturned;  
16649 % \textturnrrtail (tipa)  
16650 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16651 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16652 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlonglegr (tipa)  
16653 \DeclareTextCommand{\textlonglegr}{PU}{\82\174}%\* U+027C  
16654 %\* \textlonglegr -> \legr (wsuipa)  
16655 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoht; \textrtailr (tipa)  
16656 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16657 %\* \textrtailr -> \tailr (wsuipa)  
16658 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16659 % \textfishhookr (tipa)  
16660 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16661 %\* \textfishhookr -> \flapr (wsuipa)  
16662 %\* \textfishhookr -> \flap (phonetic)

16663 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
16664 % \textlhtlongi (tipa)  
16665 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16666 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
16667 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16668 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16669 % \textinvscr (tipa), \invscr (wsuipa)  
16670 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16671 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)  
16672 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282  
16673 %\* \textrtails -> \tails (wsuipa)  
16674 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16675 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16676 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16677 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16678 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16679 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatreversed;  
16680 % \textviby (tipa)  
16681 \DeclareTextCommand{\textviby}{PU}{\82\205}% U+0285  
16682 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16683 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16684 %\* \textctesh -> \curlyesh (wsuipa)  
16685 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16686 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16687 %\* \textturnt -> \clickt (wsuipa)  
16688 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; tetroflexhook;  
16689 % \textrtailt (tipa)  
16690 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288  
16691 %\* \textrtailt -> \tailt (wsuipa)  
16692 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16693 % \textbaru (tipa), \baru (wsuipa)  
16694 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16695 %\* \textbaru -> \ubar (phonetic)  
16696 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16697 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16698 %\* \textniupsilon -> \rotOmega (phonetic)  
16699 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;  
16700 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16701 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16702 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16703 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16704 %\* \textturnv -> \invv (wsuipa)  
16705 %\* \textturnv -> \pwedge (phonetic)  
16706 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16707 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16708 %\* \textturnw -> \invw (wsuipa)

16709 %\* \textturnw -> \rotw (phonetic)  
 16710 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
 16711 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
 16712 %\* \textturny -> \invy (wsuipa)  
 16713 %\* \textturny -> \roty (phonetic)  
 16714 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
 16715 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
 16716 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-hook;  
 16717 % \textrtailz (tipa)  
 16718 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
 16719 %\* \textrtailz -> \tailz (wsuipa)  
 16720 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
 16721 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
 16722 %\* \textctz -> \curlyz (wsuipa)  
 16723 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
 16724 % \textyogh (tipa), \yogh (wsuipa)  
 16725 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
 16726 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
 16727 % ezhcurl; \textctyogh (tipa)  
 16728 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
 16729 %\* \textctyogh -> \curlyyogh (wsuipa)  
 16730 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
 16731 % \textglotstop (tipa), \glotstop (wsuipa)  
 16732 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
 16733 %\* \textglotstop -> \ejective (wsuipa)  
 16734 %\* \textglotstop -> \glottal (phonetic)  
 16735 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
 16736 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
 16737 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
 16738 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
 16739 %\* \textrevglotstop -> \reject (wsuipa)  
 16740 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
 16741 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
 16742 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
 16743 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
 16744 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
 16745 %\* \textstretchc -> \clickc (wsuipa)  
 16746 %\* \textstretchc -> \textstretchcvar (tipx)  
 16747 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
 16748 % \textbullseye (tipa)  
 16749 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
 16750 %\* \textbullseye -> \clickb (wsuipa)  
 16751 %\* \textbullseye -> \textObullseye (tipx)  
 16752 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
 16753 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
 16754 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
 16755 % \textcloseepsilon (tipa)  
 16756 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A

16757 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16758 % \texthtscg (tipa)  
16759 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16760 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16761 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16762 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-  
tail; \textcdj (tipa)  
16763 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16764 %\* \textctj -> \textctjvar (tipx)  
16765 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16766 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16767 %\* \textturnk -> \textturnsck (tipx)  
16768 % U+029F LATIN LETTER SMALL CAPITAL L; \textscsl (tipa)  
16769 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F  
16770 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16771 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16772 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
stroke;  
16773 % \textbarglotstop (tipa)  
16774 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
16775 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
16776 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
versed;  
16777 % \textbarrevglotstop (tipa)  
16778 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
16779 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
16780 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
16781 %\* \textdzlig -> \dz (wsupipa)  
16782 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
lig (tipa)  
16783 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
16784 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
16785 % \textdctzlig (tipa)  
16786 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
16787 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
16788 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
16789 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
16790 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
16791 %\* \texttshlig -> \tesh (wsuipa)  
16792 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
16793 % \texttctclig (tipa)  
16794 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
16795 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
16796 % \textlhtlongy (tipa)  
16797 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
16798 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
16799 % \textvibyy (tipa)  
16800 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF



### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16801 % U+02BD MODIFIER LETTER REVERSED COMMA;  
16802 % commareversedmod, afi64937; \textrevapostrophe (tipa)  
16803 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
16804 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
16805 % \textraiiseglotstop (tipa)  
16806 \DeclareTextCommand{\textraiiseglotstop}{PU}{\82\300}% U+02C0  
16807 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
16808 % \textlptr (tipa)  
16809 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
16810 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
16811 % \textrptr (tipa)  
16812 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
16813 % U+02C7 CARON; caron  
16814 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
16815 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinmod;  
16816 % \textprimstress (tipa)  
16817 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8  
16818 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;  
16819 % \textsecstress (tipa)  
16820 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
16821 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;  
16822 % \textlengthmark (tipa)  
16823 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
16824 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;  
16825 % \texthalflength (tipa)  
16826 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
16827 % U+02D8 BREVE; breve  
16828 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
16829 % U+02D9 DOT ABOVE; dotaccent  
16830 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
16831 % U+02DA RING ABOVE; ring  
16832 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
16833 % U+02DB OGONEK; ogonek  
16834 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
16835 % U+02DC SMALL TILDE; ilde, \*tilde  
16836 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
16837 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
16838 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
16839 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
16840 % U+02F3 MODIFIER LETTER LOW RING  
16841 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
16842 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
16843 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
16844 % U+02F7 MODIFIER LETTER LOW TILDE  
16845 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
16846 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
16847 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9

16848 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16849 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16850 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16851 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16852 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16853 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16854 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16855 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16856 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16857 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16858 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-  
 blecmb  
 16859 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if \textBeta is defined.

16860 \ifx\textBeta\@undefined \else  
 16861 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16862 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16863 \DeclareTextCommand{\textdexiakeraia}{PU}{\83\164}% U+0374  
 16864 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16865 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16866 \DeclareTextCommand{\textaristerikeraia}{PU}{\83\165}% U+0375  
 16867 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 16868 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16869 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16870 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16871 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16872 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16873 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16874 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16875 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
 crontonos  
 16876 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16877 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 16878 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16879 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16880 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 16881 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
 16882 % iotadiesisistonos  
 16883 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
 16884 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 16885 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 16886 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 16887 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 16888 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
 16889 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393

16890 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
 16891 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
 16892 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 16893 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 16894 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 16895 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 16896 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 16897 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 16898 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
 16899 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
 16900 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 16901 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 16902 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 16903 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 16904 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
 16905 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
 16906 % U+039C GREEK CAPITAL LETTER MU; Mu  
 16907 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
 16908 % U+039D GREEK CAPITAL LETTER NU; Nu  
 16909 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
 16910 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
 16911 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
 16912 % U+039F GREEK CAPITAL LETTEROMICRON; Omicron  
 16913 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
 16914 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
 16915 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
 16916 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
 16917 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
 16918 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
 16919 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
 16920 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
 16921 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
 16922 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
 16923 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
 16924 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
 16925 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
 16926 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
 16927 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
 16928 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)  
 16929 \DeclareTextCommand{\textPsi}{PU}{\83\250}%\* U+03A8  
 16930 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega;  
 16931 % \Omega (LaTeX)  
 16932 \DeclareTextCommand{\textOmega}{PU}{\83\251}%\* U+03A9  
 16933 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
 16934 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
 16935 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA  
 16936 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis  
 16937 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB

16938 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
16939 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%\* U+03AC  
16940 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
16941 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD  
16942 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etan  
16943 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE  
16944 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotan  
16945 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF  
16946 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA  
16947 % AND TONOS; upsilon  
16948 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0  
16949 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)  
16950 \DeclareTextCommand{\textalpha}{PU}{\83\261}%\* U+03B1  
16951 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)  
16952 \DeclareTextCommand{\textbeta}{PU}{\83\262}%\* U+03B2  
16953 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)  
16954 \DeclareTextCommand{\textgamma}{PU}{\83\263}%\* U+03B3  
16955 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)  
16956 \DeclareTextCommand{\textdelta}{PU}{\83\264}%\* U+03B4  
16957 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)  
16958 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%\* U+03B5  
16959 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)  
16960 \DeclareTextCommand{\textzeta}{PU}{\83\266}%\* U+03B6  
16961 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)  
16962 \DeclareTextCommand{\texteta}{PU}{\83\267}%\* U+03B7  
16963 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)  
16964 \DeclareTextCommand{\texttheta}{PU}{\83\270}%\* U+03B8  
16965 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)  
16966 \DeclareTextCommand{\textiota}{PU}{\83\271}%\* U+03B9  
16967 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)  
16968 \DeclareTextCommand{\textkappa}{PU}{\83\272}%\* U+03BA  
16969 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)  
16970 \DeclareTextCommand{\textlambda}{PU}{\83\273}%\* U+03BB  
16971 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu; \mu (LaTeX)  
16972 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%\* U+03BC  
16973 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)  
16974 \DeclareTextCommand{\textnu}{PU}{\83\275}%\* U+03BD  
16975 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)  
16976 \DeclareTextCommand{\textxi}{PU}{\83\276}%\* U+03BE  
16977 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
16978 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
16979 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)  
16980 \DeclareTextCommand{\textpi}{PU}{\83\300}%\* U+03C0  
16981 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)  
16982 \DeclareTextCommand{\textrho}{PU}{\83\301}%\* U+03C1  
16983 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
16984 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%\* U+03C2  
16985 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)  
16986 \DeclareTextCommand{\textsigma}{PU}{\83\303}%\* U+03C3  
16987 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)

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16988 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16989 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16990 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16991 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16992 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16993 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16994 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16995 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16996 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16997 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16998 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16999 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
17000 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}% U+03CA
17001 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
      silondieresis
17002 \DeclareTextCompositeCommand{\"}{PU}{\textupsilon}{\83\313}% U+03CB
17003 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
17004 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
17005 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
17006 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
17007 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
17008 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
17009 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
17010 % U+03D8 GREEK LETTER ARCHAIC KOPPA;
17011 \DeclareTextCommand{\textQoppa}{PU}{\83\330}% U+03D8
17012 % U+03D9 GREEK SMALL LETTER ARCHAIC KOPPA;
17013 \DeclareTextCommand{\textqoppa}{PU}{\83\331}% U+03D9
17014 % U+03DA GREEK LETTER STIGMA; Stigmatreek
17015 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
17016 \DeclareTextCommand{\textStigma}{PU}{\83\332}% U+03DA
17017 % U+03DB GREEK SMALL LETTER STIGMA
17018 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB
17019 \DeclareTextCommand{\textstigma}{PU}{\83\333}% U+03DB
17020 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
17021 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
17022 \DeclareTextCommand{\textDigamma}{PU}{\83\334}% U+03DC
17023 % U+03DD GREEK SMALL LETTER DIGAMMA
17024 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
17025 \DeclareTextCommand{\textdigamma}{PU}{\83\335}% U+03DD
17026 %* \textdigammagreek -> \digamma (AmS)
17027 % U+03DE GREEK LETTER KOPPA; Koppagreek
17028 \DeclareTextCommand{\textKoppa}{PU}{\83\336}% U+03DE
17029 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
17030 % U+03DF GREEK SMALL LETTER KOPPA
17031 \DeclareTextCommand{\textkoppa}{PU}{\83\337}% U+03DF
17032 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
17033 % U+03E0 GREEK LETTER SAMPI; Sampigreek
17034 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
17035 \DeclareTextCommand{\textSampi}{PU}{\83\340}% U+03E0
17036 % U+03E1 GREEK SMALL LETTER SAMPI

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17037 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
17038 \DeclareTextCommand{\textsampi}{PU}{\83\341}% U+03E1
17039 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
17040 % \backepsilon (AmS)
17041 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6
17042 \fi

