

Hypertext marks in L^AT_EX

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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).

README The **README** file (also available as text file). Here information is collected that is not yet in the manual: new features, package compatibility, limitations, known problems, ...


ChangeLog This file records the version history (also available as text file).

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

backref.dtx “Back referencing from bibliographical citations”

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

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3 File hyccheck.tex

Many commands of \LaTeX 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 \LaTeX '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 \LaTeX .

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

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

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

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

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

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{\%
19 \typeout{}}\%
20 \begingroup
21 \edef\x{\endgroup
22 \noexpand\RequirePackage{\HyC@package}\%
23 \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi\%
24 }\%
25 \x
26 \typeout{}}\%
27 \typeout{\%
28 * Package '\HyC@package'\%
29 \ifx\HyC@date\@empty
30 \else
31 \space\HyC@date
32 \fi
33 }\%
34 \@ifundefined{ver@\HyC@package.sty}{\%
35 }\%
36 \typeout{\%
37 \space\space Loaded: '\HyC@package' \%
38 \csname ver@\HyC@package.sty\endcsname
39 }\%
40 }\%
41 }
```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a \LaTeX definition and compares this definition with the current meaning of that command.

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

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

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

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

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

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

```
74 \def\HyC@check#1{%
75 \def\HyC@cmd{#1}%
76 \let\HyC@org@cmd#1%
77 \let#1\relax
78 \let\HyC@param\@empty
79 \HyC@Toks{}%
80 \let\HyC@org@optcmd\HyC@noValue
81 \let\HyC@org@robustcmd\HyC@noValue
82 \let\HyC@org@robustoptcmd\HyC@noValue
83 \HyC@next
84 }
```

`\HyC@noValue`

```
85 \def\HyC@noValue{NoValue}
```

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


```

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

```

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

```
90 \newtoks\HyC@Toks
```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

\HyC@edef 125 \def\HyC@def#1#1{%
126 \HyC@Toks={#1}%

```

```

127 \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

`\HyC@checkOk` The result, if the check succeeds.

```

154 \def\HyC@checkOk#1{%
155 \typeout{\space\space'\HyC@string#1' ok.}%
156 }

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\${%
210   \x\&%
211   \x\^%
212   \x\_%
213   \x\|%
214   \x\:%
215   \x\<%

```

```

216 \x\)%
217 \x\[%
218 \x\]%
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L^AT_EX, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{ltxcmds}[2010/03/09]
233 \@ifpackagelater{ltxcmds}{2010/10/25}{-}{%
234 \long\def\ltx@LocalAppendToMacro#1#2{%
235 \global\let\LTXcmds@gtemp#1%
236 \ifx\ltx@undefined\LTXcmds@gtemp
237 \global\let\LTXcmds@gtemp\ltx@empty
238 \else
239 \ifx\relax\LTXcmds@gtemp
240 \global\let\LTXcmds@gtemp\ltx@empty
241 \fi
242 \fi
243 \begingroup
244 \toks0\expandafter{\LTXcmds@gtemp#2}%
245 \xdef\LTXcmds@gtemp{\the\toks0}%
246 \endgroup
247 \let#1\LTXcmds@gtemp
248 }%
249 }

250 \RequirePackage{ifpdf}[2006/02/20]
251 \RequirePackage{pdftexcmds}[2009/04/10]
252 \@ifpackagelater{pdftexcmds}{2010/11/04}{-}{%
253 \ltx@ifundefined{pdfdraftmode}{%
254 \let\pdf@ifdraftmode\ltx@secondoftwo
255 }{%
256 \ifpdf
257 \def\pdf@ifdraftmode{%
258 \ifnum\pdfdraftmode=\ltx@one
259 \expandafter\ltx@firstoftwo
260 \else
261 \expandafter\ltx@secondoftwo
262 \fi
263 }%
264 \else
265 \let\pdf@ifdraftmode\ltx@secondoftwo
266 \fi
267 }%
268 }

```

```

269 \RequirePackage{infwarerr}[2010/04/08]
270 \RequirePackage{keyval}[1997/11/10]
271 \RequirePackage{kvsetkeys}[2007/09/29]
272 \RequirePackage{pdfescape}[2007/11/11]
273 \RequirePackage{ifvtex}
274 \RequirePackage{ifxetex}[2006/08/21]
275 \RequirePackage{hycolor}
276 \RequirePackage{letltxmacro}[2008/06/13]
277 \def\Hy@Error{\@PackageError{hyperref}}
278 \def\Hy@Warning{\@PackageWarning{hyperref}}
279 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
280 \def\Hy@Info{\@PackageInfo{hyperref}}
281 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
282 \def\Hy@Message#1{%
283   \GenericWarning{%
284     (hyperref)\@spaces\@spaces\@spaces\@spaces
285   }{%
286     Package hyperref Message: #1\ltx@gobble
287   }%
288 }

```

4.2 Version check

\Hy@VersionChecked

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

\Hy@VersionCheck

```

290 \def\Hy@VersionCheck#1{%
291   \begingroup
292   \ltx@ifundefined{ver@hyperref.sty}{%
293     \Hy@Error{%
294       This should not happen!\MessageBreak
295       Missing hyperref version%
296     }\@ehd
297   }{%
298     \ltx@ifundefined{ver@#1}{%
299       \Hy@Error{%
300         This should not happen!\MessageBreak
301         Missing version of '#1'%
302       }\@ehd
303     }{%
304       \def\x##1##2##3{%
305         \expandafter\expandafter\expandafter\Hy@@VersionCheck
306         \expandafter\expandafter\expandafter##2%
307         \csname ver@##3\endcsname##1##1\@nil
308       }%
309       \x{ }\y{hyperref.sty}%
310       \x{ }\z{#1}%
311       \ifx\y\z
312         \else
313           \Hy@Error{%
314             Version mismatch!\MessageBreak
315             * \y: hyperref.sty\MessageBreak
316             * \z: #1%
317           }\@ehd
318         \fi
319       }%

```

```

320 }%
321 \endgroup
322 \chardef\Hy@VersionChecked=1 %
323 }

```

\Hy@@VersionCheck

```

324 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
325 \def#1{#2 #3}%
326 }

```

4.3 Checks with regular expressions

```

327 \ltx@ifundefined{pdfmatch}{%
328 \def\Hy@Match#1#2#3#4{%
329 }{%
330 \def\Hy@Match#1#2{%
331 \begingroup
332 \edef\^{\ltx@backslashchar\string^}%
333 \edef\.\{\ltx@backslashchar.}%
334 \edef\[{\ltx@backslashchar[]}%
335 \edef\${\ltx@backslashchar$}%
336 \edef\({\ltx@backslashchar(}%
337 \edef\){\ltx@backslashchar)}%
338 \edef\|{\ltx@backslashchar|}%
339 \edef\*{\ltx@backslashchar*}%
340 \edef\+{\ltx@backslashchar+}%
341 \edef\?{\ltx@backslashchar?}%
342 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
343 \edef\}{\ltx@rightbracechar}%
344 \edef\{\{\ltx@backslashchar\ltx@backslashchar}%
345 \let\ \ltx@space
346 \ifcase\pdfmatch{#2}{#1} %
347 \endgroup
348 \expandafter\ltx@secondoftwo
349 \or
350 \endgroup
351 \expandafter\ltx@firstoftwo
352 \else
353 \Hy@Warning{%
354 Internal error: Wrong pattern!\MessageBreak
355 --> #2 <--\MessageBreak
356 Pattern check ignored%
357 }%
358 \endgroup
359 \expandafter\ltx@firstoftwo
360 \fi
361 }%
362 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{%
363 \begingroup
364 \lccode'0='\{\relax
365 \lowercase{\endgroup
366 \def\ltx@leftbracechar{0}%
367 }%
368 \begingroup
369 \lccode'0='\}\relax
370 \lowercase{\endgroup
371 \def\ltx@rightbracechar{0}%

```

```

372 }%
373 }%
374 }

```

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`.

```

375 \ifundefined{AfterBeginDocument}{%
376 \def\AfterBeginDocument{\AtBeginDocument}%
377 }{}%

```

`\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.

```

378 \def\Hy@AtBeginDocument{%
379 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
380 }

```

`\Hy@AtEndOfPackage`

```

381 \def\Hy@AtEndOfPackage{%
382 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
383 }

```

`\Hy@AtBeginDocumentHook`

```

384 \def\Hy@AtBeginDocumentHook{}

```

`\Hy@AtEndOfPackageHook`

```

385 \def\Hy@AtEndOfPackageHook{}

```

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

```

386 \AtEndOfPackage{%
387 \Hy@AtEndOfPackageHook
388 \let\Hy@AtEndOfPackageHook\@undefined
389 \AfterBeginDocument{%
390 \Hy@AtBeginDocumentHook}%
391 \let\Hy@AtBeginDocumentHook\@undefined
392 }%
393 }

```

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

```

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

```

4.5 Switches

```

395 \newif\ifHy@typexml
396 \newif\ifHy@activeanchor
397 \newif\ifHy@backref
398 \newif\ifHy@bookmarks
399 \newif\ifHy@bookmarksnumbered

```

```

400 \newif\ifHy@bookmarksopen
401 \newif\ifHy@breaklinks
402 \newif\ifHy@centerwindow
403 \newif\ifHy@CJKbookmarks
404 \newif\ifHy@colorlinks
405 \newif\ifHy@draft
406 \let\Hy@finaltrue\Hy@draftfalse
407 \let\Hy@finalfalse\Hy@drafttrue
408 \newif\ifHy@escapeform
409 \newif\ifHy@figures
410 \newif\ifHy@fitwindow
411 \newif\ifHy@frenchlinks
412 \newif\ifHy@hyperfootnotes
413 \newif\ifHy@hyperindex
414 \newif\ifHy@hypertextnames
415 \newif\ifHy@implicit
416 \newif\ifHy@linktocpage
417 \newif\ifHy@localanchorname
418 \newif\ifHy@menubar
419 \newif\ifHy@naturalnames
420 \newif\ifHy@nesting
421 \newif\ifHy@newwindowset
422 \newif\ifHy@newwindow
423 \newif\ifHy@ocgcolorlinks
424 \newif\ifHy@pageanchor
425 \newif\ifHy@pagelabels
426 \newif\ifHy@pdfpagehidden
427 \newif\ifHy@pdfstring
428 \newif\ifHy@plainpages
429 \newif\ifHy@psize
430 \newif\ifHy@raiselinks
431 \newif\ifHy@seminarslides
432 \newif\ifHy@setpagesize
433 \newif\ifHy@textt
434 \newif\ifHy@toolbar
435 \newif\ifHy@unicode
436 \newif\ifHy@usetitle
437 \newif\ifHy@verbose
438 \newif\ifHy>windowui
439 \newif\ifHy@displaydoctitle
440 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

441 \Hy@backreffalse
442 \Hy@bookmarksnumberedfalse
443 \Hy@bookmarksopenfalse
444 \Hy@bookmarkstrue
445 \Hy@breaklinksfalse
446 \Hy@centerwindowfalse
447 \Hy@CJKbookmarksfalse
448 \Hy@escapeformfalse
449 \Hy@figuresfalse
450 \Hy@fitwindowfalse
451 \Hy@hyperfootnotesttrue
452 \Hy@hyperindextrue
453 \Hy@hypertextnamestrue
454 \Hy@implicittrue
455 \Hy@linktocpagefalse

```



```

456 \Hy@localanchornamefalse
457 \Hy@menubartrue
458 \Hy@naturalnamesfalse
459 \Hy@nestingfalse
460 \Hy@newwindowsetfalse
461 \Hy@newwindowfalse
462 \Hy@pageanchortrue
463 \Hy@pagelabelstrue
464 \Hy@pdfpagehiddenfalse
465 \Hy@pdfstringfalse
466 \Hy@plainpagesfalse
467 \Hy@raiselinksfalse
468 \Hy@setpagesizetrue
469 \Hy@texhtfalse
470 \Hy@toolbartrue
471 \Hy@typexmlfalse
472 \Hy@unicodefalse
473 \Hy@usetitlefalse
474 \Hy@verbosefalse
475 \Hy>windowuitrue
476 \Hy@displaydoctitlefalse
477 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

480 \newdimen\@linkdim
481 \let\Hy@driver\@empty
482 \let\MaybeStopEarly\relax
483 \newcount\Hy@linkcounter
484 \newcount\Hy@pagecounter
485 \Hy@linkcounter0
486 \Hy@pagecounter0

```

5.1 Macros for recursions

\Hy@ReturnAfterElseFi The commands \Hy@ReturnAfterElseFi and \Hy@ReturnAfterFi avoid a too deep \Hy@ReturnAfterFi \if-nesting especially for recursive macros.

```

487 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
488 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

489 \let\Hy@ReturnEnd\@empty
490 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
491 \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 \Hy@safe@activesfalse babel is not loaded.

```

492 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
493 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

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

Example (TeX):

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

`\hypercalsbp`

```
494 \begingroup\expandafter\expandafter\expandafter\endgroup
495 \expandafter\ifx\csname dimexpr\endcsname\relax
496   \def\hypercalsbpdef#1#2{%
497     \begingroup
498       \toks@{}%
499       \HyCal@scan#2\hypercalsbp\@nil
500     \expandafter\endgroup
501     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
502   }%
503   \def\HyCal@scan#1\hypercalsbp#2\@nil{%
504     \toks@\expandafter{\the\toks@ #1}%
505     \ifx\#2\%
506       \else
507         \Hy@ReturnAfterFi{%
508           \HyCal@do#2\@nil
509         }%
510       \fi
511     }%
512   \def\HyCal@do#1#2\@nil{%
513     \ifpackage{calc}\%
514     \Hy@Warning{%
515       For calculations \string\hypercalsbp\space needs\MessageBreak
516       package calc or e-TeX%
517     }%
518   }%
519   \setlength{\dimen@}{#1}%
```

```

520 \setlength{\dimen@}{0.99626401\dimen@}%
521 \edef\x{%
522   \toks@{%
523     \the\toks@
524     \strip@pt\dimen@
525   }%
526 } \x
527 \HyCal@scan#2\@nil
528 }%
529 \else
530 \def\hypercalcbp#1{%
531   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
532 }%
533 \def\hypercalcbpdef{\def}%
534 \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 <i>ddd</i>
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISOLatin1` and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

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

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

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

`\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 \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
536 \begingroup
```

6.2.1 Preprocessing

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

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

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

```
537 \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.

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

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

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

```
541 \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.

```
542 \ifHy@unicode
```

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

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

```
545 \fontencoding{PU}%
```

```
546 \HyPsd@UTFviii
```

```
547 \def\ifpdfstringunicode##1##2{##1}%
```

```
548 \else
```

```
549 \fontencoding{PD1}%
```

```
550 \def\ifpdfstringunicode##1##2{##2}%
```

```
551 \fi
```

```
552 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
```

```
553 \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).

```
554 \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).

```
555 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
556 \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.

```
557 \let\{\textbraceleft
558 \let\}\textbraceright
559 \let\\\textbackslash
560 \let\#\textnumbersign
561 \let\$\textdollar
562 \let%\textpercent
563 \let&\textampersand
564 % \let\~\textasciitilde
565 \let\_ \textunderscore
566 \let\P\textparagraph
567 \let\ldots\textellipsis
568 \let\dots\textellipsis
```

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.

```
569 \def\\\pdfstringdefWarn\\}%
570 \def\newline{\pdfstringdefWarn\newline}%
```

Logos. Because the box shifting used in the \TeX logo does not work while writing to a file, the standard \TeX logos are redefined.

```
571 \def\TeX{\TeX}%
572 \def\LaTeX{La\TeX}%
573 \def\LaTeXe{%
```

```

574 \LaTeX2%
575 \ifHy@unicode\textepsilon\else e\fi
576 }%
577 \def\TeX{%
578 \ifHy@unicode\textepsilon\else e\fi
579 -\TeX%
580 }%
581 \def\SliTeX{Sli\TeX}%
582 \def\MF{Metafont}%
583 \def\MP{Metapost}%

```

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

```

584 \let\fontencoding\@gobble
585 \let\fontfamily\@gobble
586 \let\fontseries\@gobble
587 \let\fontshape\@gobble
588 \let\fontsize\@gobbletwo
589 \let\selectfont\@empty
590 \let\usefont\@gobblefour
591 \let\emph\@firstofone
592 \let\textnormal\@firstofone
593 \let\textrm\@firstofone
594 \let\textsf\@firstofone
595 \let\texttt\@firstofone
596 \let\textbf\@firstofone
597 \let\textmd\@firstofone
598 \let\textit\@firstofone
599 \let\textsc\@firstofone
600 \let\textsl\@firstofone
601 \let\textup\@firstofone
602 \let\normalfont\@empty
603 \let\rmfamily\@empty
604 \let\sfamily\@empty
605 \let\ttfamily\@empty
606 \let\bfseries\@empty
607 \let\mdseries\@empty
608 \let\itshape\@empty
609 \let\scshape\@empty
610 \let\slshape\@empty
611 \let\upshape\@empty
612 \let\em\@empty
613 \let\rm\@empty
614 \let\Huge\@empty
615 \let\LARGE\@empty
616 \let\Large\@empty
617 \let\footnotesize\@empty
618 \let\huge\@empty
619 \let\large\@empty
620 \let\normalsize\@empty
621 \let\scriptsize\@empty
622 \let\small\@empty
623 \let\tiny\@empty
624 \let\mathversion\@gobble
625 \let\phantom\@gobble
626 \let\vphantom\@gobble
627 \let\hphantom\@gobble

```

Environments.

```
628 \def\begin#1{\csname#1\endcsname}%
629 \def\end#1{\csname end#1\endcsname}%
```

Package color.

```
630 \def\textcolor##1##{\@secondoftwo}%
```

Upper- and lowercase.

```
631 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
632 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%
```

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

```
633 \let\foreignlanguage\@secondoftwo
634 \let\textlatin\@firstofone
635 \ltx@ifundefined{language@group}{-}{%
636   \csname HyPsd@babel@\language@group\endcsname
637 }%
638 \HyPsd@GreekPatch
639 \HyPsd@SpanishPatch
640 \HyPsd@RussianPatch
641 \HyPsd@BabelPatch
642 \let\@safe@activetrue\relax
643 \let\@safe@activesfalse\relax
```

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

```
644 \let\cyr\relax
```

Redefine `\es@roman`, used in `spanish.ldf`.

```
645 \let\es@roman\@Roman
```

Package german.

```
646 \let\glqq\textglqq
647 \let\grqq\textgrqq
648 \let\glq\textglq
649 \let\grq\textgrq
650 \let\flqq\textflqq
651 \let\frqq\textfrqq
652 \let\flq\textflq
653 \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}
```

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

AMS classes.

```
655 \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.

```
656 \let\hspace\HyPsd@hspace
```

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

```
657 \let\label\@gobble
658 \let\index\@gobble
659 \let\glossary\@gobble
660 \let\href\HyPsd@href
661 \let\@mkboth\@gobbletwo
```

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

```
662 \let\ref\HyPsd@ref
663 \let\pageref\HyPsd@pageref
664 \let\nameref\HyPsd@nameref
665 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
666 \let\leavevmode\@empty
667 \let\mbox\@empty
```

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

```
668 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
669 \let\ignorespaces\HyPsd@ignorespaces
670 \let\Hy@SectionAnchorHref\@gobble
```

Patch for `cjk` bookmarks.

```
671 \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`).

```
672 \Hy@pdfstringtrue
673 \pdfstringdefPreHook
```

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

```
674 \HyPsd@LetUnexpandableSpace\space
675 \HyPsd@LetUnexpandableSpace\%
676 \HyPsd@LetUnexpandableSpace~%
677 \HyPsd@LetUnexpandableSpace\nobreakspace
```


Package xspace.

```
678 \ltx@ifundefined{@xspace}{%
679 \let\xspace\HyPsd@ITALCORR
680 }{%
681 \let\xspace\HyPsd@XSPACE
682 }%
683 \let\/\HyPsd@ITALCORR
684 \let\bgroup\/%
685 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
686 \let\discretionary\@gobbletwo
\@ifstar is defined in LATEX 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:

```
687 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
688 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
689 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
690 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

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

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

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

\edef This version uses this standard form for expansion. It is stronger than L^AT_EX's \protected@edef. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings which the definitions of the PD1 encoding. Because the protecting mechanism of L^AT_EX doesn't work within an \edef, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old

texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \TeX , 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).

```
692 \begingroup
693 \let\GenericError\@gobblefour
694 \let\GenericWarning\@gobbletwo
695 \let\GenericInfo\@gobbletwo
```

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

```
696 \ifx\nofrenchguillemets\@undefined
697 \else
698 \nofrenchguillemets
699 \fi
```

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

```
700 \let\Hy@temp\xdef
701 \let\def\HyPsd@DefCommand
702 \let\gdef\HyPsd@DefCommand
703 \let\edef\HyPsd@DefCommand
704 \let\xdef\HyPsd@DefCommand
705 \let\futurelet\HyPsd@LetCommand
706 \let\let\HyPsd@LetCommand
707 \Hy@temp#1{#2}%
708 \endgroup
```

6.2.3 Postprocessing

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

```
709 \ifx#1\@empty
710 \else
```

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

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

string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.

- T_EX 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.

```

711 \HyPsd@ProtectSpaces#1%
712 \let\HyPsd@String\@empty
713 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
714 \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.

```

715 \let\HyPsd@SPACEOPTI\relax
716 {%
717 \let\HyPsd@String\@empty
718 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
719 \global\let#1\HyPsd@String
720 }%
721 \expandafter\HyPsd@RemoveMask\expandafter
722 | \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.

```

723 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
724 \let\HyPsd@String\@empty
725 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
726 \global\let#1\HyPsd@String

```

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

```
727 \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.

```
728 \ifHy@unicode
729 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
730 \HyPsd@SPACEOPTI#1%
731 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
732 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
733 {\HyPsd@SPACEOPTI\80\273}#1%
734 \else
735 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
736 \expandafter\HyPsd@Subst\expandafter{%
737 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
738 \string\273}\HyPsd@SPACEOPTI\273}#1%
739 \fi
```

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

```
740 \ifHy@unicode
741 \HyPsd@StringSubst{\}){\80\051}#1%
742 \HyPsd@Subst{\80\051}#1%
743 \let\HyPsd@empty\relax
744 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
745 {\HyPsd@empty\80\051}#1%
746 \else
747 \HyPsd@StringSubst{\}){\051}#1%
748 \HyPsd@Subst{\051}#1%
749 \let\HyPsd@empty\relax
750 \HyPsd@StringSubst{\051}\HyPsd@empty\string\})#1%
751 \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`.

```

752 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
753 \ltx@ifundefined{@xspace}{%
754 }{%
755 \let\HyPsd@xspace\relax
756 \expandafter\HyPsd@Subst\expandafter
757 {\HyPsd@XSPACE}\HyPsd@xspace#1%
758 \let\HyPsd@xspace\HyPsd@doxspace
759 }%
760 \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 6.781.

```

761 \HyPsd@Subst{---}\textemdash#1%
762 \HyPsd@Subst{--}\textendash#1%
763 % \HyPsd@Subst{fi}\textfi#1%
764 % \HyPsd@Subst{fl}\textfl#1%
765 \HyPsd@Subst{!'}\textexclamdown#1%
766 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

767 \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.

```

768 \ifHy@unicode
769 \HyPsd@StringSubst\(\textparenleft#1%
770 \HyPsd@Subst(\textparenleft#1%
771 \else
772 \HyPsd@StringSubst\({\050}#1%
773 \HyPsd@Subst({\050}#1%
774 \HyPsd@StringSubst{\050}{\string\{}#1%
775 \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.

```

776 \ifHy@unicode
777 \edef\HyPsd@SPACEOPTI{\80\040}%
778 \else

```

```

779     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
780     \fi
781     \xdef#1{#1\@empty}%
782     \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.

```

783 \endgroup
784 \begingroup
785 \ifHy@unicode
786   \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

787   \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
788     \ltx@ifundefined{StringEncodingConvertTest}{%
789       }{%
790         \EdefUnescapeString\HyPsd@temp#1%
791         \ifxetex
792           \let\HyPsd@UnescapedString\HyPsd@temp
793           \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
794             {utf16be}{ascii-print}{%
795               \EdefEscapeString\HyPsd@temp\HyPsd@temp
796               \global\let#1\HyPsd@temp
797               \HyPsd@EscapeTeX#1%
798               \Hy@unicodefalse
799             }{%
800               \HyPsd@ToBigChars#1%
801             }%
802         \else
803           \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
804             {utf16be}{pdfdoc}{%
805               \EdefEscapeString\HyPsd@temp\HyPsd@temp
806               \global\let#1\HyPsd@temp
807               \HyPsd@EscapeTeX#1%
808               \Hy@unicodefalse
809             }{%}
810         \fi
811       }%
812     \fi
813   \fi
814   \HyPsd@XeTeXBigCharsfalse

```

User hook. The hook \pdfstringdefPostHook can be used for the purpose to post-process the string further.

```

815   \pdfstringdefPostHook#1%
816 \endgroup
817 }

```

\Hy@pdfstringdef

```

818 \def\Hy@pdfstringdef#1#2{%
819   \pdfstringdef\Hy@gtemp{#2}%
820   \let#1\Hy@gtemp
821 }

```

6.3 Encodings

6.3.1 XeTeX

```
822 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
823 \catcode\z@=12 %
824 \ifxetex
825   \expandafter\@firstofone
826 \else
827   \let\HyPsd@XeTeXBigCharstrue\@empty
828   \let\HyPsd@XeTeXBigCharsfalse\@empty
829   \expandafter\@gobble
830 \fi
831 {%
832   \newif\ifHyPsd@XeTeXBigChars
833   \def\HyPsd@XeTeXBigCharsfalse{%
834     \global\let\ifHyPsd@XeTeXBigChars\iffalse
835   }%
836   \def\HyPsd@XeTeXBigCharstrue{%
837     \global\let\ifHyPsd@XeTeXBigChars\iftrue
838   }%
839   \def\HyPsd@ToBigChars#1{%
840     \ifHyPsd@XeTeXBigChars
841       \EdefEscapeHex\HyPsd@UnescapedString{%
842         \expandafter\@gobbletwo\HyPsd@UnescapedString
843       }%
844       \begingroup
845         \toks@{%
846           \escapechar=92\relax
847           \let\x\HyPsd@ToBigChar
848           \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
849           \relax\relax\relax\relax\relax\relax\relax
850         \edef\x{%
851           \endgroup
852           \gdef\noexpand#1{\the\toks@}%
853         }%
854         \x
855       \fi
856     }%
857   \def\HyPsd@ToBigChar#1#2#3#4{%
858     \ifx\relax#1\relax
859       \let\x\relax
860     \else
861       \count@=#1#2#3#4\relax
862       \let\y\@empty
863       \lccode\z@=\count@
864       \ifnum\count@=40 % (
865         \let\y\@backslashchar
866       \else
867         \ifnum\count@=41 % )
868         \let\y\@backslashchar
869       \else
870         \ifnum\count@=92 % backslash
871         \let\y\@backslashchar
872       \else
873         \ifnum\count@=10 % newline
874         \edef\y##1{\string\n}%
875       \else
```

```

876     \ifnum\count@=13 % carriage return
877     \edef\y###1{\string\r}%
878     \fi
879     \fi
880     \fi
881     \fi
882     \fi
883     \lowercase{%
884     \toks@\expandafter{%
885     \the\expandafter\toks@
886     \y
887     ^^@%
888     }%
889     }%
890     \fi
891     \x
892     }%
893 }
894 \Hy@temp

```

6.3.2 Workaround for package linguex

```

895 \@ifpackageloaded{linguex}{%
896 \let\HyLinguex@OrgB\b
897 \let\HyLinguex@OrgC\c
898 \let\HyLinguex@OrgD\d
899 \def\HyLinguex@Restore{%
900 \let\b\HyLinguex@OrgB
901 \let\c\HyLinguex@OrgC
902 \let\d\HyLinguex@OrgD
903 }%
904 \Hy@AtEndOfPackage{%
905 \pdfstringdefDisableCommands{%
906 \ltx@ifundefined{oldb}{}\let\b\oldb}%
907 \ltx@ifundefined{oldc}{}\let\c\oldc}%
908 \ltx@ifundefined{oldd}{}\let\d\oldd}%
909 }%
910 }%
911 }{%
912 \let\HyLinguex@Restore\relax
913 }%

```

6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

```

914 \@ifundefined{T@PD1}{%
915 \input{pd1enc.def}%
916 \HyLinguex@Restore
917 }{}
918 \DeclareFontFamily{PD1}{pdf}{}
919 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
920 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```


6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option `unicode` is specified as package option.

`\HyPsd@InitUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@InitUnicode` called by the package option `unicode`.

```
921 \def\HyPsd@InitUnicode{%
922   \@ifundefined{T@PU}{%
923     \input{puenc.def}%
924     \HyLinguex@Restore
925   }{}%
926   \DeclareFontFamily{PU}{pdf}{}%
927   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
928   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
929   \let\HyPsd@InitUnicode\relax
930 }
```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```
931 \def\texorpdfstring{%
932   \ifHy@pdfstring
933     \expandafter\@secondoftwo
934   \else
935     \expandafter\@firstoftwo
936   \fi
937 }
```

6.4.2 Hooks for `\pdfstringdef`

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

```
938 \@ifundefined{pdfstringdefPreHook}{%
939   \let\pdfstringdefPreHook\@empty
940 }{}
941 \@ifundefined{pdfstringdefPostHook}{%
942   \let\pdfstringdefPostHook\@gobble
943 }{}
```

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

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

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

```
}%
```

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

```
944 \def\pdfstringdefDisableCommands{%
945   \begingroup
946   \makeatletter
947   \HyPsd@DisableCommands
948 }
```

```
\HyPsd@DisableCommands
```

```
949 \long\def\HyPsd@DisableCommands#1{%
950   \toks0=\expandafter{\pdfstringdefPreHook}%
951   \toks1={#1}%
952   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
953   \endgroup
954 }
```

`\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`.

```
955 \def\pdfstringdefWarn#1{%
956   \expandafter\noexpand\csname<>\string#1\endcsname
957 }
```

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.

```
958 \begingroup
959   \catcode0=12 %
960   \def\x{\endgroup
961     \def\HyPsd@ignorespaces{%
962       \romannumeral\expandafter'\expandafter^^@%
963       \romannumeral'^^@%
964     }%
965   }%
966   \x
```

6.5.2 Babel languages

Since version 2008/03/16 v3.8j babel uses inside `\AtBeginDocument`:

```
\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}
```

As consequence the shorthands are shown in the bookmarks, not its result. Therefore `\languageshorthands` is disabled before the user hook. If there is a need to use the command, then `\HyOrg@languageshorthands` can be used inside `\pdfstringdefDisableCommands`.

```

967 \def\HyPsd@BabelPatch{%
968   \let\HyOrg@languageshorthands\languageshorthands
969   \let\languageshorthands\HyPsd@LanguageShorthands
970 }
971 \begingroup\expandafter\expandafter\expandafter\endgroup
972 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
973   \let\HyPsd@langshort@system\@empty
974   \def\HyPsd@LanguageShorthands#1{%
975     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
976       \HyPsd@langshort@system
977     \expandafter\@gobble
978   \else
979     \expandafter\@firstofone
980   \fi
981   {%
982     \HyOrg@languageshorthands{#1}%
983   }%
984 }%
985 \else
986   \def\HyPsd@LanguageShorthands#1{%
987     \ifnum\pdf@strcmp{#1}{system}=\z@
988       \expandafter\@gobble
989     \else
990       \expandafter\@firstofone
991     \fi
992     {%
993       \HyOrg@languageshorthands{#1}%
994     }%
995   }%
996 \fi
997 \def\Hy@temp{%
998   \@ifpackageloaded{babel}{%
999     \@ifpackagelater{babel}{2008/03/16}{%
1000       \let\Hy@temp\@empty
1001     }{%
1002       \def\HyPsd@BabelPatch{%
1003         \let\HyOrg@languageshorthands\languageshorthands
1004       }%
1005     }%
1006   }{}%
1007 }
1008 \Hy@temp
1009 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1010 \newif\ifHy@next

```

Nothing to do for english.

```

1011 \ltx@ifundefined{danish@sh@"@sel}{}{%
1012   \def\HyPsd@babel@danish{%
1013     \declare@shorthand{danish}{"}{}%
1014     \declare@shorthand{danish}{"-}{-}%
1015   }%
1016 }
1017 \ltx@ifundefined{dutch@sh@"@sel}{}{%

```

```

1018 \def\HyPsd@babel@dutch{%
1019 \declare@shorthand{dutch}{"}{|}{}%
1020 \declare@shorthand{dutch}{"}~}{-}{-%
1021 }%
1022 }
1023 \ltx@ifundefined{finnish@sh@"@sel}{}{-%
1024 \def\HyPsd@babel@finnish{%
1025 \declare@shorthand{finnish}{"}{|}{}%
1026 }%
1027 }
1028 \ltx@ifundefined{french@sh@"@sel}{}{-%
1029 \def\HyPsd@babel@frenchb{%
1030 \def\guill@spacing{ }%
1031 }%
1032 }
1033 \ltx@ifundefined{german@sh@"@sel}{}{-%
1034 \def\HyPsd@babel@german{%
1035 \declare@shorthand{german}{"}f}{f}{%
1036 \declare@shorthand{german}{"}{|}{}%
1037 \declare@shorthand{german}{"}~}{-}{-%
1038 }%
1039 }
1040 \ltx@ifundefined{macedonian@sh@"@sel}{}{-%
1041 \def\HyPsd@babel@macedonian{%
1042 \declare@shorthand{macedonian}{"}{|}{}%
1043 \declare@shorthand{macedonian}{"}~}{-}{-%
1044 }%
1045 }{}
1046 \ltx@ifundefined{ngerman@sh@"@sel}{}{-%
1047 \def\HyPsd@babel@ngerman{%
1048 \declare@shorthand{ngerman}{"}{|}{}%
1049 \declare@shorthand{ngerman}{"}~}{-}{-%
1050 }%
1051 }
1052 \ltx@ifundefined{portuges@sh@"@sel}{}{-%
1053 \def\HyPsd@babel@portuges{%
1054 \declare@shorthand{portuges}{"}{|}{}%
1055 }%
1056 }
1057 \ltx@ifundefined{russian@sh@"@sel}{}{-%
1058 \def\HyPsd@babel@russian{%
1059 \declare@shorthand{russian}{"}{|}{}%
1060 \declare@shorthand{russian}{"}~}{-}{-%
1061 }%
1062 }
1063 \ltx@ifundefined{slovene@sh@"@sel}{}{-%
1064 \def\HyPsd@babel@slovene{%
1065 \declare@shorthand{slovene}{"}{|}{}%
1066 }%
1067 }

```

Nested quoting environments are not supported (<<, >>).

```

1068 \ltx@ifundefined{spanish@sh@"@sel}{}{-%
1069 \def\HyPsd@babel@spanish{%
1070 \declare@shorthand{spanish}{<<}{\guillemotleft}%
1071 \declare@shorthand{spanish}{>>}{\guillemotright}%
1072 \declare@shorthand{spanish}{"}=}{-}{-%
1073 \declare@shorthand{spanish}{"}~}{-}{-%

```

```

1074 \declare@shorthand{spanish}{"!}{\textexclamdown}%
1075 \declare@shorthand{spanish}{"?}{\textquestiondown}%
1076 }%
1077 }
1078 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
1079 \def\HyPsd@babel@swedish{%
1080 \declare@shorthand{swedish}{"|}{-}%
1081 \declare@shorthand{swedish}{"-}{-}%
1082 }%
1083 }
1084 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1085 \def\HyPsd@babel@ukrainian{%
1086 \declare@shorthand{ukrainian}{"|}{-}%
1087 \declare@shorthand{ukrainian}{"-}{-}%
1088 }%
1089 }
1090 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1091 \def\HyPsd@babel@usorbian{%
1092 \declare@shorthand{usorbian}{"f}{f}%
1093 \declare@shorthand{usorbian}{"|}{-}%
1094 }%
1095 }

1096 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1097 \let\HyPsd@GreekPatch\@empty
1098 }{%
1099 \def\HyPsd@GreekPatch{%
1100 \let\greeknumeral\HyPsd@greeknumeral
1101 \let\Greeknnumeral\HyPsd@Greeknnumeral
1102 }%
1103 }
1104 \def\HyPsd@greeknumeral#1{%
1105 \HyPsd@GreekNum\@firstoftwo{#1}%
1106 }
1107 \def\HyPsd@Greeknnumeral#1{%
1108 \HyPsd@GreekNum\@secondoftwo{#1}%
1109 }
1110 \def\HyPsd@GreekNum#1#2{%
1111 \ifHy@unicode
1112 \ifnum#2<\@ne
1113 \@arabic{#2}%
1114 \else
1115 \ifnum#2<1000000 %
1116 \HyPsd@@GreekNum#1{#2}%
1117 \else
1118 \@arabic{#2}%
1119 \fi
1120 \fi
1121 \else
1122 \@arabic{#2}%
1123 \fi
1124 }
1125 \def\HyPsd@@GreekNum#1#2{%
1126 \ifnum#2<\@m
1127 \ifnum#2<10 %
1128 \expandafter\HyPsd@GreekNumI
1129 \expandafter\@gobble\expandafter#1\number#2%
1130 \else

```

```

1131 \ifnum#2<100 %
1132 \expandafter\HyPsd@GreekNumII
1133 \expandafter\@gobble\expandafter#1\number#2%
1134 \else
1135 \expandafter\HyPsd@GreekNumIII
1136 \expandafter\@gobble\expandafter#1\number#2%
1137 \fi
1138 \fi
1139 \ifnum#2>\z@
1140 \textnumeralsigngreek
1141 \fi
1142 \else
1143 \ifnum#2<\@M
1144 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1145 \else
1146 \ifnum#2<100000 %
1147 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1148 \else
1149 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1150 \fi
1151 \fi
1152 \fi
1153 }
1154 \def\HyPsd@GreekNumI#1#2#3{%
1155 #1{%
1156 \ifnum#3>\z@
1157 \textnumeralsignlowergreek
1158 \fi
1159 }%
1160 \expandafter#2%
1161 \ifcase#3 %
1162 {}{}%
1163 \or\textalpha\textAlpha
1164 \or\textbeta\textBeta
1165 \or\textgamma\textGamma
1166 \or\textdelta\textDelta
1167 \or\textepsilon\textEpsilon
1168 \or\textstigmagreek\textStigmagreek
1169 \or\textzeta\textZeta
1170 \or\texteta\textEta
1171 \or\texttheta\textTheta
1172 \else
1173 {}{}%
1174 \fi
1175 }
1176 \def\HyPsd@GreekNumII#1#2#3#4{%
1177 #1{%
1178 \ifnum#3>\z@
1179 \textnumeralsignlowergreek
1180 \fi
1181 }%
1182 \expandafter#2%
1183 \ifcase#3 %
1184 {}{}%
1185 \or\textiota\textIota
1186 \or\textkappa\textKappa
1187 \or\textlambda\textLambda

```

```

1188 \or\textmu\textMu
1189 \or\textnu\textNu
1190 \or\textxi\textXi
1191 \or\textomicron\textOmicron
1192 \or\textpi\textPi
1193 \or\textkoppagreek\textKoppagreek
1194 \else
1195   {}{}%
1196 \fi
1197 \HyPsd@GreekNumI#1#2#4%
1198 }
1199 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1200   #1{%
1201     \ifnum#3>\z@
1202       \textnumeralsignlowergreek
1203       \fi
1204   }%
1205 \expandafter#2%
1206 \ifcase#3 %
1207   {}{}%
1208 \or\textrho\textRho
1209 \or\textsigma\textSigma
1210 \or\texttau\textTau
1211 \or\textupsilon\textUpsilon
1212 \or\textphi\textPhi
1213 \or\textchi\textChi
1214 \or\textpsi\textPsi
1215 \or\textomega\textOmega
1216 \or\textsampigreek\textSampigreek
1217 \else
1218   {}{}%
1219 \fi
1220 \HyPsd@GreekNumII#1#2#4#5%
1221 }
1222 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1223   \HyPsd@GreekNumI\@firstofone#1#2%
1224   \HyPsd@@GreekNum#1{#3#4#5}%
1225 }
1226 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1227   \HyPsd@GreekNumII\@firstofone#1#2#3%
1228   \HyPsd@@GreekNum#1{#4#5#6}%
1229 }
1230 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1231   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1232   \HyPsd@@GreekNum#1{#5#6#7}%
1233 }

1234 \def\HyPsd@SpanishPatch{%
1235   \ltx@ifundefined{es@save@dot}{%
1236   }{%
1237     \let\.\es@save@dot
1238   }%
1239 }

Shorthand "- of 'russianb.ldf' is not expandable, therefore it is disabled and replaced by
-..

1240 \def\HyPsd@RussianPatch{%
1241   \ltx@ifundefined{russian@sh@"@-@}{%

```

```

1242 }{%
1243   \@namedef{russian@sh@"@-@}{-}%
1244 }%
1245 }

```

6.5.3 CJK patch

```

1246 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1247 \def\HyPsd@CJKhook{%
1248   \ltx@ifpackageloaded{CJK}{%
1249     \let\CJK@kern\relax
1250     \let\CJKkern\relax
1251     \let\CJK@CJK\relax
1252     \ifHy@CJKbookmarks
1253       \HyPsd@CJKhook@bookmarks
1254     \fi
1255     \HyPsd@CJKhook@unicode
1256   }{}%
1257 }

```

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 ($\geq 0x40$).

```

1258 \begingroup
1259   \catcode"7F=\active
1260   \toks@{%
1261     \let\CJK@ignorespaces\empty
1262     \def\CJK@char#1{\@gobbletwo}%
1263     \let\CJK@charx\@gobblefour
1264     \let\CJK@punctchar\@gobblefour
1265     \def\CJK@punctcharx#1{\@gobblefour}%
1266     \catcode"7F=\active
1267     \def^^7f#1^^7f#2^^7f{%
1268       \string #1\HyPsd@DecimalToOctal{#2}%
1269     }%
1270     % ... ?
1271     \ifHy@unicode
1272       \def\Hy@cjkpu{\80}%
1273     \else
1274       \let\Hy@cjkpu\@empty
1275     \fi
1276     \HyPsd@CJKActiveChars
1277   }%
1278   \count@=127 %
1279   \@whilenum\count@<255 \do{%
1280     \advance\count@ by 1 %