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### 51.2.10 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.

```

17043 \ifx\CYRDZE\@undefined \else
17044 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
17045 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
17046 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
17047 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
17048 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
17049 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
17050 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
17051 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
17052 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
17053 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
17054 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
17055 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
17056 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
17057 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
17058 % Icyrillic, *afii10055
17059 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
17060 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
17061 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
17062 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
17063 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
17064 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
17065 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
17066 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
17067 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
17068 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
17069 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
17070 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
17071 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
17072 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
17073 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
17074 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
17075 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
17076 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
17077 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
17078 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
17079 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
17080 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017

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17081 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
17082 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afi10018  
17083 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
17084 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afi10019  
17085 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
17086 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afi10020  
17087 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
17088 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afi10021  
17089 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
17090 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afi10022  
17091 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
17092 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afi10024  
17093 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
17094 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afi10025  
17095 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
17096 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afi10026  
17097 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
17098 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afi10027  
17099 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
17100 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
17101 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afi10028  
17102 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
17103 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afi10029  
17104 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
17105 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afi10030  
17106 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
17107 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afi10031  
17108 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
17109 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afi10032  
17110 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
17111 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afi10033  
17112 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
17113 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afi10034  
17114 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
17115 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afi10035  
17116 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
17117 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afi10036  
17118 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
17119 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afi10037  
17120 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
17121 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afi10038  
17122 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
17123 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afi10039  
17124 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
17125 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afi10040  
17126 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
17127 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afi10041  
17128 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
17129 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afi10042  
17130 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428

17131 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17132 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17133 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17134 % Hardsigncyrillic, \*afii10044  
17135 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17136 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17137 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17138 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17139 % Softsigncyrillic, \*afii10046  
17140 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17141 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
17142 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17143 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
17144 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17145 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17146 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17147 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17148 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17149 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17150 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
17151 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17152 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17153 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17154 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17155 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17156 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17157 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17158 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17159 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
17160 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17161 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17162 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17163 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17164 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17165 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17166 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17167 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17168 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17169 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17170 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17171 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
17172 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17173 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17174 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17175 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17176 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17177 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17178 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17179 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17180 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic



17181 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
17182 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17183 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441  
17184 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17185 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
17186 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17187 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443  
17188 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17189 \DeclareTextCommand{\cyr f}{PU}{\84\104}% U+0444  
17190 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17191 \DeclareTextCommand{\cyr h}{PU}{\84\105}% U+0445  
17192 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17193 \DeclareTextCommand{\cyr c}{PU}{\84\106}% U+0446  
17194 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17195 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% U+0447  
17196 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17197 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% U+0448  
17198 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17199 \DeclareTextCommand{\cyr shch}{PU}{\84\111}% U+0449  
17200 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyril-  
lic  
17201 \DeclareTextCommand{\cyr hrdsn}{PU}{\84\112}% U+044A  
17202 %\* \cyr hrdsn -> \hardsign (tipa)  
17203 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17204 \DeclareTextCommand{\cyr ery}{PU}{\84\113}% U+044B  
17205 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17206 \DeclareTextCommand{\cyr sftsn}{PU}{\84\114}% U+044C  
17207 %\* \cyr sftsn -> \softsign (tipa)  
17208 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17209 \DeclareTextCommand{\cyr rev}{PU}{\84\115}% U+044D  
17210 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17211 \DeclareTextCommand{\cyr yu}{PU}{\84\116}% U+044E  
17212 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17213 \DeclareTextCommand{\cyr ya}{PU}{\84\117}% U+044F  
17214 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17215 \DeclareTextCompositeCommand{\`}{PU}{\cyr e}{\84\120}% U+0450  
17216 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17217 \DeclareTextCommand{\cyr yo}{PU}{\84\121}% U+0451  
17218 \DeclareTextCompositeCommand{\"}{PU}{\cyr e}{\84\121}% U+0451  
17219 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17220 \DeclareTextCommand{\cyr dje}{PU}{\84\122}% U+0452  
17221 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17222 \DeclareTextCompositeCommand{\'}{PU}{\cyr g}{\84\123}% U+0453  
17223 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17224 \DeclareTextCommand{\cyr ie}{PU}{\84\124}% U+0454  
17225 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17226 \DeclareTextCommand{\cyr dze}{PU}{\84\125}% U+0455  
17227 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17228 % \*afii10103, icyrillic  
17229 \DeclareTextCommand{\cyr ii}{PU}{\84\126}% U+0456

17230 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17231 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
17232 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
17233 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17234 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17235 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17236 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
17237 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17238 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17239 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17240 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17241 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17242 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17243 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17244 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D  
17245 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17246 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17247 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17248 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17249 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17250 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17251 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17252 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17253 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17254 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17255 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17256 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17257 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17258 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17259 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17260 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17261 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17262 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
17263 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17264 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
17265 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17266 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17267 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17268 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
otifiedcyrillic  
17269 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
17270 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17271 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17272 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17273 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17274 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
17275 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C

17276 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic  
 17277 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 17278 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 17279 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 17280 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 17281 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
 17282 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 17283 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 17284 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 17285 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 17286 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 17287 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 17288 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 17289 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 17290 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 17291 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 17292 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 17293 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 17294 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 17295 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 17296 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 17297 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 17298 % GRAVE ACCENT; izhitsadblgravecyrillic  
 17299 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 17300 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 17301 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 17302 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 17303 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 17304 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 17305 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 17306 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 17307 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 17308 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 17309 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 17310 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 17311 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 17312 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 17313 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 17314 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 17315 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 17316 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 17317 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 17318 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 17319 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 17320 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 17321 \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  
 17322 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 17323 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 17324 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 17325 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 17326 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 17327 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 17328 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 17329 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 17330 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 17331 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 17332 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 17333 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 17334 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, \*afii10050  
 17335 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 17336 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 17337 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 17338 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
 17339 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 17340 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 17341 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 17342 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 17343 % Ghemiddlehookcyrillic  
 17344 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 17345 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 17346 % ghemiddlehookcyrillic  
 17347 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 17348 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 17349 % Zhedescendercyrillic  
 17350 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 17351 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 17352 % zhedescendercyrillic  
 17353 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 17354 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-dercyrillic  
 17355 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 17356 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498

17357 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-cyrillic  
 17358 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 17359 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 17360 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 17361 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 17362 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 17363 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 17364 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 17365 % Kavertikalstrokecyrillic  
 17366 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 17367 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
 17368 % kavertikalstrokecyrillic  
 17369 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 17370 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 17371 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 17372 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 17373 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 17374 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 17375 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 17376 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 17377 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 17378 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 17379 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17380 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 17381 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 17382 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 17383 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 17384 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 17385 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 17386 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 17387 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 17388 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 17389 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 17390 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 17391 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 17392 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 17393 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 17394 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 17395 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 17396 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 17397 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-

cyrillic

17398 \DeclareTextCommand{\cyrstdsc}{PU}{\84\253}% U+04AB

17399 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB

17400 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic

17401 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC

17402 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic

17403 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD

17404 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic

17405 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE

17406 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; usstraightcyrillic

17407 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF

17408 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic

17409 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0

17410 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic

17411 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1

17412 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic

17413 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2

17414 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic

17415 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3

17416 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic

17417 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4

17418 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic

17419 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5

17420 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;

17421 % Chedescendercyrillic

17422 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6

17423 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic

17424 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7

17425 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;

17426 % Cheverticalstrokecyrillic

17427 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8

17428 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;

17429 % cheverticalstrokecyrillic

17430 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9

17431 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic

17432 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA

17433 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic

17434 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB

17435 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic

17436 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC

17437 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic

17438 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17439 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
17440 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17441 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17442 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17443 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17444 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17445 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17446 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17447 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17448 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17449 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17450 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17451 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17452 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17453 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17454 \DeclareTextCommand{\cyrk hk}{PU}{\84\304}% U+04C4  
17455 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17456 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17457 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17458 \DeclareTextCommand{\cyrl dsc}{PU}{\84\306}% U+04C6  
17459 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17460 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17461 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17462 \DeclareTextCommand{\cyrn hk}{PU}{\84\310}% U+04C8  
17463 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
17464 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17465 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
17466 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17467 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
17468 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17469 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17470 \DeclareTextCommand{\cyrm dsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
17471 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
17472 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17473 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
17474 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
17475 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
lic  
17476 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
17477 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17478 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
17479 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17480 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4

17481 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17482 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17483 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; iebrevacyrillic  
17484 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17485 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
17486 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17487 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17488 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17489 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17490 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9  
17491 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17492 % Schwadieresiscyrillic  
17493 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17494 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17495 % schwadieresiscyrillic  
17496 \DeclareTextCompositeCommand{"}{PU}{\cyrswa}{\84\333}% U+04DB  
17497 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
17498 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
17499 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
cyrillic  
17500 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
17501 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
cyrillic  
17502 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
17503 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-  
lic  
17504 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
17505 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
cyrillic  
17506 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17507 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-  
lic  
17508 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17509 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17510 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
17511 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17512 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
17513 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17514 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
17515 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17516 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
17517 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-  
lic  
17518 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
17519 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17520 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17521 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17522 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17523 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic



17524 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17525 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17526 % Obarreddieresiscyrillic  
17527 \DeclareTextCompositeCommand{"}{PU}{\CYROTL D}{\84\352}% U+04EA  
17528 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17529 % obarreddieresiscyrillic  
17530 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
17531 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17532 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
17533 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17534 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
17535 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
17536 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
17537 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
17538 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
17539 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
17540 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
17541 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
17542 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
17543 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
17544 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
17545 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
17546 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
17547 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
17548 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
17549 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
17550 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
17551 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17552 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
17553 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17554 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
17555 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
17556 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
17557 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
17558 \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  
17559 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
17560 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
17561 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK

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17562 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
17563 \fi
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

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### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`. hebrew is only loaded if `\hebdalet` is defined

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17564 \ifx\hebdalet\@undefined\else
17565 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
17566 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
17567 % U+05D0 HEBREW LETTER ALEF
17568 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
17569 % U+05D1 HEBREW LETTER BET
17570 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
17571 % U+05D2 HEBREW LETTER GIMEL
17572 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
17573 % U+05D3 HEBREW LETTER DALET
17574 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
17575 % U+05D4 HEBREW LETTER HE
17576 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17577 % U+05D5 HEBREW LETTER VAV
17578 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17579 % U+05D6 HEBREW LETTER ZAYIN
17580 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17581 % U+05D7 HEBREW LETTER HET
17582 \DeclareTextCommand{\hebhhet}{PU}{\85\327}% U+05D7
17583 % U+05D8 HEBREW LETTER TET
17584 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
17585 % U+05D9 HEBREW LETTER YOD
17586 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
17587 % U+05DA HEBREW LETTER FINAL KAF
17588 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
17589 % U+05DB HEBREW LETTER KAF
17590 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB
17591 % U+05DC HEBREW LETTER LAMED
17592 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
17593 % U+05DD HEBREW LETTER FINAL MEM
17594 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
17595 % U+05DE HEBREW LETTER MEM
17596 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
17597 % U+05DF HEBREW LETTER FINAL NUN
17598 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
17599 % U+05E0 HEBREW LETTER NUN
17600 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
17601 % U+05E1 HEBREW LETTER SAMEKH
17602 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
17603 % U+05E2 HEBREW LETTER AYIN

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17604 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
 17605 % U+05E3 HEBREW LETTER FINAL PE  
 17606 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17607 % U+05E4 HEBREW LETTER PE  
 17608 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17609 % U+05E5 HEBREW LETTER FINAL TSADI  
 17610 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17611 % U+05E6 HEBREW LETTER TSADI  
 17612 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17613 % U+05E7 HEBREW LETTER QOF  
 17614 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17615 % U+05E8 HEBREW LETTER RESH  
 17616 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17617 % U+05E9 HEBREW LETTER SHIN  
 17618 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17619 %\* \hebshin -> \hebsin (he8)  
 17620 % U+05EA HEBREW LETTER TAV  
 17621 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17622 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17623 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17624 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17625 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17626 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17627 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2  
 17628 \fi

#### 51.2.12 Thai: U+0E00 to U+0E7F

17629 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17630 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17631 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
 17632 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
 17633 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17634 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
 17635 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
 17636 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
 17637 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)  
 17638 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A  
 17639 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
 17640 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
 17641 %\* \textPUscK -> \textscK (tipx)  
 17642 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
 17643 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
 17644 %\* \textPUscM -> \textscM (tipx)  
 17645 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
 17646 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
 17647 %\* \textPUscP -> \textscP (tipx)  
 17648 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)

17649 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17650 %\* \textPUrevscr -> \textrevscr (tipx)  
 17651 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
 17652 \DeclareTextCommand{\textscu}{PU}{\9035\034}%\* U+1D1C  
 17653 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17654 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
 17655 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17656 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
 17657 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17658 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
 17659 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17660 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
 17661 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17662 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
 17663 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17664 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
 17665 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17666 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
 17667 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17668 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 17669 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17670 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 17671 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17672 % \barsci (wsuipa)  
 17673 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 17674 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 17675 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 17676 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17677 % \barscu (wsuipa)  
 17678 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17679 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 17680 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F  
 17681 %\* \textPUrhooka -> \textrhooka (tipx)  
 17682 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17683 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17684 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17685 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92  
 17686 %\* \textPUrhooke -> \textrhooke (tipx)  
 17687 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17688 % \textrhookepsilon (tipx)  
 17689 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93  
 17690 %\* \textPUrhookepsilon -> \textrhookepsilon (tipx)  
 17691 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17692 % \textrhookopeno (tipx)  
 17693 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97

17694 %\* \textPUrhookopeno -> \textrhookopeno (tipx)

### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17695 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
17696 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
17697 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
17698 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
17699 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
17700 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
17701 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
17702 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
17703 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
17704 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
17705 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
17706 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
17707 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
17708 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
17709 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
17710 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17711 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17712 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
17713 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17714 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
17715 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17716 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17717 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17718 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17719 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17720 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17721 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17722 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17723 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17724 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17725 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17726 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17727 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17728 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17729 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17730 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17731 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17732 % E macrongrave  
17733 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17734 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17735 % e macrongrave  
17736 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17737 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17738 % E macronacute  
17739 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16

17740 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17741 %    `emacronacute`  
17742 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17743 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; `Ecircumflexbelow`  
17744 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17745 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; `ecircumflexbelow`  
17746 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17747 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; `Etildebelow`  
17748 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17749 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; `etildebelow`  
17750 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17751 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; `Fdotaccent`  
17752 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17753 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; `fdotaccent`  
17754 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17755 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; `Gmacron`  
17756 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17757 % U+1E21 LATIN SMALL LETTER G WITH MACRON; `gmacron`  
17758 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17759 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; `Hdotaccent`  
17760 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17761 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; `hdotaccent`  
17762 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17763 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; `Hdotbelow`  
17764 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17765 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; `hdotbelow`  
17766 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17767 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; `Hdieresis`  
17768 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17769 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; `hdieresis`  
17770 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17771 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; `Hcedilla`  
17772 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17773 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; `hcedilla`  
17774 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17775 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; `Hbrevebelow`  
17776 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17777 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; `hbrevebelow`  
17778 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17779 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; `Itildebelow`  
17780 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17781 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; `itildebelow`  
17782 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17783 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; `Kacute`  
17784 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17785 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; `kacute`  
17786 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17787 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; `Kdotbelow`

17788 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17789 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17790 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17791 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17792 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17793 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17794 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17795 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17796 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17797 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17798 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17799 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17800 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17801 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17802 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17803 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17804 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17805 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17806 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17807 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17808 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17809 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17810 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17811 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17812 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17813 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17814 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17815 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17816 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17817 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17818 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17819 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17820 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17821 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17822 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17823 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17824 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17825 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17826 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17827 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17828 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17829 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17830 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17831 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17832 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17833 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow

17834 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17835 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17836 % Omacrongrave  
17837 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17838 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17839 % omacrongrave  
17840 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17841 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17842 % Omacronacute  
17843 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17844 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17845 % omacronacute  
17846 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17847 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17848 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17849 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17850 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17851 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17852 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17853 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17854 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17855 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17856 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17857 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17858 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17859 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17860 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17861 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17862 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17863 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17864 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17865 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17866 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17867 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17868 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17869 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17870 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17871 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17872 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17873 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17874 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17875 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17876 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17877 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17878 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17879 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17880 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17881 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17882 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17883 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow



17884 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17885 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17886 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17887 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcircumflexbelow  
17888 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17889 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcircumflexbelow  
17890 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17891 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17892 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17893 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udieresis-  
below  
17894 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17895 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17896 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17897 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17898 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17899 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucircumflexbelow  
17900 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17901 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucircumflexbelow  
17902 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17903 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17904 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17905 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17906 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17907 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17908 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17909 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17910 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17911 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17912 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17913 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17914 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17915 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17916 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17917 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17918 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17919 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17920 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17921 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17922 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17923 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17924 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17925 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17926 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17927 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow

17928 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17929 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17930 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17931 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17932 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17933 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17934 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17935 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17936 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17937 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17938 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17939 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17940 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17941 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17942 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17943 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17944 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17945 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17946 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17947 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17948 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17949 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17950 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17951 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17952 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17953 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17954 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17955 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17956 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17957 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17958 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17959 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17960 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17961 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17962 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17963 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17964 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17965 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17966 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17967 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17968 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17969 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17970 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17971 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17972 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17973 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17974 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17975 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17976 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

17977 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
 17978 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 17979 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
 17980 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 17981 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
 17982 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 17983 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
 17984 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 17985 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
 17986 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 17987 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
 17988 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 17989 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 17990 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 17991 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 17992 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 17993 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17994 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17995 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17996 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17997 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17998 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17999 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 18000 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

18001 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 18002 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 18003 % U+2013 EN DASH; endash  
 18004 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 18005 % U+2014 EM DASH; emdash  
 18006 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 18007 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 18008 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 18009 %\* \textbardbl -> \textdoublevertline (tipa)  
 18010 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 18011 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 18012 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 18013 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 18014 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 18015 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 18016 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 18017 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 18018 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 18019 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 18020 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 18021 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 18022 % U+2020 DAGGER; dagger  
 18023 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 18024 %\* \textdagger -> \dag (LaTeX)

18025 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 18026 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 18027 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 18028 %\* \textdaggerdbl -> \ddag (LaTeX)  
 18029 % U+2022 BULLET; bullet  
 18030 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 18031 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 18032 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 18033 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 18034 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 18035 %\* \textellipsis -> \mathellipsis  
 18036 % U+2030 PER MILLE SIGN; perthousand  
 18037 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 18038 % U+2031 PER TEN THOUSAND SIGN  
 18039 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 18040 % U+2032 PRIME; minute; \prime (MnSymbol)  
 18041 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 18042 % U+2033 DOUBLE PRIME; \second (mathabx)  
 18043 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 18044 % U+2034 TRIPLE PRIME; \third (mathabx)  
 18045 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 18046 % U+2035 REVERSED PRIME; \backprime (AMS)  
 18047 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 18048 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 18049 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 18050 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 ingright  
 18051 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 18052 % U+203B REFERENCE MARK; referencemark  
 18053 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 18054 % U+203D INTERROBANG  
 18055 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 18056 % U+2044 FRACTION SLASH; fraction  
 18057 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 18058 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 18059 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 18060 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 18061 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 18062 % U+2052 COMMERCIAL MINUS SIGN  
 18063 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 18064 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 18065 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 18066 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 18067 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 18068 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 18069 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

18070 % U+2070 SUPERSCRIPT ZERO; zerosuperior

18071 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
18072 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
18073 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
18074 % U+2074 SUPERSCRIPT FOUR; foursuperior  
18075 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
18076 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
18077 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
18078 % U+2076 SUPERSCRIPT SIX; sixsuperior  
18079 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
18080 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
18081 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
18082 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
18083 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
18084 % U+2079 SUPERSCRIPT NINE; ninesuperior  
18085 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
18086 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
18087 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
18088 % U+207B SUPERSCRIPT MINUS  
18089 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
18090 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
18091 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
18092 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
18093 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
18094 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
18095 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
18096 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
18097 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
18098 % U+2080 SUBSCRIPT ZERO; zeroinferior  
18099 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
18100 % U+2081 SUBSCRIPT ONE; oneinferior  
18101 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
18102 % U+2082 SUBSCRIPT TWO; twoinferior  
18103 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
18104 % U+2083 SUBSCRIPT THREE; threeminferior  
18105 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%\* U+2083  
18106 % U+2084 SUBSCRIPT FOUR; fourinferior  
18107 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
18108 % U+2085 SUBSCRIPT FIVE; fiveinferior  
18109 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
18110 % U+2086 SUBSCRIPT SIX; sixinferior  
18111 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
18112 % U+2087 SUBSCRIPT SEVEN; seveninferior  
18113 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
18114 % U+2088 SUBSCRIPT EIGHT; eightinferior  
18115 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
18116 % U+2089 SUBSCRIPT NINE; nineinferior  
18117 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
18118 % U+208A SUBSCRIPT PLUS SIGN  
18119 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
18120 % U+208B SUBSCRIPT MINUS

18121 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 18122 % U+208C SUBSCRIPT EQUALS SIGN  
 18123 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 18124 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 18125 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 18126 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 18127 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 18128 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 18129 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 18130 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 18131 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 18132 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 18133 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 18134 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 18135 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 18136 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 18137 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 18138 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 18139 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 18140 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 18141 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 18142 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 18143 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 18144 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 18145 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 18146 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 18147 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 18148 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 18149 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 18150 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 18151 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 18152 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 18153 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

#### 51.2.18 Currency Symbols: U+20A0 to U+20CF

18154 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 18155 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 18156 % U+20A4 LIRA SIGN; afi08941, \*lira  
 18157 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 18158 % U+20A6 NAIRA SIGN  
 18159 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 18160 % U+20A7 PESETA SIGN; peseta  
 18161 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 18162 % U+20A9 WON SIGN; won  
 18163 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 18164 % U+20AB DONG SIGN; dong  
 18165 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 18166 % U+20AC EURO SIGN; \*Euro, euro  
 18167 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 18168 %\* \texteuro -> \EurDig (marvosym)

18169 %\* \texteuro -> \EURdig (marvosym)  
 18170 %\* \texteuro -> \EurHv (marvosym)  
 18171 %\* \texteuro -> \EURhv (marvosym)  
 18172 %\* \texteuro -> \EurCr (marvosym)  
 18173 %\* \texteuro -> \EURcr (marvosym)  
 18174 %\* \texteuro -> \EurTm (marvosym)  
 18175 %\* \texteuro -> \EURtm (marvosym)  
 18176 %\* \texteuro -> \Eur (marvosym)  
 18177 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
 18178 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
 18179 %\* \textDeleatur -> \Denarius (marvosym)  
 18180 % U+20B1 PESO SIGN  
 18181 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 18182 % U+20B2 GUARANI SIGN  
 18183 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

18184 % U+2103 DEGREE CELSIUS; centigrade  
 18185 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 18186 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 18187 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 18188 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 18189 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 18190 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 18191 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 18192 % U+2116 NUMERO SIGN; \*afii61352, numero  
 18193 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 18194 % U+2117 SOUND RECORDING COPYRIGHT  
 18195 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 18196 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 18197 % weierstrass; \wp (LaTeX)  
 18198 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 18199 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 18200 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 18201 % U+211E PRESCRIPTION TAKE; prescription  
 18202 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 18203 % U+2120 SERVICE MARK  
 18204 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 18205 % U+2122 TRADE MARK SIGN; trademark  
 18206 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 18207 % U+2126 OHM SIGN; Ohm, Omega  
 18208 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 18209 % U+2127 INVERTED OHM SIGN  
 18210 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18211 %\* \textmho -> \agemO (wasysym)  
 18212 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18213 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18214 % U+212B ANGSTROM SIGN; angstrom  
 18215 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B

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18216 % U+212E ESTIMATED SYMBOL; estimated
18217 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
18218 %* \textestimated -> \EstimatedSign (marvosym)
18219 %* \textestimated -> \Ecommerce (marvosym)
18220 % U+2132 TURNED CAPITAL F; \Finv (AmS)
18221 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
18222 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
18223 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
18224 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
18225 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
18226 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
18227 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
18228 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
18229 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
18230 % U+213B FACSIMILE SIGN; \fax (marvosym)
18231 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
18232 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
18233 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
18234 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
18235 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
18236 %* \textinvamp -> \bindnasrepma (stmaryrd)
18237 %* \textinvamp -> \parr (cml)

```

### 51.2.20 Number Forms: U+2150 to U+218F

```

18238 % U+2150 VULGAR FRACTION ONE SEVENTH
18239 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
18240 % U+2151 VULGAR FRACTION ONE NINTH
18241 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
18242 % U+2152 VULGAR FRACTION ONE TENTH
18243 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
18244 % U+2153 VULGAR FRACTION ONE THIRD; onethird
18245 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
18246 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
18247 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
18248 % U+2155 VULGAR FRACTION ONE FIFTH
18249 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
18250 % U+2156 VULGAR FRACTION TWO FIFTHS
18251 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
18252 % U+2157 VULGAR FRACTION THREE FIFTHS
18253 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
18254 % U+2158 VULGAR FRACTION FOUR FIFTHS
18255 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
18256 % U+2159 VULGAR FRACTION ONE SIXTH
18257 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
18258 % U+215A VULGAR FRACTION FIVE SIXTHS
18259 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
18260 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
18261 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
18262 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
18263 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C