```



```

1281 \lccode'\~=\count@
1282 \lowercase{%
1283 \toks@\expandafter{\the\toks@ ~}%
1284 }%
1285 }%
1286 \toks@\expandafter{\the\toks@ !}%
1287 \xdef\HyPsd@CJKhook@bookmarks{%
1288 \the\toks@
1289 }%
1290 \endgroup

```

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

```

1291 \def\HyPsd@CJKActiveChars#1{%
1292 \ifx#1!%
1293 \let\HyPsd@CJKActiveChars\relax
1294 \else
1295 \edef#1{\noexpand\Hy@cjku\string#1}%
1296 \fi
1297 \HyPsd@CJKActiveChars
1298 }

```

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

```

1299 \def\HyPsd@DecimalToOctal#1{%
1300 \ifcase #1 %
1301 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1302 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1303 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1304 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1305 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1306 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1307 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1308 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1309 \or @\or A\or B\or C\or D\or E\or F\or G%
1310 \or H\or I\or J\or K\or L\or M\or N\or O%
1311 \or P\or Q\or R\or S\or T\or U\or V\or W%
1312 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1313 \or \140\or a\or b\or c\or d\or e\or f\or g%
1314 \or h\or i\or j\or k\or l\or m\or n\or o%
1315 \or p\or q\or r\or s\or t\or u\or v\or w%
1316 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1317 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1318 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1319 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1320 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1321 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1322 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1323 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1324 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1325 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1326 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1327 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1328 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1329 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1330 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1331 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1332 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%

```

```
1333 \fi
1334 }
```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```
1335 \def\HyPsd@CJKhook@unicode{%
1336 \let\Unicode\HyPsd@CJK@Unicode
1337 \let\CJKnumber\HyPsd@CJKnumber
1338 \let\CJKdigits\HyPsd@CJKdigits
1339 }
```

\HyPsd@CJK@Unicode

```
1340 \def\HyPsd@CJK@Unicode#1#2{%
1341 \ifnum#1<256 %
1342 \HyPsd@DecimalToOctalFirst{#1}%
1343 \HyPsd@DecimalToOctalSecond{#2}%
1344 \else
1345 \933%
1346 \expandafter\expandafter\expandafter\HyPsd@HighA
1347 \intcalcDiv{#1}{4}!%
1348 \933%
1349 \ifcase\intcalcMod{#1}{4} %
1350 4\or 5\or 6\or 7%
1351 \fi
1352 \HyPsd@DecimalToOctalSecond{#2}%
1353 \fi
1354 }

1355 \def\HyPsd@HighA#1!{%
1356 \expandafter\expandafter\expandafter\HyPsd@HighB
1357 \IntCalcDiv#1!64!!%
1358 \expandafter\expandafter\expandafter\HyPsd@HighD
1359 \IntCalcMod#1!64!!%
1360 }
1361 \def\HyPsd@HighB#1!{%
1362 \expandafter\expandafter\expandafter\HyPsd@HighC
1363 \IntCalcDec#1!!%
1364 }
1365 \def\HyPsd@HighC#1!{%
1366 \IntCalcDiv#1!4!%
1367 \@backslashchar
1368 \IntCalcMod#1!4!%
1369 }
1370 \def\HyPsd@HighD#1!{%
1371 \ifcase\IntCalcDiv#1!8! %
1372 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1373 \fi
1374 \ifcase\IntCalcMod#1!8! %
1375 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1376 \fi
1377 }
1378 \def\HyPsd@DecimalToOctalFirst#1{%
1379 \9%
1380 \ifcase#1 %
1381 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1382 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
```

```

1383 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1384 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1385 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1386 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1387 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1388 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1389 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1390 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1391 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1392 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1393 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1394 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1395 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1396 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1397 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1398 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1399 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1400 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1401 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1402 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1403 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1404 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1405 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1406 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1407 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1408 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1409 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1410 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1411 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1412 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1413 \fi
1414 }
1415 \def\HyPsd@DecimalToOctalSecond#1{%
1416 \ifcase #1 %
1417 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1418 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1419 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1420 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1421 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1422 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1423 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1424 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1425 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1426 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1427 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1428 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1429 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1430 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1431 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1432 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1433 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1434 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1435 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1436 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1437 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1438 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1439 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%

```

```

1440 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1441 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1442 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1443 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1444 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1445 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1446 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1447 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1448 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1449 \fi
1450 }

1451 \def\HyPsd@CJKnumber#1{%
1452 \ifnum#1<\z@
1453 \CJK@minus
1454 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1455 \else
1456 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1457 \fi
1458 }

1459 \def\HyPsd@@CJKnumber#1{%
1460 \ifcase#1 %
1461 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1462 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1463 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1464 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1465 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1466 \CJK@ten\CJK@nine
1467 \else
1468 \ifnum#1<10000 %
1469 \HyPsd@CJKnumberFour#1!\@empty{20}%
1470 \@empty
1471 \else
1472 \ifnum#1<100000000 %
1473 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1474 \IntCalcDiv#1!10000!%
1475 !}{20}%
1476 \CJK@tenthousand
1477 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1478 \IntCalcMod#1!10000!%
1479 !\CJK@zero{10}%
1480 \@empty
1481 \else
1482 \expandafter\HyPsd@CJKnumberLarge
1483 \number\IntCalcDiv#1!100000000!\expandafter!%
1484 \number\IntCalcMod#1!100000000!!%
1485 \fi
1486 \fi
1487 \fi
1488 }

1489 \def\HyPsd@CJKnumberLarge#1!#2!{%
1490 \HyPsd@CJKnumberFour#1!}{20}%
1491 \CJK@hundredmillion
1492 \ifnum#2=\z@
1493 \else
1494 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1495 \IntCalcDiv#2!10000!%
1496 !\CJK@zero{10}%

```

```

1497 \CJK@tenthousand
1498 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1499 \IntCalcMod#2!10000!%
1500 !\CJK@zero{10}%
1501 \@empty
1502 \fi
1503 }
1504 \def\HyPsd@CJKnumberFour#1!#2#3{%
1505 \ifnum#1=\z@
1506 \expandafter\@gobble
1507 \else
1508 \ifnum#1<1000 %
1509 #2%
1510 \HyPsd@CJKnumberThree#1!#{#3}%
1511 \else
1512 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1513 \CJK@thousand
1514 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1515 \IntCalcMod#1!1000!%
1516 !\CJK@zero{10}%
1517 \fi
1518 \fi
1519 }
1520 \def\HyPsd@CJKnumberThree#1!#2#3{%
1521 \ifnum#1=\z@
1522 \else
1523 \ifnum#1<100 %
1524 #2%
1525 \HyPsd@CJKnumberTwo#1!#{#3}%
1526 \else
1527 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1528 \CJK@hundred
1529 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1530 \IntCalcMod#1!100!%
1531 !\CJK@zero{10}%
1532 \fi
1533 \fi
1534 }
1535 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1536 \ifnum#1=\z@
1537 \else
1538 \ifnum#1<#3 %
1539 #2%
1540 \HyPsd@@CJKnumber{#1}%
1541 \else
1542 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1543 \CJK@ten
1544 \ifnum\IntCalcMod#1!10!=\z@
1545 \else
1546 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1547 \fi
1548 \fi
1549 \fi
1550 }
1551 \def\HyPsd@CJKdigits#1{%
1552 \ifx*#1\relax
1553 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero

```

```

1554 \else
1555   \HyPsd@@@CJKdigits\CJK@null{#1}%
1556 \fi
1557 }
1558 \def\HyPsd@@@CJKdigits#1#2{%
1559 \ifx\\#2\\%
1560 \else
1561   \HyPsd@@@CJKdigits#1#2\@nil
1562 \fi
1563 }%
1564 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1565 \HyPsd@CJKdigit#1{#2}%
1566 \ifx\\#3\\%
1567   \expandafter\@gobble
1568 \else
1569   \expandafter\@firstofone
1570 \fi
1571 {#3}%
1572 \HyPsd@@@CJKdigits#1#3\@nil
1573 }%
1574 }
1575 \def\HyPsd@CJKdigit#1#2{%
1576 \ifcase#2 %
1577   #1\or
1578   \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1579   \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1580 \fi
1581 }

```

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 $\LaTeX 2_{\epsilon}$ versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ($\LaTeX 2_{\epsilon}$ 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\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname?\string#1\endcsname\relax
        \expandafter\def\csname?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
    \global\expandafter\let
      \csname\cf@encoding\string#1\endcsname
      \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}

1582 \def\HyPsd@inmathwarn#1#2{%
1583 \ifx#2\expandafter
1584 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1585 \HyPsd@GLYPHERR
1586 \expandafter\@gobble\string#1%
1587 >%
1588 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1589 \else
1590 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1591 \fi
1592 \else
1593 \expandafter#2%
1594 \fi
1595 }
1596 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1597 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1598 \def\HyPsd@add@accent#1#2{%
1599 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1600 #2%
1601 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1602 \def\HyPsd@LetUnexpandableSpace#1{%
1603 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1604 }

```

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

```

1605 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```
1606 \edef\HyPsd@XSPACE{\string#\string X}
1607 \edef\HyPsd@ITALCORR{\string#\string I}
1608 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1609 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1610 \def\HyPsd@@hspace#1*#2\END{%
1611   \ifx\#2\%
1612     \HyPsd@hspacetest{#1}%
1613   \else
1614     \expandafter\HyPsd@hspacetest
1615   \fi
1616 }
```

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

```
1617 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1618 \ltx@ifundefined{tocsection}{%
1619   \let\HyPsd@AMSclassfix\relax
1620 }{%
1621   \def\HyPsd@AMSclassfix{%
1622     \let\tocpart\HyPsd@tocsection
1623     \let\tocchapter\HyPsd@tocsection
1624     \let\tocappendix\HyPsd@tocsection
1625     \let\tocsection\HyPsd@tocsection
1626     \let\tocsubsection\HyPsd@tocsection
1627     \let\tocsubsubsection\HyPsd@tocsection
1628     \let\tocparagraph\HyPsd@tocsection
1629   }%
1630   \def\HyPsd@tocsection#1#2#3{%
1631     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1632     #3%
1633   }%
1634 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1635 \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.

```
1636 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```


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

```
1637 \def\HyPsd@ref#1*#2\END{%
1638   \ifx\#2\%
1639     \HyPsd@@ref{#1}%
1640   \else
1641     \expandafter\HyPsd@@@ref
1642   \fi
1643 }%
```

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

```
1644 \def\HyPsd@@@ref#1{%
1645   \expandafter\ifx\csname r@#1\endcsname\relax
1646     ??%
1647   \else
1648     \expandafter\expandafter\expandafter
1649     \@car\csname r@#1\endcsname\@nil
1650   \fi
1651 }
```

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

```
1652 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1653 \def\HyPsd@@pageref#1*#2\END{%
1654   \ifx\#2\%
1655     \HyPsd@@@pageref{#1}%
1656   \else
1657     \expandafter\HyPsd@@@pageref
1658   \fi
1659 }
```

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

```
1660 \def\HyPsd@@@pageref#1{%
1661   \expandafter\ifx\csname r@#1\endcsname\relax
1662     ??%
1663   \else
1664     \expandafter\expandafter\expandafter\expandafter
1665     \expandafter\expandafter\expandafter\@car
1666     \expandafter\expandafter\expandafter\@gobble
1667     \csname r@#1\endcsname{\}\@nil
1668   \fi
1669 }
```

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

```
1670 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1671 \def\HyPsd@@nameref#1*#2\END{%
1672   \ifx\#2\%
1673     \HyPsd@@@nameref{#1}%
1674   \else
1675     \expandafter\HyPsd@@@nameref
1676   \fi
1677 }
```

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

```
1678 \def\HyPsd@@@nameref#1{%
1679   \expandafter\ifx\csname r@#1\endcsname\relax
1680     ??%
1681   \else
1682     \expandafter\expandafter\expandafter\expandafter
1683     \expandafter\expandafter\expandafter\@car
1684     \expandafter\expandafter\expandafter\@gobbletwo
1685     \csname r@#1\endcsname{}-{}-{} \@nil
1686   \fi
1687 }
```

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

```
1688 \def\HyPsd@autoref#1{\HyPsd@@autoref#1* \END}
```

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

```
1689 \def\HyPsd@@autoref#1*#2\END{%
1690   \ifx\#2\%
1691     \HyPsd@@@autoref{#1}%
1692   \else
1693     \expandafter\HyPsd@@@autoref
1694   \fi
1695 }
```

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

```
1696 \def\HyPsd@@@autoref#1{%
1697   \expandafter\ifx\csname r@#1\endcsname\relax
1698     ??%
1699   \else
1700     \expandafter\expandafter\expandafter\HyPsd@autorefname
1701     \csname r@#1\endcsname{}-{}-{} \@nil
1702     \expandafter\expandafter\expandafter
1703     \@car\csname r@#1\endcsname \@nil
1704   \fi
1705 }
```

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

```
1706 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1707   \ifx\#4\%
1708     \else
1709     \HyPsd@@@autorefname#4.\@nil
1710   \fi
1711 }
```

`\HyPsd@@@autorefname`

```
1712 \def\HyPsd@@@autorefname#1.#2\@nil{%
1713   \ltx@ifundefined{#1autorefname}{%
1714     \ltx@ifundefined{#1name}{%
1715       }{%
1716         \csname#1name\endcsname\space
1717       }%
1718     }{%
1719     \csname#1autorefname\endcsname\space
1720   }%
1721 }
```

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1722 \begingroup
1723 \def\x#1#2{%
1724 \endgroup
1725 \let#1\def
1726 \def\HyPsd@DefCommand##1##2###{%
1727 #1%
1728 \expandafter\noexpand
1729 \csname\expandafter\@gobble\string##1\@empty\endcsname
1730 \@gobble
1731 }%
1732 \let#2\let
1733 \def\HyPsd@@LetCommand##1{%
1734 \expandafter\ifx\csname##1\expandafter\endcsname
1735 \csname iftrue\endcsname
1736 \pdfstringdefWarn\let
1737 \expandafter\@gobble
1738 \else
1739 \expandafter\ifx\csname##1\expandafter\endcsname
1740 \csname iffalse\endcsname
1741 \pdfstringdefWarn\let
1742 \expandafter\expandafter\expandafter\@gobble
1743 \else
1744 #2%
1745 \expandafter\noexpand
1746 \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1747     \fi
1748     \fi
1749   }%
1750 }%
1751 \expandafter\x\csname <def>-command\expandafter\endcsname
1752     \csname <let>-command\endcsname
1753 \def\HyPsd@LetCommand#1{%
1754   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1755     \expandafter\expandafter\expandafter{%
1756     \expandafter\@gobble\string#1\@empty
1757   }%
1758 }

```

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).

```

1759 \def\HyPsd@ifnextchar#1{%
1760   \pdfstringdefWarn#1%
1761   \expandafter\@gobbletwo\@gobble
1762 }

```

6.5.14 \@protected@testoptifnextchar

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

```

1763 \def\HyPsd@protected@testopt#1{%
1764   \pdfstringdefWarn#1%
1765   \@gobbletwo
1766 }

```

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:

```

1767 \def\HyPsd@Warning#1{%
1768   \begingroup
1769     \def\space{ }%
1770     \Hy@Warning{#1}%
1771   \endgroup
1772 }

```

6.6.2 Protecting spaces

```

1773 \RequirePackage{etexcmds}[2007/09/09]
1774 \ifetex@unexpanded
1775 \expandafter\@secondoftwo
1776 \else
1777 \expandafter\@firstoftwo
1778 \fi
1779 {%

```

`\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`.

```

1780 \def\HyPsd@ProtectSpaces#1{%
1781 \iftrue
1782 \expandafter\HyPsd@@ProtectSpacesFi
1783 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1784 \fi
1785 }%

```

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

```

1786 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1787 \fi
1788 \ifx\scrollmode#2\scrollmode
1789 \HyPsd@RemoveMask#1\HyPsd@End#3%
1790 \else
1791 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1792 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1793 \fi
1794 }%

```

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.

```

1795 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1796 \toks@\expandafter{#1}%
1797 \xdef#2{\the\toks@}%
1798 }%
1799 }{%
1800 \let\HyPsd@fi\fi
1801 \def\HyPsd@ProtectSpaces#1{%
1802 \xdef#1{%
1803 \iftrue
1804 \expandafter\HyPsd@@ProtectSpacesFi
1805 \expandafter|\expandafter\@empty#1| %
1806 \HyPsd@fi
1807 }%
1808 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1809 }%
1810 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1811 \fi
1812 \etex@unexpanded{#1}%
1813 \ifx\scrollmode#2\scrollmode
1814 \else
1815 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1816 \HyPsd@fi
1817 }%
1818 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1819 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1820 }%
1821 }

```

6.6.3 Remove grouping braces

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

```

1822 \def\HyPsd@RemoveBraces#1{%
1823 \ifx\scrollmode#1\scrollmode
1824 \else
1825 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1826 \fi
1827 }

```

`\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 `\Hy@ReturnAfterFi`.

```

1828 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1829 \fi
1830 \def\Hy@temp@A{#1#2}%
1831 \def\Hy@temp@B{#3}%
1832 \ifx\Hy@temp@A\Hy@temp@B
1833 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1834 \HyPsd@String#1%
1835 }%
1836 \ifx\scrollmode#2\scrollmode
1837 \else
1838 \Hy@ReturnAfterFiFiEnd{%
1839 \HyPsd@RemoveBraces{#2}%
1840 }%
1841 \fi
1842 \else
1843 \def\Hy@temp@A{#1}%
1844 \HyPsd@AppendItalcorr\HyPsd@String
1845 \ifx\Hy@temp@A\@empty
1846 \Hy@ReturnAfterElseFiFiEnd{%
1847 \HyPsd@RemoveBraces{#2}%
1848 }%
1849 \else
1850 \HyPsd@ProtectSpaces\Hy@temp@A
1851 \HyPsd@AppendItalcorr\Hy@temp@A
1852 \Hy@ReturnAfterFiFiEnd{%
1853 \expandafter\HyPsd@RemoveBraces\expandafter
1854 {\Hy@temp@A#2}%
1855 }%
1856 \fi
1857 \fi

```

```
1858 \Hy@ReturnEnd
1859 }
```

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

```
1860 \def\HyPsd@AppendItalcorr#1{%
1861 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1862 }
1863 \def\HyPsd@@AppendItalcorr#1#2{%
1864 \expandafter\def\expandafter#2\expandafter{#2#1}%
1865 }
```

6.6.4 Catcode check

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).

```
1866 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1867 \global\let\HyPsd@Rest\relax
1868 \ifcat\relax\noexpand#1\relax
1869 \ifx#1\protect
1870 \else
1871 \ifx#1\penalty
1872 \setbox\z@=\hbox{%
1873 \afterassignment\HyPsd@AfterCountRemove
1874 \count@=#2\HyPsd@End
1875 }%
1876 \else
1877 \ifx#1\kern
1878 \setbox\z@=\hbox{%
1879 \afterassignment\HyPsd@AfterDimenRemove
1880 \dimen@=#2\HyPsd@End
1881 }%
1882 \else
1883 \ifx#1\hskip
1884 \setbox\z@=\hbox{%
1885 \afterassignment\HyPsd@AfterSkipRemove
1886 \skip@=#2\HyPsd@End
1887 }%
1888 \else
1889 \HyPsd@CatcodeWarning{#1}%
1890 \fi
1891 \fi
1892 \fi
1893 \fi
1894 \else
1895 \ifcat#1A% letter
1896 \expandafter\def\expandafter\HyPsd@String\expandafter{%
```

```

1897     \HyPsd@String#1%
1898   }%
1899 \else
1900   \ifcat#1 % SPACE
1901     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1902       \HyPsd@String\HyPsd@SPACEOPTI
1903     }%
1904 \else
1905   \ifcat$#1%
1906     \HyPsd@CatcodeWarning{math shift}%
1907 \else
1908   \ifcat&#1%
1909     \HyPsd@CatcodeWarning{alignment tab}%
1910 \else
1911   \ifcat^#1%
1912     \HyPsd@CatcodeWarning{superscript}%
1913 \else
1914   \ifcat_#1%
1915     \HyPsd@CatcodeWarning{subscript}%
1916 \else
1917     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1918       \HyPsd@String#1%
1919     }%
1920   \fi
1921 \fi
1922 \fi
1923 \fi
1924 \fi
1925 \fi
1926 \fi
1927 \ifx\HyPsd@Rest\relax
1928   \ifx\scrollmode#2\scrollmode
1929 \else
1930   \Hy@ReturnAfterFiFiEnd{%
1931     \HyPsd@CheckCatcodes#2\HyPsd@End
1932   }%
1933 \fi
1934 \else
1935   \ifx\HyPsd@Rest\@empty
1936 \else
1937   \Hy@ReturnAfterFiFiEnd{%
1938     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1939   }%
1940 \fi
1941 \fi
1942 \Hy@ReturnEnd
1943 }

```

Remove counts, dimens, skips.

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

```

1944 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1945   \gdef\HyPsd@Rest{#1}%
1946 }

```

`\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.

```

1947 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1948 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@<math>\fi>1ex %
1949 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1950 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1951 \else
1952 \ifdim\dimen@=\z@
1953 \else
1954 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1955 \fi
1956 \gdef\HyPsd@Rest{#1}%
1957 \fi
1958 }

```

`\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).

```

1959 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1960 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@<math>\fi>1ex %
1961 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1962 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1963 \else
1964 \ifdim\skip@=\z@
1965 \else
1966 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1967 \fi
1968 \gdef\HyPsd@Rest{#1}%
1969 \fi
1970 }

```

Catcode warnings.

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

```

1971 \def\HyPsd@CatcodeWarning#1{%
1972 \HyPsd@Warning{%
1973 Token not allowed in a PDF string (%
1974 \ifHy@unicode
1975 Unicode%
1976 \else
1977 PDFDocEncoding%
1978 \fi
1979 ):%
1980 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1981 }%
1982 }
1983 \begingroup
1984 \catcode‘\|=0 %
1985 \catcode‘\|=12 %
1986 |gdef|HyPsd@RemoveCmdPrefix#1{%
1987 |expandafter|HyPsd@@RemoveCmdPrefix
1988 |string#1|@empty\<-|@empty|@empty
1989 }%
1990 |gdef|HyPsd@@RemoveCmdPrefix#1\<-#2|@empty#3|@empty{#1#2}%
1991 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1992 \def\HyPsd@RemoveSpaceWarning#1{%
1993   \HyPsd@Warning{%
1994     Token not allowed in a PDF string (%
1995     \ifHy@unicode
1996       Unicode%
1997     \else
1998       PDFDocEncoding%
1999     \fi
2000   ):%
2001   \MessageBreak #1\MessageBreak
2002   removed%
2003 }%
2004 }

```

\HyPsd@ReplaceSpaceWarning

```

2005 \def\HyPsd@ReplaceSpaceWarning#1{%
2006   \HyPsd@Warning{%
2007     Token not allowed in a PDF string (%
2008     \ifHy@unicode
2009       Unicode%
2010     \else
2011       PDFDocEncoding%
2012     \fi
2013   ):%
2014   \MessageBreak #1\MessageBreak
2015   replaced by space%
2016 }%
2017 }

```

6.6.5 Check for wrong glyphs

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

```

2018 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2019   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2020     \HyPsd@String#1%
2021   }%
2022   \ifx\#2\%
2023   \else
2024     \Hy@ReturnAfterFi{%
2025       \HyPsd@GlyphProcessWarning#2\@empty
2026     }%
2027   \fi
2028 }
2029 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2030   \HyPsd@@@GlyphProcessWarning#1++>%
2031   \HyPsd@GlyphProcess#2\@empty
2032 }
2033 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2034   \ifx\#2\%
2035     \HyPsd@Warning{%
2036       Glyph not defined in %
2037       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2038       removing ‘\@backslashchar#1’%
2039     }%
2040   \else
2041     \HyPsd@Warning{%

```

```

2042 Composite letter '\@backslashchar#1+#2'\MessageBreak
2043 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2044 \MessageBreak
2045 removing '\@backslashchar#1'%
2046 }%
2047 \fi
2048 }

```

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`.

```

2049 \def\HyPsd@spaceopti#1{ % first space
2050 \ifx\HyPsd@spaceopti#1%
2051 \040%
2052 \else
2053 #1%
2054 \fi
2055 }%

```

6.6.6 Replacing tokens

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

```

#1 Exact the tokens that should be replaced.
#2 The replacement (don't need to be expanded).
#3 Command with the string.
2056 \def\HyPsd@Subst#1#2#3{%
2057 \def\HyPsd@@@ReplaceFi##1#1##2\END\fi{%
2058 \fi
2059 ##1%
2060 \ifx\scrollmode##2\scrollmode
2061 \else
2062 #2%
2063 \HyPsd@@@ReplaceFi##2\END
2064 \fi
2065 }%
2066 \xdef#3{%
2067 \iftrue
2068 \expandafter\HyPsd@@@ReplaceFi#3#1\END
2069 \fi
2070 }%
2071 }

```

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

```

2072 \def\HyPsd@StringSubst#1{%
2073 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2074 }

```

`\HyPsd@EscapeTeX`

```

2075 \begingroup
2076 \lccode'!='\%
2077 \lccode'\|='\%

```

```

2078 \lccode'\<>='\{%
2079 \lccode'\)='\}%
2080 \lccode'0=\ltx@zero
2081 \lccode'1=\ltx@zero
2082 \lccode'3=\ltx@zero
2083 \lccode'4=\ltx@zero
2084 \lccode'5=\ltx@zero
2085 \lccode'7=\ltx@zero
2086 \lowercase{\endgroup
2087 \def\HyPsd@EscapeTeX#1{%
2088   \HyPsd@Subst!{|045}#1%
2089   \HyPsd@Subst({|173}#1%
2090   \HyPsd@Subst){|175}#1%
2091 }%
2092 }

```

6.6.7 Support for package xspace

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in \TeX 's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused `\@xspace`, but this version is shorter and easier to understand.

```

2093 \def\HyPsd@doxspace#1{%
2094   \ifx#1\relax\else
2095   \ifx#1.\else
2096   \ifx#1:\else
2097   \ifx#1,\else
2098   \ifx#1;\else
2099   \ifx#1!\else
2100   \ifx#1?\else
2101   \ifx#1/\else
2102   \ifx#1-\else
2103   \ifx#1'\else
2104     \HyPsd@SPACEOPTI
2105     \fi
2106     \fi
2107     \fi
2108     \fi
2109     \fi
2110     \fi
2111     \fi
2112     \fi
2113     \fi
2114     \fi
2115     #1%
2116 }%

```

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.

```

2117 \begingroup
2118 \catcode'\|=0 %
2119 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

2120 |gdef|HyPsd@ConvertToUnicode#1{%
2121 |xdef#1{%
2122 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2123 }%
2124 |ifx#1|@empty
2125 |else
2126 |xdef#1{%
2127 \376\377%
2128 #1%
2129 }%
2130 |fi
2131 }%

```

\HyPsd@DoConvert

```

2132 |gdef|HyPsd@DoConvert#1{%
2133 |ifx#1|@empty
2134 |else
2135 |Hy@ReturnAfterFi{%
2136 |ifx#1\%%
2137 \%%
2138 |expandafter|HyPsd@DoEscape
2139 |else
2140 |HyPsd@Char{#1}%
2141 |expandafter|HyPsd@DoConvert
2142 |fi
2143 }%
2144 |fi
2145 }%

```

\HyPsd@DoEscape

```

2146 |gdef|HyPsd@DoEscape#1{%
2147 |ifx#19%
2148 |expandafter|HyPsd@GetTwoBytes
2149 |else
2150 |Hy@ReturnAfterFi{%
2151 |ifx#18%
2152 00%
2153 |expandafter|HyPsd@GetTwoBytes
2154 |else
2155 #1%
2156 |expandafter|HyPsd@GetOneByte
2157 |fi
2158 }%
2159 |fi
2160 }%

```

\HyPsd@GetTwoBytes

```

2161 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2162 #1\#2#3#4%
2163 |HyPsd@DoConvert
2164 }%

```

\HyPsd@GetOneByte

```

2165 |gdef|HyPsd@GetOneByte#1#2{%
2166 #1#2%
2167 |HyPsd@DoConvert
2168 }%

```

2169 |endgroup

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

```
2170 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2171 \xdef#4{#4#1#2}%
2172 \HyPsd@@ConvertToUnicode#3\END#4%
2173 }
```

\HyPsd@Char

```
2174 \begingroup
2175 \catcode0=9 %
2176 \catcode'\^=7 %
2177 \catcode'\^^=12 %
2178 \def\x{^^^0000}%
2179 \expandafter\endgroup
2180 \ifx\x\@empty
2181 \def\HyPsd@Char#1{%
2182 \ifnum'#1<128 %
2183 \@backslashchar 000#1%
2184 \else
2185 \ifnum'#1<65536 %
2186 \expandafter\HyPsd@CharTwoByte\number'#1!%
2187 \else
2188 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2189 \intcalcSub{'#1}-{65536}!%
2190 \fi
2191 \fi
2192 }%
2193 \def\HyPsd@CharTwoByte#1!{%
2194 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2195 \IntCalcDiv#1!256!!%
2196 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2197 \IntCalcMod#1!256!!%
2198 }%
2199 \def\HyPsd@CharOctByte#1!{%
2200 \@backslashchar
2201 \IntCalcDiv#1!64!%
2202 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2203 \IntCalcMod#1!8!%
2204 }%
2205 \def\HyPsd@CharSurrogate#1!{%
2206 \@backslashchar 33%
2207 \IntCalcDiv#1!262144!%
2208 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2209 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2210 \@backslashchar 33%
2211 \expandafter\expandafter\expandafter\IntCalcAdd
2212 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2213 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2214 \IntCalcMod#1!256!!%
2215 }%
2216 \else
2217 \def\HyPsd@Char#1{%
2218 \@backslashchar 000#1%
2219 }%
2220 \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

2221 \begingroup\expandafter\expandafter\expandafter\endgroup
2222 \expandafter\ifx\csname numexpr\endcsname\relax
2223   \let\HyPsd@UTFviii\relax
2224 \else
2225   \begingroup
2226     \lccode'\~='^^f4\relax
2227   \lowercase{\endgroup
2228     \def\HyPsd@UTFviii{%
2229       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2230       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2231       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2232       \ifx~\HyPsd@UTFviii@ccxliv@undef
2233         \let~\HyPsd@UTFviii@ccxliv@def
2234       \fi
2235       \let\unichar\HyPsd@unichar
2236     }%
2237   }%
2238   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2239   \edef\HyPsd@UTFviii@ccxliv@def{%
2240     \noexpand\UTFviii@four@octets\string ^^f4%
2241   }%

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.


$$a := A/4 - 48 \tag{1}$$


$$b := A - 4 * (A/4) \tag{2}$$


$$c := B/8 - 8 * ((8 * (B/8))/8) \tag{3}$$


$$d := B - 8 * (B/8) \tag{4}$$


$$\tag{5}$$


2242 \def\HyPsd@UTFviii@two#1#2{%
2243   \expandafter\HyPsd@UTFviii@@two
2244   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2245   \number'#1\expandafter| %
2246   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2247   \number'#2 \@nil
2248 }%
2249 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2250   \expandafter\8%
2251   \number\numexpr #1-48\expandafter\relax
2252   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2253   \number\numexpr #3-8*%

```

```

2254 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2255 \number\dimexpr #4-8*#3\relax
2256 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2257 \def\HyPsd@UTFviii@three#1#2#3{%
2258 \expandafter\HyPsd@UTFviii@three
2259 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2260 \number'#1\expandafter| %
2261 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2262 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2263 \number'#2\expandafter| %
2264 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2265 \number'#3 \@nil
2266 }%
2267 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2268 \expandafter\9%
2269 \number\dimexpr #1-56\expandafter\relax
2270 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2271 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2272 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2273 \number\dimexpr #6-16\expandafter\relax
2274 \number\dimexpr #7-8*#6\relax
2275 }%

```

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 wwzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2276 \def\HyPsd@UTFviii@four#1#2{%
2277 \expandafter\HyPsd@UTFviii@four\number
2278 \dimexpr-1+(#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2279 \expandafter|\number
2280 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2281 }%
2282 \def\HyPsd@UTFviii@four#1|#2|#3{%
2283 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2284 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2285 \ifodd#2 %
2286 \number\dimexpr(#2-1)/2\relax
2287 \else
2288 \number\dimexpr#2/2\relax
2289 \fi

```



```

2290 \number\numexpr\ifodd#2 4+\fi
2291 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2292 \933%
2293 \expandafter\HyPsd@@@UTFviii@four\number
2294 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2295 }%
2296 \def\HyPsd@@@UTFviii@four#1|#2{%
2297 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2298 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2299 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2300 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2301 }%

```

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

```

2302 \def\HyPsd@unicar#1{%
2303 \ifHy@unicode
2304 \ifnum#1>"10FFFF %
2305 \HyPsd@UnicodeReplacementCharacter % illegal
2306 \else
2307 \ifnum#1>"FFFF %

```

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

```

2308 \expandafter\HyPsd@unicar\expandafter{%
2309 \number\numexpr 55296+%
2310 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2311 \relax\relax\relax
2312 }%

```

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

```

2313 \expandafter\HyPsd@unicar\expandafter{%
2314 \number\numexpr#1-9216%
2315 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2316 \relax\relax\relax
2317 }%
2318 \else
2319 \ifnum#1>"7FF %
2320 \9%
2321 \expandafter\HyPsd@unicar@first@byte\expandafter{%
2322 \number
2323 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2324 }%
2325 \else
2326 \8%
2327 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2328 \fi
2329 \expandafter\HyPsd@unicar@second@byte\expandafter{%
2330 \number
2331 \numexpr#1-256*\number
2332 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2333 }%
2334 \fi
2335 \fi
2336 \else
2337 .% unsupported (Unicode -> PDF Doc Encoding)
2338 \fi
2339 }%
2340 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

2341 \def\HyPsd@unichar@first@byte#1{%
2342 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2343 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2344 \number
2345 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2346 \relax\relax\relax
2347 }%
2348 }%
2349 \def\HyPsd@unichar@second@byte#1{%
2350 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2351 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2352 \number
2353 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2354 \relax\relax\relax
2355 }%
2356 }%
2357 \def\HyPsd@unichar@octtwo#1{%
2358 \number\dimexpr.125\dimexpr#1sp\relax\relax
2359 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2360 \relax\relax\relax
2361 }%
2362 \fi

```

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

```

2363 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2364 \ifx\@gobble#1%
2365 \else
2366 [Please insert \textbackslash PrerenderUnicode%
2367 \textbraceleft#1\textbraceright\space
2368 into preamble]%
2369 \fi
2370 }%

```

7 Support of other packages

7.1 Class memoir

```

2371 \@ifclassloaded{memoir}{%
2372 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2373 }{}

```

7.2 Package subfigure

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

```

2374 \@ifpackageloaded{subfigure}{%
2375 \ltx@ifundefined{sub@label}{%
2376 \Hy@hypertextnamesfalse
2377 }{%
2378 \renewcommand*{\sub@label}[1]{%
2379 \@bsphack
2380 \subfig@oldlabel{#1}%
2381 \if@filesw
2382 \begingroup
2383 \edef\@currentlabstr{%
2384 \expandafter\strip@prefix\meaning\@currentlabelname
2385 }%

```

```

2386     \protected@write\@auxout{}{%
2387     \string\newlabel{sub@#1}{%
2388     {\@nameuse{@thesub\@capytype}}%
2389     {\thepage}%
2390     {%
2391     \expandafter\strip@period\@currentlabstr
2392     \relax.\relax\@@@%
2393     }%
2394     {\@currentHref}%
2395     }}%
2396     }%
2397     }%
2398     \endgroup
2399     \fi
2400     \@esphack
2401     }%
2402     \@ifpackagelater{subfigure}{2002/03/26}{}%
2403     \providecommand*\toclevel@subfigure{1}%
2404     \providecommand*\toclevel@subtable{1}%
2405     }%
2406     }%
2407     }{}

```

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:

```

2408 \ltx@ifundefined{XR@addURL}{%
2409 }{%

```

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.

```

2410 \def\xR@addURL#1{\XR@dURL#1{}{}{}\\}%
2411 \def\xR@dURL#1#2#3#4#5\\{%
2412   {#1}{#2}%
2413   \if!#4!%
2414   \else
2415     {#3}{#4}{\XR@URL}%
2416   \fi
2417   }%
2418 }

```

```

2419 \def\Hy@true{true}
2420 \def\Hy@false{false}

```

Providing dummy definitions.

```

2421 \let\literalps@out@gobble
2422 \newcommand\pdfbookmark[3]{}
2423 \def\Acrobatmenu#1#2{\leavevmode#2}
2424 \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

```
2425 \let\HyperRaiseLinkHook\@empty
2426 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2427 \newcount\Hy@SavedSpaceFactor
2428 \def\Hy@SaveSpaceFactor{%
2429   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2430 }
2431 \def\Hy@RestoreSpaceFactor{%
2432   \relax
2433   \ifhmode
2434     \ifnum\Hy@SavedSpaceFactor>\z@
2435       \spacefactor=\Hy@SavedSpaceFactor
2436     \fi
2437   \fi
2438 }
2439 \def\Hy@SaveSavedSpaceFactor{%
2440   \edef\Hy@RestoreSavedSpaceFactor{%
2441     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2442   }%
2443 }
2444 \def\Hy@raisedlink#1{%
2445   \ifvmode
2446     #1%
2447   \else
2448     \Hy@SaveSpaceFactor
2449     \penalty\@M
2450     \smash{%
2451       \begingroup
2452         \let\HyperRaiseLinkLength\@tempdima
2453         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2454         \HyperRaiseLinkHook
2455       \expandafter\endgroup
2456       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2457         \Hy@RestoreSpaceFactor
2458         #1%
2459         \Hy@SaveSpaceFactor
2460       }%
2461     }%
2462     \Hy@RestoreSpaceFactor
2463   \fi
2464 }
```

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

```
2465 \def\Hy@SaveLastskip{%
2466   \let\Hy@RestoreLastskip\relax
2467   \ifvmode
2468     \ifdim\lastskip=\z@
2469       \let\Hy@RestoreLastskip\nobreak
2470     \else
```

```

2471 \begingroup
2472 \skip@=-\lastskip
2473 \edef\x{%
2474 \endgroup
2475 \def\noexpand\Hy@RestoreLastskip{%
2476 \noexpand\ifvmode
2477 \noexpand\nobreak
2478 \vskip\the\skip@
2479 \vskip\the\lastskip\relax
2480 \noexpand\fi
2481 }%
2482 }%
2483 \x
2484 \fi
2485 \else
2486 \ifhmode
2487 \ifdim\lastskip=\z@
2488 \let\Hy@RestoreLastskip\nobreak
2489 \else
2490 \begingroup
2491 \skip@=-\lastskip
2492 \edef\x{%
2493 \endgroup
2494 \def\noexpand\Hy@RestoreLastskip{%
2495 \noexpand\ifhmode
2496 \noexpand\nobreak
2497 \hskip\the\skip@
2498 \hskip\the\lastskip\relax
2499 \noexpand\fi
2500 }%
2501 }%
2502 \x
2503 \fi
2504 \fi
2505 \fi
2506 }%

```

9 Options

```

2507 \SetupKeyvalOptions{%
2508 family=Hyp,%
2509 prefix=HyOpt%
2510 }

```

9.1 Help macros

\Hy@boolkey

```

2511 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2512 \def\Hy@@boolkey[#1]#2#3{%
2513 \edef\Hy@tempa{#3}%
2514 \lowercase\expandafter{%
2515 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2516 }%
2517 \ifx\Hy@tempa\@empty
2518 \let\Hy@tempa\Hy@true
2519 \fi
2520 \ifx\Hy@tempa\Hy@true

```

```

2521 \else
2522 \ifx\Hy@tempa\Hy>false
2523 \else
2524 \let\Hy@tempa\relax
2525 \fi
2526 \fi
2527 \ifx\Hy@tempa\relax
2528 \Hy@WarnOptionValue{#3}{#1}{'true' or 'false'}%
2529 \else
2530 \Hy@Info{Option '#1' set '\Hy@tempa'}%
2531 \csname Hy@#2\Hy@tempa\endcsname
2532 \fi
2533 }

```

\Hy@WarnOptionValue

```

2534 \def\Hy@WarnOptionValue#1#2#3{%
2535 \Hy@Warning{%
2536 Unexpected value '#1'\MessageBreak
2537 of option '#2' instead of\MessageBreak
2538 #3%
2539 }%
2540 }

```

\Hy@DisableOption

```

2541 \def\Hy@DisableOption#1{%
2542 \@ifundefined{KV@Hyp@#1@default}{%
2543 \define@key{Hyp}{#1}%
2544 }{%
2545 \define@key{Hyp}{#1}[]%
2546 }%
2547 {\Hy@WarnOptionDisabled{#1}}%
2548 }

```

\Hy@WarnOptionDisabled

```

2549 \def\Hy@WarnOptionDisabled#1{%
2550 \Hy@Warning{%
2551 Option '#1' has already been used,\MessageBreak
2552 setting the option has no effect%
2553 }%
2554 }

```

\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.

```

2555 \def\Hy@CheckOptionValue#1#2#3{%
2556 \begingroup
2557 \edef\x{#1}%
2558 \@onelevel@sanitize\x
2559 \let\y=y%
2560 \def\do##1##2{%
2561 \def\z{##1}%
2562 \@onelevel@sanitize\z
2563 \ifx\x\z
2564 \let\y=n%
2565 \let\do\@gobbletwo
2566 \fi
2567 }%
2568 #3%

```

```

2569 \ifx\y y%
2570 \def\do##1##2{%
2571 * '##1'%
2572 \ifx\##2\\\else\space(##2)\fi
2573 \MessageBreak
2574 }%
2575 \Hy@Warning{%
2576 Values of option '#2':\MessageBreak
2577 ##3%
2578 * An empty value disables the option.\MessageBreak
2579 Unknown value '\x'%
2580 }%
2581 \fi
2582 \endgroup
2583 }

```

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

```

2584 \def\Hy@DefNameKey#1{%
2585 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2586 }

```

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

```

2587 \def\Hy@@DefNameKey#1#2#3{%
2588 \define@key{Hyp}{#2}{%
2589 \edef#1{##1}%
2590 \ifx#1\@empty
2591 \else
2592 \Hy@CheckOptionValue{##1}{#2}{#3}%
2593 \fi
2594 }%
2595 \let#1\@empty
2596 }

```

`\Hy@UseNameKey`

```

2597 \def\Hy@UseNameKey#1#2{%
2598 \ifx#2\@empty
2599 \else
2600 /#1/#2%
2601 \fi
2602 }

```

9.2 Defining the options

```

2603 \define@key{Hyp}{implicit}[true]{%
2604 \Hy@boolkey{implicit}{#1}%
2605 }
2606 \define@key{Hyp}{draft}[true]{%
2607 \Hy@boolkey{draft}{#1}%
2608 }
2609 \define@key{Hyp}{final}[true]{%
2610 \Hy@boolkey{final}{#1}%
2611 }

```

```

2612 \let\KV@Hyp@nolinks\KV@Hyp@draft
2613 \def\Hy@ObsoletePaperOption#1{%
2614 \Hy@WarningNoLine{%
2615   Option '#1' is no longer used%
2616 }%
2617 \define@key{Hyp}{#1}[true]{}%
2618 }
2619 \def\Hy@temp#1{%
2620 \define@key{Hyp}{#1}[true]{%
2621 \Hy@ObsoletePaperOption{#1}%
2622 }%
2623 }
2624 \Hy@temp{a4paper}
2625 \Hy@temp{a5paper}
2626 \Hy@temp{b5paper}
2627 \Hy@temp{letterpaper}
2628 \Hy@temp{legalpaper}
2629 \Hy@temp{executivepaper}
2630 \define@key{Hyp}{setpagesize}[true]{%
2631 \Hy@boolkey{setpagesize}{#1}%
2632 }
2633 \define@key{Hyp}{debug}[true]{%
2634 \Hy@boolkey[debug]{verbose}{#1}%
2635 }
2636 \define@key{Hyp}{linktocpage}[true]{%
2637 \Hy@boolkey{linktocpage}{#1}%
2638 \ifHy@linktocpage
2639 \let\Hy@linktoc\Hy@linktoc@page
2640 \else
2641 \let\Hy@linktoc\Hy@linktoc@section
2642 \fi
2643 }
2644 \chardef\Hy@linktoc@none=0 %
2645 \chardef\Hy@linktoc@section=1 %
2646 \chardef\Hy@linktoc@page=2 %
2647 \chardef\Hy@linktoc@all=3 %
2648 \ifHy@linktocpage
2649 \let\Hy@linktoc\Hy@linktoc@page
2650 \else
2651 \let\Hy@linktoc\Hy@linktoc@section
2652 \fi
2653 \define@key{Hyp}{linktoc}{%
2654 \@ifundefined{Hy@linktoc@#1}{%
2655 \Hy@Warning{%
2656   Unexpected value '#1' of\MessageBreak
2657   option 'linktoc' instead of 'none',\MessageBreak
2658   'section', 'page' or 'all'%
2659 }%
2660 }{%
2661 \expandafter\let\expandafter\Hy@linktoc
2662 \csname Hy@linktoc@#1\endcsname
2663 }%
2664 }
2665 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2666 \let\XR@ext\relax
2667 \define@key{Hyp}{verbose}[true]{%
2668 \Hy@boolkey{verbose}{#1}%

```



```

2669 }
2670 \define@key{Hyp}{typexml}[true]{%
2671   \Hy@boolkey{typexml}{#1}%
2672 }

```

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.

```

2673 \define@key{Hyp}{raiselinks}[true]{%
2674   \Hy@boolkey{raiselinks}{#1}%
2675 }

```

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

```

2676 \def\Hy@setbreaklinks#1{%
2677   \csname breaklinks#1\endcsname
2678 }

2679 \def\Hy@breaklinks@unsupported{%
2680   \ifx\Hy@setbreaklinks@gobble
2681     \ifHy@breaklinks
2682       \Hy@WarningNoLine{%
2683         You have enabled option ‘breaklinks’.\MessageBreak
2684         But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2685         Expect trouble with the link areas of broken links%
2686       }%
2687     \fi
2688   \fi
2689 }

```

```

2690 \define@key{Hyp}{breaklinks}[true]{%
2691   \Hy@boolkey{breaklinks}{#1}%
2692   \let\Hy@setbreaklinks@gobble
2693 }

```

```

2694 \define@key{Hyp}{localanchorname}[true]{%
2695   \Hy@boolkey{localanchorname}{#1}%
2696 }

```

Determines whether an automatic anchor is put on each page

```

2697 \define@key{Hyp}{pageanchor}[true]{%
2698   \Hy@boolkey{pageanchor}{#1}%
2699 }

```

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.

```

2700 \define@key{Hyp}{plainpages}[true]{%
2701   \Hy@boolkey{plainpages}{#1}%
2702 }

```

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

```

2703 \define@key{Hyp}{naturalnames}[true]{%
2704   \Hy@boolkey{naturalnames}{#1}%
2705 }

```

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

```

2706 \define@key{Hyp}{hypertexnames}[true]{%
2707   \Hy@boolkey{hypertexnames}{#1}%
2708 }

```

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

```

2709 \define@key{Hyp}{nesting}[true]{%
2710 \Hy@boolkey{nesting}{#1}%
2711 }

2712 \define@key{Hyp}{unicode}[true]{%
2713 \Hy@boolkey{unicode}{#1}%
2714 \ifHy@unicode
2715 \def\HyPsd@pdfencoding{unicode}%
2716 \HyPsd@LoadUnicode
2717 \else
2718 \def\HyPsd@pdfencoding{pdfdoc}%
2719 \fi
2720 }

2721 \def\HyPsd@LoadUnicode{%
2722 \@ifundefined{T@PU}{%
2723 \input{puenc.def}%
2724 \HyLinguex@Restore
2725 }{}%
2726 \DeclareFontFamily{PU}{pdf}{}%
2727 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2728 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2729 \global\let\HyPsd@LoadUnicode\relax
2730 }

2731 \Hy@AtBeginDocument{%
2732 \ifx\HyPsd@LoadUnicode\relax
2733 \else
2734 \def\HyPsd@LoadUnicode{%
2735 \Hy@Error{%
2736 Unicode support for bookmarks is not available.\MessageBreak
2737 Activate unicode support by using one of the options\MessageBreak
2738 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2739 in the preamble%
2740 }\@ehc
2741 \global\let\HyPsd@LoadUnicode\relax
2742 \global\Hy@unicodedefalse
2743 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2744 }%
2745 \fi
2746 }

2747 \define@key{Hyp}{pdfencoding}{%
2748 \edef\HyPsd@temp{#1}%
2749 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2750 \let\HyPsd@pdfencoding\HyPsd@temp
2751 \Hy@unicodedefalse
2752 \else
2753 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2754 \z@
2755 \else
2756 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2757 \z@
2758 \else
2759 \@ne
2760 \fi
2761 \fi
2762 \let\HyPsd@pdfencoding\HyPsd@temp
2763 \hypersetup{unicode}%
2764 \ifHy@unicode
2765 \def\HyPsd@pdfencoding{#1}%

```

```

2766 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2767 \HyPsd@LoadStringEnc
2768 \fi
2769 \else
2770 \Hy@Warning{Cannot switch to unicode bookmarks}%
2771 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2772 \fi
2773 \else
2774 \@onelevel@sanitize\HyPsd@temp
2775 \Hy@Warning{%
2776 Values of option 'pdfencoding':\MessageBreak
2777 'pdfdoc', 'unicode', 'auto'\MessageBreak
2778 Ignoring unknown value '\HyPsd@temp'%
2779 }%
2780 \fi
2781 \fi
2782 }
2783 \def\HyPsd@pdfencoding@auto{auto}
2784 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2785 \def\HyPsd@pdfencoding@unicode{unicode}
2786 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2787 \def\HyPsd@LoadStringEnc{%
2788 \RequirePackage{stringenc}[2009/12/15]%
2789 \let\HyPsd@LoadStringEnc\relax
2790 }
2791 \Hy@AtBeginDocument{%
2792 \@ifpackageloaded{stringenc}{%
2793 \let\HyPsd@LoadStringEnc\relax
2794 }{%
2795 \def\HyPsd@LoadStringEnc{%
2796 \Hy@WarningNoLine{%
2797 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2798 in the preamble or load the package there%
2799 }%
2800 }%
2801 }%
2802 }
2803 \def\hypersetup{\kvsetkeys{Hyp}}
2804 \newif\ifHy@setpdfversion
2805 \define@key{Hyp}{pdfversion}{%
2806 \@ifundefined{Hy@pdfversion@#1}{%
2807 \PackageWarning{hyperref}{%
2808 Unsupported PDF version '#1'\MessageBreak
2809 Valid values: 1.2 until 1.9%
2810 }%
2811 }{%
2812 \Hy@setpdfversiontrue
2813 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2814 }%
2815 }
2816 \@namedef{Hy@pdfversion@1.2}{2}%
2817 \@namedef{Hy@pdfversion@1.3}{3}%
2818 \@namedef{Hy@pdfversion@1.4}{4}%
2819 \@namedef{Hy@pdfversion@1.5}{5}%
2820 \@namedef{Hy@pdfversion@1.6}{6}%
2821 \@namedef{Hy@pdfversion@1.7}{7}%
2822 \@namedef{Hy@pdfversion@1.8}{8}%

```

```

2823 \@namedef{Hy@pdfversion@1.9}{9}%
2824 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2825 \newif\ifHy@DviMode
2826 \let\Hy@DviErrMsg\ltx@empty
2827 \ifpdf
2828 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2829 \else
2830 \ifxetex
2831 \def\Hy@DviErrMsg{XeTeX is running}%
2832 \else
2833 \ifvtex
2834 \ifvtexdvi
2835 \Hy@DviModetrue
2836 \else
2837 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2838 \fi
2839 \else
2840 \Hy@DviModetrue
2841 \fi
2842 \fi
2843 \fi
2844 \def\HyOpt@CheckDvi#1{%
2845 \ifHy@DviMode
2846 \expandafter\ltx@firstofone
2847 \else
2848 \Hy@Error{%
2849 Wrong DVI mode driver option ‘#1’,\MessageBreak
2850 because \Hy@DviErrMsg
2851 }\@ehc
2852 \expandafter\ltx@gobble
2853 \fi
2854 }

2855 \DeclareVoidOption{tex4ht}{%
2856 \Hy@texhttrue
2857 \kvsetkeys{Hyp}{colorlinks=true}%
2858 \def\BeforeTeXIVht{\RequirePackage{color}}}%
2859 \def\Hy@driver{htex4ht}%
2860 \def\MaybeStopEarly{%
2861 \Hy@Message{Stopped early}%
2862 \Hy@AtBeginDocument{%
2863 \PDF@FinishDoc
2864 \gdef\PDF@FinishDoc{}%
2865 }%
2866 \endinput
2867 }%
2868 }

2869 \DeclareVoidOption{pdftex}{%
2870 \ifpdf
2871 \def\Hy@driver{hpdftex}%
2872 \else
2873 \Hy@Error{%
2874 Wrong driver option ‘pdftex’,\MessageBreak
2875 because pdfTeX in PDF mode is not detected%
2876 }\@ehc

```

```

2877 \fi
2878 }
2879 \DeclareVoidOption{nativepdf}{%
2880 \HyOpt@CheckDvi{nativepdf}{%
2881 \def\Hy@driver{hdvips}%
2882 }%
2883 }
2884 \DeclareVoidOption{dvipdfm}{%
2885 \HyOpt@CheckDvi{dvipdfm}{%
2886 \def\Hy@driver{hdvipdfm}%
2887 }%
2888 }
2889 \DeclareVoidOption{dvipdfmx}{%
2890 \HyOpt@CheckDvi{dvipdfmx}{%
2891 \def\Hy@driver{hdvipdfm}%
2892 }%
2893 }
2894 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2895 \expandafter\ifx\csname if#1\expandafter\endcsname
2896 \csname iftrue\endcsname
2897 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2898 \else
2899 \chardef\SpecialDvipdfmxOutlineOpen\z@
2900 \fi
2901 }
2902 \DeclareVoidOption{xetex}{%
2903 \ifxetex
2904 \def\Hy@driver{hxetex}%
2905 \else
2906 \Hy@Error{%
2907 Wrong driver option 'xetex',\MessageBreak
2908 because XeTeX is not detected%
2909 }\@ehc
2910 \fi
2911 }
2912 \DeclareVoidOption{pdfmark}{%
2913 \HyOpt@CheckDvi{pdfmark}{%
2914 \def\Hy@driver{hdvips}%
2915 }%
2916 }
2917 \DeclareVoidOption{dvips}{%
2918 \HyOpt@CheckDvi{dvips}{%
2919 \def\Hy@driver{hdvips}%
2920 }%
2921 }
2922 \DeclareVoidOption{hypertex}{%
2923 \HyOpt@CheckDvi{hypertex}{%
2924 \def\Hy@driver{hypertex}%
2925 }%
2926 }
2927 \let\Hy@MaybeStopNow\relax
2928 \DeclareVoidOption{vtex}{%
2929 \ifvtex
2930 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2931 \def\Hy@driver{hvtex}%
2932 \else
2933 \ifnum\OpMode=10\relax

```

```

2934 \def\Hy@driver{hvtexhtm}%
2935 \def\MaybeStopEarly{%
2936   \Hy@Message{Stopped early}%
2937   \Hy@AtBeginDocument{%
2938     \PDF@FinishDoc
2939     \gdef\PDF@FinishDoc{}}%
2940   }%
2941   \endinput
2942 }%
2943 \else
2944   \Hy@Error{%
2945     Wrong driver option 'vtex',\MessageBreak
2946     because of wrong OpMode (\the\OpMode)%
2947   }\@ehc
2948   \fi
2949 \fi
2950 \else
2951   \Hy@Error{%
2952     Wrong driver option 'vtex',\MessageBreak
2953     because VTeX is not running%
2954   }\@ehc
2955   \fi
2956 }
2957 \DeclareVoidOption{vtexpdfmark}{%
2958   \ifvtex
2959     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2960     \def\Hy@driver{hvtexmrk}%
2961   \else
2962     \Hy@Error{%
2963       Wrong driver option 'vtexpdfmark',\MessageBreak
2964       because of wrong OpMode (\the\OpMode)%
2965     }\@ehc
2966   \fi
2967 \else
2968   \Hy@Error{%
2969     Wrong driver option 'vtexpdfmark,\MessageBreak
2970     because VTeX is not running%
2971   }\@ehc
2972 \fi
2973 }
2974 \DeclareVoidOption{dviwindo}{%
2975   \HyOpt@CheckDvi{dviwindo}{%
2976     \def\Hy@driver{hdviwind}%
2977     \kvsetkeys{Hyp}{colorlinks}%
2978     \PassOptionsToPackage{dviwindo}{color}%
2979   }%
2980 }
2981 \DeclareVoidOption{dvipsone}{%
2982   \HyOpt@CheckDvi{dvipsone}{%
2983     \def\Hy@driver{hdvipson}%
2984   }%
2985 }
2986 \DeclareVoidOption{textures}{%
2987   \HyOpt@CheckDvi{textures}{%
2988     \def\Hy@driver{htexture}%
2989   }%
2990 }

```

```

2991 \DeclareVoidOption{latex2html}{%
2992   \HyOpt@CheckDvi{latex2html}{%
2993     \Hy@AtBeginDocument{\@@@latextohtmlX}%
2994   }%
2995 }

```

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

```

2996 \DeclareVoidOption{ps2pdf}{%
2997   \HyOpt@CheckDvi{ps2pdf}{%
2998     \def\Hy@driver{hdvips}%
2999   }%
3000 }

3001 \let\HyOpt@DriverFallback\tx@empty
3002 \define@key{Hyp}{driverfallback}{%
3003   \ifHy@DviMode
3004     \def\HyOpt@DriverFallback{#1}%
3005     \Hy@Match\HyOpt@DriverFallback{%
3006       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3007         latex2html|tex4ht)$%
3008     }-}{%
3009     \let\HyOpt@DriverFallback\tx@empty
3010   }%
3011 \fi
3012 }

```

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.

```

3013 \define@key{Hyp}{hyperfigures}[true]{%
3014   \Hy@boolkey[hyperfigures]{figures}{#1}%
3015 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3016 \define@key{Hyp}{hyperfootnotes}[true]{%
3017   \Hy@boolkey{hyperfootnotes}{#1}%
3018 }

```

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

```

3019 \def\back@none{none}
3020 \def\back@section{section}
3021 \def\back@page{page}
3022 \def\back@slide{slide}
3023 \define@key{Hyp}{backref}[section]{%
3024   \lowercase{\def\Hy@tempa{#1}}%
3025   \ifx\Hy@tempa\@empty
3026     \let\Hy@tempa\back@section
3027   \fi
3028   \ifx\Hy@tempa\Hy@false
3029     \let\Hy@tempa\back@none
3030   \fi
3031   \ifx\Hy@tempa\back@slide
3032     \let\Hy@tempa\back@section
3033   \fi
3034   \ifx\Hy@tempa\back@page
3035     \PassOptionsToPackage{hyperpageref}{backref}%
3036     \Hy@backreftrue
3037   \else

```

```

3038 \ifx\Hy@tempa\back@section
3039 \PassOptionsToPackage{hyperref}{backref}%
3040 \Hy@backreftrue
3041 \else
3042 \ifx\Hy@tempa\back@none
3043 \Hy@backreffalse
3044 \else
3045 \Hy@WarnOptionValue{#1}{backref}{%
3046 'section', 'slide', 'page', 'none',\MessageBreak
3047 or 'false'}%
3048 \fi
3049 \fi
3050 \fi
3051 }
3052 \define@key{Hyp}{pagebackref}[true]{%
3053 \edef\Hy@tempa{#1}%
3054 \lowercase\expandafter{%
3055 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3056 }%
3057 \ifx\Hy@tempa\@empty
3058 \let\Hy@tempa\Hy>true
3059 \fi
3060 \ifx\Hy@tempa\Hy>true
3061 \PassOptionsToPackage{hyperpageref}{backref}%
3062 \Hy@backreftrue
3063 \else
3064 \ifx\Hy@tempa\Hy>false
3065 \Hy@backreffalse
3066 \else
3067 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3068 \fi
3069 \fi
3070 }

```

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

```

3071 \define@key{Hyp}{hyperindex}[true]{%
3072 \Hy@boolkey{hyperindex}{#1}%
3073 }

```

Configuration of encap char.

```

3074 \define@key{Hyp}{encap}[|]{%
3075 \def\HyInd@EncapChar{#1}%
3076 }

```

12 Language options

The `\autoref` feature depends on the language.

```

3077 \def\HyLang@afrikaans{%
3078 \def\equationautorefname{Vergelyking}%
3079 \def\footnoteautorefname{Voetnota}%
3080 \def\itemautorefname{Item}%
3081 \def\figureautorefname{Figuur}%
3082 \def\tableautorefname{Tabel}%
3083 \def\partautorefname{Deel}%
3084 \def\appendixautorefname{Bylae}%
3085 \def\chapterautorefname{Hoofstuk}%

```



```

3086 \def\sectionautorefname{Afdeling}%
3087 \def\subsectionautorefname{Subafdeling}%
3088 \def\subsubsectionautorefname{Subsubafdeling}%
3089 \def\paragraphautorefname{Paragraaf}%
3090 \def\subparagraphautorefname{Subparagraaf}%
3091 \def\FancyVerbLineautorefname{Lyn}%
3092 \def\theoremautorefname{Teorema}%
3093 \def\pageautorefname{Bladsy}%
3094 }
3095 \def\HyLang@english{%
3096 \def\equationautorefname{Equation}%
3097 \def\footnoteautorefname{footnote}%
3098 \def\itemautorefname{item}%
3099 \def\figureautorefname{Figure}%
3100 \def\tableautorefname{Table}%
3101 \def\partautorefname{Part}%
3102 \def\appendixautorefname{Appendix}%
3103 \def\chapterautorefname{chapter}%
3104 \def\sectionautorefname{section}%
3105 \def\subsectionautorefname{subsection}%
3106 \def\subsubsectionautorefname{subsubsection}%
3107 \def\paragraphautorefname{paragraph}%
3108 \def\subparagraphautorefname{subparagraph}%
3109 \def\FancyVerbLineautorefname{line}%
3110 \def\theoremautorefname{Theorem}%
3111 \def\pageautorefname{page}%
3112 }
3113 \def\HyLang@french{%
3114 \def\equationautorefname{'Equation}%
3115 \def\footnoteautorefname{note}%
3116 \def\itemautorefname{item}%
3117 \def\figureautorefname{Figure}%
3118 \def\tableautorefname{Tableau}%
3119 \def\partautorefname{Partie}%
3120 \def\appendixautorefname{Appendice}%
3121 \def\chapterautorefname{chapitre}%
3122 \def\sectionautorefname{section}%
3123 \def\subsectionautorefname{sous-section}%
3124 \def\subsubsectionautorefname{sous-sous-section}%
3125 \def\paragraphautorefname{paragraphe}%
3126 \def\subparagraphautorefname{sous-paragraphe}%
3127 \def\FancyVerbLineautorefname{ligne}%
3128 \def\theoremautorefname{Th'eor\`eme}%
3129 \def\pageautorefname{page}%
3130 }
3131 \def\HyLang@german{%
3132 \def\equationautorefname{Gleichung}%
3133 \def\footnoteautorefname{Fu\ss note}%
3134 \def\itemautorefname{Punkt}%
3135 \def\figureautorefname{Abbildung}%
3136 \def\tableautorefname{Tabelle}%
3137 \def\partautorefname{Teil}%
3138 \def\appendixautorefname{Anhang}%
3139 \def\chapterautorefname{Kapitel}%
3140 \def\sectionautorefname{Abschnitt}%
3141 \def\subsectionautorefname{Unterabschnitt}%
3142 \def\subsubsectionautorefname{Unterunterabschnitt}%

```

```

3143 \def\paragraphautorefname{Absatz}%
3144 \def\subparagraphautorefname{Unterabsatz}%
3145 \def\FancyVerbLineautorefname{Zeile}%
3146 \def\theoremautorefname{Theorem}%
3147 \def\pageautorefname{Seite}%
3148 }
3149 \def\HyLang@italian{%
3150 \def\equationautorefname{Equazione}%
3151 \def\footnoteautorefname{nota}%
3152 \def\itemautorefname{punto}%
3153 \def\figureautorefname{Figura}%
3154 \def\tableautorefname{Tabella}%
3155 \def\partautorefname{Parte}%
3156 \def\appendixautorefname{Appendice}%
3157 \def\chapterautorefname{Capitolo}%
3158 \def\sectionautorefname{sezione}%
3159 \def\subsectionautorefname{sottosezione}%
3160 \def\subsubsectionautorefname{sottosottosezione}%
3161 \def\paragraphautorefname{paragrafo}%
3162 \def\subparagraphautorefname{sottoparagrafo}%
3163 \def\FancyVerbLineautorefname{linea}%
3164 \def\theoremautorefname{Teorema}%
3165 \def\pageautorefname{Pag.\@}%
3166 }
3167 \def\HyLang@magyar{%
3168 \def\equationautorefname{Egyenlet}%
3169 \def\footnoteautorefname{!\'abjegyzet}%
3170 \def\itemautorefname{Elem}%
3171 \def\figureautorefname{\'Abra}%
3172 \def\tableautorefname{T\'abl\'azat}%
3173 \def\partautorefname{R\'esz}%
3174 \def\appendixautorefname{F\'uggel\'ek}%
3175 \def\chapterautorefname{fejezet}%
3176 \def\sectionautorefname{szakasz}%
3177 \def\subsectionautorefname{alszakasz}%
3178 \def\subsubsectionautorefname{alalszakasz}%
3179 \def\paragraphautorefname{bekezd\'es}%
3180 \def\subparagraphautorefname{albekezd\'es}%
3181 \def\FancyVerbLineautorefname{sor}%
3182 \def\theoremautorefname{T\'etel}%
3183 \def\pageautorefname{oldal}%
3184 }
3185 \def\HyLang@portuges{%
3186 \def\equationautorefname{Equa\c c\~ao}%
3187 \def\footnoteautorefname{Nota de rodap\'e}%
3188 \def\itemautorefname{Item}%
3189 \def\figureautorefname{Figura}%
3190 \def\tableautorefname{Tabela}%
3191 \def\partautorefname{Parte}%
3192 \def\appendixautorefname{Ap\^endice}%
3193 \def\chapterautorefname{Cap\'itulo}%
3194 \def\sectionautorefname{Se\c c\~ao}%
3195 \def\subsectionautorefname{Subse\c c\~ao}%
3196 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3197 \def\paragraphautorefname{par\'agrafo}%
3198 \def\subparagraphautorefname{subpar\'agrafo}%
3199 \def\FancyVerbLineautorefname{linha}%

```


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.

```
3224 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrI.}%
3225 % \def\appendixautorefname{%
3226 % \cyr\cyrp\cyrr\cyri\cyrI\cyro\cyrz\cyre\cyrn\cyri\cyre
3227 % }%
```

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.

```
3228 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3229 \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.

```
3230 \def\paragraphautorefname{\cyr\cyrp.}%
3231 \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.

```
3232 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3233 % \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.

```
3234 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3235 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3236 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3237 % \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 ...

```
3238 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3239 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3240 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3241 \def\pageautorefname{\cyr\cyrs.}%
3242 }
```

```
3243 \def\HyLang@spanish{%
3244 \def\equationautorefname{Ecuaci'on}%
3245 \def\footnoteautorefname{Nota a pie de p'agina}%
3246 \def\itemautorefname{Elemento}%
3247 \def\figureautorefname{Figura}%
3248 \def\tableautorefname{Tabla}%
3249 \def\partautorefname{Parte}%
```

```

3250 \def\appendixautorefname{Ap\'endice}%
3251 \def\chapterautorefname{Cap\'itulo}%
3252 \def\sectionautorefname{Secci\'on}%
3253 \def\subsectionautorefname{Subsecci\'on}%
3254 \def\subsubsectionautorefname{Subsubsecci\'on}%
3255 \def\paragraphautorefname{P\'arrafo}%
3256 \def\subparagraphautorefname{Subp\'arrafo}%
3257 \def\FancyVerbLineautorefname{L\'inea}%
3258 \def\theoremautorefname{Teorema}%
3259 \def\pageautorefname{P\'agina}%
3260 }
3261 \def\HyLang@vietnamese{%
3262 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr\'inh}%
3263 \def\footnoteautorefname{Ch\'u th\'ich}%
3264 \def\itemautorefname{m\du{c}}%
3265 \def\figureautorefname{H\'inh}%
3266 \def\tableautorefname{B\h{a}ng}%
3267 \def\partautorefname{Ph\'acircumflex{}n}%
3268 \def\appendixautorefname{Ph\du{l}\du{c}}%
3269 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
3270 \def\sectionautorefname{m\du{c}}%
3271 \def\subsectionautorefname{m\du{c}}%
3272 \def\subsubsectionautorefname{m\du{c}}%
3273 \def\paragraphautorefname{\dj{}}od{a}n}%
3274 \def\subparagraphautorefname{\dj{}}od{a}n}%
3275 \def\FancyVerbLineautorefname{d\'ong}%
3276 \def\theoremautorefname{\DJ{}}\di{nh l\'y}%
3277 \def\pageautorefname{Trang}%
3278 }

```

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

```

3279 \def\HyLang@addto#1#2{%
3280 #2%
3281 \@temptokena{#2}%
3282 \ifx#1\relax
3283 \let#1\@empty
3284 \fi
3285 \ifx#1\@undefined
3286 \edef#1{\the\@temptokena}%
3287 \else
3288 \toks@\expandafter{#1}%
3289 \edef#1{\the\toks@\the\@temptokena}%
3290 \fi
3291 \@temptokena{ }\toks@\@temptokena
3292 }
3293 \def\HyLang@DeclareLang#1#2#3{%
3294 \@ifpackagewith{babel}{#1}{%
3295 \expandafter\HyLang@addto
3296 \csname extras#1\expandafter\endcsname
3297 \csname HyLang@#2\endcsname
3298 \begingroup
3299 \edef\x{\endgroup
3300 #3%
3301 }%
3302 \x
3303 \@namedef{HyLang@#1@done}{}%

```

```

3304 }{}%
3305 \begingroup
3306 \edef\x###1##2{%
3307   \noexpand\ifx###2\relax
3308     \errmessage{No definitions for language #2' found!}%
3309   \noexpand\fi
3310 \endgroup
3311 \noexpand\define@key{Hyp}{#1}[]{}%
3312 \noexpand\@ifundefined{HyLang@#1@done}{}%
3313 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3314 #3%
3315 \noexpand\@namedef{HyLang@#1@done}{}%
3316 }{}%
3317 }%
3318 }%
3319 \expandafter\x\csname extras#1\expandafter\endcsname
3320 \csname HyLang@#2\endcsname
3321 }
3322 \HyLang@DeclareLang{english}{english}{}
3323 \HyLang@DeclareLang{UKenglish}{english}{}
3324 \HyLang@DeclareLang{british}{english}{}
3325 \HyLang@DeclareLang{USenglish}{english}{}
3326 \HyLang@DeclareLang{american}{english}{}
3327 \HyLang@DeclareLang{german}{german}{}
3328 \HyLang@DeclareLang{austrian}{german}{}
3329 \HyLang@DeclareLang{ngerman}{german}{}
3330 \HyLang@DeclareLang{naustrian}{german}{}
3331 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3332 \HyLang@DeclareLang{brazil}{portuges}{}
3333 \HyLang@DeclareLang{brazilian}{portuges}{}
3334 \HyLang@DeclareLang{portuguese}{portuges}{}
3335 \HyLang@DeclareLang{spanish}{spanish}{}
3336 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3337 \HyLang@DeclareLang{french}{french}{}
3338 \HyLang@DeclareLang{frenchb}{french}{}
3339 \HyLang@DeclareLang{français}{french}{}
3340 \HyLang@DeclareLang{acadian}{french}{}
3341 \HyLang@DeclareLang{canadien}{french}{}
3342 \HyLang@DeclareLang{italian}{italian}{}
3343 \HyLang@DeclareLang{magyar}{magyar}{}
3344 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3345 \DeclareVoidOption{vietnamese}{}%
3346 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3347 \Hy@AtEndOfPackage{}%
3348 \@ifundefined{T@PU}{}{}%
3349 \input{pvnenc.def}%
3350 }%
3351 }%
3352 }
3353 \DeclareVoidOption{vietnam}{}%
3354 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3355 \Hy@AtEndOfPackage{}%
3356 \@ifundefined{T@PU}{}{}%
3357 \input{pvnenc.def}%
3358 }%
3359 }%

```

```
3360 }
```

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

```
3361 \DeclareVoidOption{arabic}{%
3362 \Hy@AtEndOfPackage{%
3363 \@ifundefined{T@PU}{}{%
3364 \input{puarenc.def}%
3365 }%
3366 }%
3367 }
```

13 Options to change appearance of links

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

```
3368 \define@key{Hyp}{colorlinks}[true]{%
3369 \Hy@boolkey{colorlinks}{#1}%
3370 }
3371 \DeclareVoidOption{hidelinks}{%
3372 \Hy@colorlinksfalse
3373 \Hy@ocgcolorlinksfalse
3374 \Hy@frenchlinksfalse
3375 \def\Hy@colorlink##1{\begingroup}%
3376 \def\Hy@endcolorlink{\endgroup}%
3377 \def\@pdfborder{0 0 0}%
3378 \let\@pdfborderstyle\ltx@empty
3379 }
3380 \define@key{Hyp}{ocgcolorlinks}[true]{%
3381 \Hy@boolkey{ocgcolorlinks}{#1}%
3382 }
3383 \Hy@AtBeginDocument{%
3384 \begingroup
3385 \@ifundefined{OBJ@OCG@view}{%
3386 \ifHy@ocgcolorlinks
3387 \Hy@Warning{%
3388 Driver does not support 'ocgcolorlinks',\MessageBreak
3389 using 'colorlinks' instead%
3390 }%
3391 \fi
3392 }{}%
3393 \endgroup
3394 }
3395 \define@key{Hyp}{frenchlinks}[true]{%
3396 \Hy@boolkey{frenchlinks}{#1}%
3397 }
```

14 Bookmarking

```
3398 \begingroup\expandafter\expandafter\expandafter\endgroup
3399 \expandafter\ifx\csname chapter\endcsname\relax
3400 \def\toclevel@part{0}%
3401 \else
3402 \def\toclevel@part{-1}%
3403 \fi
3404 \def\toclevel@chapter{0}
3405 \def\toclevel@section{1}
```

```

3406 \def\toclevel@subsection{2}
3407 \def\toclevel@subsubsection{3}
3408 \def\toclevel@paragraph{4}
3409 \def\toclevel@subparagraph{5}
3410 \def\toclevel@figure{0}
3411 \def\toclevel@table{0}
3412 \@ifpackageloaded{listings}{%
3413   \providecommand*\theHlstlisting{\thelstlisting}%
3414   \providecommand*\toclevel@lstlisting{0}%
3415 }{}
3416 \@ifpackageloaded{listing}{%
3417   \providecommand*\theHlisting{\thelisting}%
3418   \providecommand*\toclevel@listing{0}%
3419 }{}

3420 \define@key{Hyp}{bookmarks}[true]{%
3421   \Hy@boolkey{bookmarks}{#1}%
3422 }

3423 \define@key{Hyp}{bookmarksopen}[true]{%
3424   \Hy@boolkey{bookmarksopen}{#1}%
3425 }

```

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.

```

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

```



```

3451 }%
3452 \fi
3453 \endgroup
3454 }

```

'bookmarksopenlevel' to specify the open level. From Heiko Oberdiek.

```

3455 \define@key{Hyp}{bookmarksopenlevel}{%
3456 \def\@bookmarksopenlevel{#1}%
3457 }
3458 \def\@bookmarksopenlevel{\maxdimen}
3459 % 'bookmarkstype' to specify which 'toc' file to mimic
3460 \define@key{Hyp}{bookmarkstype}{%
3461 \def\Hy@bookmarkstype{#1}%
3462 }
3463 \def\Hy@bookmarkstype{toc}

```

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

```

3464 \define@key{Hyp}{bookmarksnumbered}[true]{%
3465 \Hy@boolkey{bookmarksnumbered}{#1}%
3466 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3467 \define@key{Hyp}{CJKbookmarks}[true]{%
3468 \Hy@boolkey{CJKbookmarks}{#1}%
3469 }

3470 \def\Hy@temp#1{%
3471 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3472 }
3473 \def\Hy@@temp#1#2#3{%
3474 \define@key{Hyp}{#2color}{%
3475 \HyColor@HyperrefColor{##1}#1%
3476 }%
3477 \def#1{#3}%
3478 }
3479 \Hy@temp{link}{red}
3480 \Hy@temp{anchor}{black}
3481 \Hy@temp{cite}{green}
3482 \Hy@temp{file}{cyan}
3483 \Hy@temp{url}{magenta}
3484 \Hy@temp{menu}{red}
3485 \Hy@temp{run}{\@filecolor}
3486 \define@key{Hyp}{pagecolor}{%
3487 \Hy@WarningPageColor
3488 }
3489 \def\Hy@WarningPageColor{%
3490 \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3491 \global\let\Hy@WarningPageColor\relax
3492 }
3493 \define@key{Hyp}{allcolors}{%
3494 \HyColor@HyperrefColor{#1}\@linkcolor
3495 \HyColor@HyperrefColor{#1}\@anchorcolor
3496 \HyColor@HyperrefColor{#1}\@citecolor
3497 \HyColor@HyperrefColor{#1}\@filecolor
3498 \HyColor@HyperrefColor{#1}\@urlcolor
3499 \HyColor@HyperrefColor{#1}\@menucolor
3500 \HyColor@HyperrefColor{#1}\@runcolor
3501 }

```

```

3502 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3503 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3504 \let\@baseurl\@empty
3505 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3506 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3507 \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.

```

3508 \let\@pdfpagetransition\relax
3509 \define@key{Hyp}{pdfpagetransition}{%
3510 \def\@pdfpagetransition{#1}%
3511 }

```

`\@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.

```

3512 \let\@pdfpageduration\relax
3513 \define@key{Hyp}{pdfpageduration}{%
3514 \def\@pdfpageduration{#1}%
3515 \Hy@Match\@pdfpageduration{%
3516 ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3517 }-}{%
3518 \Hy@Warning{%
3519 Invalid value '\@pdfpageduration'\MessageBreak
3520 of option 'pdfpageduration'\MessageBreak
3521 is replaced by an empty value%
3522 }%
3523 \let\@pdfpageduration\ltx@empty
3524 }%
3525 }

```

The entry for the `/Hid` key in the page object is only necessary, if it is used and set to true for at least one time. If it is always false, then the `/Hid` key is not written to the pdf page object in order not to enlarge the pdf file.

```

3526 \newif\ifHy@useHidKey
3527 \Hy@useHidKeyfalse
3528 \define@key{Hyp}{pdfpagehidden}[true]{%
3529 \Hy@boolkey{pdfpagehidden}{#1}%
3530 \ifHy@pdfpagehidden
3531 \global\Hy@useHidKeytrue
3532 \fi
3533 }

```

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).

```

3534 \def\Hy@ColorList{cite,file,link,menu,run,url}

```

```

3535 \@for\Hy@temp:=\Hy@ColorList\do{%
3536   \edef\Hy@temp{%
3537     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3538       \noexpand\HyColor@HyperrefBorderColor
3539         {##1}%
3540       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3541         {hyperref}%
3542       {\Hy@temp bordercolor}%
3543     }%
3544   }%
3545   \Hy@temp
3546 }
3547 \define@key{Hyp}{pagebordercolor}{%
3548   \Hy@WarningPageBorderColor
3549 }
3550 \def\Hy@WarningPageBorderColor{%
3551   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3552   \global\let\Hy@WarningPageBorderColor\relax
3553 }
3554 \define@key{Hyp}{allbordercolors}{%
3555   \def\Hy@temp##1##2{%
3556     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3557   }%
3558   \Hy@temp\@citebordercolor{cite}%
3559   \Hy@temp\@filebordercolor{file}%
3560   \Hy@temp\@linkbordercolor{link}%
3561   \Hy@temp\@menubordercolor{menu}%
3562   \Hy@temp\@runbordercolor{run}%
3563   \Hy@temp\@urlbordercolor{url}%
3564 }

3565 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3566 \Hy@DefNameKey{pdfhighlight}{%
3567   \do{/I}{Invert}%
3568   \do{/N}{None}%
3569   \do{/O}{Outline}%
3570   \do{/P}{Push}%
3571 }
3572 \define@key{Hyp}{pdfborder}{%
3573   \let\Hy@temp\@pdfborder
3574   \def\@pdfborder{#1}%
3575   \Hy@Match\@pdfborder{%
3576     ^\HyPat@NonNegativeReal/ %
3577     \HyPat@NonNegativeReal/ %
3578     \HyPat@NonNegativeReal/%
3579     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*]?$%
3580   }-}{%
3581     \Hy@Warning{%
3582       Invalid value '\@pdfborder'\MessageBreak
3583       for option 'pdfborder'\MessageBreak
3584       Option setting is ignored%
3585     }%
3586     \let\@pdfborder\Hy@temp
3587   }%
3588 }
3589 \define@key{Hyp}{pdfborderstyle}{%
3590   \let\Hy@temp\@pdfborderstyle
3591   \def\@pdfborderstyle{#1}%

```

```

3592 \Hy@Match\@pdfborderstyle{%
3593   ~%
3594   ( */Type */Border%
3595   | */W +\HyPat@NonNegativeReal/%
3596   | */S */[SDBIU]%
3597   | */D *[\ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]?%
3598   )* *$%
3599 }{}-%
3600 \Hy@Warning{%
3601   Invalid value '\@pdfborderstyle'\MessageBreak
3602   for option 'pdfborderstyle'\MessageBreak
3603   Option setting is ignored%
3604 }%
3605 \let\@pdfborderstyle\Hy@temp
3606 }%
3607 }
3608 \def\Hy@setpdfborder{%
3609 \ifx\@pdfborder\@empty
3610 \else
3611   /Border[\@pdfborder]%
3612 \fi
3613 \ifx\@pdfborderstyle\@empty
3614 \else
3615   /BS<<\@pdfborderstyle>>%
3616 \fi
3617 }
3618 \Hy@DefNameKey{pdfpagemode}{%
3619 \do{UseNone}{}%
3620 \do{UseOutlines}{}%
3621 \do{UseThumbs}{}%
3622 \do{FullScreen}{}%
3623 \do{UseOC}{PDF 1.5}%
3624 \do{UseAttachments}{PDF 1.6}%
3625 }
3626 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3627 \do{UseNone}{}%
3628 \do{UseOutlines}{}%
3629 \do{UseThumbs}{}%
3630 \do{FullScreen}{}%
3631 \do{UseOC}{PDF 1.5}%
3632 \do{UseAttachments}{PDF 1.6}%
3633 }
3634 \Hy@DefNameKey{pdfdirection}{%
3635 \do{L2R}{Left to right}%
3636 \do{R2L}{Right to left}%
3637 }
3638 \Hy@DefNameKey{pdfviewarea}{%
3639 \do{MediaBox}{}%
3640 \do{CropBox}{}%
3641 \do{BleedBox}{}%
3642 \do{TrimBox}{}%
3643 \do{ArtBox}{}%
3644 }
3645 \Hy@DefNameKey{pdfviewclip}{%
3646 \do{MediaBox}{}%
3647 \do{CropBox}{}%
3648 \do{BleedBox}{}%