```



18264 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
18265 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
18266 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
18267 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
18268 % U+2184 LATIN SMALL LETTER REVERSED C  
18269 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
18270 % U+2189 VULGAR FRACTION ZERO THIRDS  
18271 \DeclareTextCommand{\textzerothirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18272 % U+2190 LEFTWARDS ARROW; arrowleft  
18273 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
18274 % U+2191 UPWARDS ARROW; arrowup  
18275 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
18276 % U+2192 RIGHTWARDS ARROW; arrowright  
18277 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
18278 %\* \textrightarrow -> \MVRightArrow (marvosym)  
18279 %\* \textrightarrow -> \MVRightarrow (marvosym)  
18280 % U+2193 DOWNWARDS ARROW; arrowdown  
18281 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
18282 %\* \textdownarrow -> \MVArrowDown (marvosym)  
18283 %\* \textdownarrow -> \Force (marvosym)  
18284 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
18285 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
18286 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
18287 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
18288 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
18289 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
18290 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
18291 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
18292 %\* \textnearrow -> \textglobrise (tipa)  
18293 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
18294 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
18295 %\* \textsearrow -> \textglobfall (tipa)  
18296 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
18297 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
18298 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)  
18299 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A  
18300 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)  
18301 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
18302 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
18303 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
18304 % \twoheadleftarrow (txfonts/pxfonts)  
18305 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%\* U+219E U+0338  
18306 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
18307 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
18308 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
18309 % \twoheadrightarrow (AmS)  
18310 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
18311 % \twoheadrightarrow (txfonts/pxfonts)

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18312 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18313 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
      Symbol)
18314 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18315 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18316 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18317 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18318 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18319 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18320 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18321 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18322 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18323 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18324 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18325 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18326 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18327 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18328 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18329 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
18330 \DeclareTextCommand{\textnleftrightharrow}{PU}{\9041\256}%* U+21AE
18331 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18332 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18333 %* \textlightning -> \Lightning (marvosym)
18334 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18335 % \dls (mathabx)
18336 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
18337 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18338 % \curvearrowleft (AmS)
18339 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18340 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18341 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18342 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
      barup;
18343 % \leftharpoonup (LaTeX)
18344 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18345 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18346 % \leftharpoondown (LaTeX)
18347 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18348 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18349 % \upharpoonright (AmS)
18350 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18351 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18352 % \upharpoonleft (AmS)
18353 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18354 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
      barup
18355 % \rightharpoonup (LaTeX)
18356 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18357 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18358 % \rightharpoondown (LaTeX)

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18359 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18360 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18361 % \downharpoonright (AmS)
18362 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18363 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18364 % \downharpoonleft (AmS)
18365 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18366 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18367 % \arrowrightoverleft; \rightleftarrows (MnSymbol)
18368 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18369 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; \ar-
rowupleftofdown;
18370 % \updownarrows (MnSymbol)
18371 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
18372 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; \arrowleft-
overright;
18373 % \leftrightharrows (AmS)
18374 \DeclareTextCommand{\textleftrightharrows}{PU}{\9041\306}%* U+21C6
18375 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18376 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18377 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18378 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
18379 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18380 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
18381 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
18382 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
18383 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18384 % \leftrightharpoons (AmS);
18385 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18386 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18387 % \rightleftharpoons (LaTeX, AmS)
18388 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18389 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; \arrowleftd-
blstroke;
18390 % \nLeftarrow (AmS)
18391 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18392 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightar-
row (AmS)
18393 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18394 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; \arrowrightd-
blstroke;
18395 % \nRrightarrow (AmS)
18396 \DeclareTextCommand{\textnRrightarrow}{PU}{\9041\317}%* U+21CF
18397 % U+21D0 LEFTWARDS DOUBLE ARROW; \arrowdblleft, \arrowleftdbl;
18398 % \Leftarrow (LaTeX)
18399 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18400 % U+21D1 UPWARDS DOUBLE ARROW; \arrowdblup; \Uparrow (LaTeX)
18401 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18402 % U+21D2 RIGHTWARDS DOUBLE ARROW; \arrowdblright, \dblarrowright;
18403 % \Rrightarrow (LaTeX)

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18404 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\322}%* U+21D2
18405 %* \textRrightarrow -> \Conclusion (marvosym)
18406 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbl down; \Downarrow (La-
TeX)
18407 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18408 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdbl both;
18409 % \Leftrightarrow (LaTeX)
18410 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18411 %* \textLeftrightarrow -> \Equivalence (marvosym)
18412 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18413 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18414 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18415 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18416 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18417 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18418 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18419 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18420 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
18421 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
18422 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18423 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
18424 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18425 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18426 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18427 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18428 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18429 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18430 % U+21E0 LEFTWARDS DASHED ARROW; arrowdash left;
18431 % \dashleftarrow (AmS)
18432 \DeclareTextCommand{\texdashleftarrow}{PU}{\9041\340}%* U+21E0
18433 %* \texdashleftarrow -> \dashedleftarrow (MnSymbol)
18434 % U+21E1 UPWARDS DASHED ARROW; arrowdash up; \dasheduparrow (Mn-
Symbol)
18435 \DeclareTextCommand{\texdasheduparrow}{PU}{\9041\341}%* U+21E1
18436 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdash right; \dashrightar-
row (AmS)
18437 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\342}%* U+21E2
18438 %* \texdashrightarrow -> \dashedrightarrow (MnSymbol)
18439 % U+21E3 DOWNWARDS DASHED ARROW; arrowdash down; \dasheddownar-
row (MnSymbol)
18440 \DeclareTextCommand{\texdasheddownarrow}{PU}{\9041\343}%* U+21E3
18441 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18442 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18443 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18444 % \downuparrows (MnSymbol)
18445 \DeclareTextCommand{\texdownuparrows}{PU}{\9041\365}%* U+21F5
18446 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18447 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18448 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18449 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE

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18450 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightharowtrian-
      gle (stmaryrd)
18451 \DeclareTextCommand{\textleftrightharowtriangle}{PU}{\9041\377}%* U+21FF