```

```

3649 \do{TrimBox}{}%
3650 \do{ArtBox}{}%
3651 }
3652 \Hy@DefNameKey{pdfprintarea}{%
3653 \do{MediaBox}{}%
3654 \do{CropBox}{}%
3655 \do{BleedBox}{}%
3656 \do{TrimBox}{}%
3657 \do{ArtBox}{}%
3658 }
3659 \Hy@DefNameKey{pdfprintclip}{%
3660 \do{MediaBox}{}%
3661 \do{CropBox}{}%
3662 \do{BleedBox}{}%
3663 \do{TrimBox}{}%
3664 \do{ArtBox}{}%
3665 }
3666 \Hy@DefNameKey{pdfprintscaling}{%
3667 \do{AppDefault}{}%
3668 \do{None}{}%
3669 }
3670 \Hy@DefNameKey{pdfduplex}{%
3671 \do{Simplex}{}%
3672 \do{DuplexFlipShortEdge}{}%
3673 \do{DuplexFlipLongEdge}{}%
3674 }
3675 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3676 \do{true}{}%
3677 \do{false}{}%
3678 }
3679 \define@key{Hyp}{pdfprintpagerange}{%
3680 \def\@pdfprintpagerange{#1}%
3681 }
3682 \Hy@DefNameKey{pdfnumcopies}{%
3683 \do{2}{two copies}%
3684 \do{3}{three copies}%
3685 \do{4}{four copies}%
3686 \do{5}{five copies}%
3687 }
3688 \define@key{Hyp}{pdfusetitle}[true]{%
3689 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3690 }
3691 \def\HyXeTeX@CheckUnicode{%
3692 \ifxetex
3693 \ifHy@unicode
3694 \else
3695 \Hy@WarningNoLine{%
3696 XeTeX driver only supports unicode.\MessageBreak
3697 Enabling option 'unicode'%
3698 }%
3699 \kvsetkeys{Hyp}{unicode}%
3700 \fi
3701 \else
3702 \let\HyXeTeX@CheckUnicode\relax
3703 \fi
3704 }
3705 \def\HyPsd@PrerenderUnicode#1{%

```

```

3706 \begingroup
3707 \expandafter\ifx\cscname PrerenderUnicode\endcsname\relax
3708 \else
3709 \sbox0{%
3710 \let\GenericInfo\@gobbletwo
3711 \let\GenericWarning\@gobbletwo
3712 \let\GenericError\@gobblefour
3713 \PrerenderUnicode{#1}%
3714 }%
3715 \fi
3716 \endgroup
3717 }
3718 \define@key{Hyp}{pdftitle}{%
3719 \HyXeTeX@CheckUnicode
3720 \HyPsd@XeTeXBigCharstrue
3721 \HyPsd@PrerenderUnicode{#1}%
3722 \pdfstringdef\@pdftitle{#1}%
3723 }
3724 \define@key{Hyp}{pdfauthor}{%
3725 \HyXeTeX@CheckUnicode
3726 \HyPsd@XeTeXBigCharstrue
3727 \HyPsd@PrerenderUnicode{#1}%
3728 \pdfstringdef\@pdfauthor{#1}%
3729 }
3730 \define@key{Hyp}{pdfproducer}{%
3731 \HyXeTeX@CheckUnicode
3732 \HyPsd@XeTeXBigCharstrue
3733 \HyPsd@PrerenderUnicode{#1}%
3734 \pdfstringdef\@pdfproducer{#1}%
3735 }
3736 \define@key{Hyp}{pdfcreator}{%
3737 \HyXeTeX@CheckUnicode
3738 \HyPsd@XeTeXBigCharstrue
3739 \HyPsd@PrerenderUnicode{#1}%
3740 \pdfstringdef\@pdfcreator{#1}%
3741 }
3742 \define@key{Hyp}{pdfcreationdate}{%
3743 \begingroup
3744 \Hy@unicodedefalse
3745 \pdfstringdef\@pdfcreationdate{#1}%
3746 \endgroup
3747 }
3748 \define@key{Hyp}{pdfmoddate}{%
3749 \begingroup
3750 \Hy@unicodedefalse
3751 \pdfstringdef\@pdfmoddate{#1}%
3752 \endgroup
3753 }
3754 \define@key{Hyp}{pdfsubject}{%
3755 \HyXeTeX@CheckUnicode
3756 \HyPsd@XeTeXBigCharstrue
3757 \HyPsd@PrerenderUnicode{#1}%
3758 \pdfstringdef\@pdfsubject{#1}%
3759 }
3760 \define@key{Hyp}{pdfkeywords}{%
3761 \HyXeTeX@CheckUnicode
3762 \HyPsd@XeTeXBigCharstrue

```

```

3763 \HyPsd@PrerenderUnicode{#1}%
3764 \pdfstringdef\@pdfkeywords{#1}%
3765 }
3766 \define@key{Hyp}{pdftrapped}{%
3767 \lowercase{\edef\Hy@temp{#1}}%
3768 \ifx\Hy@temp\HyInfo@trapped@true
3769 \def\@pdftrapped{True}%
3770 \else
3771 \ifx\Hy@temp\HyInfo@trapped@false
3772 \def\@pdftrapped{False}%
3773 \else
3774 \ifx\Hy@temp\HyInfo@trapped@unknown
3775 \def\@pdftrapped{Unknown}%
3776 \else
3777 \ifx\Hy@temp\@empty
3778 \else
3779 \Hy@Warning{%
3780 Unsupported value '#1'\MessageBreak
3781 for option 'pdftrapped'%
3782 }%
3783 \fi
3784 \def\@pdftrapped{}%
3785 \fi
3786 \fi
3787 \fi
3788 }
3789 \def\HyInfo@trapped@true{true}
3790 \def\HyInfo@trapped@false{false}
3791 \def\HyInfo@trapped@unknown{unknown}
3792 \def\HyInfo@TrappedUnsupported{%
3793 \ifx\@pdftrapped\@empty
3794 \else
3795 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3796 \gdef\HyInfo@TrappedUnsupported{}%
3797 \fi
3798 }
3799 \define@key{Hyp}{pdffinfo}{%
3800 \kvsetkeys{pdffinfo}{#1}%
3801 }
3802 \def\Hy@temp#1{%
3803 \lowercase{\Hy@temp@A{#1}}{#1}%
3804 }
3805 \def\Hy@temp@A#1#2{%
3806 \define@key{pdffinfo}{#2}{%
3807 \hypersetup{pdf#1={##1}}%
3808 }%
3809 }
3810 \Hy@temp{Title}
3811 \Hy@temp{Author}
3812 \Hy@temp{Keywords}
3813 \Hy@temp{Subject}
3814 \Hy@temp{Creator}
3815 \Hy@temp{Producer}
3816 \Hy@temp{CreationDate}
3817 \Hy@temp{ModDate}
3818 \Hy@temp{Trapped}
3819 \newif\ifHyInfo@AddonUnsupported

```

```

3820 \kv@set@family@handler{pdfinfo}{%
3821   \HyInfo@AddonHandler{#1}{#2}%
3822 }
3823 \let\HyInfo@do\relax
3824 \def\HyInfo@AddonHandler#1#2{%
3825   \ifx\kv@value\relax
3826     \Hy@Warning{%
3827       Option 'pdfinfo': ignoring key '\kv@key' without value%
3828     }%
3829   \else
3830     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3831     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3832     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3833     \ifHyInfo@AddonUnsupported
3834       \Hy@Warning{%
3835         This driver does not support additional\MessageBreak
3836         information entries, therefore\MessageBreak
3837         '\kv@key' is ignored%
3838       }%
3839     \else
3840       \define@key{pdfinfo}{\HyInfo@Key}{%
3841         \HyXeTeX@CheckUnicode
3842         \HyPsd@XeTeXBigCharstrue
3843         \HyPsd@PrerenderUnicode{##1}%
3844         \pdfstringdef\HyInfo@Value{##1}%
3845         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3846         \HyInfo@Value
3847       }%
3848     \edef\HyInfo@AddonList{%
3849       \HyInfo@AddonList
3850       \HyInfo@do{\HyInfo@Key}%
3851     }%
3852     \kv@parse@normalized{%
3853       \HyInfo@Key={#2}%
3854     }{%
3855       \kv@processor@default{pdfinfo}%
3856     }%
3857     \fi
3858   \else
3859     \kv@parse@normalized{%
3860       \HyInfo@Key={#2}%
3861     }{%
3862       \kv@processor@default{pdfinfo}%
3863     }%
3864     \fi
3865   \fi
3866 }
3867 \def\HyInfo@GenerateAddons{%
3868   \ifHyInfo@AddonUnsupported
3869     \def\HyInfo@Addons{}%
3870   \else
3871     \begingroup
3872     \toks@{}%
3873     \def\HyInfo@do##1{%
3874       \EdefEscapeName\HyInfo@Key{##1}%
3875     \edef\x{%
3876       \toks@{%

```



```

3877     \the\toks@
3878     /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3879     }%
3880     }%
3881     \x
3882     }%
3883     \HyInfo@AddonList
3884     \edef\x{\endgroup
3885     \def\noexpand\HyInfo@Addons{\the\toks@}%
3886     }%
3887     \x
3888     \fi
3889 }
3890 \def\HyInfo@AddonList{}

391 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
392 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
393 \let\setpdfinkmargin\@gobble
394 \def\calculate@pdfview#1 #2\{\%
395 \def\@pdfview{#1}%
396 \ifx\#2\%
397 \def\@pdfviewparams{-32768}%
398 \else
399 \def\@pdfviewparams{#2}%
400 \fi
401 }
402 \begingroup\expandafter\expandafter\expandafter\endgroup
403 \expandafter\ifx\csname numexpr\endcsname\relax
404 \def\Hy@number#1{%
405 \expandafter\@firstofone\expandafter{\number#1}%
406 }%
407 \else
408 \def\Hy@number#1{%
409 \the\numexpr#1\relax
410 }%
411 \fi
412 \define@key{Hyp}{pdfstartpage}{%
413 \ifx\#1\%
414 \def\@pdfstartpage{}%
415 \else
416 \edef\@pdfstartpage{\Hy@number{#1}}%
417 \fi
418 }%
419 \define@key{Hyp}{pdfstartview}{%
420 \ifx\#1\%
421 \def\@pdfstartview{}%
422 \else
423 \hypercalcbpdef\@pdfstartview{/#1}%
424 \fi
425 }
426 \def\HyPat@NonNegativeReal/{%
427 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
428 }
429 \define@key{Hyp}{pdfremotestartview}{%
430 \ifx\#1\%
431 \def\@pdfremotestartview{/Fit}%
432 \else
433 \hypercalcbpdef\@pdfremotestartview{#1}%

```

```

3934 \edef\@pdfremotestartview{\@pdfremotestartview}%
3935 \Hy@Match\@pdfremotestartview{%
3936   ~(XYZ -?(null|\HyPat@NonNegativeReal/) %
3937     -?(null|\HyPat@NonNegativeReal/) %
3938     (null|\HyPat@NonNegativeReal/)|%
3939     Fit(|B|%
3940     (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3941     R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3942     \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3943   )}$%
3944 }-{}{%
3945   \Hy@Warning{%
3946     Invalid value '\@pdfremotestartview'\MessageBreak
3947     of 'pdfremotestartview'\MessageBreak
3948     is replaced by 'Fit'%
3949   }%
3950   \let\@pdfremotestartview\@empty
3951 }%
3952 \ifx\@pdfremotestartview\@empty
3953   \def\@pdfremotestartview{/Fit}%
3954 \else
3955   \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3956 \fi
3957 \fi
3958 }
3959 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3960 \define@key{Hyp}{pdftoolbar}[true]{%
3961   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3962 }
3963 \define@key{Hyp}{pdfmenubar}[true]{%
3964   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3965 }
3966 \define@key{Hyp}{pdfwindowui}[true]{%
3967   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3968 }
3969 \define@key{Hyp}{pdffitwindow}[true]{%
3970   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3971 }
3972 \define@key{Hyp}{pdfcenterwindow}[true]{%
3973   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3974 }
3975 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3976   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3977 }
3978 \define@key{Hyp}{pdfa}[true]{%
3979   \Hy@boolkey[pdfa]{#1}%
3980 }
3981 \define@key{Hyp}{pdfnewwindow}[true]{%
3982   \def\Hy@temp{#1}%
3983   \ifx\Hy@temp\@empty
3984     \Hy@newwindowsetfalse
3985   \else
3986     \Hy@newwindowsettrue
3987     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3988   \fi
3989 }
3990 \def\Hy@SetNewWindow{%

```

```

3991 \ifHy@newwindowset
3992 /NewWindow %
3993 \ifHy@newwindow true\else false\fi
3994 \fi
3995 }
3996 \Hy@DefNameKey{pdfpagelayout}{%
3997 \do{SinglePage}{}%
3998 \do{OneColumn}{}%
3999 \do{TwoColumnLeft}{}%
4000 \do{TwoColumnRight}{}%
4001 \do{TwoPageLeft}{PDF 1.5}%
4002 \do{TwoPageRight}{PDF 1.5}%
4003 }
4004 \define@key{Hyp}{pdflang}{%
4005 \def\@pdflang{#1}%
4006 }
4007 \define@key{Hyp}{pdfpagelabels}[true]{%
4008 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
4009 }
4010 \define@key{Hyp}{pdfescapeform}[true]{%
4011 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
4012 }

```

Default values:

```

4013 \def\@linkbordercolor{1 0 0}
4014 \def\@urlbordercolor{0 1 1}
4015 \def\@menubordercolor{1 0 0}
4016 \def\@filebordercolor{0 .5 .5}
4017 \def\@runbordercolor{0 .7 .7}
4018 \def\@citebordercolor{0 1 0}
4019 \def\@pdfhighlight{/I}
4020 \def\@pdftitle{}
4021 \def\@pdfauthor{}
4022 \let\@pdfproducer\relax
4023 \def\@pdfcreator{LaTeX with hyperref package}
4024 \def\@pdfcreationdate{}
4025 \def\@pdfmoddate{}
4026 \def\@pdfsubject{}
4027 \def\@pdfkeywords{}
4028 \def\@pdftrapped{}
4029 \def\@pdfpagescrop{}
4030 \def\@pdfstartview{/Fit}
4031 \def\@pdfremotestartview{/Fit}
4032 \def\@pdfstartpage{1}
4033 \def\@pdfprintpagerange{}
4034 \def\@pdflang{}
4035 \let\PDF@SetupDoc\@empty
4036 \let\PDF@FinishDoc\@empty
4037 \let\phantomsection\@empty
4038 \let\special@paper\@empty
4039 \def\HyperDestNameFilter#1{#1}
4040 \Hy@AtBeginDocument{%
4041 \begingroup
4042 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4043 \dimen@=\x\relax
4044 \ifdim\dimen@>\z@
4045 \else
4046 \dimen@=11in\relax

```

```

4047 \Hy@WarningNoLine{%
4048   Height of page (\expandafter\string\x) %
4049   is invalid (\the\x),\MessageBreak
4050   using 1lin%
4051 }%
4052 \fi
4053 \dimen@=0.99626401\dimen@
4054 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4055 \endgroup
4056 }
4057 \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.

```

4058 \let\hyper@normalise\ExecuteOptions
4059 \let\ExecuteOptions\hypersetup
4060 \Hy@RestoreCatcodes
4061 \InputIfFileExists{hyperref.cfg}{-}{-}
4062 \Hy@SetCatcodes
4063 \let\ExecuteOptions\hyper@normalise
4064 \Hy@MaybeStopNow

```

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.

```

4065 \SetupKeyvalOptions{family=Hyp}
4066 \DeclareLocalOptions{%
4067   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4068 }

```

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

```

4069 \@ifpackageloaded{tex4ht}{%
4070   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4071   \PassOptionsToPackage{tex4ht}{hyperref}%
4072 }%
4073 }{-}
4074 \let\ReadBookmarks\relax
4075 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

4076 \Hy@AtBeginDocument{%
4077   \ifHy@draft
4078     \let\hyper@@anchor@gobble
4079     \gdef\hyper@link#1#2#3{#3}%
4080     \let\hyper@anchorstart@gobble
4081     \let\hyper@anchorend@empty
4082     \let\hyper@linkstart@gobbletwo
4083     \let\hyper@linkend@empty
4084     \def\hyper@linkurl#1#2{#1}%
4085     \def\hyper@linkfile#1#2#3{#1}%
4086     \def\hyper@link@[#1]#2#3{}%
4087     \def\Acrobatmenu#1#2{\leavevmode#2}%
4088     \let\PDF@SetupDoc@empty
4089     \let\PDF@FinishDoc@empty
4090     \let\@fifthoffive@secondoftwo
4091     \let\@secondoffive@secondoftwo
4092     \let\ReadBookmarks\relax
4093     \let\WriteBookmarks\relax

```

```

4094 \Hy@WarningNoLine{Draft mode on}%
4095 \fi
4096 \Hy@DisableOption{draft}%
4097 \Hy@DisableOption{nolinks}%
4098 \Hy@DisableOption{final}%
4099 }

```

15.1 PDF/A

```

4100 \Hy@DisableOption{pdfa}
4101 \ifHy@pdfa
4102 \kvsetkeys{Hyp}{pdfversion=1.4}%
4103 \def\Hy@Acrobatmenu#1#2{%
4104 \leavevmode
4105 \begingroup
4106 \edef\x{#1}%
4107 \@onelevel@sanitize\x
4108 \ifx\x\Hy@NextPage
4109 \let\y=Y%
4110 \else
4111 \ifx\x\Hy@PrevPage
4112 \let\y=Y%
4113 \else
4114 \ifx\x\Hy@FirstPage
4115 \let\y=Y%
4116 \else
4117 \ifx\x\Hy@LastPage
4118 \let\y=Y%
4119 \else
4120 \let\y=N%
4121 \fi
4122 \fi
4123 \fi
4124 \fi
4125 \expandafter\endgroup
4126 \ifx\y Y%
4127 \else
4128 \Hy@Error{%
4129 PDF/A: Named action '#1' is not permitted%
4130 }\@ehc
4131 {#2}%
4132 \expandafter\@gobble
4133 \fi
4134 }%
4135 \def\Hy@temp#1{%
4136 \expandafter\def\csname Hy@#1\endcsname{#1}%
4137 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4138 }%
4139 \Hy@temp{NextPage}%
4140 \Hy@temp{PrevPage}%
4141 \Hy@temp{FirstPage}%
4142 \Hy@temp{LastPage}%
4143 \else
4144 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4145 \fi

```

15.2 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.

```
4146 \Hy@nextfalse
4147 \ltx@ifundefined{spanish@sh@"@sel}{-}{\Hy@nexttrue}
4148 \ltx@ifundefined{galician@sh@"@sel}{-}{\Hy@nexttrue}
4149 \ltx@ifundefined{estonian@sh@"@sel}{-}{\Hy@nexttrue}
4150 \ifHy@next
4151 \let\texttilde\~%
4152 \fi

4153 \def\Hy@wrapper@babel#1#2{%
4154 \begingroup
4155 \Hy@safe@activetrue
4156 \set@display@protect
4157 \edef\x{#2}%
4158 \@onelevel@sanitize\x
4159 \toks@{#1}%
4160 \edef\x{\endgroup\the\toks@{\x}}%
4161 \x
4162 }

4163 \def\Hy@WrapperDef#1{%
4164 \begingroup
4165 \escapechar=\m@ne
4166 \xdef\Hy@gtemp{%
4167 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4168 }%
4169 \endgroup
4170 \edef#1{%
4171 \noexpand\Hy@wrapper@babel
4172 \expandafter\noexpand\Hy@gtemp
4173 }%
4174 \expandafter\def\Hy@gtemp
4175 }

4176 \ifHy@figures
4177 \Hy@Info{Hyper figures ON}%
4178 \else
4179 \Hy@Info{Hyper figures OFF}%
4180 \fi

4181 \ifHy@nesting
4182 \Hy@Info{Link nesting ON}%
4183 \else
4184 \Hy@Info{Link nesting OFF}%
4185 \fi

4186 \ifHy@hyperindex
4187 \Hy@Info{Hyper index ON}%
4188 \else
4189 \Hy@Info{Hyper index OFF}%
4190 \fi

4191 \ifHy@plainpages
4192 \Hy@Info{Plain pages ON}%
4193 \else
4194 \Hy@Info{Plain pages OFF}%
4195 \fi

4196 \ifHy@backref
4197 \Hy@Info{Backreferencing ON}%
4198 \else
```

```

4199 \Hy@Info{Backreferencing OFF}%
4200 \fi
4201 \ifHy@typexml
4202 \Hy@AtEndOfPackage{%
4203 \RequirePackage{color}%
4204 \RequirePackage{nameref}%
4205 }%
4206 \fi
4207 \Hy@DisableOption{typexml}
4208 \ifHy@implicit
4209 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4210 \else
4211 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4212 \def\MaybeStopEarly{%
4213 \Hy@Message{Stopped early}%
4214 \Hy@AtBeginDocument{%
4215 \PDF@FinishDoc
4216 \gdef\PDF@FinishDoc{}%
4217 }%
4218 \endinput
4219 }%
4220 \Hy@AtBeginDocument{%
4221 \let\autoref\ref
4222 \let\autopageref\pageref
4223 \ifx\@pdfpagemode\@empty
4224 \gdef\@pdfpagemode{UseNone}%
4225 \fi
4226 \global\Hy@backreffalse
4227 }%
4228 \Hy@AtEndOfPackage{%
4229 \global\let\ReadBookmarks\relax
4230 \global\let\WriteBookmarks\relax
4231 }%
4232 \fi
4233 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

4234 \Hy@AtEndOfPackage{%
4235 \@ifpackageloaded{tex4ht}{%
4236 \def\Hy@driver{htex4ht}%
4237 \Hy@texhttrue
4238 }{}%

```

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.

```

4239 \ifx\Hy@driver\@empty
4240 \else
4241 \def\Hy@temp{hpdfTeX}%
4242 \ifpdf
4243 \ifx\Hy@driver\Hy@temp
4244 \else
4245 \Hy@WarningNoLine{%
4246 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4247 pdfTeX is running in PDF mode.\MessageBreak
4248 Forcing driver ‘\Hy@temp.def’%
4249 }%
4250 \let\Hy@driver\Hy@temp

```

```

4251 \fi
4252 \else
4253 \ifx\Hy@driver\Hy@temp
4254 \Hy@WarningNoLine{%
4255 Wrong driver '\Hy@driver.def';\MessageBreak
4256 pdfTeX is not running in PDF mode.\MessageBreak
4257 Using default driver%
4258 }%
4259 \let\Hy@driver\@empty
4260 \fi
4261 \fi
4262 \fi
4263 \ifHy@texht
4264 \else
4265 \ifx\Hy@driver\@empty
4266 \else
4267 \def\Hy@temp{hxtex}%
4268 \ifxetex
4269 \ifx\Hy@driver\Hy@temp
4270 \else
4271 \Hy@WarningNoLine{%
4272 Wrong driver '\Hy@driver.def';\MessageBreak
4273 XeTeX is running.\MessageBreak
4274 Forcing driver '\Hy@temp.def' for XeTeX%
4275 }%
4276 \let\Hy@driver\Hy@temp
4277 \fi
4278 \fi
4279 \fi
4280 \fi
4281 \ifx\Hy@driver\@empty
4282 \else
4283 \def\Hy@temp{hvtexhtm}%
4284 \ifvtexhtml
4285 \ifx\Hy@driver\Hy@temp
4286 \else
4287 \Hy@WarningNoLine{%
4288 Wrong driver '\Hy@driver.def';\MessageBreak
4289 VTeX is not running in HTML mode.\MessageBreak
4290 Forcing driver '\Hy@temp.def'%
4291 }%
4292 \let\Hy@driver\Hy@temp
4293 \fi
4294 \else
4295 \ifx\Hy@driver\Hy@temp
4296 \Hy@WarningNoLine{%
4297 Wrong driver '\Hy@driver.def';\MessageBreak
4298 VTeX is not running in HTML mode.\MessageBreak
4299 Using default driver%
4300 }%
4301 \let\Hy@driver\@empty
4302 \fi
4303 \fi
4304 \fi

```

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

```

4305 \def\HyOpt@DriverType{%
4306 \ifx\Hy@driver\@empty

```



```

4307 \def\HyOpt@DriverType{ (autodetected)}%
4308 \providecommand*{\Hy@defaultdriver}{hypertex}%
4309 \ifpdf
4310 \def\Hy@driver{hpdfTeX}%
4311 \else
4312 \ifxetex
4313 \def\Hy@driver{hxetex}%
4314 \else
4315 \ifvtexhtml
4316 \def\Hy@driver{hvtexhtm}%
4317 \def\MaybeStopEarly{%
4318 \Hy@Message{Stopped early}%
4319 \Hy@AtBeginDocument{%
4320 \PDF@FinishDoc
4321 \gdef\PDF@FinishDoc{}}%
4322 }%
4323 \endinput
4324 }%
4325 \else
4326 \ifvtexpdf
4327 \def\Hy@driver{hvtex}%
4328 \else
4329 \ifvtexps
4330 \def\Hy@driver{hvtex}%
4331 \else
4332 \ifx\HyOpt@DriverFallback\ltx@empty
4333 \let\Hy@driver\Hy@defaultdriver
4334 \def\HyOpt@DriverType{ (default)}%
4335 \else
4336 \begingroup
4337 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4338 \edef\x{\endgroup
4339 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4340 }%
4341 \x
4342 \ifx\Hy@driver\ltx@empty
4343 \let\Hy@driver\Hy@defaultdriver
4344 \def\HyOpt@DriverType{ (default)}%
4345 \else
4346 \def\HyOpt@DriverType{ (fallback)}%
4347 \fi
4348 \fi
4349 \fi
4350 \fi
4351 \fi
4352 \fi
4353 \fi
4354 \ifx\Hy@driver\Hy@defaultdriver
4355 \def\Hy@temp{hdvwind}%
4356 \ifx\Hy@temp\Hy@driver
4357 \kvsetkeys{Hyp}{colorlinks}%
4358 \PassOptionsToPackage{dviwindo}{color}%
4359 \fi
4360 \fi
4361 \fi
4362 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4363 \chardef\Hy@VersionChecked=0 %

```

```

4364 \input{\Hy@driver.def}%
4365 \ifcase\Hy@VersionChecked
4366   \Hy@VersionCheck{\Hy@driver.def}%
4367 \fi
4368 \let\@unprocessedoptions\relax
4369 \Hy@RestoreCatcodes
4370 \Hy@DisableOption{tex4ht}%
4371 \Hy@DisableOption{pdftex}%
4372 \Hy@DisableOption{nativepdf}%
4373 \Hy@DisableOption{dvipdfm}%
4374 \Hy@DisableOption{dvipdfmx}%
4375 \Hy@DisableOption{dvipdfmx-outline-open}%
4376 \Hy@DisableOption{pdfmark}%
4377 \Hy@DisableOption{dvips}%
4378 \Hy@DisableOption{hypertex}%
4379 \Hy@DisableOption{vtex}%
4380 \Hy@DisableOption{vtexpdfmark}%
4381 \Hy@DisableOption{dviwindo}%
4382 \Hy@DisableOption{dvipsone}%
4383 \Hy@DisableOption{textures}%
4384 \Hy@DisableOption{latex2html}%
4385 \Hy@DisableOption{ps2pdf}%
4386 \Hy@DisableOption{xetex}%
4387 \Hy@DisableOption{pdfversion}%
4388 }

```

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.

```

4389 \newif\ifHy@DvipdfmxOutlineOpen
4390 \ifxetex
4391   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4392   \else
4393     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4394     \Hy@DvipdfmxOutlineOpentruer
4395   \fi
4396 \fi
4397 \begingroup\expandafter\expandafter\expandafter\endgroup
4398 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4399 \else
4400   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4401     \Hy@DvipdfmxOutlineOpentruer
4402   \fi
4403 \fi

```

15.2.2 Bookmarks

```

4404 \def\WriteBookmarks{0}
4405 \def\@bookmarkopenstatus#1{%
4406   \ifHy@bookmarksopen

```

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

```

4407   \ifnum#1<\expandafter\@firstofone\expandafter
4408     {\number\@bookmarkopenlevel} % explicit space
4409   \else
4410     -%
4411   \fi
4412 \else

```

```

4413  -%
4414  \fi
4415 }
4416 \ifHy@bookmarks
4417  \Hy@Info{Bookmarks ON}%
4418  \ifx\@pdfpagemode\@empty
4419    \def\@pdfpagemode{UseOutlines}%
4420  \fi
4421 \else
4422  \def\@bookmarkopenstatus#1{%
4423  \Hy@Info{Bookmarks OFF}%
4424  \Hy@AtEndOfPackage{%
4425    \global\let\ReadBookmarks\relax
4426    \global\let\WriteBookmarks\relax
4427  }%
4428  \ifx\@pdfpagemode\@empty
4429    \def\@pdfpagemode{UseNone}%
4430  \fi
4431 \fi
4432 \Hy@DisableOption{bookmarks}

    Add wrapper for setting standard catcodes (babel's shorthands).
4433 \def\Hy@CatcodeWrapper#1{%
4434  \def\Hy@endWrap{%
4435  \def\TMP@EnsureCode##1##2{%
4436    \edef\Hy@endWrap{%
4437      \Hy@endWrap
4438      \catcode##1 \the\catcode##1\relax
4439    }%
4440    \catcode##1 ##2\relax
4441  }%
4442  \TMP@EnsureCode{10}{12}% ^^J
4443  \TMP@EnsureCode{33}{12}% !
4444  \TMP@EnsureCode{34}{12}% "
4445  \TMP@EnsureCode{36}{3}% $ (math)
4446  \TMP@EnsureCode{38}{4}% & (alignment)
4447  \TMP@EnsureCode{39}{12}% '
4448  \TMP@EnsureCode{40}{12}% (
4449  \TMP@EnsureCode{41}{12}% )
4450  \TMP@EnsureCode{42}{12}% *
4451  \TMP@EnsureCode{43}{12}% +
4452  \TMP@EnsureCode{44}{12}% ,
4453  \TMP@EnsureCode{45}{12}% -
4454  \TMP@EnsureCode{46}{12}% .
4455  \TMP@EnsureCode{47}{12}% /
4456  \TMP@EnsureCode{58}{12}% :
4457  \TMP@EnsureCode{59}{12}% ;
4458  \TMP@EnsureCode{60}{12}% <
4459  \TMP@EnsureCode{61}{12}% =
4460  \TMP@EnsureCode{62}{12}% >
4461  \TMP@EnsureCode{63}{12}% ?
4462  \TMP@EnsureCode{91}{12}% [
4463  \TMP@EnsureCode{93}{12}% ]
4464  \TMP@EnsureCode{94}{7}% ^ (superscript)
4465  \TMP@EnsureCode{95}{8}% _ (subscript)
4466  \TMP@EnsureCode{96}{12}% `
4467  \TMP@EnsureCode{124}{12}% |
4468  \TMP@EnsureCode{126}{13}% ~ (active)

```

```

4469 #1\relax
4470 \Hy@EndWrap
4471 }

```

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

```

4472 \Hy@AtBeginDocument{%
4473   \ifHy@ocgcolorlinks
4474     \kvsetkeys{Hyp}{colorlinks}%
4475     \ifHy@pdfa
4476       \Hy@Warning{%
4477         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4478         using 'colorlinks' instead of 'ocgcolorlinks'%
4479       }%
4480     \Hy@ocgcolorlinksfalse
4481   \fi
4482 \fi
4483 \ifHy@ocgcolorlinks
4484 \else
4485   \Hy@DisableOption{ocgcolorlinks}%
4486 \fi
4487 \ifHy@colorlinks
4488   \def\@pdfborder{0 0 0}%
4489   \let\@pdfborderstyle\@empty
4490   \ifHy@typexml
4491   \else
4492     \Hy@CatcodeWrapper{%
4493       \RequirePackage{color}%
4494     }%
4495   \fi
4496   \def\Hy@colorlink#1{%
4497     \begingroup
4498     \HyColor@UseColor#1%
4499   }%
4500   \def\Hy@endcolorlink{\endgroup}%
4501   \Hy@Info{Link coloring ON}%
4502 \else
4503   \ifHy@frenchlinks
4504     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4505     \def\Hy@endcolorlink{\endgroup}%
4506     \Hy@Info{French linking ON}%
4507   \else

```

for grouping consistency:

```

4508     \def\Hy@colorlink#1{\begingroup}%
4509     \def\Hy@endcolorlink{\endgroup}%
4510     \Hy@Info{Link coloring OFF}%
4511   \fi
4512 \fi
4513 \Hy@DisableOption{colorlinks}%
4514 \Hy@DisableOption{frenchlinks}%
4515 \ifHy@texht
4516   \long\def\@firstoffive#1#2#3#4#5{#1}%
4517   \long\def\@secondoffive#1#2#3#4#5{#2}%
4518   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4519   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4520   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4521   \providecommand*\@safe@activestrue{}%
4522   \providecommand*\@safe@activesfalse{}%

```

```

4523 \def\T@ref#1{%
4524   \Hy@safe@activetrue
4525   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4526   \Hy@safe@activesfalse
4527 }%
4528 \def\T@pageref#1{%
4529   \Hy@safe@activetrue
4530   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4531   \Hy@safe@activesfalse
4532 }%
4533 \else
4534 \ifHy@typexml
4535 \else
4536   \Hy@CatcodeWrapper{%
4537     \RequirePackage{nameref}%
4538   }%
4539 \fi
4540 \fi
4541 \DeclareRobustCommand\ref{%
4542   \@ifstar\@refstar\T@ref
4543 }%
4544 \DeclareRobustCommand\pageref{%
4545   \@ifstar\@pagerefstar\T@pageref
4546 }%
4547 % \@ifclassloaded{memoir}{%
4548 %   \ltx@ifundefined{@mem@titlerefnohref}\ltx@secondoftwo{%
4549 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4550 %   }%
4551 % } \ltx@secondoftwo
4552 % {%
4553 %   \DeclareRobustCommand*{\nameref}{%
4554 %     \@ifstar\@mem@titlerefnohref\@mem@titleref
4555 %   }%
4556 % }{%
4557 \DeclareRobustCommand*{\nameref}{%
4558   \@ifstar\@namerefstar\T@nameref
4559 }%
4560 % }%
4561 }
4562 \Hy@AtBeginDocument{%
4563 \ifHy@texht
4564 \else
4565   \Hy@CatcodeWrapper\ReadBookmarks
4566 \fi
4567 }
4568 \ifHy@backref
4569 \RequirePackage{backref}%
4570 \else
4571 \let\Hy@backout\@gobble
4572 \fi
4573 \Hy@DisableOption{backref}
4574 \Hy@DisableOption{pagebackref}
4575 \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`.

```
4576 \begingroup
4577 \endlinechar=-1 %
4578 \catcode'\^^A=14 %
4579 \catcode'\^^M\active
4580 \catcode'\%\active
4581 \catcode'\#\active
4582 \catcode'\_\active
4583 \catcode'\$\active
4584 \catcode'\&\active
4585 \gdef\hyper@normalise{^^A
4586 \begingroup
4587 \catcode'\^^M\active
4588 \def^^M{ }^^A
4589 \catcode'\%\active
4590 \let%\@percentchar
4591 \let%\@percentchar
4592 \catcode'\#\active
4593 \def#{\hyper@hash}^^A
4594 \def\#{\hyper@hash}^^A
4595 \@makeoother\&^^A
4596 \edef&{\string&}^^A
4597 \edef\&{\string&}^^A
4598 \edef\textunderscore{\string_}^^A
4599 \let\_ \textunderscore
4600 \catcode'\_\active
4601 \let\_ \textunderscore
4602 \let~\hyper@tilde
4603 \let~\hyper@tilde
4604 \let\textasciitilde\hyper@tilde
4605 \let\\ \@backslashchar
4606 \edef$\{ \string$ }^^A
4607 \Hy@safe@activestrue
4608 \hyper@n@rmalise
4609 }^^A
4610 \catcode'\#=6 ^^A
4611 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4612 \gdef\hyper@n@rmalise#1#2{^^A
4613 \def\Hy@tempa{#2}^^A
4614 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4615 \Hy@ReturnAfterElseFi{^^A
4616 \hyper@n@normalise{#1}^^A
4617 }^^A
4618 \else
4619 \Hy@ReturnAfterFi{^^A
4620 \hyper@n@normalise{#1}{#2}^^A
4621 }^^A
4622 \fi
4623 }^^A
4624 \gdef\hyper@@normalise#1#2{^^A
```

```

4625 \edef\Hy@tempa{^^A
4626 \endgroup
4627 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4628 }^^A
4629 \Hy@tempa
4630 }^^A
4631 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4632 #1^^A
4633 \ifx\limits#2\limits
4634 \else
4635 \Hy@ReturnAfterFi{^^A
4636 \Hy@RemovePercentCr #2\@nil
4637 }^^A
4638 \fi
4639 }^^A
4640 \endgroup
4641 \providecommand*\hyper@chars{%
4642 \let\#\hyper@hash
4643 \let\%\@percentchar
4644 \Hy@safe@activestru
4645 }

4646 \def\hyperlink#1#2{%
4647 \hyper@@link#{#1}#{#2}%
4648 }

4649 \def\Hy@VerboseLinkStart#1#2{%
4650 \ifHy@verbose
4651 \begingroup
4652 \Hy@safe@activestru
4653 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4654 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4655 \xdef\Hy@VerboseGlobalTemp{%
4656 \Hy@VerboseGlobalTemp, %
4657 line \the\inputlineno
4658 }%
4659 \endgroup
4660 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4661 \@onelevel@sanitize\Hy@VerboseLinkInfo
4662 \fi
4663 }

4664 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4665 \def\Hy@VerboseLinkStop{%
4666 \ifHy@verbose
4667 \begingroup
4668 \edef\x{\endgroup
4669 \write\m@ne{%
4670 Package 'hyperref' Info: %
4671 End of reference \Hy@VerboseLinkInfo.%
4672 }%
4673 }%
4674 \x
4675 \fi
4676 }

4677 \def\Hy@VerboseAnchor#1{%
4678 \ifHy@verbose
4679 \begingroup
4680 \Hy@safe@activestru

```

```

4681 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4682 \endgroup
4683 \fi
4684 }

4685 \def\Hy@AllowHyphens{%
4686 \relax
4687 \ifhmode
4688 \penalty\@M
4689 \hskip\z@skip
4690 \fi
4691 }

4692 \DeclareRobustCommand*\href[1][]{%
4693 \begingroup
4694 \setkeys{href}{#1}%
4695 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4696 }
4697 \def\Hy@href#{%
4698 \hyper@normalise\href@
4699 }
4700 \begingroup
4701 \catcode'\$=6 %
4702 \catcode'\#=12 %
4703 \gdef\href@\$1{\expandafter\href@split$1##\}%
4704 \gdef\href@split$1#$2#$3\\$4{%
4705 \hyper@@link{$1}{$2}{$4}%
4706 \endgroup
4707 }%
4708 \endgroup

```

Option ‘page’.

```

4709 \define@key{href}{page}{%
4710 \def\Hy@href@page{#1}%
4711 }
4712 \let\Hy@href@page\@empty
4713 \newcount\c@Hy@tempcnt
4714 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4715 \def\Hy@MakeRemoteAction{%
4716 \ifx\Hy@href@page\@empty
4717 \def\Hy@href@page{0}%
4718 \else
4719 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4720 \ifnum\c@Hy@tempcnt<\@ne
4721 \Hy@Warning{%
4722 Invalid page number (\theHy@tempcnt)\MessageBreak
4723 for remote PDF file.\MessageBreak
4724 Using page 1%
4725 }%
4726 \def\Hy@href@page{0}%
4727 \else
4728 \global\advance\c@Hy@tempcnt\m@ne
4729 \edef\Hy@href@page{\theHy@tempcnt}%
4730 \fi
4731 \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.

```

4732 \ifx\Hy@href@nextactionraw\@empty

```



```

4733 \else
4734 \Hy@newwindowsettrue
4735 \Hy@newwindowtrue
4736 \fi
4737 }

```

Option ‘pdfremotestartview’.

```

4738 \define@key{href}{pdfremotestartview}{%
4739 \setkeys{Hyp}{pdfremotestartview={#1}}%
4740 }

```

Option ‘pdfnewwindow’.

```

4741 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4742 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4743 \newif\ifHy@href@ismap
4744 \define@key{href}{ismap}[true]{%
4745 \ltx@ifundefined{Hy@href@ismap#1}{%
4746 \Hy@Error{%
4747 Invalid value (#1) for key ‘ismap’.\MessageBreak
4748 Permitted values are ‘true’ or ‘false’.\MessageBreak
4749 Ignoring ‘ismap’%
4750 } \@ehc
4751 }{%
4752 \csname Hy@href@ismap#1\endcsname
4753 }%
4754 }

```

Option ‘nextactionraw’.