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## 51.2.22 Mathematical Operators: U+2200 to U+22FF

```

18452 % U+2200 FOR ALL; forall; \forall (LaTeX)
18453 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18454 % U+2201 COMPLEMENT; \complement (AmS)
18455 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18456 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18457 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18458 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18459 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18460 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18461 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18462 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18463 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18464 %* \textemptyset -> \varnothing (AmS)
18465 % U+2206 INCREMENT; increment, Deta; \triangle (LaTeX)
18466 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18467 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18468 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18469 % U+2208 ELEMENT OF; element; \in (LaTeX)
18470 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18471 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18472 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18473 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18474 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18475 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18476 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18477 %* \textni -> \owns (mathabx)
18478 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18479 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18480 %* \textnotowner -> \notni (txfonts/pxfonts)
18481 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18482 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18483 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18484 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18485 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18486 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18487 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18488 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18489 % U+2212 MINUS SIGN; minus
18490 \DeclareTextCommand{\textminus}{PU}{\9042\022}%* U+2212
18491 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18492 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18493 % U+2214 DOT PLUS; \dotplus (AmS)
18494 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18495 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18496 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215

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18497 % \DividesNot (marvosym)
18498 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18499 % U+2216 SET MINUS; \setminus (LaTeX)
18500 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18501 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18502 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18503 % U+2218 RING OPERATOR; \circ (LaTeX)
18504 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18505 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18506 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18507 % U+221A SQUARE ROOT; radical
18508 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
18509 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18510 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18511 %* \textpropto -> \varprop (wasysym)
18512 % U+221E INFINITY; infinity; \infty (LaTeX)
18513 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18514 % U+2220 ANGLE; angle; \angle (LaTeX)
18515 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18516 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18517 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18518 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18519 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18520 %* \textsphericalangle -> \varangle (wasysym)
18521 %* \textsphericalangle -> \Anglesign (marvosym)
18522 %* \textsphericalangle -> \AngleSign (marvosym)
18523 % U+2223 DIVIDES; divides; \mid (LaTeX)
18524 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18525 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18526 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18527 %* \textnmid -> \notdivides (mathabx)
18528 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18529 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18530 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18531 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18532 %* \textnparallel -> nUpdownline (MnSymbol)
18533 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18534 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18535 % \owedge (stmaryrd)
18536 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18537 %* \textowedge -> \varowedge (stmaryrd)
18538 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18539 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18540 % \ovee (stmaryrd)
18541 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18542 %* \textovee -> \varovee (stmaryrd)
18543 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18544 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18545 % U+222A UNION; union; \cup (LaTeX)
18546 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A

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18547 % U+222B INTEGRAL; integral; \int (LaTeX)
18548 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18549 %* \textint -> \varint (wasysym)
18550 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18551 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18552 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18553 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18554 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18555 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18556 %* \textoint -> \varoint (wasysym)
18557 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18558 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18559 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18560 % \ointclockwise (txfonts/pxfonts)
18561 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18562 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18563 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18564 % U+2234 THEREFORE; therefore; \therefore (AmS)
18565 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18566 %* \texttherefore -> uptherefore (MnSymbol)
18567 % U+2235 BECAUSE; because; \because (AmS)
18568 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18569 %* \textbecause -> \downtherefore (MnSymbol)
18570 % U+2236 RATIO; \vdotdot (MnSymbol)
18571 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18572 % U+2237 PROPORTION; \squaredots (MnSymbol)
18573 \DeclareTextCommand{\textssquaredots}{PU}{\9042\067}%* U+2237
18574 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18575 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18576 %* \textdotminus -> \textdotdiv (mathabx)
18577 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18578 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18579 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18580 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18581 %* \textsim -> \AC (wasysym)
18582 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18583 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18584 % \nbacksim (txfonts/pxfonts)
18585 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18586 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18587 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18588 %* \textwr -> \wreath (MnSymbol)
18589 % U+2241 NOT TILDE; \nsim (AmS)
18590 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18591 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18592 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18593 % \neqsim (MnSymbol)
18594 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18595 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-

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18596 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18597 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18598 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18599 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18600 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18601 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18602 % \ncong (AmS)
18603 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18604 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18605 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18606 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18607 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18608 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18609 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18610 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18611 % \napproxeq (txfonts/pxfonts)
18612 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18613 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18614 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18615 %* \texttriplesim -> \VHF (wasysym)
18616 % \ntriplesim (MnSymbol)
18617 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18618 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18619 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18620 % \nbackcong (MnSymbol)
18621 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18622 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18623 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18624 % \nasymp (txfonts/pxfonts)
18625 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
18626 %* \textnasymp -> \notasymp (mathabx)
18627 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18628 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18629 % \nBumpeq (txfonts/pxfonts)
18630 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18631 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18632 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18633 % \nbumpeq (txfonts/pxfonts)
18634 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18635 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18636 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18637 % \ndoteq (MnSymbol)
18638 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18639 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18640 % \doteqdot (AmS)
18641 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18642 %* \textdoteqdot -> \Doteq (MnSymbol)
18643 % \nDoteq (MnSymbol)
18644 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338

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18645 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
      equalimage;
18646 % \fallingdotseq (AmS)
18647 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
18648 % \nfallingdotseq (MnSymbol)
18649 \DeclareTextCommand{\textnfallingdoteq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18650 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
      matelyequal;
18651 % \risingdotseq (AmS)
18652 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
18653 % \nrisingdoteq (MnSymbol)
18654 \DeclareTextCommand{\textnrisingdoteq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18655 % U+2254 COLON EQUALS; \colonequals (colonequals)
18656 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18657 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18658 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18659 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18660 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18661 % \neqcirc (MnSymbol)
18662 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18663 % U+2257 RING EQUAL TO; \circeq (AmS)
18664 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18665 % \ncirceq (MnSymbol)
18666 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18667 % U+2259 ESTIMATES; \hateq (MnSymbol)
18668 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18669 %* \texthateq -> \corresponds (mathabx)
18670 %* \texthateq -> \Corresponds (marvosym)
18671 % \nhateq (MnSymbol)
18672 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18673 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18674 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18675 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18676 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18677 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18678 %* \textneq -> \nequal (MnSymbol)
18679 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18680 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18681 %* \textequiv -> \Congruent (marvosym)
18682 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18683 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18684 %* \textnequiv -> \NotCongruent (marvosym)
18685 %* \textnequiv -> \notequiv (mathabx)
18686 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18687 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18688 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18689 %* \textleq -> \LessOrEqual (marvosym)
18690 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18691 % \ge (LaTeX), \geq (LaTeX)
18692 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265

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18693 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18694 %* \textgeq -> \LargerOrEqual (marvosym)
18695 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18696 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18697 % \nleqq (txfonts/pxfonts)
18698 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18699 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18700 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18701 % \ngeqq (txfonts/pxfonts)
18702 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18703 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18704 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18705 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18706 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18707 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18708 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18709 % \nll (txfonts/pxfonts)
18710 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18711 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18712 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18713 % \ngg (txfonts/pxfonts)
18714 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18715 % U+226C BETWEEN; \between (AmS)
18716 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18717 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18718 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18719 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18720 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18721 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18722 % \nleq (AmS)
18723 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18724 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18725 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18726 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18727 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18728 %* \textlessim -> \apprle (wasysym)
18729 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18730 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18731 %* \textgtrsim -> \apprge (wasysym)
18732 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18733 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18734 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18735 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18736 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18737 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18738 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)

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18739 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18740 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
      fonts/pxfonts)
18741 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18742 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
      fonts/pxfonts)
18743 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18744 % U+227A PRECEDES; precedes; \prec (LaTeX)
18745 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18746 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18747 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18748 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18749 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18750 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18751 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18752 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18753 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18754 % \nprecsim (txfonts/pxfonts)
18755 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18756 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18757 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18758 % \nsuccsim (txfonts/pxfonts)
18759 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18760 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18761 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18762 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)
18763 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18764 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18765 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18766 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18767 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18768 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18769 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18770 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18771 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18772 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18773 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18774 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18775 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18776 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18777 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18778 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18779 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18780 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
      neq (AmS)
18781 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18782 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
      neq (AmS)
18783 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18784 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)

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18785 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18786 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18787 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18788 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18789 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18790 % \nsqsubset (txfonts/pxfonts)
18791 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18792 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18793 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18794 % \nsqsupset (txfonts/pxfonts)
18795 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18796 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18797 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18798 % \nsqsubseteq (txfonts/pxfonts)
18799 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18800 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18801 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18802 % \nsqsupseteq (txfonts/pxfonts)
18803 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18804 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18805 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18806 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18807 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18808 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18809 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18810 %* \textoplus -> \varoplus (stmaryrd)
18811 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18812 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18813 %* \textominus -> \varominus (stmaryrd)
18814 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18815 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18816 %* \textotimes -> \varotimes (stmaryrd)
18817 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18818 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18819 %* \textoslash -> \varoslash (stmaryrd)
18820 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18821 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18822 %* \textodot -> \varodot (stmaryrd)
18823 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18824 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18825 %* \textcircledcirc -> \ocirc (mathabx)
18826 %* \textcircledcirc -> \varocircle (stmaryrd)
18827 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18828 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18829 %* \textcircledast -> \varoast (stmaryrd)
18830 %* \textcircledast -> \oasterisk (mathabx)
18831 % U+229D CIRCLED DASH; \circleddash (AmS)
18832 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18833 % U+229E SQUARED PLUS; \boxplus (AmS)
18834 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E

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18835 % U+229F SQUARED MINUS; \boxminus (AmS)
18836 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18837 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18838 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18839 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18840 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18841 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18842 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18843 %* \textvdash -> \rightvdash (MnSymbol)
18844 % U+22A3 LEFT TACK; \dashv (LaTeX)
18845 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18846 %* \textdashv -> \leftvdash (MnSymbol)
18847 % \ndashv (mathabx)
18848 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18849 %* \textndashv -> \leftvdash (MnSymbol)
18850 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18851 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
18852 %* \textttop -> \downvdash (MnSymbol)
18853 % \ndownvdash (MnSymbol)
18854 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18855 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18856 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18857 %* \textbot -> \upvdash (MnSymbol)
18858 % \nupvdash (MnSymbol)
18859 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18860 %* \textnupvdash -> \nperp (MnSymbol)
18861 % U+22A8 TRUE; \vDash (AmS)
18862 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18863 %* \textvDash -> \models (LaTeX)
18864 %* \textvDash -> \rightmodels (MnSymbol)
18865 % U+22A9 FORCES; \Vdash (AmS)
18866 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18867 %* \textVdash -> \rightVdash (MnSymbol)
18868 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18869 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18870 % \nVvdash (mathabx)
18871 \DeclareTextCommand{\textnVvdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18872 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18873 % \VDash (mathabx)
18874 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18875 %* \textVDash -> \rightModels (MnSymbol)
18876 % U+22AC DOES NOT PROVE; \nvDash (AmS)
18877 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
18878 %* \textnvDash -> \nrightvdash (MnSymbol)
18879 % U+22AD NOT TRUE; \nvDash (AmS)
18880 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18881 %* \textnvDash -> \nrightmodels (MnSymbol)
18882 %* \textnvDash -> \nmodels (MnSymbol)
18883 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18884 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE

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18885 %* \textnVdash -> \nrightVdash (MnSymbol)
18886 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STYLE; \nVDash (AmS)
18887 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18888 %* \textnVDash -> \nrightModels (MnSymbol)
18889 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18890 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18891 %* \textlhd -> \lessclosed (MnSymbol)
18892 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18893 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18894 %* \textrhd -> \gtrclosed (MnSymbol)
18895 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18896 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18897 %* \textunlhd -> \leqclosed (MnSymbol)
18898 %* \textunlhd -> \trianglelefteq (MnSymbol)
18899 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18900 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18901 %* \textunrhd -> \geqclosed (MnSymbol)
18902 %* \textunrhd -> \trianglerighteq (MnSymbol)
18903 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18904 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18905 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18906 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18907 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18908 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18909 % U+22BB XOR; \veebar (AmS)
18910 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18911 % U+22BC NAND; \barwedge (mathabx)
18912 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18913 % U+22C6 STAR OPERATOR; \star (LaTeX)
18914 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18915 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18916 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18917 % U+22C8 BOWTIE; \bowtie (LaTeX)
18918 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18919 %* \textbowtie -> \Bowtie (wasysym)
18920 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18921 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18922 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18923 % \rtimes (AmS)
18924 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18925 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18926 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18927 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18928 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18929 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18930 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18931 % \nbacksimeq (txfonts/pxfonts)
18932 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338

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18933 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)  
 18934 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%\* U+22CE  
 18935 %\* \textcurlyvee -> \varcurlyvee (stmaryrd)  
 18936 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)  
 18937 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%\* U+22CF  
 18938 %\* \textcurlywedge -> \varcurlywedge (stmaryrd)  
 18939 % U+22D0 DOUBLE SUBSET; \Subset (AmS)  
 18940 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%\* U+22D0  
 18941 % \nSubset (txfonts/pxfonts)  
 18942 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%\* U+22D0 U+0338  
 18943 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)  
 18944 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%\* U+22D1  
 18945 % \nSupset (txfonts/pxfonts)  
 18946 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%\* U+22D1 U+0338  
 18947 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)  
 18948 \DeclareTextCommand{\textCap}{PU}{\9042\322}%\* U+22D2  
 18949 %\* \textCap -> \doublecap (mathabx)  
 18950 % U+22D3 DOUBLE UNION; \Cup (AmS)  
 18951 \DeclareTextCommand{\textCup}{PU}{\9042\323}%\* U+22D3  
 18952 %\* \textCup -> \doublecup (mathabx)  
 18953 % U+22D4 PITCHFORK; \pitchfork (mathabx)  
 18954 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%\* U+22D4  
 18955 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
 18956 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
 18957 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
 18958 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
 18959 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
 18960 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
 18961 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)  
 18962 \DeclareTextCommand{\textggg}{PU}{\9042\331}%\* U+22D9  
 18963 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;  
 18964 % \lesseqgtr (AmS)  
 18965 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%\* U+22DA  
 18966 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;  
 18967 % \gtreqless (AmS)  
 18968 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
 18969 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)  
 18970 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%\* U+22DE  
 18971 % \ncurlyeqprec (mathabx)  
 18972 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%\* U+22DE U+0338  
 18973 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)  
 18974 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%\* U+22DF  
 18975 % \ncurlyeqsucc (mathabx)  
 18976 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%\* U+22DF U+0338  
 18977 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)  
 18978 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%\* U+22E0  
 18979 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)  
 18980 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%\* U+22E1  
 18981 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-  
 fonts/pxfonts)

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18982 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\342}%* U+22E2
18983 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nqsupseteq (tx-
      fonts/pxfonts)
18984 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18985 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18986 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18987 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18988 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
      abx)
18989 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18990 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18991 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18992 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18993 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18994 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18995 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
18996 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
18997 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
18998 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
18999 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
19000 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
19001 %* \textntriangleleft -> \nlessclosed (MnSymbol)
19002 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright
      (AmS)
19003 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
19004 %* \textntriangleright -> \ngtrclosed (MnSymbol)
19005 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
19006 % \ntrianglelefteq (AmS)
19007 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
19008 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
19009 % \ntrianglerighteq (AmS)
19010 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
19011 %* \textntrianglerighteq -> \textngeqclosed
19012 % U+22EE VERTICAL ELLIPSIS; \vdots (LaTeX)
19013 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
19014 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
19015 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
19016 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
19017 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
19018 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
19019 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
19020 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
19021 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

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### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

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19022 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
19023 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
19024 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
19025 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
19026 % U+2311 SQUARE LOZENGE; \asylozenge (wasysym)

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19027 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
19028 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
19029 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
19030 % U+231A WATCH; \clock (wasysym)
19031 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
19032 %* \textclock -> \Clocklogo (marvosym)
19033 %* \textclock -> \ClockLogo (marvosym)
19034 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
19035 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
19036 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
19037 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
19038 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
19039 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
19040 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
19041 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
19042 % U+2322 FROWN; \frown (LaTeX)
19043 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
19044 % U+2323 SMILE; \smile (LaTeX)
19045 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
19046 % U+2328 KEYBOARD; \Keyboard (marvosym)
19047 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
19048 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \angle (LaTeX)
19049 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
19050 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
19051 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
19052 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
19053 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
19054 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
19055 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
19056 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
19057 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
19058 %* \textstmaryrdbaro -> \baro (stmaryrd)
19059 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
19060 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
19061 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
19062 % \notbackslash (wasysym)
19063 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
19064 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
19065 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
19066 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
19067 % \APLleftarrowbox (wasysym)
19068 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
19069 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
19070 % \APLrightarrowbox (wasysym)
19071 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
19072 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
19073 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350

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19074 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 19075 % \APLdownarrowbox (wasysym)  
 19076 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 19077 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 19078 % \APLinput (wasysym)  
 19079 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 19080 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 19081 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
 19082 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
 19083 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
 19084 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
 19085 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
 19086 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
 19087 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
 19088 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 19089 % \ForwardToIndex (marvosym)  
 19090 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
 19091 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 19092 % \RewindToIndex (marvosym)  
 19093 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

19094 % U+2422 BLANK SYMBOL  
 19095 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 19096 % U+2423 OPEN BOX; blank  
 19097 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

19098 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 19099 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 19100 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

19101 % U+2460 CIRCLED DIGIT ONE; onecircle  
 19102 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 19103 % U+2461 CIRCLED DIGIT TWO; twocircle  
 19104 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 19105 % U+2462 CIRCLED DIGIT THREE; threecircle  
 19106 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 19107 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 19108 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 19109 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 19110 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 19111 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 19112 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 19113 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 19114 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 19115 % U+2467 CIRCLED DIGIT EIGHT; eightcircle

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19116 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
19117 % U+2468 CIRCLED DIGIT NINE; ninecircle
19118 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
19119 % U+2469 CIRCLED NUMBER TEN; tencircle
19120 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
19121 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
19122 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
19123 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
19124 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
19125 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
19126 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
19127 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
19128 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
19129 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
19130 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
19131 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
19132 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
19133 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
19134 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
19135 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
19136 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
19137 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
19138 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
19139 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
19140 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
19141 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
19142 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
19143 % \CircledA (marvosym)
19144 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
19145 %* \textCircledA -> \CleaningA
19146 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
19147 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
19148 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
19149 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
19150 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
19151 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
19152 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
19153 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
19154 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
19155 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
19156 % \CleaningF (marvosym)
19157 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
19158 % \CleaningFF (marvosym)
19159 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
19160 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
19161 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
19162 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
19163 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
19164 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
19165 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE

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19166 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 19167 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 19168 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 19169 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 19170 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 19171 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 19172 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 19173 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 19174 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 19175 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 19176 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 19177 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 19178 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 19179 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 19180 % \CleaningP (marvosym)  
 19181 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
 19182 % \CleaningPP (marvosym)  
 19183 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
 19184 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 19185 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 19186 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 19187 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 19188 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 19189 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 19190 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 19191 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 19192 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 19193 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 19194 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 19195 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 19196 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 19197 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 19198 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 19199 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19200 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19201 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19202 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19203 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19204 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19205 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19206 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19207 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19208 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19209 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19210 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19211 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19212 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19213 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19214 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19215 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5

19216 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19217 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19218 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19219 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19220 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19221 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19222 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19223 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19224 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19225 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19226 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19227 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19228 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19229 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 19230 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19231 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19232 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19233 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19234 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19235 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19236 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19237 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 19238 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19239 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19240 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19241 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 19242 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 19243 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 19244 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 19245 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 19246 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 19247 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 19248 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 19249 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 19250 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 19251 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 19252 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 19253 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 19254 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 19255 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 19256 % U+24EA CIRCLED DIGIT ZERO  
 19257 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.27 Box Drawing: U+2500 to 257F

19258 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
 Line (marvosym)  
 19259 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
 19260 %\* \textCuttingLine -> \Kutline (marvosym)  
 19261 %\* \textCuttingLine -> \CutLine (marvosym)  
 19262 %\* \textCuttingLine -> \Cutline (marvosym)

## 51.2.28 Geometric Shapes: U+25A0 to U+25FF

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19263 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
19264 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
19265 %* \textUParrow -> \MoveUp (marvosym)
19266 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
19267 % \bigtriangleup (LaTeX)
19268 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
19269 %* \textbigtriangleup -> \APLup (wasysym)
19270 %* \textbigtriangleup -> \Bleech (marvosym)
19271 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
19272 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
19273 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
tion);
19274 % whiterightpointingtriangle; \triangleright (LaTeX)
19275 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
19276 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
19277 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
19278 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
19279 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
19280 %* \textDOWNarrow -> \MoveDown (marvosym)
19281 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtrian-
gle;
19282 % \bigtriangledown (LaTeX)
19283 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19284 %* \textbigtriangledown -> \APLdown (wasysym)
19285 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19286 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19287 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
19288 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19289 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19290 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
19291 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19292 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19293 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19294 %* \textdiamond -> \Diamond (wasysym)
19295 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19296 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19297 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19298 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19299 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19300 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19301 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19302 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19303 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19304 % \boxbar (stmaryrd)
19305 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19306 % U+25EF LARGE CIRCLE; largecircle
19307 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF

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19308 %\* \textbigcircle -> \varbigcirc (stmaryrd)  
 19309 %

### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

19310 % U+2601 CLOUD; \Cloud (ifsym)  
 19311 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%\* U+2601  
 19312 % U+2605 BLACK STAR; \FiveStar (bbding)  
 19313 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%\* U+2605  
 19314 % U+2606 WHITE STAR; \FiveStarOpen (bbding)  
 19315 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%\* U+2606  
 19316 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)  
 19317 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%\* U+260E  
 19318 %\* \textPhone -> \Telefon (marvosym)  
 19319 % U+2610 BALLOT BOX; \boxempty (stmaryrd)  
 19320 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%\* U+2610  
 19321 %\* \textboxempty -> \Box (wasysym)  
 19322 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)  
 19323 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%\* U+2611  
 19324 %\* \textCheckedbox -> \CheckedBox (marvosym)  
 19325 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)  
 19326 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%\* U+2612  
 19327 %\* \textCrossedbox -> \XBox (wasysym)  
 19328 %\* \textCrossedbox -> \CrossedBox (marvosym)  
 19329 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
 19330 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
 19331 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)  
 19332 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
 19333 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)  
 19334 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
 19335 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)  
 19336 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
 19337 %\* \textHandLeft -> \rightpointleft (fourier)  
 19338 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)  
 19339 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
 19340 %\* \textHandRight -> \leftpointright (fourier)  
 19341 %\* \textHandRight -> \PointingHand (marvosym)  
 19342 %\* \textHandRight -> \Pointinghand (marvosym)  
 19343 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
 19344 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
 19345 %\* \textRadioactivity -> \Radiation (ifsym)  
 19346 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
 19347 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
 19348 % U+2625 ANKH; \Ankh (marvosym)  
 19349 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
 19350 % U+262F YIN YANG; \YinYang (marvosym)  
 19351 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
 19352 %\* \textYinYang -> \Yinyang (marvosym)  
 19353 %\* \textYinYang -> \YingYang (marvosym)  
 19354 %\* \textYinYang -> \Yingyang (marvosym)  
 19355 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)

19356 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19357 %\* \textfrownie -> \Frowny (marvosym)  
19358 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19359 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19360 %\* \textsmiley -> \Smiley (marvosym)  
19361 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19362 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19363 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19364 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19365 %\* \textsun -> \Sun (marvosym)  
19366 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19367 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19368 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19369 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19370 % U+263F MERCURY; \mercury (wasysym)  
19371 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19372 %\* \textmercury -> \Mercury (marvosym)  
19373 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19374 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19375 %\* \textPUfemale -> \textfemale (tipx)  
19376 %\* \textPUfemale -> \female (wasysym)  
19377 %\* \textPUfemale -> \venus (wasysym)  
19378 %\* \textPUfemale -> \Venus (marvosym)  
19379 %\* \textPUfemale -> \Female (marvosym)  
19380 % U+2641 EARTH; \earth (wasysym)  
19381 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19382 %\* \textearth -> \Earth (marvosym)  
19383 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19384 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19385 %\* \textmale -> \mars (wasysym)  
19386 %\* \textmale -> \Mars (marvosym)  
19387 %\* \textmale -> \Male (marvosym)  
19388 % U+2643 JUPITER; \jupiter (wasysym)  
19389 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19390 %\* \textjupiter -> \Jupiter (marvosym)  
19391 % U+2644 SATURN; \saturn (wasysym)  
19392 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
19393 %\* \textsaturn -> \Saturn (marvosym)  
19394 % U+2645 URANUS; \uranus (wasysym)  
19395 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
19396 %\* \texturanus -> \Uranus (marvosym)  
19397 % U+2646 NEPTUNE; \neptune (wasysym)  
19398 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
19399 %\* \textneptune -> \Neptune (marvosym)  
19400 % U+2647 PLUTO; \pluto (wasysym)  
19401 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
19402 %\* \textpluto -> \Pluto (marvosym)  
19403 % U+2648 ARIES; \aries (wasysym)  
19404 \DeclareTextCommand{\textaries}{PU}{\9046\110}%\* U+2648  
19405 %\* \textaries -> \Aries (marvosym)



19406 % U+2649 TAURUS; \taurus (wasysym)  
 19407 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%\* U+2649  
 19408 %\* \texttaurus -> \Taurus (marvosym)  
 19409 % U+264A GEMINI; \gemini (wasysym)  
 19410 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%\* U+264A  
 19411 %\* \textgemini -> \Gemini (marvosym)  
 19412 % U+264B CANCER; \cancer (wasysym)  
 19413 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%\* U+264B  
 19414 %\* \textcancer -> \Cancer (marvosym)  
 19415 % U+264C LEO; \leo (wasysym)  
 19416 \DeclareTextCommand{\textleo}{PU}{\9046\114}%\* U+264C  
 19417 %\* \textleo -> \Leo (marvosym)  
 19418 % U+264D VIRGO; \virgo (wasysym)  
 19419 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%\* U+264D  
 19420 %\* \textvirgo -> \Virgo (marvosym)  
 19421 % U+264E LIBRA; \libra (wasysym)  
 19422 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%\* U+264E  
 19423 %\* \textlibra -> \Libra (marvosym)  
 19424 % U+264F SCORPIO; \scorpio (wasysym)  
 19425 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%\* U+264F  
 19426 %\* \textscorpio -> \Scorpio (marvosym)  
 19427 % U+2650 SAGITTARIUS; \sagittarius (wasysym)  
 19428 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%\* U+2650  
 19429 %\* \textsagittarius -> \Sagittarius (marvosym)  
 19430 % U+2651 CAPRICORN; \capricornus (wasysym)  
 19431 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%\* U+2651  
 19432 %\* \textcapricornus -> \Capricorn (marvosym)  
 19433 % U+2652 AQUARIUS; \aquarius (wasysym)  
 19434 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%\* U+2652  
 19435 %\* \textaquarius -> \Aquarius (marvosym)  
 19436 % U+2653 PISCES; \pisces (wasysym)  
 19437 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%\* U+2653  
 19438 %\* \textpisces -> \Pisces (marvosym)  
 19439 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)  
 19440 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660  
 19441 %\* \textspadesuitblack -> \spadesuit (MnSymbol)  
 19442 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)  
 19443 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661  
 19444 %\* \textheartsuitwhite -> \Heart (marvosym)  
 19445 %\* \textheartsuitwhite -> \heartsuit (MnSymbol)  
 19446 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)  
 19447 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662  
 19448 %\* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)  
 19449 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)  
 19450 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663  
 19451 %\* \textclubsuitblack -> \clubsuit (MnSymbol)  
 19452 % U+2664 WHITE SPADE SUIT; spadesuitwhite  
 19453 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664  
 19454 % U+2665 BLACK HEART SUIT; heartsuitblack, heart  
 19455 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665

19456 % U+2666 BLACK DIAMOND SUIT; diamond  
 19457 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
 19458 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
 19459 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667  
 19460 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
 19461 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
 19462 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
 19463 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 19464 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
 19465 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
 19466 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
 19467 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
 note (arev)  
 19468 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
 19469 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
 19470 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
 19471 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
 19472 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
 19473 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
 19474 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
 19475 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
 19476 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
 19477 %\* \textrecycle -> \Recycling (marvosym)  
 19478 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
 19479 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
 19480 % U+2691 BLACK FLAG; \Flag (ifsym)  
 19481 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
 19482 %\* \textFlag -> \VarFlag (ifsym)  
 19483 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
 19484 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
 19485 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
 19486 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
 19487 %\* \textdsmilitary -> \textxswup (fourier)  
 19488 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 19489 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 19490 % U+2696 SCALES; \dsjuridical (dictsym)  
 19491 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 19492 % U+2697 ALEMBIC; \dschemical (dictsym)  
 19493 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 19494 % U+2698 FLOWER; \dsbiological (dictsym)  
 19495 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 19496 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 19497 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 19498 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 19499 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 19500 % U+26A0 WARNING SIGN; \danger (fourier)  
 19501 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 19502 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 19503 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 19504 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)

19505 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 19506 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)  
 19507 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 19508 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 19509 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 19510 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19511 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19512 % U+26AD MARRIAGE SYMBOL  
 19513 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19514 % U+26AE DIVORCE SYMBOL  
 19515 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19516 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19517 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19518 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19519 % U+26B9 SEXTILE; \hexstar (wasysym)  
 19520 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19521 % U+26BD SOCCER BALL; \Football (marvosym)  
 19522 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19523 %\* \textSoccerBall -> \Football (marvosym)  
 19524 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19525 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19526 % U+26C6 RAIN; \Rain (ifsym)  
 19527 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19528 % U+26D4 NO ENTRY; \noway (fourier)  
 19529 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19530 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19531 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19532 % U+26FA TENT; \Tent (ifsym)  
 19533 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19534 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbling)  
 19535 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19536 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19537 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19538 % U+2702 BLACK SCISSORS; \ScissorRight (bbling)  
 19539 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19540 %\* \textScissorRight -> \RightScissors (marvosym)  
 19541 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19542 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbling)  
 19543 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19544 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbling)  
 19545 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19546 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbling)  
 19547 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19548 % U+2707 TAPE DRIVE; \Tape (bbling)  
 19549 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19550 % U+2708 AIRPLANE; \Plane (bbling)  
 19551 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708

19552 % U+2709 ENVELOPE; \Envelope (bding),  
 19553 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19554 %\* \textEnvelope -> \Letter (marvosym)  
 19555 % U+270C VICTORY HAND; \Peace (bding)  
 19556 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19557 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19558 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19559 %\* \textWritingHand -> \Writinghand (marvosym)  
 19560 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 19561 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19562 % U+270F PENCIL; \PencilRight (bding)  
 19563 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19564 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 19565 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19566 % U+2711 WHITE NIB; \NibRight (bding)  
 19567 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19568 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 19569 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
 19570 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
 19571 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19572 %\* \textCheckmark -> \checkmark (MnSymbol)  
 19573 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
 19574 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 19575 % U+2715 MULTIPLICATION X; \XSolid (bding)  
 19576 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 19577 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
 19578 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
 19579 % U+2717 BALLOT X; \XSolidBrush (bding)  
 19580 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 19581 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
 19582 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 19583 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
 19584 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 19585 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
 19586 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 19587 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
 19588 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 19589 % U+271D LATIN CROSS; \Cross (bding)  
 19590 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 19591 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
 19592 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 19593 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
 19594 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 19595 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
 19596 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 19597 % U+2721 STAR OF DAVID; \DavidStar (bding)  
 19598 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 19599 %\* \textDavidStar -> \davidstar (wasysym)  
 19600 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
 19601 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722

19602 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
 19603 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19604 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
 19605 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19606 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
 19607 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19608 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
 19609 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19610 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
 19611 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19612 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
 19613 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19614 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
 19615 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19616 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
 19617 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19618 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
 19619 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19620 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
 19621 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19622 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
 19623 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19624 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
 19625 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
 19626 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
 19627 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19628 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
 19629 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19630 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
 19631 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19632 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
 19633 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 19634 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
 19635 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
 19636 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
 19637 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
 19638 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
 19639 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
 19640 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
 19641 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
 19642 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
 19643 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
 19644 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
 19645 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
 19646 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
 19647 % \SixFlowerOpenCenter (bding)

19648 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19649 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19650 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19651 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAl-  
ternate (bding)  
19652 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19653 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19654 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19655 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19656 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19657 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlow-  
erPetal (bding)  
19658 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19659 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \Sunshi-  
neOpenCircled (bding)  
19660 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19661 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlow-  
erAltPetal (bding)  
19662 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19663 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19664 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
19665 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
19666 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
19667 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
19668 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
19669 % U+2747 SPARKLE; \Sparkle (bding)  
19670 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
19671 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
19672 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
19673 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
19674 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
19675 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19676 % \EightFlowerPetalRemoved (bding)  
19677 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
19678 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19679 % \EightAsterisk (bding)  
19680 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
19681 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
19682 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
19683 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
19684 % \SquareShadowBottomRight (bding)  
19685 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
19686 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
19687 % \SquareShadowTopRight (bding)  
19688 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
19689 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
19690 % \SquareCastShadowBottomRight (bding)  
19691 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
19692 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
19693 % \SquareCastShadowTopRight (bding)

19694 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19695 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bbding)  
 19696 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19697 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bbding)  
 19698 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19699 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bbding)  
 19700 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19701 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)  
 19702 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19703 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19704 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19705 % \notperp (mathabx)  
 19706 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19707 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19708 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19709 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19710 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19711 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19712 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19713 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19714 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19715 %\* \textlbrackdbl -> \llbracket (stmaryrd)  
 19716 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19717 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19718 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19719 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19720 % \circlearrowleft (AmS)  
 19721 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19722 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19723 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19724 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19725 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19726 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19727 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19728 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19729 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19730 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19731 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19732 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19733 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19734 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 19735 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19736 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19737 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC

19738 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 19739 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 19740 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 19741 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

19742 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 19743 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 19744 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \nesarrow (MnSymbol)  
 19745 \DeclareTextCommand{\textnesarrow}{PU}{\9051\042}%\* U+2922  
 19746 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknarrow (MnSymbol)  
 19747 \DeclareTextCommand{\textlhooknarrow}{PU}{\9051\043}%\* U+2923  
 19748 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknarrow (MnSymbol)  
 19749 \DeclareTextCommand{\textrhooknarrow}{PU}{\9051\044}%\* U+2924  
 19750 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
 19751 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
 19752 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 19753 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
 19754 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 19755 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 19756 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19757 % \rcurvearrowne (MnSymbol)  
 19758 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 19759 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 19760 % \lcurvearrowse (MnSymbol)  
 19761 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 19762 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 19763 % \lcurvearrowsw (MnSymbol)  
 19764 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 19765 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
 19766 % \rcurvearrowse (MnSymbol)  
 19767 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19768 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
 19769 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 19770 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19771 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19772 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19773 % \rcurvearrowdown (MnSymbol)  
 19774 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 19775 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 19776 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 19777 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)



bol)

19778 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
19779 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
19780 % \rcurvearrowright (MnSymbol)  
19781 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%\* U+293B  
19782 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)  
19783 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
19784 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)  
19785 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
19786 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
19787 % \updownharpoonrightleft (MnSymbol)  
19788 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
19789 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
19790 % \updownharpoonleftright (MnSymbol)  
19791 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
19792 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
19793 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
19794 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
19795 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
19796 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
19797 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%\* U+2963  
19798 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON  
19799 % WITH BARB DOWN; \rightrightharpoons (mathabx)  
19800 \DeclareTextCommand{\textrightrightharpoons}{PU}{\9051\144}%\* U+2964  
19801 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
19802 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
19803 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%\* U+2965  
19804 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
19805 % \leftbarharpoon (mathabx)  
19806 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
19807 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
19808 % LONG DASH; \barleftharpoon (mathabx)  
19809 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
19810 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
19811 % LONG DASH; \rightbarharpoon (mathabx)  
19812 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
19813 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
19814 % LONG DASH; \barrightharpoon (mathabx)  
19815 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
19816 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON  
19817 % WITH BARB RIGHT; \updownharpoons (mathabx)  
19818 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%\* U+296E  
19819 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON  
19820 % WITH BARB RIGHT; \downupharpoons (mathabx)

19821 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 19822 % U+297F DOWN FISH TAIL  
 19823 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19824 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)  
 19825 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%\* U+2987  
 19826 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 19827 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 19828 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 19829 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 19830 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19831 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19832 %\* \textobar -> \textvarobar (stmaryrd)  
 19833 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19834 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19835 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19836 %\* \textobslash -> \obackslash (mathabx)  
 19837 %\* \textobslash -> \varobslash (stmaryrd)  
 19838 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19839 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19840 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19841 %\* \textobot -> \odplus (ulsy)  
 19842 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)  
 19843 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 19844 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19845 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19846 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19847 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19848 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19849 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19850 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19851 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 19852 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 19853 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 19854 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 19855 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 19856 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 19857 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 19858 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 19859 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 19860 % U+29D3 BLACK BOWTIE; \Valve (marvosym)  
 19861 \DeclareTextCommand{\textValve}{PU}{\9051\323}%\* U+29D3  
 19862 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 19863 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 19864 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 19865 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19866 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 19867 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 19868 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 19869 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 19870 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 19871 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
 19872 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,  
 19873 % pxfonts, wasysym)  
 19874 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
 19875 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)  
 19876 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%\* U+2A1F  
 19877 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
 19878 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22  
 19879 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 19880 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 19881 %\* \textminusdot -> \divdot (mathabx)  
 19882 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)  
 19883 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%\* U+2A30  
 19884 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 19885 % \dtimes (mathdesign)  
 19886 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 19887 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)  
 19888 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
 19889 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
 19890 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
 19891 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
 19892 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
 19893 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
 19894 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
 19895 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
 19896 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
 19897 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
 19898 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
 19899 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)  
 19900 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
 19901 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
 19902 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
 19903 %\* \textdoublevee -> \merge (stmaryrd)  
 19904 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
 19905 % \doublebarwedge (AmS)  
 19906 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
 19907 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
 19908 % \veedoublebar (mahtabx)  
 19909 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63  
 19910 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
 19911 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
 19912 % \neqdot (MnSymbol)  
 19913 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%\* U+2A66 U+0338  
 19914 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
 19915 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74

19916 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
 19917 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
 19918 % \nleqslant (txfonts/pxfonts)  
 19919 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%\* U+2A7D U+0338  
 19920 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
 19921 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 19922 % \ngeqslant (txfonts/pxfonts)  
 19923 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%\* U+2A7E U+0338  
 19924 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 19925 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 19926 % \nlessapprox (txfonts/pxfonts)  
 19927 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%\* U+2A85 U+0338  
 19928 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 19929 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 19930 % \ngtrapprox (txfonts/pxfonts)  
 19931 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%\* U+2A86 U+0338  
 19932 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 19933 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 19934 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 19935 % \gneq (AmS)  
 19936 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 19937 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 19938 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 19939 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 19940 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 19941 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-  
 19942 % \lesseqgtr (AmS)  
 19943 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%\* U+2A8B  
 19944 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-  
 19945 % \gtreqless (AmS)  
 19946 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%\* U+2A8C  
 19947 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 19948 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 19949 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)  
 19950 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 19951 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 19952 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 19953 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 19954 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 19955 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-  
 19956 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 19957 % \npreceq (txfonts/pxfonts)  
 19958 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%\* U+2AAF U+0338  
 19959 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-  
 19960 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 19961 % \nsucceq (txfonts/pxfonts)

19962 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%\* U+2AB0 U+0338  
 19963 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-  
 neq (mathabx)  
 19964 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 19965 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-  
 neq (mathabx)  
 19966 \DeclareTextCommand{\textsucneq}{PU}{\9052\262}%\* U+2AB2  
 19967 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 19968 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 19969 % \npreceqq (txfonts/pxfonts)  
 19970 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%\* U+2AB3 U+0338  
 19971 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 19972 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 19973 % \nsucceqq (txfonts/pxfonts)  
 19974 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%\* U+2AB4 U+0338  
 19975 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 19976 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 19977 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)  
 19978 \DeclareTextCommand{\textsucneqq}{PU}{\9052\266}%\* U+2AB6  
 19979 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 19980 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7  
 19981 % \nprecapprox (txfonts/pxfonts)  
 19982 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%\* U+2AB7 U+0338  
 19983 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)  
 19984 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%\* U+2AB8  
 19985 % \nsuccapprox (txfonts/pxfonts)  
 19986 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%\* U+2AB8 U+0338  
 19987 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-  
 prox (AmS)  
 19988 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%\* U+2AB9  
 19989 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-  
 prox (AmS)  
 19990 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%\* U+2ABA  
 19991 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)  
 19992 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%\* U+2AC5  
 19993 % \nsubseteqq (txfonts/pxfonts, mathabx)  
 19994 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%\* U+2AC5 U+0338  
 19995 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)  
 19996 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%\* U+2AC6  
 19997 % \nsupseteqq (mathabx)  
 19998 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%\* U+2AC6 U+0338  
 19999 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE  
 20000 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%\* U+2AE3  
 20001 %\* \textdashV -> \leftVdash (MnSymbol)  
 20002 % \ndashV (mathabx)  
 20003 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%\* U+2AE3 U+0338  
 20004 %\* \textndashV -> \leftVdash (MnSymbol)  
 20005 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 20006 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%\* U+2AE4  
 20007 %\* \textDashv -> \leftmodels (MnSymbol)

20008 % \nDashv (mathabx)  
 20009 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%\* U+2AE4 U+0338  
 20010 %\* \textnDashv -> \nleftmodels (MnSymbol)  
 20011 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 20012 % \DashV (mathabx)  
 20013 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%\* U+2AE5  
 20014 %\* \textDashV -> \leftModels (MnSymbol)  
 20015 % \nDashV (mathabx)  
 20016 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%\* U+2AE5 U+0338  
 20017 %\* \textnDashV -> \nleftModels (MnSymbol)  
 20018 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 20019 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%\* U+2AEA  
 20020 % \ndownmodels (MnSymbol)  
 20021 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%\* U+2AEA U+0338  
 20022 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 20023 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 20024 % \nupmodels (MnSymbol)  
 20025 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%\* U+2AEB U+0338  
 20026 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 20027 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 20028 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 20029 % \interleave (stmaryrd)  
 20030 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 20031 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)  
 20032 \DeclareTextCommand{\textslash}{PU}{\9052\375}%\* U+2AFD  
 20033 %\* \textslash -> \varparallel (txfonts\pxfonts)

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

20034 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 20035 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 20036 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 20037 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

20038 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 20039 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

20040 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 20041 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 20042 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 20043 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 20044 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 20045 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

20046 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 20047 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 20048 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;

20049 % \textdownstep (tipa)  
 20050 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

#### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

20051 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 20052 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
 20053 %\* \textPUheng -> \textheng (tipx)  
 20054 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 20055 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
 20056 %\* \textPULhookfour -> \textlhookfour (tipx)  
 20057 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 20058 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 20059 %\* \textPUscf -> \textscf (tipx)  
 20060 % U+A735 LATIN SMALL LETTER AO; \textaoilig (tipx)  
 20061 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 20062 %\* \textPUaolig -> \textaoilig (tipx)  
 20063 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 20064 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 20065 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 20066 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

#### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

20067 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 20068 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 20069 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 20070 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

#### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

20071 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 20072 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 20073 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 20074 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 20075 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 20076 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 20077 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 20078 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 20079 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 20080 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 20081 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 20082 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 20083 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 20084 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 20085 %\* \textfullnote -> \Ganz (harmony)  
 20086 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 20087 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 20088 %\* \texthalfnote -> \Halb (harmony)  
 20089 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 20090 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 20091 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 20092 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160

20093 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 20094 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 20095 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 20096 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

20097 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 20098 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 20099 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 20100 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 20101 % U+1F468 MAN; \ManFace (marvosym)  
 20102 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 20103 % U+1F469 WOMAN; \WomanFace (marvosym)  
 20104 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 20105 %\* \textWomanFace -> \Womanface (marvosym)  
 20106 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 20107 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 20108 %\* \textFax -> \Faxmachine (marvosym)  
 20109 % U+1F525 FIRE; \Fire (ifsym)  
 20110 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20111 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 20112 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 20113 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 20114 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 20115 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 20116 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

### 51.2.45 Miscellaneous

20117 \DeclareTextCommand{\SS}{PU}{SS}%  
 20118 % \textcopyleft (textcomp)  
 20119 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 20120 % \ccnc (ccllicenses)  
 20121 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 20122 % \ccnd (ccllicenses)  
 20123 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 20124 % \ccsa (ccllicenses)  
 20125 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 20126 % \Info (marvosym, china2e)  
 20127 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
 20128 % \CESign (marvosym)  
 20129 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045  
 20130 %\* \textCESign -> \CESign (marvosym)

### 51.2.46 Aliases

Aliases (german.sty)

20131 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%  
 20132 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%