```

4755 \let\Hy@href@nextactionraw\@empty
4756 \define@key{href}{nextactionraw}{%
4757 \edef\Hy@href@nextactionraw{#1}%
4758 \ifx\Hy@href@nextactionraw\@empty
4759 \else
4760 \Hy@Match\Hy@href@nextactionraw{%
4761 ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|
4762 \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
4763 }-}{%
4764 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4765 \Hy@href@nextactionraw\MessageBreak
4766 The action is discarded%
4767 }%
4768 }%
4769 \ifx\Hy@href@nextactionraw\@empty
4770 \else
4771 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4772 \fi
4773 \fi
4774 }
4775 \def\HyPat@ObjRef/{.+}

```

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

```

4776 \RequirePackage{url}
4777 \let\HyOrg@url\url
4778 \def\Hurl{\begingroup \Url}
4779 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4780 \def\nolinkurl@#1{\Hurl{#1}}
4781 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4782 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

```

```

4783 \DeclareRobustCommand*\hyperimage*\hyper@normalise\hyper@image}
4784 \providecommand\hyper@image[2]{#2}

4785 \def\hypertarget#1#2{%
4786   \ifHy@nesting
4787     \hyper@@anchor{#1}{#2}%
4788   \else
4789     \hyper@@anchor{#1}{\relax}#2%
4790   \fi
4791 }

```

`\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^AT_EX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4792 \DeclareRobustCommand*\hyperref{%
4793   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4794 }
4795 \def\Hy@babelnormalise#1[#2]{%
4796   \begingroup
4797   \Hy@safe@activestrue
4798   \edef\Hy@tempa{%
4799     \endgroup
4800     \noexpand#1[#2]}%
4801   }%
4802   \Hy@tempa
4803 }
4804 \def\@hyperref{\hyper@normalise\@hyperref}
4805 \def\@hyperref#1#2#3{%
4806   \edef\ref@one{\ifx\#2\#1\else#2.\fi#3}%
4807   \expandafter\tryhyper@link\ref@one\{#1}%
4808 }
4809 \def\tryhyper@link#1\#2{%
4810   \hyper@@link{#2}{#1}%
4811 }

4812 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4813 \def\@hyperdef#1#2#3{%, category, name, text
4814   \ifx\#1\#2\%
4815     \def\Hy@AnchorName{#2}%
4816   \else
4817     \def\Hy@AnchorName{#1.#2}%
4818   \fi
4819   \ifHy@nesting
4820     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4821   \else
4822     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4823   \fi
4824 }

```

We also have a need to give a L^AT_EX *label* to a hyper reference, to ease the pain of referring to it later.

```

4825 \def\label@hyperref[#1]{%
4826   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4827 }%
4828 \def\label@@hyperref#1#2#3{%
4829   \ifx#1\relax

```

```

4830 \protect\G@refundefinedtrue
4831 \@latex@warning{%
4832   Hyper reference '#2' on page \thepage \space undefined%
4833 }%
4834 \hyper@@link@{???}{#3}%
4835 \else
4836 \hyper@@link@{\expandafter\@fifthoffive#1}%
4837   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4838 \fi
4839 }
4840 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4841                               % anchor text
4842 \@bsphack
4843 \ifx\#2\%
4844 \def\Hy@AnchorName{#3}%
4845 \else
4846 \def\Hy@AnchorName{#2.#3}%
4847 \fi
4848 \if@filesw
4849 \protected@write\@auxout@{
4850 \string\newlabel{#1}{\Hy@AnchorName}}%
4851 }%
4852 \fi
4853 \@esphack
4854 \ifHy@nesting
4855 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4856 \else
4857 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4858 \fi
4859 }

```

17 Underlying basic hypertext macros

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

```

4860 \def\hyper@@link@{\let\Hy@reserved@a\relax
4861 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
4862 }
4863 \def\hyper@link@[#1]#2#3#4{%
4864 \begingroup
4865 \protected@edef\Hy@tempa{#2}%
4866 \Hy@safe@activetrue
4867 \edef\x{#3}%
4868 \ifx\Hy@tempa\@empty
4869 \toks0{\hyper@link{#1}}%
4870 \else
4871 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4872 \fi
4873 \toks2{%
4874 \Hy@safe@activesfalse
4875 #4%
4876 }%
4877 \edef\Hy@tempa{\the\toks2}%
4878 \edef\x{\endgroup

```

```

4879 \ifx\Hy@tempa\@empty
4880 \noexpand\Hy@Warning{Suppressing empty link}%
4881 \else
4882 \the\toks0 {\x}{\the\toks2}%%
4883 \fi
4884 }%
4885 \x
4886 }

```

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.

```

4887 \def\hyper@readexternallink#1\|#2#3#4{%
4888 \begingroup
4889 \let\\\relax
4890 \expandafter\endgroup
4891 \expandafter\@hyper@\@readexternallink#1\#{#2}{#3}{#4}%
4892 }
4893 \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.

```

4894 \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
4895 }

```

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

```

4896 \def\@pdftempwordfile{file}%
4897 \def\@pdftempwordrun{run}%
4898 \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:

```

4899 \ifx\|#6\|%
4900 \@hyper@linkfile file:#7\#{#3}{#2}{#7}%
4901 \else
4902 \ifx\|#4\|%
4903 \@hyper@linkfile file:#7\#{#3}{#2}{#7}%
4904 \else

```

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

```

4905 \def\@pdftempa{#4}%
4906 \ifx\@pdftempa\@pdftempwordfile
4907 \@hyper@linkfile#7\#{#3}{#2}{#7}%
4908 \else

```

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

```
4909     \ifx\@pdftempa\@pdftempwordrun
4910     \ifHy@pdfa
4911     \Hy@Error{%
4912         PDF/A: Launch action is prohibited%
4913     }\@ehc
4914     \begingroup
4915     \leavevmode
4916     #2%
4917     \endgroup
4918     \else
4919     \@hyper@launch#7\{\#3}\#2}%
4920     \fi
4921     \else
```

otherwise its a URL

```
4922     \hyper@linkurl{\#3}\#7\ifx\#2\else\hyper@hash#2\fi}%
4923     \fi
4924     \fi
4925     \fi
4926     \fi
4927 }
```

By default, turn run: into file:

```
4928 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4929 \hyper@linkurl{\#2}\#3}%
4930 \Hy@linkfileprefix
4931 #1%
4932 \ifx\#3\%
4933 \else
4934 \hyper@hash
4935 #3%
4936 \fi
4937 }%
4938 }
```

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

```
4939 \def\@hyper@linkfile file:#1\#2#3#4{%
4940     %file url,link string, name, original uri
4941     \filename@parse{\#1}%
4942     \ifx\filename@ext\relax
4943     \edef\filename@ext{\XR@ext}%
4944     \fi
4945     \def\use@file{\filename@area\filename@base.\filename@ext}%
4946     \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4947     \hyper@linkfile{\#2}\use@file}\#3}%
4948     }{%
4949     \ifx\@baseurl\@empty
4950     \hyper@linkurl{\#2}\#3}%
4951     #4\ifx\#3\else\hyper@hash#3\fi
4952     }%
4953     \else
4954     \hyper@linkurl{\#2}\use@file\ifx\#3\else\hyper@hash#3\fi}%
4955     \fi
4956     }%
4957     }

4958 \def\Hy@IfStringEndsWith#1#2{%
```

```

4959 \begingroup
4960 \edef\x{#1}%
4961 \@onelevel@sanitize\x
4962 \edef\x{.x$}%
4963 \edef\y{#2}%
4964 \@onelevel@sanitize\y
4965 \edef\y{.y$}%
4966 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4967   \endgroup
4968   \ifx\relax##2\relax
4969     \expandafter\ltx@secondoftwo
4970   \else
4971     \expandafter\ltx@firstoftwo
4972   \fi
4973 }%
4974 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4975 }

4976 \def\Hy@StringLocalhost{localhost}
4977 \@onelevel@sanitize\Hy@StringLocalhost
4978 \def\Hy@CleanupFile#1{%
4979   \edef#1{#1}%
4980   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}}%
4981 }
4982 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4983   \begingroup
4984   \toks@{\endgroup}%
4985   \def\x{#1}%
4986   \ifx\x\@empty
4987     \def\x{#2}%
4988   \ifx\x\@empty
4989     \toks@{\endgroup\def#5{/#3}}%
4990   \else
4991     \@onelevel@sanitize\x
4992     \ifx\x\Hy@StringLocalhost
4993       \toks@{\endgroup\def#5{/#3}}%
4994     \fi
4995   \fi
4996   \fi
4997   \the\toks@
4998 }

4999 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5000 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5001   \ifx\#1\%
5002     #2\Hy@Warning{Ignoring empty anchor}%
5003   \else
5004     \def\anchor@spot{#2#3}%
5005     \let\put@me@back\@empty
5006     \ifx\relax#2\relax
5007     \else

```

```

5008 \ifHy@nesting
5009 \else
5010 \ifcat a\noexpand#2\relax
5011 \else
5012 \ifcat 0\noexpand#2 \relax
5013 \else
5014 % \typeout{Anchor start is not alphanumeric %
5015 % on input line\the\inputlineno%
5016 % }%
5017 \let\anchor@spot\@empty
5018 \def\put@me@back{##2##3}%
5019 \fi
5020 \fi
5021 \fi
5022 \fi
5023 \ifHy@activeanchor
5024 \anchor@spot
5025 \else
5026 \hyper@anchor{##1}%
5027 \fi
5028 \expandafter\put@me@back
5029 \fi
5030 \let\anchor@spot\@empty
5031 }
5032 \def\anchor@spot{}
```

18 Compatibility with the *L^AT_EX2html* 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.

```

5033 \let\htmladding\hyperimage
5034 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5035 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5036 \def\htmlref#1#2{% anchor text, label
5037 \label@hyperref[##2]{##1}%
5038 }
```

This is really too much. The *L^AT_EX2html* 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.

```

5039 \def\@latextohtmlX{%
5040 \let\hhyperref\hyperref
5041 \def\hyperref##1##2##3##4{% anchor text for HTML
5042 % text to print before label in print
5043 % label
5044 % post-label text in print
5045 ##2\ref{##4}##3%
5046 }%
5047 }
```

19 Forms creation

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

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

19.1 Field flags

The field flags are organized in a bit set.

```
5048 \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
5049 \def\HyField@NewFlag#1#2{%
5050 \lowercase{\HyField@NewOption{#2}}%
5051 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5052 }
```

```
\HyField@NewFlagOnly
5053 \def\HyField@NewFlagOnly#1#2{%
5054 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5055 }
```

```
\HyField@NewOption #1: option name
5056 \def\HyField@NewOption#1{%
5057 \expandafter\newif\csname ifFld@#1\endcsname
5058 \define@key{Field}{#1}[true]{%
5059 \lowercase{\Field@boolkey{##1}}{#1}%
5060 }%
5061 }
```

```
\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
5062 \def\HyField@NewBitsetFlag#1#2#3#4{%
5063 \begingroup
5064 \count@=#4\relax
5065 \advance\count@\m@ne
5066 \def\x##1{%
5067 \endgroup
5068 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5069 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5070 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5071 (\number#4) #2%
5072 }%
5073 \else
5074 \expandafter\edef\csname HyField@#3@##1\endcsname{%
```



```

5075     \csname HyField@#3@##1\endcsname
5076     /#2%
5077     }%
5078     \fi
5079     }%
5080 \expandafter\x\expandafter{\the\count@}%
5081 }

```

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

```

5082 \def\HyField@UseFlag#1#2{%
5083 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5084 }

```

\HyField@@UseFlag

```

5085 \def\HyField@@UseFlag#1#2{%
5086 \bitsetSetValue{HyField@#2}{%
5087 \csname HyField@#2@#1\endcsname
5088 }{%
5089 \csname ifFld@#1\endcsname 1\else 0\fi
5090 }%
5091 }

```

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

```

5092 \def\HyField@SetFlag#1#2{%
5093 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5094 }

```

\HyField@@SetFlag

```

5095 \def\HyField@@SetFlag#1#2{%
5096 \bitsetSetValue{HyField@#2}{%
5097 \csname HyField@#2@#1\endcsname
5098 }{1}%
5099 }

```

\HyField@PrintFlags

```

5100 \def\HyField@PrintFlags#1#2{%
5101 \ifHy@verbose
5102 \begingroup
5103 \let\Hy@temp\@empty
5104 \let\MessageBreak\relax
5105 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5106 \bitsetGetSetBitList{HyField@#1}\do{%
5107 \edef\Hy@temp{%
5108 \Hy@temp
5109 \csname HyField@#1@\x\endcsname\MessageBreak
5110 }%
5111 }%
5112 \edef\x{\endgroup
5113 \noexpand\Hy@Info{%
5114 Field flags: %
5115 \expandafter\ifx\@car#1\@nil S\else/\fi
5116 #1 %
5117 \bitsetGetDec{HyField@#1} %
5118 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5119 \Hy@temp
5120 for #2%

```

```

5121 }%
5122 }\x
5123 \fi
5124 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5125 \HyField@NewFlag{Ff}{ReadOnly}{1}
5126 \HyField@NewFlag{Ff}{Required}{2}
5127 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5128 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5129 \HyField@NewFlag{Ff}{Radio}{16}
5130 \HyField@NewFlag{Ff}{Pushbutton}{17}
5131 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5132 \HyField@NewFlag{Ff}{Multiline}{13}
5133 \HyField@NewFlag{Ff}{Password}{14}
5134 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5135 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5136 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5137 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5138 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5139 \HyField@NewFlag{Ff}{Combo}{18}
5140 \HyField@NewFlag{Ff}{Edit}{19}
5141 \HyField@NewFlag{Ff}{Sort}{20}
5142 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5143 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5144 \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.

```

5145 \newif\ifFld@popdown
5146 \define@key{Field}{popdown}[true]{%
5147 \lowercase{\Field@boolkey{#1}}{popdown}%
5148 }

```

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.

```

5149 \HyField@NewFlag{F}{Invisible}{1}
5150 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5151 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5152 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5153 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5154 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5155 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5156 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5157 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

```

```

5158 \ifHy@pdfa
5159 \def\HyField@PDFAFlagWarning#1#2{%
5160   \Hy@Warning{%
5161     PDF/A: Annotation flag '#1' must\MessageBreak
5162     be set to '#2'%
5163   }%
5164 }%
5165 \Fld@invisiblefalse
5166 \def\Fld@invisibletrue{%
5167   \HyField@PDFAFlagWarning{invisible}{false}%
5168 }%
5169 \Fld@hiddenfalse
5170 \def\Fld@hiddentrue{%
5171   \HyField@PDFAFlagWarning{hidden}{false}%
5172 }%
5173 \Fld@printtrue
5174 \def\Fld@printfalse{%
5175   \HyField@PDFAFlagWarning{print}{true}%
5176 }%
5177 \Fld@nozoomtrue
5178 \def\Fld@nozoomfalse{%
5179   \HyField@PDFAFlagWarning{nozoom}{true}%
5180 }%
5181 \Fld@norotatetrue
5182 \def\Fld@norotatefalse{%
5183   \HyField@PDFAFlagWarning{norotate}{true}%
5184 }%
5185 \Fld@noviewfalse
5186 \def\Fld@noviewtrue{%
5187   \HyField@PDFAFlagWarning{noview}{false}%
5188 }%
5189 \fi

```

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

```

5190 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5191 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5192 \HyField@NewFlag{Submit}{GetMethod}{4}
5193 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5194 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5195 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5196 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5197 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5198 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5199 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5200 \HyField@NewFlag{Submit}{ExclFKey}{12}
5201 \HyField@NewFlag{Submit}{EmbedForm}{14}
5202 \define@key{Field}{export}{%
5203   \lowercase{\def\Hy@temp{#1}}%
5204   \@ifundefined{Fld@export@\Hy@temp}{%
5205     \@onelevel@sanitize\Hy@temp
5206     \Hy@Error{%
5207       Unknown export format '\Hy@temp'.\MessageBreak
5208       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5209     } \@ehc
5210   }{%
5211     \let\Fld@export\Hy@temp
5212   }%

```

```

5213 }
5214 \def\Fld@export{fdf}
5215 \@namedef{Fld@export@fdf}{0}%
5216 \@namedef{Fld@export@html}{1}%
5217 \@namedef{Fld@export@xdf}{2}%
5218 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5219 \def\HyField@FlagsSubmit{%
5220 \bitsetReset{HyField@Submit}%
5221 \ifcase\@nameuse{Fld@export@\Fld@export} %
5222 % FDF
5223 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5224 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5225 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5226 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5227 \HyField@UseFlag{Submit}{CanonicalFormat}%
5228 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5229 \HyField@UseFlag{Submit}{ExclFKey}%
5230 \HyField@UseFlag{Submit}{EmbedForm}%
5231 \or % HTML
5232 \HyField@SetFlag{Submit}{ExportFormat}%
5233 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5234 \HyField@UseFlag{Submit}{GetMethod}%
5235 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5236 \HyField@UseFlag{Submit}{CanonicalFormat}%
5237 \or % XFDF
5238 \HyField@SetFlag{Submit}{XFDF}%
5239 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5240 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5241 \HyField@UseFlag{Submit}{CanonicalFormat}%
5242 \or % PDF
5243 \HyField@SetFlag{Submit}{SubmitPDF}%
5244 \HyField@UseFlag{Submit}{GetMethod}%
5245 \fi
5246 \HyField@PrintFlags{Submit}{submit button field}%
5247 \bitsetIsEmpty{HyField@Submit}{%
5248 \def\Fld@submitflags{%
5249 }{%
5250 \def\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5251 }%
5252 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5253 \def\HyField@FlagsAnnot#1{%
5254 \bitsetReset{HyField@F}%
5255 \HyField@UseFlag{F}{Invisible}%
5256 \HyField@UseFlag{F}{Hidden}%
5257 \HyField@UseFlag{F}{Print}%
5258 \HyField@UseFlag{F}{NoZoom}%
5259 \HyField@UseFlag{F}{NoRotate}%
5260 \HyField@UseFlag{F}{NoView}%

```

```

5261 \HyField@UseFlag{F}{Locked}%
5262 \HyField@UseFlag{F}{ToggleNoView}%
5263 \HyField@UseFlag{F}{LockedContents}%
5264 \HyField@PrintFlags{F}{#1}%
5265 \bitsetIsEmpty{HyField@F}{%
5266   \def\Fld@annotflags{%
5267   }{%
5268   \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5269   }%
5270 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5271 \def\HyField@FlagsPushButton{%
5272 \HyField@FlagsAnnot{push button field}%
5273 \bitsetReset{HyField@Ff}%
5274 \HyField@UseFlag{Ff}{ReadOnly}%
5275 \HyField@UseFlag{Ff}{Required}%
5276 \HyField@UseFlag{Ff}{NoExport}%
5277 \HyField@SetFlag{Ff}{PushButton}%
5278 \HyField@PrintFlags{Ff}{push button field}%
5279 \bitsetIsEmpty{HyField@Ff}{%
5280   \def\Fld@flags{%
5281   }{%
5282   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5283   }%
5284 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5285 \def\HyField@FlagsCheckBox{%
5286 \HyField@FlagsAnnot{check box field}%
5287 \bitsetReset{HyField@Ff}%
5288 \HyField@UseFlag{Ff}{ReadOnly}%
5289 \HyField@UseFlag{Ff}{Required}%
5290 \HyField@UseFlag{Ff}{NoExport}%
5291 \HyField@PrintFlags{Ff}{check box field}%
5292 \bitsetIsEmpty{HyField@Ff}{%
5293   \def\Fld@flags{%
5294   }{%
5295   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5296   }%
5297 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5298 \def\HyField@FlagsRadioButton{%
5299 \HyField@FlagsAnnot{radio button field}%
5300 \bitsetReset{HyField@Ff}%
5301 \HyField@UseFlag{Ff}{ReadOnly}%
5302 \HyField@UseFlag{Ff}{Required}%
5303 \HyField@UseFlag{Ff}{NoExport}%
5304 \HyField@UseFlag{Ff}{NoToggleToOff}%

```

```

5305 \HyField@SetFlag{Ff}{Radio}%
5306 \HyField@UseFlag{Ff}{RadiosInUnison}%
5307 \HyField@PrintFlags{Ff}{radio button field}%
5308 \bitsetIsEmpty{HyField@Ff}{%
5309   \def\Fld@flags{%
5310   }{%
5311   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5312   }%
5313 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5314 \def\HyField@FlagsText{%
5315 \HyField@FlagsAnnot{text field}%
5316 \bitsetReset{HyField@Ff}%
5317 \HyField@UseFlag{Ff}{ReadOnly}%
5318 \HyField@UseFlag{Ff}{Required}%
5319 \HyField@UseFlag{Ff}{NoExport}%
5320 \HyField@UseFlag{Ff}{Multiline}%
5321 \HyField@UseFlag{Ff}{Password}%
5322 \HyField@UseFlag{Ff}{FileSelect}%
5323 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5324 \HyField@UseFlag{Ff}{DoNotScroll}%
5325 \ifFld@comb
5326   \ifcase0\ifFld@multiline
5327     \else\ifFld@password
5328     \else\ifFld@fileselect
5329     \else 1\fi\fi\fi\relax
5330   \Hy@Error{%
5331     Field option 'comb' cannot used together with\MessageBreak
5332     'multiline', 'password', or 'fileselect'%
5333   }\@ehc
5334   \else
5335     \HyField@UseFlag{Ff}{Comb}%
5336   \fi
5337 \fi
5338 \HyField@UseFlag{Ff}{RichText}%
5339 \HyField@PrintFlags{Ff}{text field}%
5340 \bitsetIsEmpty{HyField@Ff}{%
5341   \def\Fld@flags{%
5342   }{%
5343   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5344   }%
5345 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5346 \def\HyField@FlagsChoice{%
5347 \HyField@FlagsAnnot{choice field}%
5348 \bitsetReset{HyField@Ff}%
5349 \HyField@UseFlag{Ff}{ReadOnly}%
5350 \HyField@UseFlag{Ff}{Required}%
5351 \HyField@UseFlag{Ff}{NoExport}%
5352 \HyField@UseFlag{Ff}{Combo}%

```

```

5353 \ifFld@combo
5354   \HyField@UseFlag{Ff}{Edit}%
5355 \fi
5356 \HyField@UseFlag{Ff}{Sort}%
5357 \HyField@UseFlag{Ff}{MultiSelect}%
5358 \ifFld@combo
5359   \ifFld@edit
5360     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5361   \fi
5362 \fi
5363 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5364 \HyField@PrintFlags{Ff}{choice field}%
5365 \bitsetIsEmpty{HyField@Ff}{%
5366   \def\Fld@flags{%
5367 }{%
5368   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5369 }%
5370 }

```

19.2 Choice field

`\HyField@PDFChoices` #1: list of choices in key value syntax, key = exported name, value = displayed text.
Input: `\Fld@default`, `\Fld@value`, `\ifFld@multiselect`
Result: `\Fld@choices` with entries: `/Opt`, `/DV`, `/V`, `/I`.

```

5371 \def\HyField@PDFChoices#1{%
5372   \begingroup
5373   \gdef\Fld@choices{%
5374     \def\HyTmp@optlist{%
5375       \let\HyTmp@optitem\relax
5376       \count@=0 %
5377       \kv@parse{#1}{%
5378         \Hy@pdfstringdef\kv@key\kv@key
5379         \ifx\kv@value\relax
5380           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5381             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5382           \else
5383             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5384           \fi
5385         \else
5386           \Hy@pdfstringdef\kv@value\kv@value
5387           \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5388         \fi
5389       \edef\HyTmp@optlist{%
5390         \HyTmp@optlist
5391         \HyTmp@optitem{\the\count@}{\kv@key}0%
5392       }%
5393       \advance\count@ by 1 %
5394       \@gobbletwo
5395     }%
5396     \xdef\Fld@choices{/Opt[\Fld@choices]}%
5397   \ifFld@multiselect
5398     \HyField@@@PDFChoices{DV}\Fld@default
5399     \HyField@@@PDFChoices{V}\Fld@value
5400   \else
5401     \ifx\Fld@default\relax
5402     \else
5403       \pdfstringdef\Hy@gtemp\Fld@default

```

```

5404     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5405     \fi
5406     \ifx\Fld@value\relax
5407     \else
5408     \pdfstringdef\Hy@gtemp\Fld@value
5409     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5410     \fi
5411     \fi
5412 \endgroup
5413 }

```

\HyField@@PDFChoices

```

5414 \def\HyField@@PDFChoices#1#2{%
5415 \ifx#2\relax
5416 \else
5417 \count@=0 %
5418 \def\HyTmp@optitem##1##2##3{%
5419 \def\HyTmp@key{##2}%
5420 \ifx\HyTmp@key\Hy@gtemp
5421 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5422 \HyTmp@optlist
5423 \HyTmp@optitem{##1}{##2}1%
5424 }%
5425 \let\HyTmp@found=Y%
5426 \else
5427 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5428 \HyTmp@optlist
5429 \HyTmp@optitem{##1}{##2}##3%
5430 }%
5431 \fi
5432 }%
5433 \expandafter\comma@parse\expandafter{#2}{%
5434 \pdfstringdef\Hy@gtemp\comma@entry
5435 \let\HyTmp@found=N %
5436 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5437 \HyTmp@optlist
5438 \ifx\HyTmp@found Y%
5439 \advance\count@ by 1 %
5440 \else
5441 \@onelevel@sanitize\comma@entry
5442 \PackageWarning{hyperref}{%
5443 \string\ChoiceBox: Ignoring value '\comma@entry',%
5444 \MessageBreak
5445 it cannot be found in the choices%
5446 }%
5447 \fi
5448 \@gobble
5449 }%
5450 \def\HyTmp@optitem##1##2##3{%
5451 \ifnum##3=1 %
5452 (##2)%
5453 \fi
5454 }%
5455 \ifcase\count@
5456 \or
5457 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5458 \else

```



```

5459 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5460 \ifx#1V%
5461 \def\HyTmp@optitem##1##2##3{%
5462 \ifnum##3=1 %
5463 \@firstofone{ ##1}%
5464 \fi
5465 }%
5466 \edef\HyTmp@optlist{\HyTmp@optlist}%
5467 \xdef\Fld@choices{%
5468 \Fld@choices
5469 /I[\expandafter\@firstofone\HyTmp@optlist]%
5470 }%
5471 \fi
5472 \fi
5473 \fi
5474 }

```

19.3 Forms

\HyField@SetKeys

```

5475 \def\HyField@SetKeys{%
5476 \kvsetkeys{Field}%
5477 }

5478 \newif\ifFld@checked
5479 \newif\ifFld@disabled
5480 \Fld@checkedfalse
5481 \Fld@disabledfalse
5482 \newcount\Fld@menulength
5483 \newdimen\Fld@Width
5484 \newdimen\Fld@charsize
5485 \Fld@charsize=10\p@
5486 \def\Fld@maxlen{0}
5487 \def\Fld@align{0}
5488 \def\Fld@color{0 0 0 rg}
5489 \def\Fld@bcolor{1 1 1}
5490 \def\Fld@bordercolor{1 0 0}
5491 \def\Fld@bordersep{1\p@}
5492 \def\Fld@borderwidth{1}
5493 \def\Fld@borderstyle{S}
5494 \def\Fld@cbsymbol{4}
5495 \def\Fld@radiosymbol{H}
5496 \def\Fld@rotation{0}
5497 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5498 \def\endForm{\@endForm}
5499 \newif\ifForm@html
5500 \Form@htmlfalse
5501 \def\Form@boolkey#1#2{%
5502 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5503 }
5504 \define@key{Form}{action}{%
5505 \hyper@normalise\Hy@DefFormAction{#1}%
5506 }
5507 \def\Hy@DefFormAction{\def\Form@action}
5508 \def\enc@@html{html}
5509 \define@key{Form}{encoding}{%
5510 \def\Hy@tempa{#1}%

```

```

5511 \ifx\Hy@tempa\enc@@html
5512 \Form@htmltrue
5513 \def\Fld@export{html}%
5514 \else
5515 \Hy@Warning{%
5516   Form 'encoding' key with \MessageBreak
5517   unknown value '#1'%
5518 }%
5519 \Form@htmlfalse
5520 \fi
5521 }
5522 \define@key{Form}{method}{%
5523 \lowercase{\def\Hy@temp{#1}}%
5524 \@ifundefined{Form@method@\Hy@temp}{%
5525 \@onelevel@sanitize\Hy@temp
5526 \Hy@Error{%
5527   Unknown method '\Hy@temp'\MessageBreak
5528   Known values are 'post' and 'get'%
5529 } \@ehc
5530 }{%
5531 \let\Form@method\Hy@temp
5532 \ifcase\@nameuse{Form@method@\Hy@temp} %
5533 \Fld@getmethodfalse
5534 \else
5535 \Fld@getmethodtrue
5536 \fi
5537 }%
5538 }
5539 \def\Form@method{}
5540 \@namedef{Form@method@post}{0}
5541 \@namedef{Form@method@get}{1}
5542 \newif\ifHyField@NeedAppearances
5543 \def\HyField@NeedAppearancesfalse{%
5544 \global\let\ifHyField@NeedAppearances\iffalse
5545 }
5546 \def\HyField@NeedAppearancetrue{%
5547 \global\let\ifHyField@NeedAppearances\iftrue
5548 }
5549 \HyField@NeedAppearancetrue
5550 \define@key{Form}{NeedAppearances}[true]{%
5551 \edef\Hy@tempa{#1}%
5552 \ifx\Hy@tempa\Hy@true
5553 \HyField@NeedAppearancetrue
5554 \else
5555 \ifx\Hy@tempa\Hy@false
5556 \HyField@NeedAppearancesfalse
5557 \else
5558 \Hy@Error{%
5559   Unexpected value '\Hy@tempa'\MessageBreak
5560   of option 'NeedAppearances' instead of\MessageBreak
5561   'true' or 'false'%
5562 } \@ehc
5563 \fi
5564 \fi
5565 }
5566 \def\Field@boolkey#1#2{%
5567 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname

```

```

5568 }
5569 \ifHy@texht
5570   \newtoks\Field@toks
5571   \Field@toks={ }%
5572   \def\Field@addtoks#1#2{%
5573     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5574     \@processme
5575   }%
5576 \else
5577   \def\Hy@WarnHTMLFieldOption#1{%
5578     \Hy@Warning{%
5579       HTML field option '#1'\MessageBreak
5580       is ignored%
5581     }%
5582   }%
5583 \fi
5584 \def\Fld@checkequals#1=#2=#3\\{%
5585   \def\@currDisplay{#1}%
5586   \ifx\\#2\\%
5587     \def\@currValue{#1}%
5588   \else
5589     \def\@currValue{#2}%
5590   \fi
5591 }
5592 \define@key{Field}{loc}{%
5593   \def\Fld@loc{#1}%
5594 }
5595 \define@key{Field}{checked}[true]{%
5596   \lowercase{\Field@boolkey{#1}}{checked}%
5597 }
5598 \define@key{Field}{disabled}[true]{%
5599   \lowercase{\Field@boolkey{#1}}{disabled}%
5600 }
5601 \ifHy@texht
5602   \define@key{Field}{accesskey}{%
5603     \Field@addtoks{accesskey}{#1}%
5604   }%
5605   \define@key{Field}{tabkey}{%
5606     \Field@addtoks{tabkey}{#1}%
5607   }%
5608 \else
5609   \define@key{Field}{accesskey}{%
5610     \Hy@WarnHTMLFieldOption{accesskey}%
5611   }%
5612   \define@key{Field}{tabkey}{%
5613     \Hy@WarnHTMLFieldOption{tabkey}%
5614   }%
5615 \fi
5616 \define@key{Field}{name}{%
5617   \def\Fld@name{#1}%
5618 }
5619 \let\Fld@altname\relax
5620 \define@key{Field}{altname}{%
5621   \def\Fld@altname{#1}%
5622 }
5623 \let\Fld@mappingname\relax
5624 \define@key{Field}{mappingname}{%

```

```

5625 \def\Fld@mappingname{#1}%
5626 }
5627 \define@key{Field}{width}{%
5628 \def\Fld@width{#1}%
5629 \Field@Width#1\setbox0=\hbox{m}%
5630 }
5631 \define@key{Field}{maxlen}{%
5632 \def\Fld@maxlen{#1}%
5633 }
5634 \define@key{Field}{menulength}{%
5635 \Fld@menulength=#1\relax
5636 }
5637 \define@key{Field}{height}{%
5638 \def\Fld@height{#1}%
5639 }
5640 \define@key{Field}{charsize}{%
5641 \Fld@charsize#1%
5642 }
5643 \define@key{Field}{borderwidth}{%
5644 \def\Fld@borderwidth{#1}%
5645 }
5646 \define@key{Field}{borderstyle}{%
5647 \let\Hy@temp\Fld@borderstyle
5648 \def\Fld@borderstyle{#1}%
5649 \Hy@Match\Fld@borderstyle{%
5650 ~[SDBIU]$%
5651 }{}{%
5652 \Hy@Warning{%
5653 Invalid value '\@pdfborderstyle'\MessageBreak
5654 for option 'pdfborderstyle'. Valid values:\MessageBreak
5655 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5656 \space\space I (Inset), U (Underline)\MessageBreak
5657 Option setting is ignored%
5658 }%
5659 \let\Fld@borderstyle\Hy@temp
5660 }%
5661 }
5662 \define@key{Field}{bordersep}{%
5663 \def\Fld@bordersep{#1}%
5664 }
5665 \define@key{Field}{default}{%
5666 \def\Fld@default{#1}%
5667 }
5668 \define@key{Field}{align}{%
5669 \def\Fld@align{#1}%
5670 }
5671 \define@key{Field}{value}{%
5672 \def\Fld@value{#1}%
5673 }
5674 \define@key{Field}{checkboxsymbol}{%
5675 \Fld@DingDef\Fld@cbsymbol{#1}%
5676 }
5677 \define@key{Field}{radiosymbol}{%
5678 \Fld@DingDef\Fld@radiosymbol{#1}%
5679 }
5680 \def\Fld@DingDef#1#2{%
5681 \def\Fld@temp{}}%

```

```

5682 \Fld@@DingDef#2\ding{ }\@nil
5683 \let#1\Fld@temp
5684 }
5685 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5686 \expandafter\def\expandafter\Fld@temp\expandafter{%
5687 \Fld@temp
5688 #1%
5689 }%
5690 \ifx\#3\%
5691 \expandafter@gobble
5692 \else
5693 \begingroup
5694 \lccode'0=#2\relax
5695 \lowercase\endgroup
5696 \expandafter\def\expandafter\Fld@temp\expandafter{%
5697 \Fld@temp
5698 0%
5699 }%
5700 }%
5701 \expandafter\@firstofone
5702 \fi
5703 {%
5704 \Fld@@DingDef#3\@nil
5705 }%
5706 }

5707 \define@key{Field}{rotation}{%
5708 \def\Fld@rotation{#1}%
5709 }

5710 \define@key{Field}{backgroundcolor}{%
5711 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5712 }
5713 \define@key{Field}{bordercolor}{%
5714 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5715 }
5716 \define@key{Field}{color}{%
5717 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5718 }

5719 \def\Fld@onclick@code{}
5720 \def\Fld@format@code{}
5721 \def\Fld@validate@code{}
5722 \def\Fld@calculate@code{}
5723 \def\Fld@keystroke@code{}
5724 \def\Fld@onfocus@code{}
5725 \def\Fld@onblur@code{}
5726 \def\Fld@onmousedown@code{}
5727 \def\Fld@onmouseup@code{}
5728 \def\Fld@onenter@code{}
5729 \def\Fld@onexit@code{}
5730 \def\Hy@temp#1{%
5731 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5732 }
5733 \def\Hy@@temp#1#2{%
5734 \ifHy@pdfa
5735 \define@key{Field}{#2}{%
5736 \Hy@Error{%
5737 PDF/A: Additional action '#2' is prohibited%

```

```

5738     }\@ehc
5739   }%
5740 \else
5741   \define@key{Field}{#2}{%
5742     \def#1{##1}%
5743   }%
5744 \fi
5745 }
5746 \Hy@temp{keystroke}
5747 \Hy@temp{format}
5748 \Hy@temp{validate}
5749 \Hy@temp{calculate}
5750 \Hy@temp{onfocus}
5751 \Hy@temp{onblur}
5752 \Hy@temp{onenter}
5753 \Hy@temp{onexit}
5754 \ifHy@texht
5755   \def\Hy@temp#1{%
5756     \define@key{Field}{#1}{%
5757       \Field@addtoks{#1}{##1}%
5758     }%
5759   }%
5760 \else
5761   \def\Hy@temp#1{%
5762     \define@key{Field}{#1}{%
5763       \Hy@WarnHTMLFieldOption{#1}%
5764     }%
5765   }%
5766 \fi
5767 \Hy@temp{ondblclick}
5768 \Hy@temp{onmousedown}
5769 \Hy@temp{onmouseup}
5770 \Hy@temp{onmouseover}
5771 \Hy@temp{onmousemove}
5772 \Hy@temp{onmouseout}
5773 \Hy@temp{onkeydown}
5774 \Hy@temp{onkeyup}
5775 \Hy@temp{onselect}
5776 \Hy@temp{onchange}
5777 \Hy@temp{onkeypress}
5778 \ifHy@texht
5779   \define@key{Field}{onclick}{%
5780     \Field@addtoks{onclick}{#1}%
5781   }%
5782 \else
5783   \ifHy@pdfa
5784     \define@key{Field}{onclick}{%
5785       \Hy@Error{%
5786         PDF/A: Action 'onclick' is prohibited%
5787       }
5788     }%
5789   \else
5790     \define@key{Field}{onclick}{%
5791       \def\Fld@onclick@code{#1}%
5792     }%
5793   \fi
5794 \fi

```

```

5795 \DeclareRobustCommand\TextField{%
5796 \@ifnextchar[{\@TextField}{\@TextField[]}%
5797 }
5798 \DeclareRobustCommand\ChoiceMenu{%
5799 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5800 }
5801 \DeclareRobustCommand\CheckBox{%
5802 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5803 }
5804 \DeclareRobustCommand\PushButton{%
5805 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5806 }
5807 \DeclareRobustCommand\Gauge{%
5808 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5809 }
5810 \DeclareRobustCommand\Submit{%
5811 \@ifnextchar[{\@Submit}{\@Submit[]}%
5812 }
5813 \DeclareRobustCommand\Reset{%
5814 \@ifnextchar[{\@Reset}{\@Reset[]}%
5815 }
5816 \def\LayoutTextField#1#2{% label, field
5817 #1 #2%
5818 }
5819 \def\LayoutChoiceField#1#2{% label, field
5820 #1 #2%
5821 }
5822 \def\LayoutCheckField#1#2{% label, field
5823 #1 #2%
5824 }
5825 \def\LayoutPushButtonField#1{% button
5826 #1%
5827 }
5828 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5829 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5830 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5831 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5832 \def\MakeButtonField#1{%
5833 \sbox0{%
5834 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5835 }%
5836 \@tempdima\ht0 %
5837 \advance\@tempdima by \Fld@borderwidth bp %
5838 \advance\@tempdima by \Fld@borderwidth bp %
5839 \ht0\@tempdima
5840 \@tempdima\dp0 %
5841 \advance\@tempdima by \Fld@borderwidth bp %
5842 \advance\@tempdima by \Fld@borderwidth bp %
5843 \dp0\@tempdima
5844 \box0\relax
5845 }
5846 \def\DefaultHeightofSubmit{14pt}
5847 \def\DefaultWidthofSubmit{2cm}
5848 \def\DefaultHeightofReset{14pt}
5849 \def\DefaultWidthofReset{2cm}
5850 \def\DefaultHeightofCheckBox{\baselineskip}
5851 \def\DefaultWidthofCheckBox{\baselineskip}

```

```

5852 \def\DefaultHeightofChoiceMenu{\baselineskip}
5853 \def\DefaultWidthofChoiceMenu{\baselineskip}
5854 \def\DefaultHeightofText{\baselineskip}
5855 \def\DefaultHeightofTextMultiline{4\baselineskip}
5856 \def\DefaultWidthofText{3cm}
5857 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5858 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5859 \def\DefaultOptionsofPushButton{print}
5860 \def\DefaultOptionsofCheckBox{print}
5861 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5862 \def\DefaultOptionsofListBox{print}
5863 \def\DefaultOptionsofComboBox{print,edit,sort}
5864 \def\DefaultOptionsofPopdownBox{print}
5865 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5866 \ifHy@figures
5867 \Hy@Info{Hyper figures ON}%
5868 \else
5869 \Hy@Info{Hyper figures OFF}%
5870 \fi
5871 \ifHy@nesting
5872 \Hy@Info{Link nesting ON}%
5873 \else
5874 \Hy@Info{Link nesting OFF}%
5875 \fi
5876 \ifHy@hyperindex
5877 \Hy@Info{Hyper index ON}%
5878 \else
5879 \Hy@Info{Hyper index OFF}%
5880 \fi
5881 \ifHy@backref
5882 \Hy@Info{backreferencing ON}%
5883 \else
5884 \Hy@Info{backreferencing OFF}%
5885 \fi
5886 \ifHy@colorlinks
5887 \Hy@Info{Link coloring ON}%
5888 \else
5889 \Hy@Info{Link coloring OFF}%
5890 \fi
5891 \ifHy@ocgcolorlinks
5892 \Hy@Info{Link coloring with OCG ON}%
5893 \else
5894 \Hy@Info{Link coloring with OCG OFF}%
5895 \fi
5896 \ifHy@pdfa
5897 \Hy@Info{PDF/A mode ON}%
5898 \else
5899 \Hy@Info{PDF/A mode OFF}%
5900 \fi

```


21 Low-level utility macros

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

```
5901 \edef\hyper@hash{\string#}  
5902 \edef\hyper@tilde{\string~}  
5903 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
5904 \def\@currentHref{Doc-Start}  
5905 \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.

```
5906 \Hy@AtBeginDocument{%  
5907   \Hy@pdfstringtrue  
5908   \PDF@SetupDoc  
5909   \let\PDF@SetupDoc\@empty  
5910   \Hy@DisableOption{pdfpagescrop}%  
5911   \Hy@DisableOption{pdfpagemode}%  
5912   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
5913   \Hy@DisableOption{pdfdirection}%  
5914   \Hy@DisableOption{pdfviewarea}%  
5915   \Hy@DisableOption{pdfviewclip}%  
5916   \Hy@DisableOption{pdfprintarea}%  
5917   \Hy@DisableOption{pdfprintclip}%  
5918   \Hy@DisableOption{pdfprintscaling}%  
5919   \Hy@DisableOption{pdfduplex}%  
5920   \Hy@DisableOption{pdfpicktraybypdfsize}%  
5921   \Hy@DisableOption{pdfprintpagerange}%  
5922   \Hy@DisableOption{pdfnumcopies}%  
5923   \Hy@DisableOption{pdfstartview}%  
5924   \Hy@DisableOption{pdfstartpage}%  
5925   \Hy@DisableOption{pdftoolbar}%  
5926   \Hy@DisableOption{pdfmenubar}%  
5927   \Hy@DisableOption{pdfwindowui}%  
5928   \Hy@DisableOption{pdfwindow}%  
5929   \Hy@DisableOption{pdfcenterwindow}%  
5930   \Hy@DisableOption{pdfdisplaydoctitle}%  
5931   \Hy@DisableOption{pdfpagelayout}%  
5932   \Hy@DisableOption{pdflang}%  
5933   \Hy@DisableOption{baseurl}%  
5934   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
5935   \Hy@pdfstringfalse  
5936 }
```

Ignore star from referencing macros:

```
5937 \LetLtxMacro\NoHy@OrgRef\ref  
5938 \DeclareRobustCommand*\ref{%  
5939   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
5940 }  
5941 \LetLtxMacro\NoHy@OrgPageRef\pageref  
5942 \DeclareRobustCommand*\pageref{%  
5943   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
5944 }
```

22 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```
5945 \def\NoHyper{%
5946   \def\hyper@link@[##1]##2##3##4{##4}%
5947   \def\hyper@@anchor##1{%
5948     \global\let\hyper@livelink\hyper@link
5949     \gdef\hyper@link##1##2##3{##3}%
5950   \def\hyper@anchor##1{%
5951     \def\hyper@anchorstart##1{%
5952       \let\hyper@anchorend\@empty
5953     \def\hyper@linkstart##1##2{%
5954       \let\hyper@linkend\@empty
5955     \def\hyper@linkurl##1##2{##1}%
5956     \def\hyper@linkfile##1##2##3{##1}%
5957     \def\hyper@link@[##1]##2##3{%
5958       \let\Hy@backout\@gobble
5959   }
5960 \def\stop@hyper{%
5961   \def\hyper@link@[##1]##2##3##4{##4}%
5962   \let\Hy@backout\@gobble
5963   \def\hyper@@anchor##1{%
5964     \def\hyper@link##1##2##3{##3}%
5965     \def\hyper@anchor##1{%
5966       \def\hyper@anchorstart##1{%
5967         \let\hyper@anchorend\@empty
5968       \def\hyper@linkstart##1##2{%
5969         \let\hyper@linkend\@empty
5970       \def\hyper@linkurl##1##2{##1}%
5971       \def\hyper@linkfile##1##2##3{##1}%
5972       \def\hyper@link@[##1]##2##3{%
5973     }
5974 \def\endNoHyper{%
5975   \global\let\hyper@link\hyper@livelink
5976 }
5977 </package>
```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```
5978 <*nohyperref>
5979 \RequirePackage{letltxmacro}[2008/06/13]
5980 \let\hyper@@anchor\@gobble
5981 \def\hyper@link##1##2##3{##3}%
5982 \let\hyper@anchorstart\@gobble
5983 \let\hyper@anchorend\@empty
5984 \let\hyper@linkstart\@gobbletwo
```

```

5985 \let\hyper@linkend\@empty
5986 \def\hyper@linkurl#1#2{#1}%
5987 \def\hyper@linkfile#1#2#3{#1}%
5988 \def\hyper@link@{#1}#2#3{#1}%
5989 \let\PDF@SetupDoc\@empty
5990 \let\PDF@FinishDoc\@empty
5991 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5992 \def\Acrobatmenu#1#2{\leavevmode#2}
5993 \let\pdfstringdefDisableCommands\@gobbletwo
5994 \let\texorpdfstring\@firstoftwo
5995 \let\pdfbookmark\@undefined
5996 \newcommand\pdfbookmark[3]{}
5997 \let\phantomsection\@empty
5998 \let\hypersetup\@gobble
5999 \let\hyperbaseurl\@gobble
6000 \newcommand*{\href}[3]{}
6001 \let\hyperdef\@gobbletwo
6002 \let\hyperlink\@gobble
6003 \let\hypertarget\@gobble
6004 \def\hyperref{%
6005   \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6006 }
6007 \long\def\@gobbleopt[#1]{}
6008 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6009 \LetLtxMacro\NoHy@OrgRef\ref
6010 \DeclareRobustCommand*\ref{%
6011   \ifstar\NoHy@OrgRef\NoHy@OrgRef
6012 }
6013 \LetLtxMacro\NoHy@OrgPageRef\pageref
6014 \DeclareRobustCommand*\pageref{%
6015   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6016 }
6017 \</nohyperref>

```

24 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```

6018 \<*package>
6019 \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.

```

6020 \if@filesw
6021   \ifHy@typexml
6022     \immediate\closeout\@mainaux
6023     \immediate\openout\@mainaux\jobname.aux\relax
6024     \immediate\write\@auxout{<relaxxml>\relax}%
6025   \fi
6026 \immediate\write\@auxout{%
6027   \string\providecommand\string\HyperFirstAtBeginDocument{%

```

```

6028   \string\AtBeginDocument}^^J%
6029   \string\HyperFirstAtBeginDocument{%
6030   \string\ifx\string\hyper@anchor\string\@undefined^^J%
6031   \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6032   \string\gdef\string\contentsline%
6033   \string#1\string#2\string#3\string#4{%
6034   \string\oldcontentsline%
6035   {\string#1}{\string#2}{\string#3}}^^J%
6036   \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6037   \string\gdef\string\newlabel\string#1\string#2{%
6038   \string\newlabelxx{\string#1}\string#2}}^^J%
6039   \string\gdef\string\newlabelxx%
6040   \string#1\string#2\string#3\string#4\string#5\string#6{%
6041   \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.

```

6042   \string\AtEndDocument{%
6043   \string\ifx\string\hyper@anchor\string\@undefined^^J%
6044   \string\let\string\contentsline\string\oldcontentsline^^J%
6045   \string\let\string\newlabel\string\oldnewlabel^^J%
6046   \string\fi%
6047   }^^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.

```

6048   \string\fi%
6049   }^^J%
6050   \string\global\string\let\string\hyper@last\relax^^J%
6051   \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6052   }%
6053   \fi
6054   \def\HyperFirstAtBeginDocument#1{#1}%

```

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.

```

6055   \ifx\hyper@last\@undefined
6056   \def\@starttoc#1{%
6057   \begingroup
6058   \makeatletter
6059   \IfFileExists{\jobname.#1}{%
6060   \Hy@WarningNoLine{%
6061   old #1 file detected, not used; run LaTeX again%
6062   }%
6063   }{}%
6064   \if@filesw
6065   \expandafter\newwrite\csname tf@#1\endcsname
6066   \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6067   \fi
6068   \@nobreakfalse
6069   \endgroup
6070   }%
6071   \def\newlabel#1#2{\@newlabel r{#1}{#2}{-}{-}}%
6072   \fi
6073   }

```

25 Title strings

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

```

6074 \ifHy@usetitle
6075 \let\HyOrg@title\title
6076 \let\HyOrg@author\author
6077 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
6078 \def\Hy@scanopttitle[#1]{%
6079 \gdef\Hy@title{#1}%
6080 \HyOrg@title{#1}}%
6081 }%
6082 \def\Hy@scantitle#1{%
6083 \gdef\Hy@title{#1}%
6084 \HyOrg@title{#1}%
6085 }%
6086 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6087 \def\Hy@scanoptauthor[#1]{%
6088 \gdef\Hy@author{#1}%
6089 \HyOrg@author{#1}}%
6090 }%
6091 \def\Hy@scanauthor#1{%
6092 \gdef\Hy@author{#1}%
6093 \HyOrg@author{#1}%
6094 }%

```

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

```

6095 \begingroup
6096 \def\process@me#1\@nil#2{%
6097 \expandafter\let\expandafter\x\csname @#2\endcsname
6098 \edef\y{\expandafter\strip@prefix\meaning\x}%
6099 \def\c##1#1##2\@nil{%
6100 \ifx\##1\%
6101 \else
6102 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6103 \expandafter{\x}%
6104 \fi
6105 }%
6106 \expandafter\c\y\relax#1\@nil
6107 }%
6108 \expandafter\process@me\string\@latex@\@nil{title}%
6109 \expandafter\process@me\string\@latex@\@nil{author}%
6110 \endgroup
6111 \fi
6112 \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.

```

6113 \def\Hy@UseMaketitleString#1{%

```

```

6114 \ltx@ifundefined{Hy@#1}{}{%
6115   \begingroup
6116   \let\Hy@saved@hook\pdfstringdefPreHook
6117   \pdfstringdefDisableCommands{%
6118     \expandafter\let\expandafter\\csname Hy@newline@#1\endcsname
6119     \let\newline\\%
6120   }%
6121   \expandafter\ifx\csname @pdf#1\endcsname\@empty
6122     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6123       \csname Hy@#1\endcsname\@empty
6124     }%
6125   \fi
6126   \global\let\pdfstringdefPreHook\Hy@saved@hook
6127   \endgroup
6128 }%
6129 }
6130 \def\Hy@newline@title#1{ #1}
6131 \def\Hy@newline@author#1{, #1}
6132 \def\Hy@UseMaketitleInfos{%
6133   \Hy@UseMaketitleString{title}%
6134   \Hy@UseMaketitleString{author}%
6135 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6136 \RequirePackage{atbegshi}[2007/09/09]
6137 \def\Hy@EveryPageHook{}
6138 \def\Hy@EveryPageBoxHook{}
6139 \def\Hy@FirstPageHook{}
6140 \AtBeginShipout{%
6141   \Hy@EveryPageHook
6142   \ifx\Hy@EveryPageBoxHook\@empty
6143     \else
6144     \setbox\AtBeginShipoutBox=\vbox{%
6145       \offinterlineskip
6146       \Hy@EveryPageBoxHook
6147       \box\AtBeginShipoutBox
6148     }%
6149   \fi
6150 }
6151 \AtBeginShipoutFirst{%
6152   \Hy@FirstPageHook
6153 }
6154 \g@addto@macro\Hy@FirstPageHook{%
6155   \PDF@FinishDoc
6156   \gdef\PDF@FinishDoc{}%
6157 }

```

27.1 PDF /PageLabels

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

```

6158 \ifHy@pagelabels
6159 \begingroup\expandafter\expandafter\expandafter\endgroup
6160 \expandafter\ifx\csname thepage\endcsname\relax
6161 \Hy@pagelabelsfalse
6162 \Hy@WarningNoLine{%
6163   Option 'pdfpagelabels' is turned off\MessageBreak
6164   because \string\thepage\space is undefined%
6165 }%
6166 \csname fi\endcsname
6167 \csname iffalse\expandafter\endcsname
6168 \fi

```

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

```

6169 \def\thispdfpagelabel#1{%
6170   \gdef\HyPL@thisLabel{#1}%
6171 }%
6172 \global\let\HyPL@thisLabel\relax

```

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

```

6173 \def\HyPL@Labels{}%

```

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

```

6174 \newcount\Hy@abspage
6175 \Hy@abspage=0 %

```

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

```

6176 \def\HyPL@LastType{init}%
6177 \def\HyPL@LastNumber{0}%
6178 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L^AT_EX pendants.

```

6179 \def\HyPL@arabic{D}%
6180 \def\HyPL@Roman{R}%
6181 \def\HyPL@roman{r}%
6182 \def\HyPL@Alph{A}%
6183 \def\HyPL@alph{a}%

6184 \def\HyPL@SlidesSetPage{}%
6185 \ltx@ifclassloaded{slides}{%
6186   \def\HyPL@SlidesSetPage{%
6187     \advance\c@page\ltx@one
6188     \ifnum\value{page}>\ltx@one
6189       \protected@edef\HyPL@SlidesOptionalPage{%
6190         \Hy@SlidesFormatOptionalPage{\thepage}%
6191       }%
6192     \else
6193       \def\HyPL@SlidesOptionalPage{}%
6194     \fi
6195     \advance\c@page-\ltx@one
6196   \def\HyPL@page{%
6197     \csname the\Hy@SlidesPage\endcsname
6198     \HyPL@SlidesOptionalPage
6199   }%
6200 }%
6201 }{}%

```

`\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.

```

6202 \def\HyPL@EveryPage{%
6203   \begingroup
6204   \ifx\HyPL@thisLabel\relax
6205     \let\HyPL@page\thepage
6206     \HyPL@SlidesSetPage
6207   \else
6208     \let\HyPL@page\HyPL@thisLabel
6209     \global\let\HyPL@thisLabel\relax
6210   \fi
6211   \let\HyPL@Type\relax
6212   \ifnum\the\c@page>0 %
6213     \ifx\HyPLSlidesSetPage\ltx@empty
6214       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6215     \fi
6216   \fi
6217   \let\Hy@temp Y%
6218   \ifx\HyPL@Type\HyPL@LastType
6219   \else
6220     \let\Hy@temp N%
6221   \fi
6222   \ifx\HyPL@Type\relax
6223     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6224   \else
6225     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6226   \fi
6227   \ifx\HyPL@Prefix\HyPL@LastPrefix
6228   \else
6229     \let\Hy@temp N%
6230   \fi
6231   \if Y\Hy@temp
6232     \advance\c@page by -1 %
6233     \ifnum\HyPL@LastNumber=\the\c@page\relax
6234     \else
6235       \let\Hy@temp N%
6236     \fi
6237     \Hy@StepCount\c@page
6238   \fi
6239   \if N\Hy@temp
6240     \ifx\HyPL@Type\relax
6241       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6242     \else
6243       \HyPL@StorePageLabel{%
6244         \ifx\HyPL@Prefix\@empty
6245         \else
6246           /P(\HyPL@Prefix)%
6247         \fi
6248         /S/\csname HyPL\HyPL@Type\endcsname
6249         \ifnum\the\c@page=1 %
6250         \else
6251           \space/St \the\c@page
6252         \fi
6253       }%
6254     \fi
6255   \fi
6256   \xdef\HyPL@LastNumber{\the\c@page}%

```



```

6257 \global\let\HyPL@LastType\HyPL@Type
6258 \global\let\HyPL@LastPrefix\HyPL@Prefix
6259 \endgroup
6260 \Hy@GlobalStepCount\Hy@abspage
6261 }%

```

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

```

6262 \def\HyPL@CheckThePage#1\@nil{%
6263 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6264 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , 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`.

```

6265 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6266 \def\Hy@tempa{#4}%
6267 \def\Hy@tempb{\csname\endcsname\c@page}%
6268 \ifx\Hy@tempa\Hy@tempb
6269 \expandafter\ifx\csname HyPL#3\endcsname\relax
6270 \else
6271 \def\HyPL@Type{#3}%
6272 \def\HyPL@Prefix{#2}%
6273 \fi
6274 \else
6275 \begingroup
6276 \let\Hy@next\endgroup
6277 \let\HyPL@found\@undefined
6278 \def\arabic{\HyPL@Format{arabic}}%
6279 \def\Roman{\HyPL@Format{Roman}}%
6280 \def\roman{\HyPL@Format{roman}}%
6281 \def\Alph{\HyPL@Format{Alph}}%
6282 \def\alph{\HyPL@Format{alph}}%
6283 \protected@edef\Hy@temp{#1}%
6284 \ifx\HyPL@found\relax
6285 \toks@\expandafter{\Hy@temp}%
6286 \edef\Hy@next{\endgroup
6287 \noexpand\HyPL@@CheckThePage\the\toks@
6288 \noexpand\HyPL@found\relax\noexpand\@nil
6289 }%
6290 \fi
6291 \Hy@next
6292 \fi
6293 }%

```

`\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`.

```

6294 \def\HyPL@Format#1#2{%
6295 \ifx\HyPL@found\@undefined
6296 \expandafter\ifx\csname c@#2\endcsname\c@page
6297 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6298 \else
6299 \expandafter\noexpand\csname#1\endcsname{#2}%
6300 \fi

```

```

6301 \else
6302 \expandafter\noexpand\csname#1\endcsname{#2}%
6303 \fi
6304 }%

```

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

```

6305 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6306 \def\Hy@tempa{#3}%
6307 \def\Hy@tempb{\HyPL@found\relax}%
6308 \ifx\Hy@tempa\Hy@tempb
6309 \def\HyPL@Type{#2}%
6310 \def\HyPL@Prefix{#1}%
6311 \fi
6312 }%

```

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

```

6313 \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`.

```

6314 \def\HyPL@Useless{0<</S/D>>}%
6315 \@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.

```

6316 \def\HyPL@SetPageLabels{%
6317 \@onelevel@sanitize\HyPL@Labels
6318 \ifx\HyPL@Labels\@empty
6319 \else
6320 \ifx\HyPL@Labels\HyPL@Useless
6321 \else
6322 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6323 \fi
6324 \fi
6325 }%

```

```

6326 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6327 \fi

```

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

```

6328 \Hy@DisableOption{pdfpagelabels}
6329 </package>

```

27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

6330 <*pdftex>
6331 \pdf@ifdraftmode{%
6332 \let\Hy@PutCatalog\ltx@gobble
6333 }{%
6334 \let\Hy@PutCatalog\pdfcatalog
6335 }
6336 </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.

```

6337 < *vtex >
6338 \providecommand*{\XR@ext}{pdf}
6339 \edef\Hy@VTeXversion{%
6340   \ifx\VTeXversion\undefined
6341     \z@
6342   \else
6343     \ifx\VTeXversion\relax
6344       \z@
6345     \else
6346       \VTeXversion
6347     \fi
6348   \fi
6349 }
6350 \begingroup
6351   \ifnum\Hy@VTeXversion<660 %
6352     \gdef\Hy@PutCatalog#1{%
6353       \Hy@WarningNoLine{%
6354         VTeX 6.59g or above required for pdfpagelabels%
6355       }%
6356     }%
6357   \else
6358     \gdef\Hy@PutCatalog#1{%
6359       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6360     }%
6361     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6362       \ifx\#2\%
6363         \else
6364           \immediate\special{!pdfpagelabels #2}%
6365         \fi
6366       }%
6367     \fi
6368 \endgroup
6369 < /vtex >

6370 < *pdfTeX | vtex >

```

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

```

6371 \ifHy@pagelabels
6372   \def\HyPL@StorePageLabel#1{%
6373     \toks@\expandafter{\HyPL@Labels}%
6374     \xdef\HyPL@Labels{%
6375       \the\toks@
6376       \the\Hy@abspage<<#1>>%
6377     }%
6378   }%

```

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.

```

6379 \RequirePackage{atveryend}[2009/12/07]%
6380 \AtVeryEndDocument{%
6381   \HyPL@SetPageLabels
6382 }%

```

```
6383 \fi
6384 </pdfTEX | vTeX>
```

27.1.2 xetex

```
6385 <*xetex>
6386 \HyPsd@LoadUnicode
6387 \Hy@unicodetrue
6388 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6389 \else
6390 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6391 \fi
6392 \HyPsd@LoadStringEnc
6393 \define@key{Hyp}{unicode}[true]{%
6394 \Hy@boolkey{unicode}{#1}%
6395 \ifHy@unicode
6396 \else
6397 \Hy@Warning{%
6398 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6399 option setting 'unicode=false'%
6400 }%
6401 \Hy@unicodetrue
6402 \fi
6403 }
6404 \define@key{Hyp}{pdfencoding}{%
6405 \edef\HyPsd@temp{#1}%
6406 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6407 \let\HyPsd@pdfencoding\HyPsd@temp
6408 \else
6409 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6410 \let\HyPsd@pdfencoding\HyPsd@temp
6411 \else
6412 \Hy@Warning{%
6413 XeTeX driver only supports\MessageBreak
6414 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6415 setting 'pdfencoding=\HyPsd@temp'%
6416 }%
6417 \fi
6418 \fi
6419 }
6420 \let\HyXeTeX@CheckUnicode\relax
6421 </xetex>
```

27.1.3 pdfmarkbase, dvipdfm, xetex

```
6422 <*pdfmarkbase>
6423 \begingroup
6424 \@ifundefined{headerps@out}{%
6425 \toks@\expandafter{\Hy@FirstPageHook}%
6426 \xdef\Hy@FirstPageHook{%
6427 \noexpand\headerps@out{%
6428 systemdict /pdfmark known%
6429 {%
6430 userdict /?pdfmark systemdict /exec get put%
6431 }{%
6432 userdict /?pdfmark systemdict /pop get put %
6433 userdict /pdfmark systemdict /cleartomark get put%
6434 }%

```

```

6435     ifelse%
6436     }%
6437     \the\toks@
6438     }%
6439     }%
6440 \endgroup
6441 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6442 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6443 \<*pdfmarkbase>
6444 \def\Hy@PutCatalog#1{%
6445   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6446 }
6447 \</pdfmarkbase>

6448 \<*pdfmarkbase | dvipdfm | xetex>
6449 \ifHy@pagelabels

```

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

```

6450 \def\HyPL@StorePageLabel#1{%
6451   \if@filesw
6452   \begingroup
6453     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6454     \immediate\write\@mainaux{%
6455       \string\HyPL@Entry{\Hy@tempa}%
6456     }%
6457   \endgroup
6458   \fi
6459 }%

```

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.

```

6460 \Hy@AtBeginDocument{%
6461   \if@filesw
6462     \immediate\write\@mainaux{%
6463       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6464     }%
6465   \fi
6466   \ifx\HyPL@Labels\@empty
6467     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6468   \else
6469     \HyPL@SetPageLabels
6470   \fi
6471   \let\HyPL@Entry\@gobble
6472 }%

```

\HyPL@Entry

```

6473 \def\HyPL@Entry#1{%
6474   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6475     \HyPL@Labels
6476     #1%
6477   }%
6478 }%

6479 \fi
6480 \</pdfmarkbase | dvipdfm | xetex>

```

```
6481 ⟨*package⟩
6482 \MaybeStopEarly
```

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```
6483 \def\Hy@CounterExists#1{%
6484   \begingroup\expandafter\expandafter\expandafter\endgroup
6485   \expandafter\ifx\csname c@#1\endcsname\relax
6486     \expandafter\@gobble
6487   \else
6488     \begingroup\expandafter\expandafter\expandafter\endgroup
6489     \expandafter\ifx\csname the#1\endcsname\relax
6490       \expandafter\expandafter\expandafter\@gobble
6491     \else
6492       \expandafter\expandafter\expandafter\@firstofone
6493     \fi
6494   \fi
6495 }
6496 \Hy@CounterExists{section}{%
6497   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6498 }
6499 \Hy@CounterExists{part}{%
6500   \newcommand\theHpart{\arabic{part}}}%
6501 }
6502 \ltx@ifundefined{thechapter}{%
6503   \newcommand\theHsection   {\arabic{section}}}%
6504   \newcommand\theHfigure    {\arabic{figure}}}%
6505   \newcommand\theHtable     {\arabic{table}}}%
6506 }{%
6507   \newcommand\theHchapter   {\arabic{chapter}}}%
6508   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6509   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
6510   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
6511 }
6512 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
6513 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6514 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6515 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
```

```

6516 \newcommand\theHtheorem    {\theHsection.\arabic{theorem}}
6517 \newcommand\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.

```

6518 \let\H@item\item
6519 \newcounter{Item}
6520 \def\theHItem{\arabic{Item}}
6521 \def\item{%
6522   \@hyper@itemfalse
6523   \if@nmbrlist\@hyper@itemtrue\fi
6524   \H@item
6525 }

6526 \newcommand\theHenumi    {\theHItem}
6527 \newcommand\theHenumii  {\theHItem}
6528 \newcommand\theHenumiii {\theHItem}
6529 \newcommand\theHenumiv  {\theHItem}
6530 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6531 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6532 \let\theHHmpfootnote\theHHfootnote

```

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.

```

6533 \let\H@refstepcounter\refstepcounter
6534 \edef\name@of@eq{equation}%
6535 \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.

```

6536 \newif\if@hyper@item
6537 \newif\if@skiphyperref
6538 \@hyper@itemfalse
6539 \@skiphyperreffalse
6540 \def\refstepcounter#1{%
6541   \ifHy@pdfstring
6542   \else
6543     \H@refstepcounter{#1}%
6544     \edef\This@name{#1}%
6545     \ifx\This@name\name@of@slide
6546     \else
6547       \if@skiphyperref
6548       \else
6549         \if@hyper@item
6550           \stepcounter{Item}%
6551           \hyper@refstepcounter{Item}%
6552           \@hyper@itemfalse
6553         \else
6554           \hyper@refstepcounter{#1}%
6555         \fi
6556       \fi
6557     \fi
6558   \fi
6559 }
6560 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS \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.

```
6561 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6562 \def\hyper@refstepcounter#1{%
6563   \edef\This@name{#1}%
6564   \ifx\This@name\name@of@eq
6565     \@ifundefined{theHequation}{%
6566       \make@stripped@name{\theequation}%
6567       \let\theHequation\newname
6568     }{}%
6569   \fi
6570   \@ifundefined{theH#1}{%
6571     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6572   }{}%
6573   \hyper@makecurrent{#1}%
6574   \ifmeasuring@
6575   \else
6576     \Hy@raisedlink{%
6577       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6578     }%
6579   \fi
6580 }
```

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`.

```
6581 \begingroup\expandafter\expandafter\expandafter\endgroup
6582 \expandafter\ifx\csname chapter\endcsname\relax
6583   \def\Hy@chapterstring{section}%
6584 \else
6585   \def\Hy@chapterstring{chapter}%
6586 \fi
6587 \def\Hy@appendixstring{appendix}
6588 \def\Hy@chapapp{\Hy@chapterstring}
6589 \ltx@ifundefined{appendix}{%
6590 }{%
6591   \let\HyOrg@appendix\appendix
6592   \def\appendix{%
6593     \ltx@ifundefined{chapter}%
6594     {\gdef\theHsection{\Alph{section}}}%
6595     {\gdef\theHchapter{\Alph{chapter}}}%
6596     \xdef\Hy@chapapp{\Hy@appendixstring}%
6597     \HyOrg@appendix
6598   }%
6599 }
```

`\Hy@Test@alph`

```
6600 \def\Hy@Test@alph#1{%
6601   \ifcase#1\or
6602     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6603     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
```



```

6604 u\or v\or w\or x\or y\or z%
6605 \else
6606 \@ctrerr
6607 \fi
6608 }

```

\Hy@Test@Alph

```

6609 \def\Hy@Test@Alph#1{%
6610 \ifcase#1\or
6611 A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6612 K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6613 U\or V\or W\or X\or Y\or Z%
6614 \else
6615 \@ctrerr
6616 \fi
6617 }

```

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

```

6618 \def\hyper@makecurrent#1{%
6619 \begingroup
6620 \edef\Hy@param{#1}%
6621 \ifx\Hy@param\Hy@chapterstring
6622 \let\Hy@param\Hy@chapapp
6623 \fi
6624 \ifHy@hypertextnames
6625 \let\@number\@firstofone
6626 \def\@fnsymbol##1{fnsymbol\number##1}%
6627 \def\@arabic##1{\number##1}%
6628 \ifx\@alph\Hy@Test@alph
6629 \else
6630 \def\@alph{alph\number}%
6631 \fi
6632 \ifx\@Alph\Hy@Test@Alph
6633 \else
6634 \def\@Alph{Alph\number}%
6635 \fi
6636 \ifHy@naturalnames
6637 \let\textlatin\@firstofone
6638 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6639 \else
6640 \xdef\HyperGlobalCurrentHref{%
6641 \csname
6642 the%
6643 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6644 #1%
6645 \endcsname
6646 }%
6647 \fi
6648 \xdef\HyperGlobalCurrentHref{%
6649 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6650 }%
6651 \else
6652 \Hy@GlobalStepCount\Hy@linkcounter
6653 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6654 \fi
6655 \endgroup

```

```

6656 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6657 \ifHy@localanchorname
6658   \let\@currentHref\HyperLocalCurrentHref
6659 \else
6660   \global\let\@currentHref\HyperGlobalCurrentHref
6661 \fi
6662 }

```

`\Hy@MakeCurrentHref`

```

6663 \def\Hy@MakeCurrentHref#1{%
6664   \edef\HyperLocalCurrentHref{#1}%
6665   \@onelevel@sanitize\HyperLocalCurrentHref
6666   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6667   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6668   \ifHy@localanchorname
6669     \let\@currentHref\HyperLocalCurrentHref
6670   \else
6671     \global\let\@currentHref\HyperGlobalCurrentHref
6672   \fi
6673 }

```

`\Hy@MakeCurrentHrefAuto`

```

6674 \def\Hy@MakeCurrentHrefAuto#1{%
6675   \Hy@GlobalStepCount\Hy@linkcounter
6676   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6677 }

```

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

```

6678 \def\@currentHlabel{\@currentHref}

6679 \@ifpackageloaded{fancyvrb}{%
6680   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
6681   \def\FV@StepLineNo{%
6682     \FV@SetLineNo
6683     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6684     \FV@SetLineNo
6685   }%
6686 }%
6687 }{}

```

29 Package lastpage support

Package `lastpage` directly writes the `\newlabel` command to the aux file. Because package `hyperref` requires additional arguments, the internal command `\lastpage@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. 38). The link will not work if option `pageanchor` is set to `false`.

`\lastpage@putlabel`

```

6688 \Hy@AtBeginDocument{%
6689   \@ifclassloaded{revtex4}{%
6690     \@namedef{ver@lastpage.sty}{1994/06/25}%
6691   }{}%

```

```

6692 \@ifpackageloaded{lastpage}{%
6693   \ifHy@pageanchor
6694   \else
6695     \Hy@WarningNoLine{%
6696       The \string\pageref{LastPage} link doesn't work\MessageBreak
6697       with disabled option 'pageanchor'%
6698     }%
6699   \fi
6700 \def\lastpage@putlabel{%
6701   \addtocounter{page}{-1}%
6702   \if@filesw
6703     \begingroup
6704     \let\@number\@firstofone
6705     \ifHy@pageanchor
6706       \ifHy@hypertexnames
6707         \ifHy@plainpages
6708           \def\Hy@temp{\arabic{page}}%
6709         \else
6710           \Hy@unicodedefalse
6711           \pdfstringdef\Hy@temp{\thepage}%
6712         \fi
6713       \else
6714         \def\Hy@temp{\the\Hy@pagecounter}%
6715       \fi
6716     \fi
6717     \immediate\write\@auxout{%
6718       \string\newlabel
6719       {LastPage}{{}{\thepage}}{%
6720         \ifHy@pageanchor page.\Hy@temp\fi}}}%
6721   }%
6722   \endgroup
6723   \fi
6724   \addtocounter{page}{1}%
6725 }%
6726 \@ifclassloaded{revtex4}{%
6727   \begingroup
6728   \toks@\expandafter{\lastpage@putlabel}%
6729   \edef\x{\endgroup
6730     \def\noexpand\lastpage@putlabel{%
6731       \noexpand\stepcounter{page}%
6732       \the\toks@
6733       \noexpand\addtocounter{page}\noexpand\m@ne
6734     }%
6735   }%
6736   \x
6737 }{}%
6738 }{}%
6739 }
6740 </package>
6741 <*check>
6742 \checkpackage{lastpage}[1994/06/25]
6743 \checkcommand\def\lastpage@putlabel{%
6744   \addtocounter{page}{-1}%
6745   \immediate\write\@auxout{%
6746     \string\newlabel{LastPage}{{}{\thepage}}%
6747   }%
6748   \addtocounter{page}{1}%

```

```

6749 }
6750 </check>
6751 <*package>

```

30 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.

```

6752 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
6753 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

6754 \@ifpackageloaded{titlesec}{%
6755   \def\ttl@Hy@steplink#1{%
6756     \Hy@MakeCurrentHrefAuto{#1*}%
6757   \edef\ttl@Hy@saveanchor{%
6758     \noexpand\Hy@raisedlink{%
6759       \noexpand\hyper@anchorstart{\@currentHref}%
6760     \noexpand\hyper@anchorend
6761     \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6762     \noexpand\ttl@Hy@PatchSaveWrite
6763     }%
6764   }%
6765 }%
6766 \def\ttl@Hy@PatchSaveWrite{%
6767   \begingroup
6768   \toks@\expandafter{\ttl@savewrite}%
6769   \edef\x{\endgroup
6770     \def\noexpand\ttl@savewrite{%
6771       \let\noexpand\@currentHref
6772         \noexpand\ttl@Hy@SavedCurrentHref
6773       \the\toks@
6774     }%
6775   }%
6776   \x
6777 }%
6778 \def\ttl@Hy@refstepcounter#1{%
6779   \let\ttl@b\Hy@raisedlink
6780   \def\Hy@raisedlink##1{%
6781     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6782   }%
6783   \refstepcounter{#1}%
6784   \let\Hy@raisedlink\ttl@b
6785 }%
6786 }{}

```

Package titletoc support:

```

6787 \@ifpackageloaded{titletoc}{%
6788   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6789 }{}

```

32 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net).

```
6790 \def\Hy@varioref@undefined{???}{??}{-}{-}
6791 \@ifpackageloaded{varioref}{%
6792   \def\vref@pagenum#1#2{%
6793     \@ifundefined{r@#2}{%
6794       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6795     }{-}%
6796     \edef#1{\getpagerefnnumber{#2}}%
6797   }%
6798 }
```

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

```
6799 \def\Hy@varioref@refstepcounter#1{%
6800   \stepcounter{#1}%
6801   \protected@edef\@currentlabel{%
6802     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6803   }%
6804 }
6805 \AtBeginDocument{%
6806   \ifx\refstepcounter\Hy@varioref@refstepcounter
6807     \let\H@refstepcounter\refstepcounter
6808     \let\refstepcounter\Hy@saved@refstepcounter
6809   \fi
6810 }
```

33 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

```
6811 \@ifpackageloaded{longtable}{%
6812   \begingroup
6813   \def\y{\LT@array}%
6814   \@ifundefined{scr@LT@array}{%
6815     \@ifundefined{adl@LT@array}{-}{\def\y{\adl@LT@array}}%
6816   }{\def\y{\scr@LT@array}}%
6817   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6818     \expandafter\endgroup
6819     \expandafter\def\y[##1]##2{%
6820       \H@refstepcounter{#1}%
6821       \hyper@makecurrent{table}%
6822       \let\Hy@LT@currentHref\@currentHref
6823       #2\@sharp###3###4%
6824     }%
6825   }%
6826   \expandafter\expandafter\expandafter\x\y{#1}{#2}\@nil
```

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

```
6827 \begingroup
6828   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
```

```

6829 \endgroup
6830 \def\LT@start{%
6831   #1%
6832   \ifvoid\LT@foot#2\fi
6833   \let\@currentHref\Hy@LT@currentHref
6834   \Hy@raisedlink{%
6835     \hyper@anchorstart{\@currentHref}\hyper@anchorend
6836   }%
6837   #3%
6838   }%
6839 }%
6840 \expandafter\x\LT@start\@nil
6841 }{}

```

34 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 41). 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.

```

6842 \let\new@refstepcounter\refstepcounter
6843 \let\H@equation\equation
6844 \let\H@endequation\endequation
6845 \ifpackageloaded{amsmath}{%
6846   \long\def\Hy@temp{%
6847     \incr@eqnum
6848     \mathdisplay@push
6849     \st@rredfalse \global\@eqnswtrue
6850     \mathdisplay{equation}%
6851   }%
6852   \ifx\Hy@temp\equation
6853     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6854       \csname iftrue\endcsname
6855   \else
6856     \long\def\equation{%
6857       \mathdisplay@push
6858       \st@rredfalse \global\@eqnswtrue
6859       \mathdisplay{equation}%
6860       \incr@eqnum
6861     }%
6862   \fi
6863 \fi
6864 }{%
6865 \def\equation{%
6866   \let\refstepcounter\H@refstepcounter
6867   \H@equation
6868   \@ifundefined{theHequation}{%
6869     \make@stripped@name{\theequation}%
6870     \let\theHequation\newname
6871   }{}%
6872   \hyper@makecurrent{equation}%
6873   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6874   \let\refstepcounter\new@refstepcounter
6875 }%

```

```
6876 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6877 }
```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```
6878 \newif\if@eqnstar
6879 \@eqnstarfalse
6880 \let\H@eqnarray\eqnarray
6881 \let\H@endeqnarray\endeqnarray
6882 \def\eqnarray{%
6883   \let\Hy@reserved@a\relax
6884   \def\@currentHref{}%
6885   \H@eqnarray
6886   \if@eqnstar
6887   \else
6888     \ifx\\ \@currentHref\\%
6889     \else
6890       \@ifundefined{theHequation}{%
6891         \make@stripped@name{\theequation}%
6892         \let\theHequation\newname
6893       }{}%
6894       \hyper@makecurrent{equation}%
6895       \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6896     \fi
6897   \fi
6898 }
6899 \def\endeqnarray{%
6900   \H@endeqnarray
6901 }
```

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.

```
6902 \@namedef{eqnarray*}{%
6903   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6904 }
6905 \@namedef{endeqnarray*}{%
6906   \nonumber\endeqnarray\@eqnstarfalse
6907 }
```

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

```
6908 \ltx@ifundefined{subeqnarray}{}{%
6909   \let\H@subeqnarray\subeqnarray
6910   \let\H@endsubeqnarray\endsubeqnarray
6911   \def\subeqnarray{%
6912     \let\Hy@reserved@a\relax
6913     \H@subeqnarray
6914     \@ifundefined{theHequation}{%
6915       \make@stripped@name{\theequation}%
6916       \let\theHequation\newname
6917     }{}%
6918     \hyper@makecurrent{equation}%
6919     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6920   }%
6921   \def\endsubeqnarray{%
6922     \H@endsubeqnarray
```

```

6923 }%
6924 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6925 }

```

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

```

6926 \def\make@stripped@name#1{%
6927 \begingroup
6928 \escapechar@m@ne
6929 \global\let\newname\@empty
6930 \protected@edef\Hy@tempa{#1}%
6931 \edef\@tempb{%
6932 \noexpand\@tfor\noexpand\Hy@tempa:=%
6933 \expandafter\strip@prefix\meaning\Hy@tempa
6934 }%
6935 \@tempb\do{%
6936 \if\Hy@tempa\else
6937 \if\Hy@tempa\else
6938 \xdef\newname{\newname\Hy@tempa}%
6939 \fi
6940 \fi
6941 }%
6942 \endgroup
6943 }

```

Support for amsmath's subequations:

```

6944 \begingroup\expandafter\expandafter\expandafter\endgroup
6945 \expandafter\ifx\csname subequations\endcsname\relax
6946 \else
6947 \let\HyOrg@subequations\subequations
6948 \def\subequations{%
6949 \stepcounter{equation}%
6950 \protected@edef\theHparentequation{%
6951 \@ifundefined{theHequation}\theequation\theHequation
6952 }%
6953 \addtocounter{equation}{-1}%
6954 \HyOrg@subequations
6955 \def\theHequation{\theHparentequation\alph{equation}}%
6956 \ignorespaces
6957 }%
6958 \fi

```

Support for package amsthm (Daniel Müllner):

```

6959 \@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

6960 \def\Hy@temp#1#2#3{%
6961 \ifhmode\unskip\unskip\par\fi
6962 \normalfont
6963 \trivlist
6964 \let\thmheadnl\relax
6965 \let\thm@swap\@gobble
6966 \let\thm@indent\indent % indent
6967 \thm@headfont{\scshape}% heading font small caps
6968 \thm@notefont{\fontseries\mddefault\upshape}%

```



```

6969 \thm@headpunct{.}% add period after heading
6970 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6971 \thm@space@setup
6972 #1% style overrides
6973 \@topsep \thm@preskip          % used by thm head
6974 \@topsepadd \thm@postskip      % used by \@endparenv
6975 \def\@tempa{#2}\ifx\@empty\@tempa
6976   \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
6977 \else
6978   \refstepcounter{#2}%
6979   \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
6980 \fi
6981 \@tempa
6982 }%
6983 \ifx\Hy@temp\@thm
6984 \def\@thm#1#2#3{%
6985   \ifhmode
6986     \unskip\unskip\par
6987   \fi
6988   \normalfont
6989   \trivlist
6990   \let\thmheadnl\relax
6991   \let\thm@swap\@gobble
6992   \let\thm@indent\indent % indent
6993   \thm@headfont{\scshape}% heading font small caps
6994   \thm@notefont{\fontseries\mddefault\upshape}%
6995   \thm@headpunct{.}% add period after heading
6996   \thm@headsep 5\p@ plus\p@ minus\p@\relax
6997   \thm@space@setup
6998   #1% style overrides
6999   \@topsep \thm@preskip          % used by thm head
7000   \@topsepadd \thm@postskip      % used by \@endparenv
7001   \def\@dth@counter{#2}%
7002   \ifx\@empty\@dth@counter
7003     \def\@tempa{%
7004       \@oparg{\@begintheorem{#3}{}}}%
7005   }%
7006 \else
7007   \H@refstepcounter{#2}%
7008   \hyper@makecurrent{#2}%
7009   \let\Hy@dth@currentHref\@currentHref
7010   \def\@tempa{%
7011     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7012   }%
7013 \fi
7014 \@tempa
7015 }%
7016 \else
7017 \def\@thm#1#2#3{%
7018   \ifhmode
7019     \unskip\unskip\par
7020   \fi
7021   \normalfont
7022   \trivlist
7023   \let\thmheadnl\relax
7024   \let\thm@swap\@gobble
7025   \thm@notefont{\fontseries\mddefault\upshape}%

```

```

7026 \thm@headpunct{.}% add period after heading
7027 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7028 \thm@space@setup
7029 #1% style overrides
7030 \@topsep \thm@preskip % used by thm head
7031 \@topsepadd \thm@postskip % used by \@endparenv
7032 \def\dth@counter{#2}%
7033 \ifx\@empty\dth@counter
7034 \def\@tempa{%
7035 \oparg{\@begintheorem{#3}{}}[]%
7036 }%
7037 \else
7038 \H@refstepcounter{#2}%
7039 \hyper@makecurrent{#2}%
7040 \let\Hy@dth@currentHref\@currentHref
7041 \def\@tempa{%
7042 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7043 }%
7044 \fi
7045 \@tempa
7046 }%
7047 \fi
7048 \dth@everypar={%
7049 \@minipagefalse
7050 \global\@newlistfalse
7051 \noparitemfalse
7052 \if@inlabel
7053 \global\@inlabelfalse
7054 \begingroup
7055 \setbox\z@\lastbox
7056 \ifvoid\z@
7057 \kern-\itemindent
7058 \fi
7059 \endgroup
7060 \ifx\@empty\dth@counter
7061 \else
7062 \Hy@raisedlink{%
7063 \hyper@anchorstart{%
7064 \tx@ifundefined{Hy@dth@currentHref}%
7065 \@currentHref\Hy@dth@currentHref
7066 }\hyper@anchorend
7067 }%
7068 \fi
7069 \unhbox\@labels
7070 \fi
7071 \if@nobreak
7072 \@nobreakfalse \clubpenalty\@M
7073 \else
7074 \clubpenalty\@clubpenalty \everypar{}%
7075 \fi
7076 }%
7077 }-{}

```

35 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.