```

20133 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20134 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20135 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20136 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20137 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20138 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%
Aliases (math names)
20139 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20140 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20141 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20142 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20143 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20144 </puenc>

```

### 51.3 PU encoding, additions for VnT<sub>E</sub>X

This file is provided by Han The Thanh.

```

20145 <*puvnenc>
20146 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20147 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20148 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20149 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20150 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20151 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20152 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20153 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20154 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20155 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20156 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20157 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20158 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20159 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20160 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
20161 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20162 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
20163 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
20164 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
20165 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
20166 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
20167 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
20168 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
20169 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
20170 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
20171 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
20172 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
20173 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
20174 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9

```

20175 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
 20176 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
 20177 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 20178 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
 20179 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
 20180 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
 20181 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20182 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20183 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20184 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20185 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
 20186 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20187 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20188 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20189 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20190 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
 20191 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20192 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20193 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20194 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20195 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20196 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20197 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20198 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20199 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20200 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20201 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20202 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20203 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20204 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20205 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 20206 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20207 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20208 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20209 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20210 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20211 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20212 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 20213 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20214 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20215 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 20216 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20217 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20218 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20219 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20220 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
 20221 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20222 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20223 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20224 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6

20225 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 20226 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20227 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20228 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20229 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 20230 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 20231 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20232 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 20233 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20234 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20235 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
 20236 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20237 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 20238 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
 20239 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
 20240 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
 20241 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
 20242 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
 20243 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 20244 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 20245 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
 20246 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
 20247 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 20248 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
 20249 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 20250 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
 20251 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
 20252 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
 20253 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
 20254 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
 20255 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
 20256 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
 20257 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
 20258 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
 20259 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
 20260 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC  
 20261 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
 20262 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
 20263 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
 20264 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 20265 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
 20266 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
 20267 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 20268 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8  
 20269 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0  
 20270 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA  
 20271 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC  
 20272 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE  
 20273 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
 20274 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4