`Tabularx` causes footnote problems, disable the linking if that is loaded.

```
7078 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
7079 \ifHy@hyperfootnotes
7080   \newcounter{Hfootnote}%
7081   \let\H@@@footnotetext\@footnotetext
7082   \let\H@@@footnotemark\@footnotemark
7083   \def\@xfootnotenext[#1]{%
7084     \begingroup
7085       \csname c@\@mpfn\endcsname #1\relax
7086       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7087     \endgroup
7088     \ifx\@footnotetext\@mpfootnotetext
7089       \expandafter\H@@@mpfootnotetext
7090     \else
7091       \expandafter\H@@@footnotetext
7092     \fi
7093   }%
7094   \def\@xfootnotemark[#1]{%
7095     \begingroup
7096       \c@footnote #1\relax
7097       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7098     \endgroup
7099     \H@@@footnotemark
7100   }%
7101   \let\H@@@mpfootnotetext\@mpfootnotetext
7102   \long\def\@mpfootnotetext#1{%
7103     \H@@@mpfootnotetext{%
7104       \ifHy@nesting
7105         \expandafter\hyper@@@anchor\expandafter{%
7106           \Hy@footnote@currentHref
7107         }{#1}%
7108       \else
7109         \Hy@raisedlink{%
7110           \expandafter\hyper@@@anchor\expandafter{%
7111             \Hy@footnote@currentHref
7112           }{\relax}%
7113         }#1%
7114       \fi
7115     }%
7116   }%
7117   \long\def\@footnotetext#1{%
7118     \H@@@footnotetext{%
7119       \ifHy@nesting
7120         \expandafter\hyper@@@anchor\expandafter{%
7121           \Hy@footnote@currentHref
7122         }{#1}%
7123       \else
7124         \Hy@raisedlink{%
7125           \expandafter\hyper@@@anchor\expandafter{%
7126             \Hy@footnote@currentHref
7127           }{\relax}%

```

```

7128     }%
7129     \let\@currentHref\Hy@footnote@currentHref
7130     \let\@currentlabelname\@empty
7131     #1%
7132     \fi
7133     }%
7134     }%

```

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.

```

7135 \def\@footnotemark{%
7136   \leavevmode
7137   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7138   \stepcounter{Hfootnote}%
7139   \global\let\Hy@saved@currentHref\@currentHref
7140   \hyper@makecurrent{Hfootnote}%
7141   \global\let\Hy@footnote@currentHref\@currentHref
7142   \global\let\@currentHref\Hy@saved@currentHref
7143   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7144   \@makefnmark
7145   \hyper@linkend
7146   \ifhmode\spacefactor\@x@sf\fi
7147   \relax
7148   }%

```

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

```

7149 \@ifpackageloaded{longtable}{%
7150   \CheckCommand*\LT@p@ftntext}[1]{%
7151     \edef\@tempa{%
7152       \the\LT@p@ftn
7153       \noexpand\footnotetext[\the\c@footnote]%
7154     }%
7155     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7156   }%
7157   \long\def\LT@p@ftntext#1{%
7158     \edef\@tempa{%
7159       \the\LT@p@ftn
7160       \begingroup
7161         \noexpand\c@footnote=\the\c@footnote\relax
7162         \noexpand\protected@xdef\noexpand\@thefnmark{%
7163           \noexpand\thempfn
7164         }%
7165         \noexpand\Hy@LT@footnotetext{%
7166           \Hy@footnote@currentHref
7167         }%
7168       }%
7169       \global\LT@p@ftn\expandafter{%
7170         \@tempa{#1}%
7171       }%
7172     }%
7173   }%
7174   \long\def\Hy@LT@footnotetext#1#2{%
7175     \H@footnotetext{%

```

```

7176 \ifHy@nesting
7177   \hyper@@anchor{#1}{#2}%
7178 \else
7179   \Hy@raisedlink{%
7180     \hyper@@anchor{#1}{\relax}%
7181   }%
7182   \def\@currentHref{#1}%
7183   \let\@currentlabelname\@empty
7184   #2%
7185 \fi
7186 }%
7187 }%
7188 }{}%

```

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

```

7189 \@ifpackageloaded{fancyvrb}{%
7190   \def\V@@@footnotetext{%
7191     \insert\footins\bgroup
7192     \csname reset@font\endcsname
7193     \footnotesize
7194     \interlinepenalty\interfootnotelinepenalty
7195     \splittopskip\footnotesep
7196     \splitmaxdepth\dp\strutbox
7197     \floatingpenalty \@MM
7198     \hsize\columnwidth
7199     \@parboxrestore
7200     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7201     \@makefnmark{}%
7202     \rule{\z@}{\footnotesep}%
7203     \bgroup
7204     \aftergroup\V@@@footnotetext
7205     \Hy@raisedlink{%
7206       \expandafter\hyper@@anchor\expandafter{%
7207         \Hy@footnote@currentHref
7208       }{\relax}%
7209     }%
7210     \let\@currentHref\Hy@footnote@currentHref
7211     \let\@currentlabelname\@empty
7212     \ignorespaces
7213   }%
7214 }{}%

```

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

```

7215 \def\Hy@temp#1{%
7216   \begingroup
7217   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7218   \endgroup
7219   \@footnotemark
7220 }%
7221 \ifx\Hy@temp\footref
7222   \def\footref#1{%
7223     \begingroup
7224     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7225     \endgroup
7226     \H@@@footnotemark
7227   }%
7228 \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.

```

7229 \let\HyOrg@maketitle\maketitle
7230 \def\maketitle{%
7231   \let\Hy@saved@footnotemark\@footnotemark
7232   \let\Hy@saved@footnotetext\@footnotetext
7233   \let\@footnotemark\H@\@footnotemark
7234   \let\@footnotetext\H@\@footnotetext
7235   \@ifnextchar[\Hy@maketitle@optarg{% ]
7236     \HyOrg@maketitle
7237     \Hy@maketitle@end
7238   }%
7239 }%
7240 \def\Hy@maketitle@optarg[#1]{%
7241   \HyOrg@maketitle[#{#1}]%
7242   \Hy@maketitle@end
7243 }%
7244 \def\Hy@maketitle@end{%
7245   \ifx\@footnotemark\H@\@footnotemark
7246     \let\@footnotemark\Hy@saved@footnotemark
7247     \fi
7248   \ifx\@footnotetext\H@\@footnotetext
7249     \let\@footnotetext\Hy@saved@footnotetext
7250     \fi
7251 }%
```

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

```

7252 \def\realfootnote{%
7253   \@ifnextchar[\@xfootnote{%
7254     \stepcounter{\@mpfn}%
7255     \protected@xdef\@thefnmark{\thempfn}%
7256     \H@\@footnotemark\H@\@footnotetext
7257   }%
7258 }%

7259 \fi
7260 \Hy@DisableOption{hyperfootnotes}

7261 </package>
7262 <*check>
7263 \checklatex
7264 \checkcommand\def\@xfootnotenext[#1]{%
7265   \begingroup
7266     \csname c@\@mpfn\endcsname #1\relax
7267     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7268   \endgroup
7269   \@footnotetext
7270 }
7271 \checkcommand\def\@xfootnotemark[#1]{%
7272   \begingroup
7273     \c@footnote #1\relax
7274     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7275   \endgroup
7276   \@footnotemark
7277 }
7278 \checkcommand\def\@footnotemark{%
7279   \leavevmode
7280   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
```

```

7281 \@makefnmark
7282 \ifhmode\spacefactor\@x@sf\fi
7283 \relax
7284 }
7285 </check>
7286 <*package>

```

36 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.

```

7287 \def\caption{%
7288 \ifx\@capttype\@undefined
7289 \@latex@error{\noexpand\caption outside float}\@ehd
7290 \expandafter\@gobble
7291 \else
7292 \H@refstepcounter\@capttype
7293 \let\Hy@tempa\@caption
7294 \@ifundefined{float@caption}{%
7295 }{%
7296 \expandafter\ifx\csname @float@c@\@capttype\endcsname
7297 \float@caption
7298 \let\Hy@tempa\Hy@float@caption
7299 \fi
7300 }%
7301 \expandafter\@firstofone
7302 \fi
7303 {\@dblarg{\Hy@tempa\@capttype}}%
7304 }
7305 \long\def\@caption#1[#2]#3{%
7306 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7307 \csname iftrue\endcsname
7308 \global\let\@currentHref\hc@currentHref
7309 \else
7310 \hyper@makecurrent{\@capttype}%
7311 \fi
7312 \@ifundefined{NR@gettitle}{%
7313 \def\@currentlabelname{#2}%
7314 }{%
7315 \NR@gettitle{#2}%
7316 }%
7317 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7318 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7319 }%
7320 \begingroup
7321 \@parboxrestore
7322 \if@minipage
7323 \@setminipage
7324 \fi
7325 \normalize
7326 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7327 \csname iftrue\endcsname
7328 \global\@capstartfalse
7329 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7330 \else
7331 \@makecaption{\csname fnum@#1\endcsname}{%

```

7332 \ignorespaces

If we cannot have nesting, the anchor is empty.

```
7333 \ifHy@nesting
7334 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7335 \else
7336 \Hy@raisedlink{%
7337 \expandafter\hyper@@anchor\expandafter{%
7338 \@currentHref
7339 }{\relax}%
7340 }%
7341 #3%
7342 \fi
7343 }%
7344 \fi
7345 \par
7346 \endgroup
7347 }
```

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.

```
7348 \let\Hy@float@caption\@caption
7349 \@ifpackageloaded{float}{%
7350 \def\Hy@float@caption{%
7351 \ifx\Hy@float@currentHref\@undefined
7352 \hyper@makecurrent{\@capttype}%
7353 \global\let\Hy@float@currentHref\@currentHref
7354 \else
7355 \let\@currentHref\Hy@float@currentHref
7356 \fi
7357 \float@caption
7358 }%
7359 \let\HyOrg@float@makebox\float@makebox
7360 \renewcommand{\float@makebox}[1]{%
7361 \HyOrg@float@makebox{%
7362 #1\relax
7363 \ifx\Hy@float@currentHref\@undefined
7364 \else
7365 \expandafter\hyper@@anchor\expandafter{%
7366 \Hy@float@currentHref
7367 }{\relax}%
7368 \global\let\Hy@float@currentHref\@undefined
7369 \fi
7370 }%
7371 }%
7372 }-}

7373 </package>
7374 <*check>
7375 \checklatex[1999/06/01 - 2000/06/01]
7376 \checkcommand\def\caption{%
7377 \ifx\@capttype\@undefined
7378 \@latex@error{\noexpand\caption outside float}\@ehd
7379 \expandafter\@gobble
7380 \else
7381 \refstepcounter\@capttype
7382 \expandafter\@firstofone
7383 \fi
7384 {\@dblarg{\@caption\@capttype}}%
```



```

7385 }
7386 \checkcommand\long\def\@caption#1[#2]#3{%
7387   \par
7388   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7389     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7390   }%
7391   \begingroup
7392   \@parboxrestore
7393   \if@minipage
7394     \setminipage
7395   \fi
7396   \normalsize
7397   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7398   \endgroup
7399 }
7400 \end{check}
7401 \end{package}

```

37 Bibliographic references

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

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

```

7402 \def\hyper@natlinkstart#1{%
7403   \Hy@backout{#1}%
7404   \hyper@linkstart{cite}{cite.#1}%
7405   \def\hyper@nat@current{#1}%
7406 }
7407 \def\hyper@natlinkend{%
7408   \hyper@linkend
7409 }
7410 \def\hyper@natlinkbreak#1#2{%
7411   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7412 }
7413 \def\hyper@natanchorstart#1{%
7414   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7415 }
7416 \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.

```

7417 \ltx@ifundefined{NAT@parse}{%
7418   \providecommand*\@extra@binfo{}%
7419   \providecommand*\@extra@b@citeb{}%
7420   \def\bibcite#1#2{%
7421     \@newl@bel{b}{#1}\@extra@binfo}%
7422     \hyper@link{cite}{cite.#1}\@extra@b@citeb}{#2}%
7423   }%
7424 }%

```

```
7425 \gdef\@extra@binfo{}
```

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

```
7426 \let\Hy@bibcite\bibcite
7427 \begingroup
7428 \ifundefined{bbl@cite@choice}{}{%
7429   \g@addto@macro\bbl@cite@choice{%
7430     \let\bibcite\Hy@bibcite
7431   }}%
7432 }%
7433 \endgroup
```

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

```
7434 \providecommand*{\@BIBLABEL}{\@biblabel}%
7435 \def\@bibitem[#1]#2{%
7436   \@skiphyperreftrue
7437   \H@item[%
7438     \ifx\Hy@raisedlink\@empty
7439       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7440       \@BIBLABEL{#1}%
7441       \hyper@anchorend
7442     \else
7443       \Hy@raisedlink{%
7444         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7445       }%
7446       \@BIBLABEL{#1}%
7447     \fi
7448     \hfill
7449   ]%
7450   \@skiphyperreffalse
7451   \if@filesw
7452     \begingroup
7453     \let\protect\noexpand
7454     \immediate\write\@auxout{%
7455       \string\bibcite{#2}{#1}%
7456     }%
7457     \endgroup
7458   \fi
7459   \ignorespaces
7460 }%
```

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

```
7461 \def\@bibitem#1{%
7462   \@skiphyperreftrue\H@item\@skiphyperreffalse
7463   \Hy@raisedlink{%
7464     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7465   }%
7466   \if@filesw
7467     \begingroup
7468     \let\protect\noexpand
7469     \immediate\write\@auxout{%
7470       \string\bibcite{#1}{\the\value{\@listctr}}%
7471     }%
7472     \endgroup
7473   \fi
7474   \ignorespaces
7475 }%
```

```

7476 }{}
7477 </package>
7478 <*check>
7479 \checklatex
7480 \checkcommand\def\@bibitem[#1]#2{%
7481 \item[\@biblabel{#1}\hfill]%
7482 \if@filesw
7483   {%
7484     \let\protect\noexpand
7485     \immediate\write\@auxout{%
7486       \string\bibcite{#2}{#1}%
7487     }%
7488   }%
7489 \fi
7490 \ignorespaces
7491 }
7492 \checkcommand\def\@bibitem#1{%
7493 \item
7494 \if@filesw
7495 \immediate\write\@auxout{%
7496 \string\bibcite{#1}{\the\value{\@listctr}}%
7497 }%
7498 \fi
7499 \ignorespaces
7500 }
7501 </check>
7502 <*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.

```

7503 \@ifclassloaded{revtex}{%
7504 \Hy@Info{*** compatibility with revtex **** }%
7505 \def\revtex@checking#1#2{%
7506 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7507 \expandafter\def\csname b@#1\endcsname{#2}%
7508 \@SetMaxRnhefLabel{#1}%
7509 \expandafter\let\csname b@#1\endcsname\T@temp
7510 }%

```

Tanmoy provided this replacement for CITE_X. Lord knows what it does. For chapterbib added: extra@b@cite_b

```

7511 \@ifundefined{@CITE}{\def\@CITE{\@cite}}{}%
7512 \providecommand*\@extra@b@citeb{}%
7513 \def\@CITEX[#1]#2{%
7514 \let\@citea\@empty
7515 \leavevmode
7516 \unskip
7517 $\^{}%
7518 \scriptstyle
7519 \@CITE{%
7520 \@for\@citeb:=#2\do{%
7521 \@citea
7522 \def\@citea{,\penalty\@m }%
7523 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7524 \if@filesw
7525 \immediate\write\@auxout{\string\citation{\@citeb}}%

```

```

7526     \fi
7527     \@ifundefined{b@\@citeb\extra@b@citeb}{%
7528         \mbox{\reset@font\bfseries ?}%
7529         \G@refundefinedtrue
7530         \@latex@warning{%
7531             Citation ‘\@citeb’ on page \thepage \space undefined%
7532         }%
7533     }{%
7534         {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7535     }%
7536     }%
7537     }{#1}%
7538     }$%
7539     }%

```

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.

```

7540 \def\@citex[#1]#2{%
7541     \let\@citea\@empty
7542     \@cite{%
7543         \@for\@citeb:=#2\do{%
7544             \@citea
7545             \def\@citea{,\penalty\@m }%
7546             \edef\@citeb{\expandafter\@firstofone\@citeb}%
7547             \if@filesw
7548                 \immediate\write\@auxout{\string\citation{\@citeb}}%
7549             \fi
7550             \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7551                 \mbox{\reset@font\bfseries ?}%
7552                 \G@refundefinedtrue
7553                 \@latex@warning{%
7554                     Citation ‘\@citeb’ on page \thepage \space undefined%
7555                 }%
7556             }{%
7557                 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7558             }%
7559             }%
7560         }{#1}%
7561     }%
7562 }{}

```

37.1 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 pdfL^AT_EX, then hyperref is already loaded at the begin of harvard.sty, and the \newcommand macros causes error messages.

```

7563 \@ifpackageloaded{harvard}{%
7564     \Hy@AtBeginDocument{%
7565         \Hy@Info{*** compatibility with harvard **** }%
7566         \Hy@raiselinksfalse
7567         \def\harvardcite#1#2#3#4{%
7568             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
7569             \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
7570             \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%

```

```

7571 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7572 }%
7573 \def\HAR@citetoaux#1{%
7574 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7575 \ifHy@backref
7576 \ifx\@empty\@currentlabel
7577 \else
7578 \@bsphack
7579 \if@filesw
7580 \protected@write\@auxout{}{%
7581 \string\@writefile{brf}{%
7582 \string\backcite{#1}{%
7583 {\thepage}{\@currentlabel}{\@currentHref}%
7584 }%
7585 }%
7586 }%
7587 \fi
7588 \@esphack
7589 \fi
7590 \fi
7591 }%
7592 \def\harvarditem{%
7593 \@ifnextchar{\@harvarditem}{\@harvarditem[\null]}%
7594 }%
7595 \def\@harvarditem[#1]#2#3#4#5\par{%
7596 \item[]%
7597 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7598 \if@filesw
7599 \begingroup
7600 \def\protect##1{\string ##1\space}%
7601 \ifthenelse{\equal{#1}{\null}}{%
7602 {\def\next{{#4}{#2}{#2}{#3}}}%
7603 {\def\next{{#4}{#2}{#1}{#3}}}%
7604 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7605 \endgroup
7606 \fi
7607 \protect\hspace*{-\labelwidth}%
7608 \protect\hspace*{-\labelsep}%
7609 \ignorespaces
7610 #5%
7611 \ifHy@backref
7612 \newblock
7613 \backref{\csname br@#4\endcsname}%
7614 \fi
7615 \par
7616 }%

```

\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:

```

7617 \long\def\HAR@checkcitations#1#2#3#4{%
7618 \def\HAR@tempa{\hyper@@link[cite]{#1}{#2}}%
7619 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7620 \def\HAR@tempa{\hyper@@link[cite]{#1}{#3}}%
7621 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7622 \def\HAR@tempa{\hyper@@link[cite]{#1}{#4}}%
7623 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa

```

```

7624     \else
7625     \@tempswatruue
7626     \fi
7627     \else
7628     \@tempswatruue
7629     \fi
7630     \else
7631     \@tempswatruue
7632     \fi
7633 }%
7634 }%

7635 }{}

```

37.2 Package chicago

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

```

7636 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

7637 \def\citeN{%
7638 \def\@citesep{-1000}%
7639 \def\@cite##1##2{##1}%
7640 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7641 \@citedata@opt
7642 }%

```

`\shortciteN`

```

7643 \def\shortciteN{%
7644 \def\@citesep{-1000}%
7645 \def\@cite##1##2{##1}%
7646 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7647 \@citedata@opt
7648 }%

```

`\@citedata@opt`

```

7649 \def\@citedata@opt{%
7650 \let\@cite@opt\@empty
7651 \@ifnextchar [{%
7652 \@tempswatruue
7653 \@citedatax@opt
7654 }{%
7655 \@tempswafalse
7656 \@citedatax[]%
7657 }%
7658 }%

```

`\@citedatax@opt`

```

7659 \def\@citedatax@opt[#1]{%
7660 \def\@cite@opt{, #1}%
7661 \@citedatax[{#1}]%
7662 }%

7663 }{}

```

38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by `hyperref`.

This where we supply a destination for each page.

```
7664 \ltx@ifclassloaded{slides}{%
7665   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7666   \def\Hy@PageAnchorSlidesPlain{%
7667     \advance\c@page\ltx@one
7668     \edef\Hy@TempPageAnchor{%
7669       \noexpand\hyper@@anchor{%
7670         page.\the\c@slide.\the\c@overlay.\the\c@note%
7671         \ifnum\c@page=\ltx@one
7672         \else
7673           .\the\c@page
7674         \fi
7675       }%
7676     }%
7677     \advance\c@page-\ltx@one
7678   }%
7679   \def\Hy@PageAnchorSlide{%
7680     \advance\c@page\ltx@one
7681     \ifnum\c@page>\ltx@one
7682       \ltx@ifundefined{theHpage}{%
7683         \protected@edef\Hy@TheSlideOptionalPage{%
7684           \Hy@SlidesFormatOptionalPage{\theHpage}%
7685         }%
7686       }{%
7687         \protected@edef\Hy@TheSlideOptionalPage{%
7688           \Hy@SlidesFormatOptionalPage{\theHpage}%
7689         }%
7690       }%
7691     \else
7692       \def\Hy@TheSlideOptionalPage{}%
7693     \fi
7694     \advance\c@page-\ltx@one
7695     \pdfstringdef\@the@H@page{%
7696       \csname
7697         the%
7698         \ltx@ifundefined{theH\Hy@SlidesPage}{-}{H}%
7699       \Hy@SlidesPage
7700     \endcsname
7701     \Hy@TheSlideOptionalPage
7702   }%
7703   \ltx@gobblethree
7704 }%
7705 \def\Hy@SlidesPage{slide}%
7706 \g@addto@macro\slide{%
7707   \def\Hy@SlidesPage{slide}%
7708 }%
7709 \g@addto@macro\overlay{%
7710   \def\Hy@SlidesPage{overlay}%
7711 }%
7712 \g@addto@macro\note{%
```

```

7713 \def\Hy@SlidesPage{note}%
7714 }%
7715 }{%
7716 \def\Hy@PageAnchorSlidesPlain{ }%
7717 \def\Hy@PageAnchorSlide{ }%
7718 }
7719 \def\Hy@EveryPageAnchor{%
7720 \Hy@DistillerDestFix
7721 \ifHy@pageanchor
7722 \ifHy@hypertextnames
7723 \ifHy@plainpages
7724 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7725 \Hy@PageAnchorSlidesPlain
7726 \else
7727 \begingroup
7728 \let\@number\@firstofone
7729 \Hy@unicodefalse
7730 \Hy@PageAnchorSlide
7731 \pdfstringdef\@the@H@page{\thepage}%
7732 \endgroup
7733 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7734 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7735 \fi
7736 \else
7737 \Hy@GlobalStepCount\Hy@pagecounter
7738 \def\Hy@TempPageAnchor{%
7739 \hyper@@anchor{page.\the\Hy@pagecounter}%
7740 }%
7741 \fi
7742 \vbox to 0pt{%
7743 \kern\voffset
7744 \kern\topmargin
7745 \kern-1bp\relax
7746 \hbox to 0pt{%
7747 \kern\hoffset
7748 \kern\ifodd\value{page}%
7749 \oddsidemargin
7750 \else
7751 \evensidemargin
7752 \fi
7753 \kern-1bp\relax
7754 \Hy@TempPageAnchor\relax
7755 \hss
7756 }%
7757 \vss
7758 }%
7759 \fi
7760 }
7761 \g@addto@macro\Hy@EveryPageBoxHook{%
7762 \Hy@EveryPageAnchor
7763 }

```

39 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.

```
7764 \def\addcontentsline#1#2#3{% toc extension, type, tag
7765 \begingroup
7766 \let\label\@gobble
7767 \ifx\@currentHref\@empty
7768 \Hy@Warning{%
7769 No destination for bookmark of \string\addcontentsline,%
7770 \MessageBreak destination is added%
7771 }%
7772 \phantomsection
7773 \fi
7774 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7775 \begingroup
7776 \def\Hy@tempa{#1}%
7777 \ifx\Hy@tempa\Hy@bookmarkstype
7778 \Hy@WarningNoLine{%
7779 bookmark level for unknown #2 defaults to 0%
7780 }%
7781 \else
7782 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7783 \fi
7784 \endgroup
7785 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7786 \fi
7787 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7788 \Hy@writebookmark{\csname the#2\endcsname}%
7789 {#3}%
7790 {\@currentHref}%
7791 {\Hy@toclevel}%
7792 {#1}%
7793 \ifHy@verbose
7794 \begingroup
7795 \def\Hy@tempa{#3}%
7796 \@onelevel@sanitize\Hy@tempa
7797 \let\temp@online\on@line
7798 \let\on@line\@empty
7799 \Hy@Info{%
7800 bookmark\temp@online:\MessageBreak
7801 thecounter {\csname the#2\endcsname}\MessageBreak
7802 text {\Hy@tempa}\MessageBreak
7803 reference {\@currentHref}\MessageBreak
7804 toplevel {\Hy@toclevel}\MessageBreak
7805 type {#1}%
7806 }%
7807 \endgroup
7808 \fi
7809 \addtocontents{#1}{%
7810 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7811 }%
7812 \endgroup
7813 }
7814 \def\contentsline#1#2#3#4{%
7815 \ifx\#4\%
7816 \csname l@#1\endcsname{#2}{#3}%
7817 \else
7818 \ifcase\Hy@linktoc % none
7819 \csname l@#1\endcsname{#2}{#3}%
```

```

7820 \or % section
7821   \csname l@#1\endcsname{%
7822     \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7823   }{#3}%
7824 \or % page
7825   \csname l@#1\endcsname{#{#2}}{%
7826     \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7827   }%
7828 \else % all
7829   \csname l@#1\endcsname{%
7830     \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7831   }{%
7832     \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7833   }%
7834 \fi
7835 \fi
7836 }

7837 </package>
7838 <*check>
7839 \checklatex
7840 \checkcommand\def\addcontentsline#1#2#3{%
7841   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7842 }
7843 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7844 </check>
7845 <*package>

```

40 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.

```

7846 \let\H@definecounter\@definecounter
7847 \def\@definecounter#1{%
7848   \H@definecounter{#1}%
7849   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7850 }

```

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.

```

7851 \let\H@newctr\@newctr
7852 \def\@newctr#1[#2]{%
7853   \H@newctr#1{#2}%
7854   \expandafter\def\csname theH#1\endcsname{%
7855     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7856   }%
7857 }

```

41 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

```

7858 \ifpackageloaded{amsmath}{%
7859   \def\Hy@make@anchor{%
7860     \Hy@MakeCurrentHrefAuto{AMS}%
7861     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7862   }%
7863   \def\Hy@make@df@tag@#1{%
7864     \gdef\df@tag{%
7865       \maketag@@@{\Hy@make@anchor#1}%
7866       \def\@currentlabel{#1}%
7867     }%
7868   }%
7869   \def\Hy@make@df@tag@@#1{%
7870     \gdef\df@tag{%
7871       \tagform@{\Hy@make@anchor#1}%
7872       \toks@\xp{\p@equation{#1}}%
7873       \edef\@currentlabel{the\toks@}%
7874     }%
7875   }%
7876   \let\HyOrg@make@df@tag@@\make@df@tag@@
7877   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7878   \let\make@df@tag@@\Hy@make@df@tag@@
7879   \let\make@df@tag@@@\Hy@make@df@tag@@@
7880 }{}

```

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

```

7881 \ifpackagewith{hyperref}{pdfTeX}{%
7882   \let\H@seteqlabel\@seteqlabel
7883   \def\@seteqlabel#1{%
7884     \H@seteqlabel{#1}%
7885     \xdef\@currentHref{AMS.the\Hy@linkcounter}%
7886     \Hy@raisedlink{%
7887       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7888     }%
7889   }%
7890 }{}

```

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}}}

```

41.1 `\@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.

```

7891 \let\HyOrg@addtoreset\@addtoreset
7892 \def\@addtoreset#1#2{%
7893   \HyOrg@addtoreset{#1}{#2}%
7894   \expandafter\xdef\csname theH#1\endcsname{%
7895     \expandafter\noexpand

```

```

7896     \csname the\@ifundefined{theH#2}{}H#2\endcsname
7897     .\noexpand\the\noexpand\value{#1}%
7898   }%
7899 }

```

`\numberwithin` A appropriate definition of `hyperref`'s companion counter (`\theH...`) is added for correct link names.

```

7900 </package>
7901 <*check>
7902 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7903 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7904   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7905     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7906       \@addtoreset{#2}{#3}%
7907       \xp\xdef\csname the#2\endcsname{%
7908         \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7909       }%
7910     }%
7911   }%
7912 }%
7913 </check>
7914 <*package>
7915 \@ifpackageloaded{amsmath}{%
7916   \@ifpackagelater{amsmath}{1999/12/14}{%
7917     \renewcommand*{\numberwithin}[3][\arabic]{%
7918       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7919         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7920           \HyOrg@addtoreset{#2}{#3}%
7921           \xp\xdef\csname the#2\endcsname{%
7922             \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7923           }%
7924           \xp\xdef\csname theH#2\endcsname{%
7925             \xp\@nx
7926             \csname the\@ifundefined{theH#3}{}H#3\endcsname
7927             .\@nx#1{#2}%
7928           }%
7929         }%
7930       }%
7931     }%
7932   }{%
7933     \Hy@WarningNoLine{%
7934       \string\numberwithin\space of package 'amsmath' %
7935       only fixed\MessageBreak
7936       for version 2000/06/06 v2.12 or newer%
7937     }%
7938   }%
7939 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7940 \ifHy@figures
7941   \let\Hy@Gin@setfile\Gin@setfile
7942   \def\Gin@setfile#1#2#3{%
7943     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7944   }%

```

```

7945 \fi
7946 \Hy@DisableOption{hyperfigures}

```

43 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.

```

7947 \ifHy@hyperindex
7948 \def\HyInd@ParenLeft{()}%
7949 \def\HyInd@ParenRight{)}%
7950 \def\hyperindexformat#1#2{%
7951 \let\HyOrg@hyperpage\hyperpage
7952 \let\hyperpage\@firstofone
7953 #1{\HyOrg@hyperpage{#2}}%
7954 \let\hyperpage\HyOrg@hyperpage
7955 }%
7956 \Hy@nextfalse
7957 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7958 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7959 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7960 \begingroup
7961 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7962 \lccode'\|/\='\\relax
7963 \lowercase{\endgroup
7964 \ifHy@next
7965 \let\HyInd@org@wrindex\@wrindex
7966 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
7967 \def\HyInd@@wrindex#1#2|#3|#4\\\%
7968 \ifx\\#3\\%
7969 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7970 \else
7971 \HyInd@@@wrindex{#1}{#2}#3\\\%
7972 \fi
7973 }%
7974 \def\HyInd@@@wrindex#1#2#3#4\\\%
7975 \def\Hy@temp@A{#3}%
7976 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7977 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7978 \relax
7979 \HyInd@org@wrindex{#1}{%
7980 #2|hyperindexformat{/#3#4}%
7981 }%
7982 \else
7983 \ifx\\#4\\\%
7984 \ifx\Hy@temp@A\HyInd@ParenRight
7985 \HyInd@org@wrindex{#1}{#2|#3}%
7986 \else
7987 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```

```

7988     \fi
7989     \else
7990     \HyInd@org@wrindex{#1}{%
7991     #2|#3hyperindexformat{/#4}%
7992     }%
7993     \fi
7994     \fi
7995     }%
7996 \else
7997 \def\@wrindex#1{\@wrindex#1||\}%
7998 \def\@wrindex#1|#2|#3\{\%
7999 \if@filesw
8000 \ifx\#2\%
8001 \protected@write\@indexfile{}{%
8002 \string\indexentry{#1|hyperpage}{\thepage}%
8003 }%
8004 \else
8005 \HyInd@@@wrindex{#1}#2\%
8006 \fi
8007 \fi
8008 \endgroup
8009 \@esphack
8010 }%
8011 \def\HyInd@@@wrindex#1#2#3\{\%
8012 \def\Hy@temp@A{#2}%
8013 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8014 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8015 \relax
8016 \protected@write\@indexfile{}{%
8017 \string\indexentry{%
8018 #1|hyperindexformat{/#2#3}%
8019 }{\thepage}%
8020 }%
8021 \else
8022 \ifx\#3\%
8023 \ifx\Hy@temp@A\HyInd@ParenRight
8024 \protected@write\@indexfile{}{%
8025 \string\indexentry{#1|#2}{\thepage}%
8026 }%
8027 \else
8028 \protected@write\@indexfile{}{%
8029 \string\indexentry{#1|#2hyperpage}{\thepage}%
8030 }%
8031 \fi
8032 \else
8033 \protected@write\@indexfile{}{%
8034 \string\indexentry{%
8035 #1|#2hyperindexformat{/#3}%
8036 }{\thepage}%
8037 }%
8038 \fi
8039 \fi
8040 }%
8041 \fi
8042 }%
8043 \fi
8044 \Hy@DisableOption{hyperindex}

```

```
8045 \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.

```
8046 \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.

```
8047 \def\hyperpage#1{%
8048   \HyInd@hyperpage#1\nohyperpage{ }\@nil
8049 }
8050 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8051   \HyInd@@hyperpage{#1}%
8052   #2%
8053   \def\Hy@temp{#3}%
8054   \ifx\Hy@temp\@empty
8055   \else
8056     \Hy@ReturnAfterFi{%
8057       \HyInd@hyperpage#3\@nil
8058     }%
8059   \fi
8060 }
8061 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8062 \def\@hyperpage#1--#2--#3\{\%
8063   \ifx\#2\%
8064     \@commahyperpage{#1}%
8065   \else
8066     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8067   \fi
8068 }
8069 \def\@commahyperpage#1{\@commahyperpage#1, \}
8070 \def\@commahyperpage#1, #2,#3\{\%
8071   \ifx\#2\%
8072     \HyInd@pagelink{#1}%
8073   \else
8074     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8075   \fi
8076 }
```

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

```
8077 \def\HyInd@pagelink#1{%
8078   \begingroup
8079   \toks@={}%
8080   \HyInd@removespaces#1 \@nil
8081   \endgroup
8082 }
8083 \def\HyInd@removespaces#1 #2\@nil{%
8084   \toks@=\expandafter{the\toks@#1}%
8085   \ifx\#2\%
8086     \edef\x{\the\toks@}%
8087     \ifx\x\@empty
8088     \else
8089       \hyperlink{page.\the\toks@}{\the\toks@}%
8090     \fi
8091   \else
8092     \Hy@ReturnAfterFi{%
```

```

8093 \HyInd@removespaces#2\@nil
8094 }%
8095 \fi
8096 }

```

44 Compatibility with foiltex

```

8097 \@ifclassloaded{foils}{%
8098 \providecommand*\ext@table{lot}%
8099 \providecommand*\ext@figure{lof}%
8100 }{}

```

45 Compatibility with seminar slide package

This requires seminar.bg2, version 1.6 or later. Contributions by Denis Girou (denis.girou@idris.fr).

```

8101 \@ifclassloaded{seminar}{%
8102 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
8103 }{%
8104 \Hy@seminarslidesfalse
8105 }
8106 \@ifpackageloaded{slidesec}{%
8107 \newcommand\theHslidesection {\arabic{slidesection}}%
8108 \newcommand\theHslidesubsection{%
8109 \theHslidesection.\arabic{slidesubsection}}%
8110 }%
8111 \def\slide@heading[#1]#2{%
8112 \H@refstepcounter{slidesection}%
8113 \@addtoreset{slidesubsection}{slidesection}%
8114 \addtocontents{los}{%
8115 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8116 {\@SCTR}{slideheading.\theslidesection}}%
8117 }%
8118 \def\Hy@tempa{#2}%
8119 \ifx\Hy@tempa\@empty
8120 \else
8121 {%
8122 \edef\@currentlabel{%
8123 \c@slide\p@slidesection\endcsname\theslidesection
8124 }%
8125 \makeslideheading{#2}%
8126 }%
8127 \fi
8128 \gdef\theslideheading{#1}%
8129 \gdef\theslidesubheading{}%
8130 \ifHy@bookmarksnumbered
8131 \def\Hy@slidetitle{\theslidesection\space #1}%
8132 \else
8133 \def\Hy@slidetitle{#1}%
8134 \fi
8135 \ifHy@hypertextnames
8136 \ifHy@naturalnames
8137 \hyper@anchor{slideheading.\theslidesection}{\relax}%
8138 \Hy@writebookmark
8139 {\theslidesection}%
8140 {\Hy@slidetitle}%

```



```

8141     {slideheading.\theslidesection}%
8142     {1}%
8143     {toc}%
8144     \else
8145     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8146     \Hy@writebookmark
8147     {\theslidesection}%
8148     {\Hy@slidetitle}%
8149     {slideheading.\theHslidesection}%
8150     {1}%
8151     {toc}%
8152     \fi
8153     \else
8154     \Hy@GlobalStepCount\Hy@linkcounter
8155     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8156     \Hy@writebookmark
8157     {\theslidesection}%
8158     {\Hy@slidetitle}%
8159     {slideheading.\the\Hy@linkcounter}%
8160     {1}%
8161     {toc}%
8162     \fi
8163     }%
8164     \def\slide@subheading[#1]#2{%
8165     \H@refstepcounter{slidesubsection}%
8166     \addtocontents{los}{%
8167     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8168     {\@SCTR}{slideheading.\theslidesubsection}%
8169     }%
8170     \def\Hy@tempa{#2}%
8171     \ifx\Hy@tempa\@empty
8172     \else
8173     {%
8174     \edef\@currentlabel{%
8175     \csname p@slidesubsection\endcsname\theslidesubsection
8176     }%
8177     \makeslidesubheading{#2}%
8178     }%
8179     \fi
8180     \gdef\theslidesubheading{#1}%
8181     \ifHy@bookmarksnumbered
8182     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8183     \else
8184     \def\Hy@slidetitle{#1}%
8185     \fi
8186     \ifHy@hypertextnames
8187     \ifHy@naturalnames
8188     \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8189     \Hy@writebookmark
8190     {\theslidesubsection}%
8191     {\Hy@slidetitle}%
8192     {slideheading.\theslidesubsection}%
8193     {2}%
8194     {toc}%
8195     \else
8196     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8197     \Hy@writebookmark

```

```

8198     {\theslidesubsection}%
8199     {\Hy@slidetitle}%
8200     {slideheading.\theHslidesubsection}%
8201     {2}%
8202     {toc}%
8203 \fi
8204 \else
8205   \Hy@GlobalStepCount\Hy@linkcounter
8206   \hyper@C@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8207   \Hy@writebookmark
8208   {\theslidesubsection}%
8209   {\Hy@slidetitle}%
8210   {slideheading.\the\Hy@linkcounter}%
8211   {1}%
8212   {toc}%
8213 \fi
8214 }%
8215 \providecommand*\listslidenamelistofslides{List of Slides}%
8216 \def\listofslides{%
8217   \section*{%
8218     \listslidenamelistofslides
8219     \@mkboth{%
8220       \expandafter\MakeUppercase\listslidenamelistofslides
8221     }{%
8222       \expandafter\MakeUppercase\listslidenamelistofslides
8223     }%
8224   }%
8225   \def\l@slide##1##2##3##4{%
8226     \slide@undottedcline{%
8227       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8228     }{%
8229     }%
8230     \let\l@subslide\l@slide
8231     \@startlos
8232   }%
8233   \def\slide@contents{%
8234     \def\l@slide##1##2##3##4{%
8235       \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8236     }%
8237     \let\l@subslide\@gobblefour
8238     \@startlos
8239   }%
8240   \def\Slide@contents{%
8241     \def\l@slide##1##2##3##4{%
8242       \ifcase\lslide@flag
8243         \message{##1 ** \the\c@slidesection}%
8244         \ifnum##1>\c@slidesection
8245           \def\lslide@flag{1}%
8246           {%
8247             \large
8248             \slide@ccline{%
8249               \slidenumberline{\$ \Rightarrow \bullet \$}%
8250               {\hyperlink{##4}{##2}}%
8251             }{##3}%
8252           }%
8253         \else
8254           {%

```

```

8255     \large
8256     \slide@cline{%
8257         \slidnumberline{${\surd\;}\bullet$}%
8258         {\hyperlink{###4}{##2}}%
8259     }{##3}%
8260 }%
8261 \fi
8262 \or
8263 \def\lslide@flag{2}%
8264 {%
8265     \large
8266     \slide@cline{%
8267         \slidnumberline{${\bullet$}%
8268         {\hyperlink{###4}{##2}}%
8269     }{##3}%
8270 }%
8271 \or
8272 {%
8273     \large
8274     \slide@cline{%
8275         \slidnumberline{${\bullet$}%
8276         {\hyperlink{###4}{##2}}%
8277     }{##3}%
8278 }%
8279 \fi
8280 }%
8281 \def\l@subslide##1##2##3##4{%
8282     \ifnum\lslide@flag=1 %
8283         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{###4}{##2}}}%
8284     \fi
8285 }%
8286 \def\lslide@flag{0}%
8287 \@startlos
8288 }%
8289 }-}

```

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). (\endinginput have to be on the same line like \fi, or you have to use \expandafter before.)