```

20275 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
20276 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20277 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20278 </puvnc>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20279 <*puarenc>
20280 % U+0621;afii57409;ARABIC LETTER HAMZA
20281 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20282 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20283 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20284 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20285 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20286 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20287 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20288 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20289 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
20290 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
20291 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
20292 % U+0627;afii57415;ARABIC LETTER ALEF
20293 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
20294 % U+0628;afii57416;ARABIC LETTER BEH
20295 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
20296 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
20297 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
20298 % U+062A;afii57418;ARABIC LETTER TEH
20299 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
20300 % U+062B;afii57419;ARABIC LETTER THEH
20301 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
20302 % U+062C;afii57420;ARABIC LETTER JEEM
20303 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
20304 % U+062D;afii57421;ARABIC LETTER HAH
20305 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
20306 % U+062E;afii57422;ARABIC LETTER KHAH
20307 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
20308 % U+062F;afii57423;ARABIC LETTER DAL
20309 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
20310 % U+0630;afii57424;ARABIC LETTER THAL
20311 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
20312 % U+0631;afii57425;ARABIC LETTER REH
20313 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
20314 % U+0632;afii57426;ARABIC LETTER ZAIN
20315 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
20316 % U+0633;afii57427;ARABIC LETTER SEEN
20317 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
20318 % U+0634;afii57428;ARABIC LETTER SHEEN

```

20319 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 20320 % U+0635;afii57429;ARABIC LETTER SAD  
 20321 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 20322 % U+0636;afii57430;ARABIC LETTER DAD  
 20323 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 20324 % U+0637;afii57431;ARABIC LETTER TAH  
 20325 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 20326 % U+0638;afii57432;ARABIC LETTER ZAH  
 20327 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 20328 % U+0639;afii57433;ARABIC LETTER AIN  
 20329 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 20330 % U+063A;afii57434;ARABIC LETTER GHAIN  
 20331 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 20332 % U+0640;afii57440;ARABIC TATWEEL  
 20333 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20334 % U+0641;afii57441;ARABIC LETTER FEH  
 20335 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20336 % U+0642;afii57442;ARABIC LETTER QAF  
 20337 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20338 % U+0643;afii57443;ARABIC LETTER KAF  
 20339 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20340 % U+0644;afii57444;ARABIC LETTER LAM  
 20341 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20342 % U+0645;afii57445;ARABIC LETTER MEEM  
 20343 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20344 % U+0646;afii57446;ARABIC LETTER NOON  
 20345 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20346 % U+0647;afii57470;ARABIC LETTER HEH  
 20347 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20348 % U+0648;afii57448;ARABIC LETTER WAW  
 20349 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20350 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 20351 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20352 % U+064A;afii57450;ARABIC LETTER YEH  
 20353 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
 20354 % U+064B;afii57451;ARABIC FATHATAN  
 20355 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20356 % U+064C;afii57452;ARABIC DAMMATAN  
 20357 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20358 % U+064D;afii57453;ARABIC KASRATAN  
 20359 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20360 % U+064E;afii57454;ARABIC FATHA  
 20361 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20362 % U+064F;afii57455;ARABIC DAMMA  
 20363 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20364 % U+0650;afii57456;ARABIC KASRA  
 20365 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20366 % U+0651;afii57457;ARABIC SHADDA  
 20367 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651

20368 % U+0652;afi57458;ARABIC SUKUN  
 20369 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
 Farsi  
 20370 % U+067E ARABIC LETTER PEH; afi57506  
 20371 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20372 % U+0686 ARABIC LETTER TCHEH; afi57507  
 20373 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20374 % U+0698 ARABIC LETTER JEH; afi57508  
 20375 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20376 % U+06A9 ARABIC LETTER KEHEH  
 20377 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20378 % U+06AF ARABIC LETTER GAF; afi57509  
 20379 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20380 % U+06CC ARABIC LETTER FARSI YEH  
 20381 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
 20382 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 20383 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20384 % U+200D ZERO WIDTH JOINER; afi301  
 20385 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D  
 20386 </puarenc>  
 20387 <\*psdextra>  
 20388 \Hy@VersionCheck{psdextra.def}  
 20389 \newcommand\*{\psdmapshortnames}{%  
 20390 \let\MVPlus\textMVPlus  
 20391 \let\MVComma\textMVComma  
 20392 \let\MVMinus\textMVMinus  
 20393 \let\MVPeriod\textMVPeriod  
 20394 \let\MVDivision\textMVDivision  
 20395 \let\MVZero\textMVZero  
 20396 \let\MVOne\textMVOne  
 20397 \let\MVTwo\textMVTwo  
 20398 \let\MVThree\textMVThree  
 20399 \let\MVFour\textMVFour  
 20400 \let\MVFive\textMVFive  
 20401 \let\MVSix\textMVSix  
 20402 \let\MVSeven\textMVSeven  
 20403 \let\MVEight\textMVEight  
 20404 \let\MVNine\textMVNine  
 20405 \let\MVAt\textMVAt  
 20406 \let\copyright\textcopyright  
 20407 \let\twosuperior\texttwosuperior  
 20408 \let\threesuperior\textthreesuperior  
 20409 \let\onesuperior\textonesuperior  
 20410 \let\Thorn\textThorn  
 20411 \let\thorn\textthorn  
 20412 \let\hbar\texthbar  
 20413 \let\hausaB\texthausaB  
 20414 \let\hausaD\texthausaD

20415 \let\hausaK\texthausaK  
 20416 \let\barl\textbarl  
 20417 \let\inve\textinve  
 20418 \let\slashc\textslashc  
 20419 \let\scripta\textscripta  
 20420 \let\openo\textopeno  
 20421 \let\rtaild\textrtaild  
 20422 \let\reve\textreve  
 20423 \let\schwa\textschwa  
 20424 \let\niepsilon\textniepsilon  
 20425 \let\reveysilon\textreveysilon  
 20426 \let\rhookreveysilon\text\rhookreveysilon  
 20427 \let\scriptg\textscriptg  
 20428 \let\scg\textscg  
 20429 \let\ipagamma\textipagamma  
 20430 \let\babygamma\textbabygamma  
 20431 \let\bari\textbari  
 20432 \let\niiota\textniiota  
 20433 \let\sci\textsci  
 20434 \let\scn\textscn  
 20435 \let\niphi\textniphi  
 20436 \let\longlegr\textlonglegr  
 20437 \let\scr\textscr  
 20438 \let\invscr\textinvscr  
 20439 \let\esh\textesh  
 20440 \let\baru\textbaru  
 20441 \let\niupsilon\textniupsilon  
 20442 \let\scriptv\textscriptv  
 20443 \let\turnv\textturnv  
 20444 \let\turnw\textturnw  
 20445 \let\turny\textturny  
 20446 \let\scy\textscy  
 20447 \let\yogh\textyogh  
 20448 \let\glotstop\textglotstop  
 20449 \let\revglotstop\textrevglotstop  
 20450 \let\invglotstop\textinvglotstop  
 20451 \let\Gamma\textGamma  
 20452 \let\Delta\textDelta  
 20453 \let\Theta\textTheta  
 20454 \let\Lambda\textLambda  
 20455 \let\Xi\textXi  
 20456 \let\Pi\textPi  
 20457 \let\Sigma\textSigma  
 20458 \let\Upsilon\textUpsilon  
 20459 \let\Phi\textPhi  
 20460 \let\Psi\textPsi  
 20461 \let\Omega\textOmega  
 20462 \let\alpha\textalpha  
 20463 \let\beta\textbeta  
 20464 \let\gamma\textgamma

20465 \let\delta\textdelta  
 20466 \let\epsilon\textepsilon  
 20467 \let\zeta\textzeta  
 20468 \let\eta\texteta  
 20469 \let\theta\texttheta  
 20470 \let\iota\textiota  
 20471 \let\kappa\textkappa  
 20472 \let\lambda\textlambda  
 20473 \let\mu\textmu  
 20474 \let\mugreek\textmugreek  
 20475 \let\nu\textnu  
 20476 \let\xi\textxi  
 20477 \let\pi\textpi  
 20478 \let\rho\textrho  
 20479 \let\varsigma\textvarsigma  
 20480 \let\sigma\textsigma  
 20481 \let\tau\texttau  
 20482 \let\upsilon\textupsilon  
 20483 \let\phi\textphi  
 20484 \let\chi\textchi  
 20485 \let\psi\textpsi  
 20486 \let\omega\textomega  
 20487 \let\scd\textscd  
 20488 \let\scu\textscu  
 20489 \let\iinferior\textiinferior  
 20490 \let\rinferior\textrinferior  
 20491 \let\uiinferior\textuiinferior  
 20492 \let\vinferior\textvinferior  
 20493 \let\betainferior\textbetainferior  
 20494 \let\gammainferior\textgammainferior  
 20495 \let\rhoinferior\textrhoinferior  
 20496 \let\phiinferior\textphiinferior  
 20497 \let\chiinferior\textchiinferior  
 20498 \let\barsci\textbarsci  
 20499 \let\barp\textbarp  
 20500 \let\barscu\textbarscu  
 20501 \let\htrtaild\texthtrtaild  
 20502 \let\dagger\textdagger  
 20503 \let\bullet\textbullet  
 20504 \let\hdotfor\texthdotfor  
 20505 \let\prime\textprime  
 20506 \let\second\textsecond  
 20507 \let\third\textthird  
 20508 \let\backprime\textbackprime  
 20509 \let\lefttherefore\textlefttherefore  
 20510 \let\fourth\textfourth  
 20511 \let\diamonddots\textdiamonddots  
 20512 \let\zerosuperior\textzerosuperior  
 20513 \let\isuperior\textisuperior  
 20514 \let\foursuperior\textfoursuperior



20515 \let\fivesuperior\textfivesuperior  
 20516 \let\sixsuperior\textsixsuperior  
 20517 \let\sevensuperior\textsevensuperior  
 20518 \let\eightsuperior\texteightsuperior  
 20519 \let\ninesuperior\textninesuperior  
 20520 \let\plussuperior\textplussuperior  
 20521 \let\minussuperior\textminussuperior  
 20522 \let>equalsuperior\textequalsuperior  
 20523 \let\parenleftsuperior\textparenleftsuperior  
 20524 \let\parenrightsuperior\textparenrightsuperior  
 20525 \let\nsuperior\textnsuperior  
 20526 \let\zeroinferior\textzeroinferior  
 20527 \let\oneinferior\textoneinferior  
 20528 \let\twoinferior\texttwoinferior  
 20529 \let\threeinferior\textthreeinferior  
 20530 \let\fourinferior\textfourinferior  
 20531 \let\fiveinferior\textfiveinferior  
 20532 \let\sixinferior\textsixinferior  
 20533 \let\seveninferior\textseveninferior  
 20534 \let\eightinferior\texteightinferior  
 20535 \let\nineinferior\textnineinferior  
 20536 \let\plusinferior\textplusinferior  
 20537 \let\minusinferior\textminusinferior  
 20538 \let>equalsinferior\textequalsinferior  
 20539 \let\parenleftinferior\textparenleftinferior  
 20540 \let\parenrightinferior\textparenrightinferior  
 20541 \let\ainferior\textainferior  
 20542 \let\einferior\texteinferior  
 20543 \let\oinferior\textoinferior  
 20544 \let\xinferior\textxinferior  
 20545 \let\schwainferior\textschwainferior  
 20546 \let\hinferior\texthinferior  
 20547 \let\kinferior\textkinferior  
 20548 \let\linferior\textlinferior  
 20549 \let\mininferior\textmininferior  
 20550 \let\ninferior\textninferior  
 20551 \let\pinferior\textpinferior  
 20552 \let\sinferior\textsinferior  
 20553 \let\tinferior\texttinferior  
 20554 \let\Deleatur\textDeleatur  
 20555 \let\hslash\texthslash  
 20556 \let\Im\textIm  
 20557 \let\ell\textell  
 20558 \let\wp\textwp  
 20559 \let\Re\textRe  
 20560 \let\mho\textmho  
 20561 \let\riota\textriota  
 20562 \let\Finv\textFinv  
 20563 \let\aleph\textaleph  
 20564 \let\beth\textbeth

20565 \let\gimel\textgimel  
 20566 \let\daleth\textdaleth  
 20567 \let\xfax\textfax  
 20568 \let\Game\textGame  
 20569 \let\leftarrow\textleftarrow  
 20570 \let\uparrow\textuparrow  
 20571 \let\rightarrow\textrightarrow  
 20572 \let\downarrow\textdownarrow  
 20573 \let\leftrightarrow\textleftrightarrow  
 20574 \let\updownarrow\textupdownarrow  
 20575 \let\nwarrow\textnwarrow  
 20576 \let\nearrow\textnearrow  
 20577 \let\searrow\textsearrow  
 20578 \let\swarrow\textswarrow  
 20579 \let\nleftarrow\textnleftarrow  
 20580 \let\nrightarrow\textnrightarrow  
 20581 \let\twoheadleftarrow\texttwoheadleftarrow  
 20582 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20583 \let\twoheaduparrow\texttwoheaduparrow  
 20584 \let\twoheadrightarrow\texttwoheadrightarrow  
 20585 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 20586 \let\twoheaddownarrow\texttwoheaddownarrow  
 20587 \let\leftarrowtail\textleftarrowtail  
 20588 \let\rightarrowtail\textrightarrowtail  
 20589 \let\mapsto\textmapsto  
 20590 \let\hookleftarrow\texthookleftarrow  
 20591 \let\hookrightarrow\texthookrightarrow  
 20592 \let\looparrowleft\textlooparrowleft  
 20593 \let\looparrowright\textlooparrowright  
 20594 \let\nleftrightarrow\textnleftrightarrow  
 20595 \let\lightning\textlightning  
 20596 \let\dish\textdish  
 20597 \let\curvearrowleft\textcurvearrowleft  
 20598 \let\curvearrowright\textcurvearrowright  
 20599 \let\leftharpoonup\textleftharpoonup  
 20600 \let\leftharpoondown\textleftharpoondown  
 20601 \let\upharpoonright\textupharpoonright  
 20602 \let\upharpoonleft\textupharpoonleft  
 20603 \let\rightharpoonup\text\rightharpoonup  
 20604 \let\rightharpoondown\text\rightharpoondown  
 20605 \let\downharpoonright\textdownharpoonright  
 20606 \let\downharpoonleft\textdownharpoonleft  
 20607 \let\rightleftarrows\textrightleftarrows  
 20608 \let\updownarrows\textupdownarrows  
 20609 \let\leftrightarrows\textleftrightarrows  
 20610 \let\leftleftarrows\textleftleftarrows  
 20611 \let\upuparrows\textupuparrows  
 20612 \let\righttrightarrows\textrighttrightarrows  
 20613 \let\downdownarrows\textdowndownarrows  
 20614 \let\leftrightharpoons\textleftrightharpoons

20615  $\backslash\mathrm{rightharpoonleft}$   
 20616  $\backslash\mathrm{nLeftarrow}$   
 20617  $\backslash\mathrm{nLeftrightarrow}$   
 20618  $\backslash\mathrm{nRrightarrow}$   
 20619  $\backslash\mathrm{Leftarrow}$   
 20620  $\backslash\mathrm{Uparrow}$   
 20621  $\backslash\mathrm{Rrightarrow}$   
 20622  $\backslash\mathrm{Downarrow}$   
 20623  $\backslash\mathrm{Leftrightarrow}$   
 20624  $\backslash\mathrm{Updownarrow}$   
 20625  $\backslash\mathrm{Nwarrow}$   
 20626  $\backslash\mathrm{Nearrow}$   
 20627  $\backslash\mathrm{Searrow}$   
 20628  $\backslash\mathrm{Swarrow}$   
 20629  $\backslash\mathrm{Lleftarrow}$   
 20630  $\backslash\mathrm{Rrightarrow}$   
 20631  $\backslash\mathrm{leftsquigarrow}$   
 20632  $\backslash\mathrm{rightsquigarrow}$   
 20633  $\backslash\mathrm{dashleftarrow}$   
 20634  $\backslash\mathrm{dasheduparrow}$   
 20635  $\backslash\mathrm{dashrightarrow}$   
 20636  $\backslash\mathrm{dasheddownarrow}$   
 20637  $\backslash\mathrm{pointer}$   
 20638  $\backslash\mathrm{downuparrows}$   
 20639  $\backslash\mathrm{leftarrowtriangle}$   
 20640  $\backslash\mathrm{rightarrowtriangle}$   
 20641  $\backslash\mathrm{leftrightharpoonrightarrowtriangle}$   
 20642  $\backslash\mathrm{forall}$   
 20643  $\backslash\mathrm{complement}$   
 20644  $\backslash\mathrm{partial}$   
 20645  $\backslash\mathrm{exists}$   
 20646  $\backslash\mathrm{nexists}$   
 20647  $\backslash\mathrm{emptyset}$   
 20648  $\backslash\mathrm{triangle}$   
 20649  $\backslash\mathrm{nabla}$   
 20650  $\backslash\mathrm{in}$   
 20651  $\backslash\mathrm{notin}$   
 20652  $\backslash\mathrm{smallin}$   
 20653  $\backslash\mathrm{ni}$   
 20654  $\backslash\mathrm{notowner}$   
 20655  $\backslash\mathrm{smallowns}$   
 20656  $\backslash\mathrm{prod}$   
 20657  $\backslash\mathrm{amalg}$   
 20658  $\backslash\mathrm{sum}$   
 20659  $\backslash\mathrm{mp}$   
 20660  $\backslash\mathrm{dotplus}$   
 20661  $\backslash\mathrm{Divides}$   
 20662  $\backslash\mathrm{DividesNot}$   
 20663  $\backslash\mathrm{setminus}$   
 20664  $\backslash\mathrm{ast}$

20665 \let\circ\textcirc  
 20666 \let\surd\textsurd  
 20667 \let\propto\textpropto  
 20668 \let\infty\textinfty  
 20669 \let\angle\textangle  
 20670 \let\measuredangle\textmeasuredangle  
 20671 \let\sphericalangle\textsphericalangle  
 20672 \let\mid\textmid  
 20673 \let\nmid\textnmid  
 20674 \let\parallel\textparallel  
 20675 \let\nparallel\textnparallel  
 20676 \let\wedge\textwedge  
 20677 \let\owedge\textowedge  
 20678 \let\vee\textvee  
 20679 \let\ovee\textovee  
 20680 \let\cap\textcap  
 20681 \let\cup\textcup  
 20682 \let\int\textint  
 20683 \let\iint\textiint  
 20684 \let\iiint\textiiint  
 20685 \let\oint\textoint  
 20686 \let\oiint\textoiint  
 20687 \let\ointclockwise\textointclockwise  
 20688 \let\ointctrlockwise\textointctrlockwise  
 20689 \let\therefore\texttherefore  
 20690 \let\because\textbecause  
 20691 \let\vdots\textvdots  
 20692 \let\squaredots\textsquaredots  
 20693 \let\dotminus\textdotminus  
 20694 \let\eqcolon\texteqcolon  
 20695 \let\sim\textsim  
 20696 \let\backsim\textbacksim  
 20697 \let\nbacksim\textnbacksim  
 20698 \let\wr\textwr  
 20699 \let\nsim\textnsim  
 20700 \let\eqsim\texteqsim  
 20701 \let\neqsim\textneqsim  
 20702 \let\simeq\textsimeq  
 20703 \let\nsimeq\textnsimeq  
 20704 \let\cong\textcong  
 20705 \let\ncong\textncong  
 20706 \let\approx\textapprox  
 20707 \let\napprox\textnapprox  
 20708 \let\approxeq\textapproxeq  
 20709 \let\napproxeq\textnapproxeq  
 20710 \let\triplesim\texttriplesim  
 20711 \let\ntriplesim\textntriplesim  
 20712 \let\backcong\textbackcong  
 20713 \let\nbackcong\textnbackcong  
 20714 \let\asymp\textasymp

20715 \let\nasympt\textnasympt  
 20716 \let\Bumpeq\textBumpeq  
 20717 \let\nBumpeq\textnBumpeq  
 20718 \let\bumpeq\textbumpeq  
 20719 \let\nbumpeq\textnbumpeq  
 20720 \let\doteq\textdoteq  
 20721 \let\ndoteq\textndoteq  
 20722 \let\doteqdot\textdoteqdot  
 20723 \let\NDoteq\textNDoteq  
 20724 \let\fallingdoteq\textfallingdoteq  
 20725 \let\nfallingdoteq\textnfallingdoteq  
 20726 \let\risingdoteq\textrisingdoteq  
 20727 \let\nrisingdoteq\textnrisingdoteq  
 20728 \let\colonequals\textcolonequals  
 20729 \let\equalscolon\textequalscolon  
 20730 \let\eqcirc\texteqcirc  
 20731 \let\neqcirc\textneqcirc  
 20732 \let\circeq\textcirceq  
 20733 \let\ncirceq\textncirceq  
 20734 \let\hateq\texthateq  
 20735 \let\nhateq\textnhateq  
 20736 \let\triangleeq\texttriangleeq  
 20737 \let\neq\textneq  
 20738 \let\ne\textne  
 20739 \let\equiv\textequiv  
 20740 \let\equiv\textequiv  
 20741 \let\leq\textleq  
 20742 \let\le\textle  
 20743 \let\geq\textgeq  
 20744 \let\ge\textge  
 20745 \let\leqq\textleqq  
 20746 \let\leqq\textleqq  
 20747 \let\geqq\textgeqq  
 20748 \let\geqq\textgeqq  
 20749 \let\lneqq\textlneqq  
 20750 \let\gneqq\textgneqq  
 20751 \let\ll\textll  
 20752 \let\nll\textnll  
 20753 \let\gg\textgg  
 20754 \let\ngg\textngg  
 20755 \let\between\textbetween  
 20756 \let\nless\textnless  
 20757 \let\ngtr\textngtr  
 20758 \let\lneq\textlneq  
 20759 \let\ngeq\textngeq  
 20760 \let\lesssim\textlessim  
 20761 \let\gtrsim\textgtrsim  
 20762 \let\nlessim\textnlessim  
 20763 \let\ngtrsim\textngtrsim  
 20764 \let\lessgtr\textlessgtr

20765 \let\gtrless\textgtrless  
 20766 \let\ngtrless\textngtrless  
 20767 \let\nlessgtr\textnlessgtr  
 20768 \let\prec\textprec  
 20769 \let\succ\textsucc  
 20770 \let\preccurlyeq\textpreccurlyeq  
 20771 \let\succcurlyeq\textsucccurlyeq  
 20772 \let\precsim\textprecsim  
 20773 \let\nprecsim\textnprecsim  
 20774 \let\succsim\textsuccsim  
 20775 \let\nsuccsim\textnsuccsim  
 20776 \let\nprec\textnprec  
 20777 \let\nsucc\textnsucc  
 20778 \let\subset\textsubset  
 20779 \let\supset\textsupset  
 20780 \let\nsubset\textnsubset  
 20781 \let\nsupset\textnsupset  
 20782 \let\subsetq\textsubsetq  
 20783 \let\supsetq\textsupsetq  
 20784 \let\nsubsetq\textnsubsetq  
 20785 \let\nsupsetq\textnsupsetq  
 20786 \let\subsetneq\textsubsetneq  
 20787 \let\supsetneq\textsupsetneq  
 20788 \let\cupdot\textcupdot  
 20789 \let\cupplus\textcupplus  
 20790 \let\sqsubset\textsqsubset  
 20791 \let\nsqsubset\textnsqsubset  
 20792 \let\sqsupset\textsqsupset  
 20793 \let\nsqsupset\textnsqsupset  
 20794 \let\sqsubsetq\textsqsubsetq  
 20795 \let\nsqsubsetq\textnsqsubsetq  
 20796 \let\sqsupsetq\textsqsupsetq  
 20797 \let\nsqsupsetq\textnsqsupsetq  
 20798 \let\sqcap\textsqcap  
 20799 \let\sqcup\textsqcup  
 20800 \let\oplus\textoplus  
 20801 \let\ominus\textominus  
 20802 \let\otimes\textotimes  
 20803 \let\oslash\textoslash  
 20804 \let\odot\textodot  
 20805 \let\circledcirc\textcircledcirc  
 20806 \let\circledast\textcircledast  
 20807 \let\circleddash\textcircleddash  
 20808 \let\boxplus\textboxplus  
 20809 \let\boxminus\textboxminus  
 20810 \let\boxtimes\textboxtimes  
 20811 \let\boxdot\textboxdot  
 20812 \let\vdash\textvdash  
 20813 \let\dashv\textdashv  
 20814 \let\ndashv\textndashv

20815  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 20816  $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{textndownvdash}$   
 20817  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 20818  $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{textnupvdash}$   
 20819  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 20820  $\backslash\text{let}\backslash\text{Vdash}\backslash\text{textVdash}$   
 20821  $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$   
 20822  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20823  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20824  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20825  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$   
 20826  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$   
 20827  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$   
 20828  $\backslash\text{let}\backslash\text{lhs}\backslash\text{textrhs}$   
 20829  $\backslash\text{let}\backslash\text{rhs}\backslash\text{textrhs}$   
 20830  $\backslash\text{let}\backslash\text{unlhs}\backslash\text{textunlhs}$   
 20831  $\backslash\text{let}\backslash\text{unrhs}\backslash\text{textunrhs}$   
 20832  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 20833  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 20834  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 20835  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 20836  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 20837  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 20838  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20839  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20840  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textrtimes}$   
 20841  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 20842  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20843  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 20844  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20845  $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{textnbacksimeq}$   
 20846  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20847  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 20848  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 20849  $\backslash\text{let}\backslash\text{nSubset}\backslash\text{textnSubset}$   
 20850  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 20851  $\backslash\text{let}\backslash\text{nSupset}\backslash\text{textnSupset}$   
 20852  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 20853  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 20854  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$   
 20855  $\backslash\text{let}\backslash\text{lessdot}\backslash\text{textlessdot}$   
 20856  $\backslash\text{let}\backslash\text{gtrdot}\backslash\text{textgtrdot}$   
 20857  $\backslash\text{let}\backslash\text{lll}\backslash\text{textlll}$   
 20858  $\backslash\text{let}\backslash\text{ggg}\backslash\text{textggg}$   
 20859  $\backslash\text{let}\backslash\text{lesseqgtr}\backslash\text{textlesseqgtr}$   
 20860  $\backslash\text{let}\backslash\text{gtreqless}\backslash\text{textgtreqless}$   
 20861  $\backslash\text{let}\backslash\text{curlyeqprec}\backslash\text{textcurlyeqprec}$   
 20862  $\backslash\text{let}\backslash\text{ncurlyeqprec}\backslash\text{textncurlyeqprec}$   
 20863  $\backslash\text{let}\backslash\text{curlyeqsucc}\backslash\text{textcurlyeqsucc}$   
 20864  $\backslash\text{let}\backslash\text{ncurlyeqsucc}\backslash\text{textncurlyeqsucc}$

20865 \let\npreccurlyeq\textnpreccurlyeq  
 20866 \let\nsucccurlyeq\textnsucccurlyeq  
 20867 \let\nqsubseteq\textnqsubseteq  
 20868 \let\nqsupseteq\textnqsupseteq  
 20869 \let\sqsubseteq\textsqssubseteq  
 20870 \let\sqsupseteq\textsqsupseteq  
 20871 \let\lnsim\textlnsim  
 20872 \let\gnsim\textgnsim  
 20873 \let\precnsim\textprecnsim  
 20874 \let\succnsim\textsuccnsim  
 20875 \let\ntriangleleft\textntriangleleft  
 20876 \let\ntriangleright\textntriangleright  
 20877 \let\ntrianglelefteq\textntrianglelefteq  
 20878 \let\ntrianglerighteq\textntrianglerighteq  
 20879 \let\vdots\textvdots  
 20880 \let\cdots\textcdots  
 20881 \let\udots\textudots  
 20882 \let\ddots\textddots  
 20883 \let\barin\textbarin  
 20884 \let\diameter\textdiameter  
 20885 \let\backneg\textbackneg  
 20886 \let\wasylounge\textwasylounge  
 20887 \let\invbackneg\textinvbackneg  
 20888 \let\clock\textclock  
 20889 \let\ulcorner\textulcorner  
 20890 \let\urcorner\texturcorner  
 20891 \let\llcorner\textllcorner  
 20892 \let\lrcorner\textlrcorner  
 20893 \let\frown\textfrown  
 20894 \let\smile\textsmile  
 20895 \let\Keyboard\textKeyboard  
 20896 \let\langle\textlangle  
 20897 \let\rangle\textrangle  
 20898 \let\APLinv\textAPLinv  
 20899 \let\Tumbler\textTumbler  
 20900 \let\notslash\textnotslash  
 20901 \let\notbackslash\textnotbackslash  
 20902 \let\boxbackslash\textboxbackslash  
 20903 \let\APLleftarrowbox\textAPLleftarrowbox  
 20904 \let\APLrightarrowbox\textAPLrightarrowbox  
 20905 \let\APLuparrowbox\textAPLuparrowbox  
 20906 \let\APLdownarrowbox\textAPLdownarrowbox  
 20907 \let\APLinput\textAPLinput  
 20908 \let\Request\textRequest  
 20909 \let\Beam\textBeam  
 20910 \let\hexagon\texthexagon  
 20911 \let\APLbox\textAPLbox  
 20912 \let\ForwardToIndex\textForwardToIndex  
 20913 \let\RewindToIndex\textRewindToIndex  
 20914 \let\bbslash\textbbslash



20915 \let\CircledA\textCircledA  
 20916 \let\CleaningF\textCleaningF  
 20917 \let\CleaningFF\textCleaningFF  
 20918 \let\CleaningP\textCleaningP  
 20919 \let\CleaningPP\textCleaningPP  
 20920 \let\CuttingLine\textCuttingLine  
 20921 \let\UParrow\textUParrow  
 20922 \let\bigtriangleup\textbigtriangleup  
 20923 \let\Forward\textForward  
 20924 \let\triangleright\texttriangleright  
 20925 \let\RHD\textRHD  
 20926 \let\DOWNarrow\textDOWNarrow  
 20927 \let\bigtriangledown\textbigtriangledown  
 20928 \let\Rewind\textRewind  
 20929 \let\triangleleft\texttriangleleft  
 20930 \let\LHD\textLHD  
 20931 \let\diamond\textdiamond  
 20932 \let\lozenge\textlozenge  
 20933 \let\LEFTCIRCLE\textLEFTCIRCLE  
 20934 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 20935 \let\openbullet\textopenbullet  
 20936 \let\boxbar\textboxbar  
 20937 \let\bigcirc\textbigcirc  
 20938 \let\Cloud\textCloud  
 20939 \let\FiveStar\textFiveStar  
 20940 \let\FiveStarOpen\textFiveStarOpen  
 20941 \let\Phone\textPhone  
 20942 \let\boxempty\textboxempty  
 20943 \let\Checkedbox\textCheckedbox  
 20944 \let\Crossedbox\textCrossedbox  
 20945 \let\Coffeecup\textCoffeecup  
 20946 \let\HandCuffLeft\textHandCuffLeft  
 20947 \let\HandCuffRight\textHandCuffRight  
 20948 \let\HandLeft\textHandLeft  
 20949 \let\HandRight\textHandRight  
 20950 \let\Radioactivity\textRadioactivity  
 20951 \let\Biohazard\textBiohazard  
 20952 \let\Ankh\textAnkh  
 20953 \let\YinYang\textYinYang  
 20954 \let\frownie\textfrownie  
 20955 \let\smiley\textsmiley  
 20956 \let\blacksmiley\textblacksmiley  
 20957 \let\sun\textsun  
 20958 \let\leftmoon\textleftmoon  
 20959 \let\rightmoon\textrightmoon  
 20960 \let\mercury\textmercury  
 20961 \let\earth\textearth  
 20962 \let\male\textmale  
 20963 \let\jupiter\textjupiter  
 20964 \let\saturn\textsaturn

20965 \let\uranus\texturanus  
 20966 \let\neptune\textneptune  
 20967 \let\pluto\textpluto  
 20968 \let\aries\textaries  
 20969 \let\taurus\texttaurus  
 20970 \let\gemini\textgemini  
 20971 \let\cancer\textcancer  
 20972 \let\leo\textleo  
 20973 \let\virgo\textvirgo  
 20974 \let\libra\textlibra  
 20975 \let\scorpio\textscorpio  
 20976 \let\sagittarius\textsagittarius  
 20977 \let\capricornus\textcapricornus  
 20978 \let\aquarius\textaquarius  
 20979 \let\pisces\textpisces  
 20980 \let\quaternote\textquaternote  
 20981 \let\twonotes\texttwonotes  
 20982 \let\sixteenthnote\textsixteenthnote  
 20983 \let\flat\textflat  
 20984 \let\natural\textnatural  
 20985 \let\sharp\textsharp  
 20986 \let\recycle\textrecycle  
 20987 \let\Wheelchair\textWheelchair  
 20988 \let\Flag\textFlag  
 20989 \let\MineSign\textMineSign  
 20990 \let\dsmilitary\textdsmilitary  
 20991 \let\dsmedical\textdsmedical  
 20992 \let\dsjuridical\textdsjuridical  
 20993 \let\dschemical\textdschemical  
 20994 \let\dsbiological\textdsbiological  
 20995 \let\dscommercial\textdscommercial  
 20996 \let\manstar\textmanstar  
 20997 \let\danger\textdanger  
 20998 \let\FemaleFemale\textFemaleFemale  
 20999 \let\MaleMale\textMaleMale  
 21000 \let\FemaleMale\textFemaleMale  
 21001 \let\Hermaphrodite\textHermaphrodite  
 21002 \let\Neutral\textNeutral  
 21003 \let\hexstar\texthexstar  
 21004 \let\SunCloud\textSunCloud  
 21005 \let\Rain\textRain  
 21006 \let\noway\textnoway  
 21007 \let\Mountain\textMountain  
 21008 \let\Tent\textTent  
 21009 \let\ScissorRight\textScissorRight  
 21010 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 21011 \let\ScissorHollowRight\textScissorHollowRight  
 21012 \let\PhoneHandset\textPhoneHandset  
 21013 \let\Tape\textTape  
 21014 \let\Plane\textPlane

21015 \let\Envelope\textEnvelope  
 21016 \let\Peace\textPeace  
 21017 \let\WritingHand\textWritingHand  
 21018 \let\PencilRightDown\textPencilRightDown  
 21019 \let\PencilRight\textPencilRight  
 21020 \let\PencilRightUp\textPencilRightUp  
 21021 \let\NibRight\textNibRight  
 21022 \let\NibSolidRight\textNibSolidRight  
 21023 \let\Checkmark\textCheckmark  
 21024 \let\CheckmarkBold\textCheckmarkBold  
 21025 \let\XSolid\textXSolid  
 21026 \let\XSolidBold\textXSolidBold  
 21027 \let\XSolidBrush\textXSolidBrush  
 21028 \let\PlusOutline\textPlusOutline  
 21029 \let\Plus\textPlus  
 21030 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 21031 \let\PlusCenterOpen\textPlusCenterOpen  
 21032 \let\Cross\textCross  
 21033 \let\CrossOpenShadow\textCrossOpenShadow  
 21034 \let\CrossOutline\textCrossOutline  
 21035 \let\CrossMaltese\textCrossMaltese  
 21036 \let\DavidStar\textDavidStar  
 21037 \let\FourAsterisk\textFourAsterisk  
 21038 \let\JackStar\textJackStar  
 21039 \let\JackStarBold\textJackStarBold  
 21040 \let\ClowerTips\textClowerTips  
 21041 \let\FourStar\textFourStar  
 21042 \let\FourStarOpen\textFourStarOpen  
 21043 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 21044 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 21045 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 21046 \let\FiveStarOutline\textFiveStarOutline  
 21047 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 21048 \let\FiveStarConvex\textFiveStarConvex  
 21049 \let\FiveStarShadow\textFiveStarShadow  
 21050 \let\AsteriskBold\textAsteriskBold  
 21051 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 21052 \let\EightStarTaper\textEightStarTaper  
 21053 \let\EightStarConvex\textEightStarConvex  
 21054 \let\SixStar\textSixStar  
 21055 \let\EightStar\textEightStar  
 21056 \let\EightStarBold\textEightStarBold  
 21057 \let\TwelveStar\textTwelveStar  
 21058 \let\SixteenStarLight\textSixteenStarLight  
 21059 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 21060 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 21061 \let\Asterisk\textAsterisk  
 21062 \let\SixFlowerAlternate\textSixFlowerAlternate  
 21063 \let\FiveFlowerPetal\textFiveFlowerPetal  
 21064 \let\FiveFlowerOpen\textFiveFlowerOpen

21065 \let\EightFlowerPetal\textEightFlowerPetal  
 21066 \let\SunshineOpenCircled\textSunshineOpenCircled  
 21067 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 21068 \let\SnowflakeChevron\textSnowflakeChevron  
 21069 \let\Snowflake\textSnowflake  
 21070 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 21071 \let\Sparkle\textSparkle  
 21072 \let\SparkleBold\textSparkleBold  
 21073 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 21074 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 21075 \let\EightAsterisk\textEightAsterisk  
 21076 \let\CircleShadow\textCircleShadow  
 21077 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 21078 \let\SquareTopRight\textSquareTopRight  
 21079 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 21080 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 21081 \let\DiamondSolid\textDiamondSolid  
 21082 \let\RectangleThin\textRectangleThin  
 21083 \let\Rectangle\textRectangle  
 21084 \let\RectangleBold\textRectangleBold  
 21085 \let\perp\textperp  
 21086 \let\notperp\textnotperp  
 21087 \let\veedot\textveedot  
 21088 \let\wedgedot\textwedgedot  
 21089 \let\leftspoon\textleftspoon  
 21090 \let\lbrackdbl\textlbrackdbl  
 21091 \let\rbrackdbl\textrbrackdbl  
 21092 \let\circlearrowleft\textcirclearrowleft  
 21093 \let\circlearrowright\textcirclearrowright  
 21094 \let\longleftarrow\textlongleftarrow  
 21095 \let\longrightarrow\textlongrightarrow  
 21096 \let\longleftrightarrow\textlongleftrightarrow  
 21097 \let\Longleftarrow\textLongleftarrow  
 21098 \let\Longrightarrow\textLongrightarrow  
 21099 \let\Longleftrightarrow\textLongleftrightarrow  
 21100 \let\longmapsto\textlongmapsto  
 21101 \let\Longmapsfrom\textLongmapsfrom  
 21102 \let\Longmapsto\textLongmapsto  
 21103 \let\nwsearrow\textnwsearrow  
 21104 \let\neswarrow\textneswarrow  
 21105 \let\hookrightarrow\texthookrightarrow  
 21106 \let\rhookrightarrow\texthookrightarrow  
 21107 \let\hookrightarrow\texthookrightarrow  
 21108 \let\rhookrightarrow\texthookrightarrow  
 21109 \let\leadsto\textleadsto  
 21110 \let\rcurvearrowne\textrcurvearrowne  
 21111 \let\lcurvearrowse\textlcurvearrowse  
 21112 \let\lcurvearrowsw\textlcurvearrowsw  
 21113 \let\rcurvearrowse\textrcurvearrowse  
 21114 \let\lcurvearrowdown\textlcurvearrowdown

21115 \let\rcurvearrowdown\textrcurvearrowdown  
 21116 \let\rcurvearrowleft\textrcurvearrowleft  
 21117 \let\rcurvearrowright\textrcurvearrowright  
 21118 \let\leftrightharpoon\textleftrightharpoon  
 21119 \let\rightleftharpoon\textrightleftharpoon  
 21120 \let\updownharpoonrightleft\textupdownharpoonrightleft  
 21121 \let\updownharpoonleftright\textupdownharpoonleftright  
 21122 \let\leftleftharpoons\textleftleftharpoons  
 21123 \let\upupharpoons\textupupharpoons  
 21124 \let\righttrightharpoons\textrighttrightharpoons  
 21125 \let\downdownharpoons\textdowndownharpoons  
 21126 \let\leftbarharpoon\textleftbarharpoon  
 21127 \let\barleftharpoon\textbarleftharpoon  
 21128 \let\rightbarharpoon\textrightbarharpoon  
 21129 \let\barrightharpoon\textbarrightharpoon  
 21130 \let\updownharpoons\textupdownharpoons  
 21131 \let\downupharpoons\textdownupharpoons  
 21132 \let\moo\textmoo  
 21133 \let\llparenthesis\textllparenthesis  
 21134 \let\rrparenthesis\textrrparenthesis  
 21135 \let\invdiameter\textinvdiameter  
 21136 \let\obar\textobar  
 21137 \let\obslash\textobslash  
 21138 \let\obot\textobot  
 21139 \let\NoChemicalCleaning\textNoChemicalCleaning  
 21140 \let\olessthan\textolessthan  
 21141 \let\ogreaterthan\textogreaterthan  
 21142 \let\boxslash\textboxslash  
 21143 \let\boxbslash\textboxbslash  
 21144 \let\boxast\textboxast  
 21145 \let\boxcircle\textboxcircle  
 21146 \let\boxbox\textboxbox  
 21147 \let\Valve\textValve  
 21148 \let\multimapboth\textmultimapboth  
 21149 \let\shuffle\textshuffle  
 21150 \let\uplus\textuplus  
 21151 \let\bigdoublewedge\textbigdoublewedge  
 21152 \let\bigdoublevee\textbigdoublevee  
 21153 \let\Join\textJoin  
 21154 \let\fatsemi\textfatsemi  
 21155 \let\circplus\textcircplus  
 21156 \let\minusdot\textminusdot  
 21157 \let\dottimes\textdottimes  
 21158 \let\dtimes\textdtimes  
 21159 \let\odiv\textodiv  
 21160 \let\invneg\textinvneg  
 21161 \let\squdoublecap\textsqudoublecap  
 21162 \let\capdot\textcapdot  
 21163 \let\squdoublecup\textsqudoublecup  
 21164 \let\doublewedge\textdoublewedge

21165 \let\doublevee\textdoublevee  
 21166 \let\doublebarwedge\textdoublebarwedge  
 21167 \let\veedoublebar\textveedoublebar  
 21168 \let\eqdot\texteqdot  
 21169 \let\neqdot\textneqdot  
 21170 \let\coloncolonequals\textcoloncolonequals  
 21171 \let\leqslant\textleqslant  
 21172 \let\neqslant\textneqslant  
 21173 \let\geqslant\textgeqslant  
 21174 \let\ngeqslant\textngeqslant  
 21175 \let\lessapprox\textlessapprox  
 21176 \let\llessapprox\textllessapprox  
 21177 \let\gtrapprox\textgtrapprox  
 21178 \let\ngtrapprox\textngtrapprox  
 21179 \let\lneq\textlneq  
 21180 \let\gneq\textgneq  
 21181 \let\lnapprox\textlnapprox  
 21182 \let\gnapprox\textgnapprox  
 21183 \let\lesseqgtr\textlesseqgtr  
 21184 \let\gtreqless\textgtreqless  
 21185 \let\eqslantless\texteqslantless  
 21186 \let\eqslantgtr\texteqslantgtr  
 21187 \let\leftslice\textleftslice  
 21188 \let\rightslice\textrightslice  
 21189 \let\preceq\textpreceq  
 21190 \let\preceq\textpreceq  
 21191 \let\succeq\textsucceq  
 21192 \let\succeq\textsucceq  
 21193 \let\precneq\textprecneq  
 21194 \let\succneq\textsuccneq  
 21195 \let\preceqq\textpreceqq  
 21196 \let\preceqq\textpreceqq  
 21197 \let\succeqq\textsucceqq  
 21198 \let\succeqq\textsucceqq  
 21199 \let\precneqq\textprecneqq  
 21200 \let\succneqq\textsuccneqq  
 21201 \let\precapprox\textprecapprox  
 21202 \let\precapprox\textprecapprox  
 21203 \let\succapprox\textsuccapprox  
 21204 \let\succapprox\textsuccapprox  
 21205 \let\precnapprox\textprecnapprox  
 21206 \let\succnapprox\textsuccnapprox  
 21207 \let\subseteqq\textsubseteqq  
 21208 \let\subseteqq\textsubseteqq  
 21209 \let\supseteqq\textsupseteqq  
 21210 \let\supseteqq\textsupseteqq  
 21211 \let\dashV\textdashV  
 21212 \let\ndashV\textndashV  
 21213 \let\Dashv\textDashv  
 21214 \let\ndashv\textndashv

21215 \let\DashV\textDashV  
 21216 \let\ndashV\textndashV  
 21217 \let\downmodels\textdownmodels  
 21218 \let\ndownmodels\textndownmodels  
 21219 \let\upmodels\textupmodels  
 21220 \let\nupmodels\textnupmodels  
 21221 \let\upspoon\textupspoon  
 21222 \let\interleave\textinterleave  
 21223 \let\slash\textslash  
 21224 \let\pentagon\textpentagon  
 21225 \let\varhexagon\textvarhexagon  
 21226 \let\jinferior\textjinferior  
 21227 \let\slashdiv\textslashdiv  
 21228 \let\fivedots\textfivedots  
 21229 \let\oo\textoo  
 21230 \let\GaPa\textGaPa  
 21231 \let\HaPa\textHaPa  
 21232 \let\ViPa\textViPa  
 21233 \let\AcPa\textAcPa  
 21234 \let\SePa\textSePa  
 21235 \let\ZwPa\textZwPa  
 21236 \let\fullnote\textfullnote  
 21237 \let\halfnote\texthalfnote  
 21238 \let\Vier\textVier  
 21239 \let\Acht\textAcht  
 21240 \let\Sech\textSech  
 21241 \let\Zwdr\textZwdr  
 21242 \let\Mundus\textMundus  
 21243 \let\Moon\textMoon  
 21244 \let\ManFace\textManFace  
 21245 \let\WomanFace\textWomanFace  
 21246 \let\Fax\textFax  
 21247 \let\Fire\textFire  
 21248 \let\Bicycle\textBicycle  
 21249 \let\Gentsroom\textGentsroom  
 21250 \let\Ladiesroom\textLadiesroom  
 21251 \let\ccnc\textccnc  
 21252 \let\ccsa\textccsa  
 21253 \let\Info\textInfo  
 21254 \let\CESign\textCESign  
 21255 \let\neg\textneg  
 21256 \let\times\texttimes  
 21257 \let\div\textdiv  
 21258 \let\pm\textpm  
 21259 \let\cdot\textcdot  
 21260 }% \psdmapshortnames  
 21261 \newcommand\*{\psdaliasnames}{%  
 21262 \let\epsdice\HyPsd@DieFace  
 21263 \let\fcdice\HyPsd@DieFace  
 21264 \let\MoonPha\HyPsd@MoonPha

21265 \let\mathdollar\textdollar  
 21266 \let\EyesDollar\textdollar  
 21267 \let\binampersand\textampersand  
 21268 \let\with\textampersand  
 21269 \let\mathunderscore\textunderscore  
 21270 \let\textvertline\textbar  
 21271 \let\mathsterling\textsterling  
 21272 \let\pounds\textsterling  
 21273 \let\brokenvert\textbrokenbar  
 21274 \let\mathsection\textsection  
 21275 \let\S\textsection  
 21276 \let\mathparagraph\textparagraph  
 21277 \let\MultiplicationDot\textperiodcentered  
 21278 \let\Squaredot\textperiodcentered  
 21279 \let\vartimes\textmultiply  
 21280 \let\MVMultiplication\textmultiply  
 21281 \let\eth\dh  
 21282 \let\crossd\textcrd  
 21283 \let\textbard\textcrd  
 21284 \let\bard\textcrd  
 21285 \let\textcrh\texthbar  
 21286 \let\crossh\texthbar  
 21287 \let\planck\texthbar  
 21288 \let\eng\ng  
 21289 \let\engma\ng  
 21290 \let\crossb\textcrb  
 21291 \let\textbarb\textcrb  
 21292 \let\barb\textcrb  
 21293 \let\Florin\textflorin  
 21294 \let\hv\texthvl  
 21295 \let\hausak\texthtk  
 21296 \let\crossnilambda\textcrlambda  
 21297 \let\barlambda\textcrlambda  
 21298 \let\lambdabar\textcrlambda  
 21299 \let\lambdaslash\textcrlambda  
 21300 \let\textnrleg\textPUnrleg  
 21301 \let\textpipevar\textpipe  
 21302 \let\textdoublepipevar\textdoublepipe  
 21303 \let\textdoublebarpipevar\textdoublebarpipe  
 21304 \let\textcrg\textgslash  
 21305 \let\textdblig\textPUdblig  
 21306 \let\textqplig\textPUqplig  
 21307 \let\textcentoldstyle\textslashc  
 21308 \let\textbarc\textslashc  
 21309 \let\inva\textturna  
 21310 \let\vara\textscripta  
 21311 \let\invscripta\textturnscripta  
 21312 \let\rotvara\textturnscripta  
 21313 \let\hookb\texthtb  
 21314 \let\hausab\texthtb



21315 \let\varopeno\textopeno  
 21316 \let\curlyc\textctc  
 21317 \let\taild\textrtaild  
 21318 \let\hookd\texthtd  
 21319 \let\hausad\texthtd  
 21320 \let\er\textrhookschwa  
 21321 \let\epsi\textniepsilon  
 21322 \let\hookrepsilon\texthookrepsilon  
 21323 \let\closedrepsilon\textcloserepsilon  
 21324 \let\barj\textbardotlessj  
 21325 \let\hookg\texthtg  
 21326 \let\varg\textscriptg  
 21327 \let\vod\textipagamma  
 21328 \let\invh\textturnh  
 21329 \let\udesc\textturnh  
 21330 \let\hookh\textthh  
 21331 \let\voicedh\textthh  
 21332 \let\hookheng\textthheng  
 21333 \let\ibar\textbari  
 21334 \let\vari\textniiota  
 21335 \let\tildel\textltilde  
 21336 \let\latfric\textbeltl  
 21337 \let\taill\textrtail  
 21338 \let\lz\textlyoghlig  
 21339 \let\invm\textturnm  
 21340 \let\rotr\textturnm  
 21341 \let\legm\textturnmrlg  
 21342 \let\labdentalnas\textltailm  
 21343 \let\emgma\textltailm  
 21344 \let\nj\textltailn  
 21345 \let\enya\textltailn  
 21346 \let\tailn\textrtailn  
 21347 \let\closedniomega\textcloseomega  
 21348 \let\varomega\textcloseomega  
 21349 \let\invr\textturnr  
 21350 \let\rotr\textturnr  
 21351 \let\invlegr\textturnlonglegr  
 21352 \let\tailinvr\textturnrrtail  
 21353 \let\legr\textlonglegr  
 21354 \let\tailr\textrtailr  
 21355 \let\flapr\textfishhookr  
 21356 \let\flap\textfishhookr  
 21357 \let\tails\textrtails  
 21358 \let\curlyesh\textctesh  
 21359 \let\clickt\textturnt  
 21360 \let\tailt\textrtailt  
 21361 \let\ubar\textbaru  
 21362 \let\rotOmega\textniupsilon  
 21363 \let\invv\textturnv  
 21364 \let\pwedge\textturnv

21365 \let\invw\textturnw  
 21366 \let\rotw\textturnw  
 21367 \let\invy\textturny  
 21368 \let\roty\textturny  
 21369 \let\tailz\textrtailz  
 21370 \let\curlyz\textctz  
 21371 \let\curlyyogh\textctyogh  
 21372 \let\ejective\textglotstop  
 21373 \let\glottal\textglotstop  
 21374 \let\reveject\textrevglotstop  
 21375 \let\clickc\textstretchc  
 21376 \let\textstretchcvar\textstretchc  
 21377 \let\clickb\textbullseye  
 21378 \let\textObullseye\textbullseye  
 21379 \let\textctjvar\textctj  
 21380 \let\textturnsck\textturnk  
 21381 \let\dz\textdzlig  
 21382 \let\tesh\textteshlig  
 21383 \let\digamma\textdigammagreek  
 21384 \let\hardsign\cyrhrdsn  
 21385 \let\softsign\cyrsoftsn  
 21386 \let\hebsin\hebsin  
 21387 \let\textsck\textPUscck  
 21388 \let\textscm\textPUscm  
 21389 \let\textscp\textPUscp  
 21390 \let\textrevscr\textPUrevscr  
 21391 \let\textrhooca\textPURhooka  
 21392 \let\textrhooc\textPURhookc  
 21393 \let\textrhookepsilon\textPURhookepsilon  
 21394 \let\textrhoookopeno\textPURhookopeno  
 21395 \let\textdoublevertline\textbardbl  
 21396 \let\dag\textdagger  
 21397 \let\ddagger\textdaggerdbl  
 21398 \let\ddag\textdaggerdbl  
 21399 \let\mathellipsis\textellipsis  
 21400 \let\EurDig\texteuro  
 21401 \let\EURdig\texteuro  
 21402 \let\EurHv\texteuro  
 21403 \let\EURhv\texteuro  
 21404 \let\EurCr\texteuro  
 21405 \let\EURcr\texteuro  
 21406 \let\EurTm\texteuro  
 21407 \let\EURtm\texteuro  
 21408 \let\Eur\texteuro  
 21409 \let\Denarius\textDeleatur  
 21410 \let\agemO\textmho  
 21411 \let\EstimatedSign\textestimated  
 21412 \let\Ecommerce\textestimated  
 21413 \let\bindnasrepma\textinvamp  
 21414 \let\parr\textinvamp

21415 \let\MVRightArrow\textrightarrow  
 21416 \let\MVRightarrow\textrightarrow  
 21417 \let\MVArrowDown\textdownarrow  
 21418 \let\Force\textdownarrow  
 21419 \let\textglobrise\textnearrow  
 21420 \let\textglobfall\textsearrow  
 21421 \let\Lightning\textlightning  
 21422 \let\Conclusion\textrightarrow  
 21423 \let\dashedleftarrow\textdashleftarrow  
 21424 \let\dashedrightarrow\textdashrightarrow  
 21425 \let\varnothing\textemptyset  
 21426 \let\owns\textni  
 21427 \let\notni\textnotowner  
 21428 \let\varprop\textpropto  
 21429 \let\varangle\text{sphericalangle}  
 21430 \let\Anglesign\text{sphericalangle}  
 21431 \let\AngleSign\text{sphericalangle}  
 21432 \let\notdivides\textnmid  
 21433 \let\varowedge\textowedge  
 21434 \let\varovee\textovee  
 21435 \let\varint\textint  
 21436 \let\varoint\textoint  
 21437 \let\downtherefore\textbecause  
 21438 \let\textdotdiv\textdotminus  
 21439 \let\AC\textsim  
 21440 \let\wreath\textwr  
 21441 \let\nthickapprox\textnapprox  
 21442 \let\VHF\texttriplesim  
 21443 \let\notasymp\textnasyp  
 21444 \let\Doteq\textdoteqdot  
 21445 \let\corresponds\texthateq  
 21446 \let\Corresponds\texthateq  
 21447 \let\nequal\textneq  
 21448 \let\Congruent\textequiv  
 21449 \let\NotCongruent\textnequiv  
 21450 \let\notequiv\textnequiv  
 21451 \let\LessOrEqual\textleq  
 21452 \let\LargerOrEqual\textgeq  
 21453 \let\apprle\textlessim  
 21454 \let\apprge\textgtsim  
 21455 \let\varoplus\textoplus  
 21456 \let\varominus\textominus  
 21457 \let\varotimes\textotimes  
 21458 \let\varoslash\textoslash  
 21459 \let\varodot\textodot  
 21460 \let\ocirc\textcircledcirc  
 21461 \let\varocircle\textcircledcirc  
 21462 \let\varoast\textcircledast  
 21463 \let\oasterisk\textcircledast  
 21464 \let\rightvdash\textvdash

21465 \let\leftvdash\textdashv  
 21466 \let\leftvdash\textdashv  
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 21469 \let\leftperp\textnupvdash  
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 21471 \let\rightmodels\textvDash  
 21472 \let\rightVdash\textVdash  
 21473 \let\rightModels\textVDash  
 21474 \let\rightvdash\textnvdash  
 21475 \let\rightmodels\textnvDash  
 21476 \let\rightmodels\textnvDash  
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 21478 \let\rightModels\textnVDash  
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 21480 \let\gtrclosed\textrhd  
 21481 \let\leqclosed\textunlhd  
 21482 \let\trianglelefteq\textunlhd  
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 21484 \let\trianglerighteq\textunrhd  
 21485 \let\Bowtie\textbowtie  
 21486 \let\varcurlyvee\textcurlyvee  
 21487 \let\varcurlywedge\textcurlywedge  
 21488 \let\doublecap\textCap  
 21489 \let\doublecup\textCup  
 21490 \let\varsubsetneq\textsubsetneq  
 21491 \let\varsupsetneq\textsupsetneq  
 21492 \let\lessclosed\texttriangleleft  
 21493 \let\gtrclosed\texttriangleright  
 21494 \let\Clocklogo\textclock  
 21495 \let\ClockLogo\textclock  
 21496 \let\baro\textstmaryrdbaro  
 21497 \let\varparallelinv\textbbslash  
 21498 \let\CleaningA\textCircledA  
 21499 \let\Kutline\textCuttingLine  
 21500 \let\CutLine\textCuttingLine  
 21501 \let\Cutline\textCuttingLine  
 21502 \let\MoveUp\textUParrow  
 21503 \let\APLup\textbigtriangleup  
 21504 \let\Bleech\textbigtriangleup  
 21505 \let\MoveDown\textDOWNarrow  
 21506 \let\APLdown\textbigtriangledown  
 21507 \let\Diamond\textdiamond  
 21508 \let\varbigcirc\textbigcircle  
 21509 \let\Telefon\textPhone  
 21510 \let\Box\textboxempty  
 21511 \let\CheckedBox\textCheckedbox  
 21512 \let\XBox\textCrossedbox  
 21513 \let\CrossedBox\textCrossedbox  
 21514 \let\rightpointleft\textHandLeft

21515 \let\leftpointright\textHandRight  
 21516 \let\PointingHand\textHandRight  
 21517 \let\Pointinghand\textHandRight  
 21518 \let\Radiation\textRadioactivity  
 21519 \let\Yinyang\textYinYang  
 21520 \let\YingYang\textYinYang  
 21521 \let\Yingyang\textYinYang  
 21522 \let\Frowny\textfrownie  
 21523 \let\Smiley\textsmiley  
 21524 \let\Sun\textsun  
 21525 \let\Mercury\textmercury  
 21526 \let\textfemale\textPUfemale  
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 21532 \let\mars\textmale  
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 21544 \let\Leo\textleo  
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 21547 \let\Scorpio\textscorpio  
 21548 \let\Sagittarius\textsagittarius  
 21549 \let\Capricorn\textcapricornus  
 21550 \let\Aquarius\textaquarius  
 21551 \let\Pisces\textpisces  
 21552 \let\spadesuit\textspadesuitblack  
 21553 \let\Heart\textheartsuitwhite  
 21554 \let\heartsuit\textheartsuitwhite  
 21555 \let\diamondsuit\textdiamondsuitwhite  
 21556 \let\clubsuit\textclubsuitblack  
 21557 \let\eighthnote\textmusicalnote  
 21558 \let\Recycling\textrecycle  
 21559 \let\VarFlag\textFlag  
 21560 \let\textxswup\textdsimilitary  
 21561 \let\textuncrfemale\textPUuncrfemale  
 21562 \let\Football\textSoccerBall  
 21563 \let\CutLeft\textScissorRightBrokenBottom  
 21564 \let\Cutright\textScissorRightBrokenBottom

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21565 \let\RightScissors\textScissorRight
21566 \let\Leftscissors\textScissorRight
21567 \let\Letter\textEnvelope
21568 \let\Writinghand\textWritingHand
21569 \let\checkmark\textCheckmark
21570 \let\davidstar\textDavidStar
21571 \let\llbracket\textlbrackdbl
21572 \let\rrbracket\textrrackdbl
21573 \let\RightTorque\textlcurvearrowdown
21574 \let\Righttorque\textlcurvearrowdown
21575 \let\LeftTorque\textrcurvearrowdown
21576 \let\Lefttorque\textrcurvearrowdown
21577 \let\textvarobar\textobar
21578 \let\circledbslash\textobslash
21579 \let\obackslash\textobslash
21580 \let\varobslash\textobslash
21581 \let\odplus\textobot
21582 \let\varolessthan\textolessthan
21583 \let\varogreaterthan\textogreaterthan
21584 \let\divdot\textminusdot
21585 \let\doublesqcap\textsqddoublecap
21586 \let\doublesqcup\textsqddoublecup
21587 \let\merge\textdoublevee
21588 \let\leftVdash\textdashV
21589 \let\nleftVdash\textndashV
21590 \let\leftmodels\textDashv
21591 \let\nleftmodels\textnDashv
21592 \let\leftModels\textDashV
21593 \let\nleftModels\textnDashV
21594 \let\varparallel\textsslash
21595 \let\textheng\textPUheng
21596 \let\textlhookfour\textPUIhookfour
21597 \let\textscf\textPUscf
21598 \let\texttaolig\textPUaolig
21599 \let\Ganz\textfullnote
21600 \let\Halb\texthalfnote
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21602 \let\Faxmachine\textFax
21603 \let\CEsign\textCESign
21604 }% \psdaliasnames
21605 </psdextra>

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## 52 End of file hycheck.tex

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21610 </check>

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