```

8290 \ifHy@texht
8291     \expandafter\endinginput
8292 \fi
8293 \let\real@setref\@setref
8294 \def\@setref#1#2#3{% csname, extract group, refname
8295     \ifx#1\relax
8296         \protect\G@refundefinedtrue
8297         \nfss@text{\reset@font\bfseries ??}%
8298         \@latex@warning{%
8299             Reference '#3' on page \thepage \space undefined%
8300         }%
8301     \else
8302         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8303     \fi
8304 }

```

\Hy@setref@link extracts the reference information entries, because \hyper@@link does not expand arguments for the automatic link type detection.

```

8305 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%

```

```

8306 \begingroup
8307 \toks0={\hyper@@link{#5}{#4}}%
8308 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8309 \edef\x{\endgroup
8310 \the\toks0 {\the\toks1 }%
8311 }%
8312 \x
8313 }
8314 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8315 \ifx#1\relax
8316 \protect\G@refundefinedtrue
8317 \nfss@text{\reset@font\bfseries ??}%
8318 \@latex@warning{%
8319 Reference '#3' on page \thepage \space undefined%
8320 }%
8321 \else
8322 \protect\hyper@@link
8323 {\expandafter\@fifthoffive#1}%
8324 {page.\expandafter\@secondoffive#1}%
8325 {\expandafter\@secondoffive#1}%
8326 \fi
8327 }

8328 </package>
8329 <*check>
8330 \checklatex
8331 \checkcommand\def\@setref#1#2#3{%
8332 \ifx#1\relax
8333 \protect\G@refundefinedtrue
8334 \nfss@text{\reset@font\bfseries ??}%
8335 \@latex@warning{%
8336 Reference '#3' on page \thepage\space undefined%
8337 }%
8338 \else
8339 \expandafter#2#1\null
8340 \fi
8341 }
8342 </check>
8343 <*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8344 \def\HyRef@StarSetRef#1{%
8345 \begingroup
8346 \Hy@safe@activetrue
8347 \edef\x{#1}%
8348 \@onelevel@sanitize\x
8349 \edef\x{\endgroup
8350 \noexpand\HyRef@@StarSetRef
8351 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8352 }%
8353 \x
8354 }
8355 \def\HyRef@@StarSetRef#1#2#3{%
8356 \ifx#1\@undefined
8357 \let#1\relax
8358 \fi
8359 \real@setref#1#3{#2}%

```

```

8360 }
8361 \def\@refstar#1{%
8362   \HyRef@StarSetRef{#1}\@firstoffive
8363 }
8364 \def\@pagerefstar#1{%
8365   \HyRef@StarSetRef{#1}\@secondoffive
8366 }
8367 \def\@namerefstar#1{%
8368   \HyRef@StarSetRef{#1}\@thirdoffive
8369 }
8370 \Hy@AtBeginDocument{%
8371   \ifpackageloaded{varioref}{%
8372     \def\@Refstar#1{%
8373       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8374     }%
8375     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8376       \MakeUppercase#1%
8377     }%
8378     \DeclareRobustCommand*\Ref}{%
8379       \ifstar\@Refstar\HyRef@Ref
8380     }%
8381     \def\HyRef@Ref#1{%
8382       \hyperref[#{1}]{\Ref*{#1}}%
8383     }%
8384     \def\Vr@f#1{%
8385       \leavevmode\unskip\vref@space
8386       \hyperref[#{1}]{%
8387         \Ref*{#1}%
8388         \let\vref@space\nobreakspace
8389         \@vpageref[\unskip]{#1}%
8390       }%
8391     }%
8392     \def\vr@f#1{%
8393       \leavevmode\unskip\vref@space
8394       \begingroup
8395       \let\T@pageref\@pagerefstar
8396       \hyperref[#{1}]{%
8397         \ref*{#1}%
8398         \vpageref[\unskip]{#1}%
8399       }%
8400     \endgroup
8401   }%
8402 }{}%
8403 }
8404 \DeclareRobustCommand*\autopageref}{%
8405   \ifstar{%
8406     \HyRef@autopagerefname\pageref*%
8407   }\HyRef@autopageref
8408 }
8409 \def\HyRef@autopageref#1{%
8410   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
8411 }
8412 \def\HyRef@autopagerefname{%
8413   \ltx@ifundefined{pageautorefname}{%
8414     \ltx@ifundefined{pagename}{%
8415       \Hy@Warning{No autoref name for 'page'}%
8416     }{%

```

```

8417 \pagename\nobreakspace
8418 }%
8419 }{%
8420 \pageautorefname\nobreakspace
8421 }%
8422 }
8423 \DeclareRobustCommand*{\autoref}{%
8424 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8425 }
8426 \def\HyRef@autoref#1#2{%
8427 \begingroup
8428 \Hy@safe@activestruer
8429 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8430 \endgroup
8431 }
8432 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8433 \HyRef@ShowKeysRef{#2}%
8434 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8435 \edef\HyRef@thisref{%
8436 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8437 }%
8438 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8439 \Hy@safe@activesfalse
8440 #3{%
8441 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8442 }{%
8443 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8444 }{%
8445 \HyRef@currentHtag
8446 \expandafter\@firstoffive#1\@empty\@empty\@empty
8447 \null
8448 }%
8449 \else
8450 \protect\G@refundefinedtrue
8451 \nfss@text{\reset@font\bfseries ??}%
8452 \@latex@warning{%
8453 Reference '#2' on page \thepage\space undefined%
8454 }%
8455 \fi
8456 }
8457 \def\HyRef@testreftype#1.#2\{\%
8458 \ltx@ifundefined{#1autorefname}{%
8459 \ltx@ifundefined{#1name}{%
8460 \HyRef@StripStar#1\*\@nil{#1}%
8461 \ltx@ifundefined{\HyRef@name autorefname}{%
8462 \ltx@ifundefined{\HyRef@name name}{%
8463 \def\HyRef@currentHtag{}%
8464 \Hy@Warning{No autoref name for '#1'}%
8465 }{%
8466 \edef\HyRef@currentHtag{%
8467 \expandafter\noexpand\csname\HyRef@name name\endcsname
8468 \noexpand-}
8469 }%
8470 }%
8471 }{%
8472 \edef\HyRef@currentHtag{%
8473 \expandafter\noexpand

```

```

8474     \csname\HyRef@name autorefname\endcsname
8475     \noexpand~%
8476     }%
8477     }%
8478     }{%
8479     \edef\HyRef@currentHtag{%
8480     \expandafter\noexpand\csname#1name\endcsname
8481     \noexpand~%
8482     }%
8483     }%
8484     }{%
8485     \edef\HyRef@currentHtag{%
8486     \expandafter\noexpand\csname#1autorefname\endcsname
8487     \noexpand~%
8488     }%
8489     }%
8490     }
8491 \def\HyRef@StripStar#1*\#2\@nil#3{%
8492 \def\HyRef@name{#2}%
8493 \ifx\HyRef@name\HyRef@CaseStar
8494 \def\HyRef@name{#1}%
8495 \else
8496 \def\HyRef@name{#3}%
8497 \fi
8498 }
8499 \def\HyRef@CaseStar{*\\}
8500 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8501 \let\HyRef@ShowKeysRef\@gobble
8502 \def\HyRef@ShowKeysInit{%
8503 \begingroup\expandafter\expandafter\expandafter\endgroup
8504 \expandafter\ifx\csname SK@@label\endcsname\relax
8505 \else
8506 \ifx\SK@ref\@empty
8507 \else
8508 \def\HyRef@ShowKeysRef{%
8509 \SK@\SK@@ref
8510 }%
8511 \fi
8512 \fi
8513 }
8514 \@ifpackageloaded{showkeys}{%
8515 \HyRef@ShowKeysInit
8516 }{%
8517 \Hy@AtBeginDocument{%
8518 \@ifpackageloaded{showkeys}{%
8519 \HyRef@ShowKeysInit
8520 }{}%
8521 }%
8522 }

```

Defaults for the names that \autoref uses.

```

8523 \providecommand*\AMSautorefname{\equationautorefname}
8524 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8525 \providecommand*\Itemautorefname{\itemautorefname}

```

```

8526 \providecommand*\itemautorefname{item}
8527 \providecommand*\equationautorefname{Equation}
8528 \providecommand*\footnoteautorefname{footnote}
8529 \providecommand*\itemautorefname{item}
8530 \providecommand*\figureautorefname{Figure}
8531 \providecommand*\tableautorefname{Table}
8532 \providecommand*\partautorefname{Part}
8533 \providecommand*\appendixautorefname{Appendix}
8534 \providecommand*\chapterautorefname{chapter}
8535 \providecommand*\sectionautorefname{section}
8536 \providecommand*\subsectionautorefname{subsection}
8537 \providecommand*\subsubsectionautorefname{subsubsection}
8538 \providecommand*\paragraphautorefname{paragraph}
8539 \providecommand*\subparagraphautorefname{subparagraph}
8540 \providecommand*\FancyVerbLineautorefname{line}
8541 \providecommand*\theoremautorefname{Theorem}
8542 \providecommand*\pageautorefname{page}
8543 \endpackage

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf \TeX offers `\pdfescapestring`.

```

8544 \langle *pdf $\TeX$  | dvi $\TeX$  | x $\TeX$  | v $\TeX$  | pdfmarkbase | dviwindo
8545 \begingroup\expandafter\expandafter\expandafter\endgroup
8546 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8547   \begingroup
8548     \catcode\| =0 %
8549     \@makeother\| %
8550     |@firstofone{ |endgroup
8551     |def|Hy@pstringdef#1#2{%
8552       |begingroup
8553         |edef~{|string~}%
8554         |xdef|Hy@gtemp{#2}%
8555         |endgroup
8556         |let#1|Hy@gtemp
8557         |@onelevel@sanitize#1%
8558         |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8559         |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8560         |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8561       }%
8562       |def|Hy@ExchangeBackslash#1\#2|@nil{%
8563         #1%
8564         |ifx|\#2|\% %
8565         |else
8566           \| %
8567           |Hy@ReturnAfterFi{%
8568             |Hy@ExchangeBackslash#2|@nil
8569           }%

```



```

8570   |fi
8571   }%
8572 }%
8573 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8574   #1%
8575   \ifx\#2\%
8576   \else
8577     \@backslashchar(%
8578     \Hy@ReturnAfterFi{%
8579     \Hy@ExchangeLeftParenthesis#2\@nil
8580     }%
8581   \fi
8582 }%
8583 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8584   #1%
8585   \ifx\#2\%
8586   \else
8587     \@backslashchar)%
8588     \Hy@ReturnAfterFi{%
8589     \Hy@ExchangeRightParenthesis#2\@nil
8590     }%
8591   \fi
8592 }%
8593 \else
8594 \def\Hy@pstringdef#1#2{%
8595   \begingroup
8596   \edef~{\string-}%
8597   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8598   \endgroup
8599   \let#1\Hy@gtemp
8600 }%
8601 \fi
8602 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)

```

46.2 pdfTeX

```

8603 <*pdfTeX)
8604 \providecommand*\XR@ext}{pdf}
8605 \Hy@setbreaklinks{true}
8606 \def\HyPat@ObjRef{%
8607   [0-9]*[1-9][0-9]* 0 R%
8608 }

```

This driver is for Han The Thanh's T_EX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option `pdfversion`.

- pdfT_EX 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT_EX 1.30, 2005-08-081: `\pdfminorversion`

```

8609 \let\Hy@pdfminorversion\relax
8610 \begingroup\expandafter\expandafter\expandafter\endgroup
8611 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8612   \begingroup\expandafter\expandafter\expandafter\endgroup
8613   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8614   \else
8615     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%

```

```

8616 \fi
8617 \else
8618 \def\Hy@pdfminorversion{\pdfminorversion}%
8619 \fi
8620 \@ifundefined{Hy@pdfminorversion}{%
8621 \PackageInfo{hyperref}{%
8622 PDF version is not set, because pdfTeX is too old (<1.10a)%
8623 }%
8624 }{%
8625 \ifHy@ocgcolorlinks
8626 \ifnum\Hy@pdfminorversion<5 %
8627 \kvsetkeys{Hyp}{pdfversion=1.5}%
8628 \fi
8629 \fi
8630 \ifHy@setpdfversion
8631 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8632 \else
8633 \Hy@pdfminorversion=\Hy@pdfversion\relax
8634 \fi
8635 \PackageInfo{hyperref}{%
8636 \expandafter\string\Hy@pdfminorversion
8637 :=\number\Hy@pdfversion\space
8638 }%
8639 \fi
8640 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8641 }
8642 \Hy@DisableOption{pdfversion}%

8643 \ifHy@ocgcolorlinks
8644 \pdf@ifdraftmode{}{%
8645 \immediate\pdfobjj{%
8646 <<%
8647 /Type/OCG%
8648 /Name(View)%
8649 /Usage<<%
8650 /Print<<%
8651 /PrintState/OFF%
8652 >>%
8653 /View<<%
8654 /ViewState/ON%
8655 >>%
8656 >>%
8657 >>%
8658 }%
8659 \edef\OBJ@OCG@view{\the\pdfflastobj\space 0 R}%
8660 \immediate\pdfobjj{%
8661 <<%
8662 /Type/OCG%
8663 /Name(Print)%
8664 /Usage<<%
8665 /Print<<%
8666 /PrintState/ON%
8667 >>%
8668 /View<<%
8669 /ViewState/OFF%
8670 >>%
8671 >>%
8672 >>%

```

```

8673 }%
8674 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8675 \immediate\pdfobjj{%
8676 [%
8677 \OBJ@OCG@view\space\OBJ@OCG@print
8678 ]%
8679 }%
8680 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8681 \pdfcatalog{%
8682 /OCProperties<<%
8683 /OCGs \OBJ@OCGs
8684 /D<<%
8685 /OFF[\OBJ@OCG@print]%
8686 /AS[%
8687 <<%
8688 /Event/View%
8689 /OCGs \OBJ@OCGs
8690 /Category[/View]%
8691 >>%
8692 <<%
8693 /Event/Print%
8694 /OCGs \OBJ@OCGs
8695 /Category[/Print]%
8696 >>%
8697 <<%
8698 /Event/Export%
8699 /OCGs \OBJ@OCGs
8700 /Category[/Print]%
8701 >>%
8702 ]%
8703 >>%
8704 >>%
8705 }%
8706 \begingroup
8707 \edef\x{\endgroup
8708 \pdfpageresources{%
8709 /Properties<<%
8710 /OCView \OBJ@OCG@view
8711 /OCPrint \OBJ@OCG@print
8712 >>%
8713 }%
8714 }%
8715 \x
8716 }%
8717 \Hy@AtBeginDocument{%
8718 \def\Hy@colorlink#1{%
8719 \begingroup
8720 \ifHy@ocgcolorlinks
8721 \def\Hy@ocgcolor{#1}%
8722 \setbox0=\hbox\bgroup\color@begingroup
8723 \else
8724 \HyColor@UseColor#1%
8725 \fi
8726 }%
8727 \def\Hy@endcolorlink{%
8728 \ifHy@ocgcolorlinks
8729 \color@endgroup\egroup

```

```

8730 \mbox{%
8731 \pdfliteral page{/OC/OCPrint BDC}%
8732 \rlap{\copy0}%
8733 \pdfliteral page{EMC/OC/OCView BDC}%
8734 \begingroup
8735 \expandafter\HyColor@UseColor\Hy@ocgcolor
8736 \box0 %
8737 \endgroup
8738 \pdfliteral page{EMC}%
8739 }%
8740 \fi
8741 \endgroup
8742 }%
8743 }%
8744 \else
8745 \Hy@DisableOption{ocgcolorlinks}%
8746 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

8747 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8748 \ifx\pdfstartlink\@undefined% less than version 14
8749 \let\pdfstartlink\pdfannotlink
8750 \let\pdfinkmargin\@tempdima
8751 \let\pdfxform\pdfform
8752 \let\pdfastxform\pdfastform
8753 \let\pdfrefxform\pdfrefform
8754 \else
8755 \pdfinkmargin1pt %
8756 \fi

```

First set up the default linking

```
8757 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8758 \Hy@WrapperDef\new@pdfink#1{%
8759 \ifhmode
8760 \@savsf\spacefactor
8761 \fi
8762 \Hy@SaveLastskip
8763 \Hy@VerboseAnchor{#1}%
8764 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8765 \Hy@DestName\Hy@pstringDest\@pdfview
8766 \Hy@RestoreLastskip
8767 \ifhmode
8768 \spacefactor\@savsf
8769 \fi
8770 }
8771 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest` name in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

8772 \def\Hy@DestName#1#2{%
8773 \pdfdest name{#1}#2\relax
8774 }

```

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.

```

8775 \providecommand*\@pdfborder{0 0 1}
8776 \providecommand*\@pdfborderstyle{}
8777 \def\Hy@undefinedname{UNDEFINED}
8778 \def\find@pdfink#1#2{%
8779   \leavevmode
8780   \protected@edef\Hy@testname{#2}%
8781   \ifx\Hy@testname\@empty
8782     \Hy@Warning{%
8783       Empty destination name,\MessageBreak
8784       using '\Hy@undefinedname'%
8785     }%
8786   \let\Hy@testname\Hy@undefinedname
8787   \else
8788     \Hy@pstringdef\Hy@testname{%
8789       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8790     }%
8791   \fi
8792   \Hy@StartlinkName{%
8793     \ifHy@pdfa /F 4\fi
8794     \Hy@setpdfborder
8795     \ifx\@pdfhighlight\@empty
8796     \else
8797       /H\@pdfhighlight
8798     \fi
8799     \ifx\CurrentBorderColor\relax
8800     \else
8801       /C[\CurrentBorderColor]%
8802     \fi
8803   }\Hy@testname
8804   \expandafter\Hy@colorlink\csname @#1color\endcsname
8805 }
8806 \def\Hy@StartlinkName#1#2{%
8807   \pdfstartlink attr{#1}goto name{#2}\relax
8808 }
8809 \def\close@pdfink{%
8810   \Hy@endcolorlink
8811   \Hy@VerboseLinkStop
8812   \pdfendlink
8813 }
8814 \def\hyper@anchor#1{%
8815   \new@pdfink{#1}\anchor@spot\pdf@endanchor
8816 }
8817 \def\hyper@anchorstart#1{%
8818   \new@pdfink{#1}%
8819   \Hy@activeanchortrue
8820 }
8821 \def\hyper@anchorend{%
8822   \pdf@endanchor
8823   \Hy@activeanchorfalse
8824 }
8825 \def\hyper@linkstart#1#2{%
8826   \Hy@VerboseLinkStart{#1}{#2}%
8827   \ltx@ifundefined{@#1bordercolor}{%
8828     \let\CurrentBorderColor\relax
8829   }{%

```

```

8830 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8831 }%
8832 \find@pdfink{#1}{#2}%
8833 }
8834 \def\hyper@linkend{\close@pdfink}
8835 \def\hyper@link#1#2#3{%
8836 \Hy@VerboseLinkStart{#1}{#2}%
8837 \ltx@ifundefined{@#1bordercolor}{%
8838 \let\CurrentBorderColor\relax
8839 }{%
8840 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8841 }%
8842 \find@pdfink{#1}{#2}#3%
8843 \close@pdfink
8844 }
8845 \let\CurrentBorderColor\@linkbordercolor
8846 \def\hyper@linkurl#1#2{%
8847 \begingroup
8848 \Hy@pstringdef\Hy@pstringURI{#2}%
8849 \hyper@chars
8850 \leavevmode
8851 \pdfstartlink
8852 attr{%
8853 \Hy@setpdfborder
8854 \ifx\@pdfhighlight\@empty
8855 \else
8856 /H\@pdfhighlight
8857 \fi
8858 \ifx\@urlbordercolor\relax
8859 \else
8860 /C{\@urlbordercolor}%
8861 \fi
8862 }%
8863 user{%
8864 /Subtype/Link%
8865 \ifHy@pdfa /F 4\fi
8866 /A<<%
8867 /Type/Action%
8868 /S/URI%
8869 /URI(\Hy@pstringURI)%
8870 \ifHy@href@ismap
8871 /IsMap true%
8872 \fi
8873 \Hy@href@nextactionraw
8874 >>%
8875 }%
8876 \relax
8877 \Hy@colorlink\@urlcolor#1%
8878 \close@pdfink
8879 \endgroup
8880 }
8881 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8882 \begingroup
8883 \def\Hy@pstringF{#2}%
8884 \Hy@CleanupFile\Hy@pstringF
8885 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8886 \Hy@pstringdef\Hy@pstringD{#3}%

```

```

8887 \Hy@MakeRemoteAction
8888 \leavevmode
8889 \pdfstartlink
8890 attr{%
8891   \Hy@setpdfborder
8892   \ifx\@pdfhighlight\@empty
8893   \else
8894     /H\@pdfhighlight
8895   \fi
8896   \ifx\@filebordercolor\relax
8897   \else
8898     /C{\@filebordercolor}%
8899   \fi
8900 }%
8901 user {%
8902   /Subtype/Link%
8903   \ifHy@pdfa /F 4\fi
8904   /A<<%
8905   /F(\Hy@pstringF)%
8906   /S/GoToR.%
8907   \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}

```

```

8908   \ifx\#3\%
8909     /D[\Hy@href@page\@pdfremotestartview]%
8910   \else
8911     /D(\Hy@pstringD)%
8912   \fi
8913   \Hy@href@nextactionraw
8914   >>%
8915 }%
8916 \relax
8917 \Hy@colorlink\@filecolor#1%
8918 \close@pdflink
8919 \endgroup
8920 }
8921 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8922 \begingroup
8923 \Hy@pstringdef\Hy@pstringF{#1}%
8924 \Hy@pstringdef\Hy@pstringP{#3}%
8925 \leavevmode
8926 \pdfstartlink
8927 attr{%
8928   \Hy@setpdfborder
8929   \ifx\@pdfhighlight\@empty
8930   \else
8931     /H\@pdfhighlight
8932   \fi

```

```

8933 \ifx\@runbordercolor\relax
8934 \else
8935 /C[\@runbordercolor]%
8936 \fi
8937 }%
8938 user {%
8939 /Subtype/Link%
8940 \ifHy@pdfa /F 4\fi
8941 /A<<%
8942 /F(\Hy@pstringF)%
8943 /S/Launch%
8944 \Hy@SetNewWindow
8945 \ifx\#3\%
8946 \else
8947 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8948 \fi
8949 \Hy@href@nextactionraw
8950 >>%
8951 }%
8952 \relax
8953 \Hy@colorlink\@runcolor#2%
8954 \close@pdflink
8955 \endgroup
8956 }

```

\@pdfproducer

```

8957 \ifx\@pdfproducer\relax
8958 \begingroup\expandafter\expandafter\expandafter\endgroup
8959 \expandafter\ifx\csname luatexversion\endcsname\relax
8960 \def\@pdfproducer{pdfTeX}%
8961 \ifx\eTeXversion\@undefined
8962 \else
8963 \ifx\eTeXversion\relax
8964 \else
8965 \ifnum\eTeXversion>0 %
8966 \def\@pdfproducer{pdfTeX}%
8967 \fi
8968 \fi
8969 \fi
8970 \ifx\pdfTeXversion\@undefined
8971 \else
8972 \ifnum\pdfTeXversion<100 %
8973 \edef\@pdfproducer{%
8974 \@pdfproducer
8975 \the\pdfTeXversion.\pdfTeXrevision
8976 }%
8977 \else
8978 \ifnum\pdfTeXversion<130 %
8979 \edef\@pdfproducer{%
8980 \@pdfproducer-%
8981 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8982 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8983 \pdfTeXrevision
8984 }%
8985 \else
8986 \ifnum\pdfTeXversion<140 %
8987 \else

```



```

8988     \def\@pdfproducer{pdfTeX}%
8989     \fi
8990     \edef\@pdfproducer{%
8991       \@pdfproducer-%
8992       \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8993       \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8994       \pdfTeXrevision
8995     }%
8996     \fi
8997     \fi
8998     \fi
8999     \else
9000     \beginingroup
9001     \count@=\luatexversion
9002     \divide\count@ by 100 %
9003     \edef\x{\the\count@}%
9004     \count@=-\x\relax
9005     \multiply\count@ by 100 %
9006     \advance\count@ by \luatexversion
9007     \edef\x{\endgroup
9008       \def\noexpand\@pdfproducer{%
9009         LuaTeX-\x.\the\count@.\luatexrevision
9010       }%
9011     }%
9012     \x
9013     \fi
9014     \fi

```

\PDF@SetupDox

```

9015 \def\PDF@SetupDoc{%
9016 \ifx\@pdfpagescrop\@empty
9017 \else
9018 \edef\process@me{%
9019   \pdfpagesattr={%
9020     /CropBox[\@pdfpagescrop]%
9021     \expandafter\ifx\expandafter\the\pdfpagesattr\%
9022     \else
9023     ^^J\the\pdfpagesattr
9024   }%
9025 }%
9026 }%
9027 \process@me
9028 \fi
9029 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9030 \pdfcatalog{%
9031 /PageMode/\@pdfpagemode
9032 \ifx\@baseurl\@empty
9033 \else
9034 /URI<</Base(\Hy@pstringB)>>%
9035 \fi
9036 }%
9037 \ifx\@pdfstartpage\@empty
9038 \else
9039 \ifx\@pdfstartview\@empty
9040 \else
9041   openaction goto page\@pdfstartpage{\@pdfstartview}%
9042 \fi

```

```

9043 \fi
9044 \edef\Hy@temp{%
9045 \ifHy@toolbar\else /HideToolbar true\fi
9046 \ifHy@menubar\else /HideMenubar true\fi
9047 \ifHy>windowui\else /HideWindowUI true\fi
9048 \ifHy@fitwindow /FitWindow true\fi
9049 \ifHy@centerwindow /CenterWindow true\fi
9050 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9051 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9052 \Hy@UseNameKey{Direction}\@pdfdirection
9053 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9054 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9055 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9056 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9057 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9058 \Hy@UseNameKey{Duplex}\@pdfduplex
9059 \ifx\@pdfpicktraybypdfsize\@empty
9060 \else
9061 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9062 \fi
9063 \ifx\@pdfprintpagerange\@empty
9064 \else
9065 /PrintPageRange\@pdfprintpagerange]%
9066 \fi
9067 \ifx\@pdfnumcopies\@empty
9068 \else
9069 /NumCopies \@pdfnumcopies
9070 \fi
9071 }%
9072 \pdfcatalog{%
9073 \ifx\Hy@temp\@empty
9074 \else
9075 /ViewerPreferences<<\Hy@temp>>%
9076 \fi
9077 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9078 \ifx\@pdflang\@empty
9079 \else
9080 /Lang(\@pdflang)%
9081 \fi
9082 }%
9083 }

```

\PDF@FinishDoc

```

9084 \def\PDF@FinishDoc{%
9085 \pdf@ifdraftmode-}{%
9086 \Hy@UseMaketitleInfos
9087 \HyInfo@GenerateAddons
9088 \pdfinfo{%
9089 /Author(\@pdfauthor)%
9090 /Title(\@pdftitle)%
9091 /Subject(\@pdfsubject)%
9092 /Creator(\@pdfcreator)%
9093 \ifx\@pdfcreationdate\@empty
9094 \else
9095 /CreationDate(\@pdfcreationdate)%
9096 \fi
9097 \ifx\@pdfmoddate\@empty

```

```

9098 \else
9099 /ModDate(\@pdfmoddate)%
9100 \fi
9101 \ifx\@pdfproducer\relax
9102 \else
9103 /Producer(\@pdfproducer)%
9104 \fi
9105 /Keywords(\@pdfkeywords)%
9106 \ifx\@pdftrapped\@empty
9107 \else
9108 /Trapped/\@pdftrapped
9109 \fi
9110 \HyInfo@Addons
9111 }%
9112 }%
9113 \Hy@DisableOption{pdfauthor}%
9114 \Hy@DisableOption{pdftitle}%
9115 \Hy@DisableOption{pdfsubject}%
9116 \Hy@DisableOption{pdfcreator}%
9117 \Hy@DisableOption{pdfcreationdate}%
9118 \Hy@DisableOption{pdfmoddate}%
9119 \Hy@DisableOption{pdfproducer}%
9120 \Hy@DisableOption{pdfkeywords}%
9121 \Hy@DisableOption{pdftrapped}%
9122 \Hy@DisableOption{pdfinfo}%
9123 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

9124 \def\hyper@pagetransition{%
9125 \ifx\@pdfpagetransition\relax
9126 \else
9127 \expandafter\Hy@RemoveTransPageAttr
9128 \the\pdfpageattr^^J/Trans{}}>>\END
9129 \ifx\@pdfpagetransition\@empty
9130 \else
9131 \edef\@processme{%
9132 \global\pdfpageattr{%
9133 \the\pdfpageattr
9134 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9135 }%
9136 }%
9137 \@processme
9138 \fi
9139 \fi
9140 }

```

`\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.

```

9141 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9142 \ifx\#2\%
9143 \global\pdfpageattr{#1}%
9144 \else
9145 \Hy@RemoveTransPageAttr#1#4\END

```

```

9146 \fi
9147 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpageduration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key exists, it is appended to `\pdfpageattr`.

```

9148 \def\hyper@pageduration{%
9149 \ifx\@pdfpageduration\relax
9150 \else
9151 \expandafter
9152 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9153 \ifx\@pdfpageduration\@empty
9154 \else
9155 \edef\@processme{%
9156 \global\pdfpageattr{%
9157 \the\pdfpageattr
9158 ^^J/Dur \@pdfpageduration\space
9159 }%
9160 }%
9161 \@processme
9162 \fi
9163 \fi
9164 }

```

`\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.

```

9165 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9166 \ifx\#2\%
9167 \global\pdfpageattr{#1}%
9168 \else
9169 \Hy@RemoveDurPageAttr#1#4\END
9170 \fi
9171 }

```

`\hyper@pagehidden` The boolean value of the key `/Hid` is stored in switch `\ifHy@pdfpagehidden`. First previous `/Hid` entries are removed, then the new one is appended, if the value is true (the PDF default is false).

```

9172 \def\hyper@pagehidden{%
9173 \ifHy@useHidKey
9174 \expandafter
9175 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9176 \ifHy@pdfpagehidden
9177 \edef\@processme{%
9178 \global\pdfpageattr{%
9179 \the\pdfpageattr
9180 ^^J/Hid true % SPACE
9181 }%
9182 }%
9183 \@processme
9184 \fi
9185 \fi
9186 }

```

`\Hy@RemoveHidPageAttr` Macro `\Hy@RemoveHidPageAttr` removes a `/Hid` entry from `\pdfpageattr`. It is called with the end marker `^^J/Hid{} \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 /Hid object or the end marker.

```

9187 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9188 \ifx\#2\%
9189 \global\pdfpageattr{#1}%
9190 \else
9191 \Hy@RemoveHidPageAttr#1#4\END
9192 \fi
9193 }

9194 \pdf@ifdraftmode{ }{%
9195 \g@addto@macro\Hy@EveryPageHook{%
9196 \hyper@pagetransition
9197 \hyper@pageduration
9198 \hyper@pagehidden
9199 }%
9200 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9201 </pdfTeX>
9202 <*pdfTeX | xetex>
9203 \Hy@AtBeginDocument{%
9204 \ifHy@setpagesize
9205 \expandafter\@firstofone
9206 \else
9207 \expandafter\@gobble
9208 \fi
9209 }%
9210 \@ifclassloaded{seminar}{%
9211 <*pdfTeX>
9212 \setlength{\pdfhorigin}{1truein}%
9213 \setlength{\pdfvorigin}{1truein}%
9214 </pdfTeX>
9215 \ifportrait
9216 \ifdim\paperwidth=\z@
9217 \else
9218 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9219 \fi
9220 \ifdim\paperheight=\z@
9221 \else
9222 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9223 \fi
9224 \else
9225 \ifdim\paperheight=\z@
9226 \else
9227 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9228 \fi
9229 \ifdim\paperwidth=\z@
9230 \else
9231 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9232 \fi
9233 \fi
9234 }{%
9235 \ltx@ifundefined{stockwidth}{%
9236 \ifdim\paperwidth>\z@
9237 \setlength{\pdfpagewidth}{\paperwidth}%
9238 \fi

```

```

9239     \ifdim\paperheight>\z@
9240         \setlength{\pdfpageheight}{\paperheight}%
9241     \fi
9242 }{%
9243     \ifdim\stockwidth>\z@
9244         \setlength{\pdfpagewidth}{\stockwidth}%
9245     \fi
9246     \ifdim\stockheight>\z@
9247         \setlength{\pdfpageheight}{\stockheight}%
9248     \fi
9249 }%
9250 }%
9251 }%
9252 \Hy@DisableOption{setpagesize}%
9253 }
9254 (/pdfTeX | xetex)
9255 (*pdfTeX)
9256 \def\Acrobatmenu#1#2{%
9257   \Hy@Acrobatmenu{#1}{#2}{%
9258     \pdfstartlink
9259     attr{%
9260       \Hy@setpdfborder
9261       \ifx\@pdfhighlight\@empty
9262         \else
9263           /H\@pdfhighlight
9264         \fi
9265       \ifx\@menubordercolor\relax
9266         \else
9267           /C[\@menubordercolor]%
9268         \fi
9269     }%
9270     user{%
9271       /Subtype/Link%
9272       \ifHy@pdfa /F 4\fi
9273       /A<<%
9274       /S/Named%
9275       /N/#1%
9276       \Hy@href@nextactionraw
9277     >>%
9278     }%
9279     \relax
9280     \Hy@colorlink\@menucolor#2%
9281     \close@pdfink
9282   }%
9283 }

```

46.2.1 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.

```

9284 \def\Hy@FixNotFirstPage{%
9285   \gdef\Hy@FixNotFirstPage{%

```

```

9286 \setbox\AtBeginShipoutBox=\hbox{%
9287 \copy\AtBeginShipoutBox
9288 }%
9289 }%
9290 }
9291 \AtBeginShipout{\Hy@FixNotFirstPage}
9292 </pdfTeX>

```

46.3 hypertext

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

href: `html:`

name: `html:`

end: `html:`

image: `html:`

base_name: `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9293 <*hypertex>
9294 \providecommand*{\XR@ext}{dvi}
9295 \def\PDF@FinishDoc{}
9296 \def\PDF@SetupDoc{%
9297 \ifx\@baseurl\@empty
9298 \else
9299 \special{html:<base href="\@baseurl">}}%
9300 \fi
9301 }
9302 \Hy@WrapperDef\hyper@anchor#1{%
9303 \Hy@SaveLastskip
9304 \Hy@VerboseAnchor{#1}%
9305 \begingroup
9306 \let\protect=\string
9307 \hyper@chars
9308 \special{html:<a name=%

```

```

9309     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9310 \endgroup
9311 \Hy@activeanchortrue
9312 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9313 \special{html:</a>}%
9314 \Hy@activeanchorfalse
9315 \Hy@RestoreLastskip
9316 }
9317 \Hy@WrapperDef\hyper@anchorstart#1{%
9318 \Hy@SaveLastskip
9319 \Hy@VerboseAnchor{#1}%
9320 \begingroup
9321 \hyper@chars
9322 \special{html:<a name=%
9323     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9324 \endgroup
9325 \Hy@activeanchortrue
9326 }
9327 \def\hyper@anchorend{%
9328 \special{html:</a>}%
9329 \Hy@activeanchorfalse
9330 \Hy@RestoreLastskip
9331 }
9332 \def\@urlltype{url}
9333 \def\hyper@linkstart#1#2{%
9334 \Hy@VerboseLinkStart{#1}{#2}%
9335 \expandafter\Hy@colorlink\csname @#1color\endcsname
9336 \def\Hy@tempa{#1}%
9337 \ifx\Hy@tempa\@urlltype
9338 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9339 \else
9340 \begingroup
9341 \hyper@chars
9342 \special{html:<a href=%
9343     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9344 \endgroup
9345 \fi
9346 }
9347 \def\hyper@linkend{%
9348 \special{html:</a>}%
9349 \Hy@endcolorlink
9350 }
9351 \def\hyper@linkfile#1#2#3{%
9352 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\else\#3\fi}%
9353 }
9354 \def\hyper@linkurl#1#2{%
9355 \leavevmode
9356 \ifHy@raiselinks
9357 \Hy@SaveSpaceFactor
9358 \Hy@SaveSavedSpaceFactor
9359 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9360 \Hy@RestoreSavedSpaceFactor
9361 \@linkdim\dp\@tempboxa
9362 \lower\@linkdim\hbox{%
9363 \hyper@chars

```

If we want to raise up the final link `\special`, we need to get its height; ask me why \LaTeX constructs make this totally foul up, and make us revert to basic \TeX . I do not know.


```

9364 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9365 }%
9366 \Hy@colorlink\@urlicolor
9367 \Hy@RestoreSpaceFactor
9368 #1%
9369 \Hy@SaveSpaceFactor
9370 \@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).

```

9371 \advance\@linkdim by -6.5\p@
9372 \raise\@linkdim\hbox{\special{html:</a>}}%
9373 \Hy@endcolorlink
9374 \Hy@RestoreSpaceFactor
9375 \else
9376 \begingroup
9377 \hyper@chars
9378 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9379 \Hy@colorlink\@urlicolor#1%
9380 \special{html:</a>}%
9381 \Hy@endcolorlink
9382 \endgroup
9383 \fi
9384 }

```

Very poor implementation of `\hyper@link` without considering `#1`.

```

9385 \def\hyper@link#1#2#3{%
9386 \Hy@VerboseLinkStart{#1}{#2}%
9387 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9388 }

9389 \def\hyper@image#1#2{%
9390 \begingroup
9391 \hyper@chars
9392 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9393 \endgroup
9394 }
9395 </hypertex>
9396 <*dviwindo>

```

46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of `1000000sp` wide by `\baselineskip` high is used.

```

9397 \providecommand*\XR@ext{dvi}
9398 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9399 \Hy@WrapperDef\hyper@anchor#1{%
9400 \Hy@SaveLastskip

```

```

9401 \Hy@VerboseAnchor{#1}%
9402 \begingroup
9403 \let\protect=\string
9404 \special{mark: #1}%
9405 \endgroup
9406 \Hy@activeanchortrue
9407 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9408 \Hy@activeanchorfalse
9409 \Hy@RestoreLastskip
9410 }
9411 \Hy@WrapperDef\hyper@anchorstart#1{%
9412 \Hy@SaveLastskip
9413 \Hy@VerboseAnchor{#1}%
9414 \special{mark: #1}%
9415 \Hy@activeanchortrue
9416 }
9417 \def\hyper@anchorend{%
9418 \Hy@activeanchorfalse
9419 \Hy@RestoreLastskip
9420 }
9421 \def\hyper@linkstart#1#2{%
9422 \Hy@VerboseLinkStart{#1}{#2}%
9423 \expandafter\Hy@colorlink\csname @#1color\endcsname
9424 \special{button: %
9425 10000000 %
9426 \number\baselineskip\space
9427 #2%
9428 }%
9429 }
9430 \def\hyper@linkend{%
9431 \Hy@endcolorlink
9432 }
9433 \def\hyper@link#1#2#3{%
9434 \Hy@VerboseLinkStart{#1}{#2}%
9435 \leavevmode
9436 \ifHy@raiselinks
9437 \Hy@SaveSpaceFactor
9438 \Hy@SaveSavedSpaceFactor
9439 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9440 \Hy@RestoreSavedSpaceFactor
9441 \@linkdim\dp\@tempboxa
9442 \lower\@linkdim\hbox{%
9443 \special{button: %
9444 \number\wd\@tempboxa\space
9445 \number\ht\@tempboxa\space
9446 #2%
9447 }%
9448 \expandafter\Hy@colorlink\csname @#1color\endcsname
9449 \Hy@RestoreSpaceFactor
9450 #3%
9451 \Hy@SaveSpaceFactor
9452 \Hy@endcolorlink
9453 }%
9454 \@linkdim\ht\@tempboxa
9455 \advance\@linkdim by -6.5\p@
9456 \raise\@linkdim\hbox{}%
9457 \Hy@RestoreSpaceFactor

```

```

9458 \else
9459 \special{button: %
9460 \number\wd\@tempboxa\space
9461 \number\ht\@tempboxa\space
9462 #2%
9463 }%
9464 \expandafter\Hy@colorlink\csname @#1color\endcsname
9465 #3%
9466 \Hy@endcolorlink
9467 \fi
9468 }
9469 \def\hyper@linkurl#1#2{%
9470 \begingroup
9471 \hyper@chars
9472 \leavevmode
9473 \ifHy@raiselinks
9474 \Hy@SaveSpaceFactor
9475 \Hy@SaveSavedSpaceFactor
9476 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9477 \Hy@RestoreSavedSpaceFactor
9478 \@linkdim\dp\@tempboxa
9479 \lower\@linkdim\hbox{%
9480 \special{button: %
9481 \number\wd\@tempboxa\space
9482 \number\ht\@tempboxa\space
9483 launch: \wwwbrowser\space
9484 #2%
9485 }%
9486 \Hy@colorlink\@urlcolor
9487 \Hy@RestoreSpaceFactor
9488 #1%
9489 \Hy@SaveSpaceFactor
9490 \Hy@endcolorlink
9491 }%
9492 \@linkdim\ht\@tempboxa
9493 \advance\@linkdim by -6.5\p@
9494 \raise\@linkdim\hbox{%
9495 \Hy@RestoreSpaceFactor
9496 \else
9497 \special{button: %
9498 \number\wd\@tempboxa\space
9499 \number\ht\@tempboxa\space
9500 launch: \wwwbrowser\space
9501 #2%
9502 }%
9503 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9504 \fi
9505 \endgroup
9506 }
9507 \def\hyper@linkfile#1#2#3{%
9508 \begingroup
9509 \hyper@chars
9510 \leavevmode
9511 \ifHy@raiselinks
9512 \Hy@SaveSpaceFactor
9513 \Hy@SaveSavedSpaceFactor
9514 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%

```

```

9515 \Hy@RestoreSavedSpaceFactor
9516 \@linkdim\dp\@tempboxa
9517 \lower\@linkdim\hbox{%
9518 \special{button: %
9519 \number\wd\@tempboxa\space
9520 \number\ht\@tempboxa\space
9521 #3,%
9522 file: #2%
9523 }%
9524 \Hy@colorlink\@filecolor
9525 \Hy@RestoreSpaceFactor
9526 #1%
9527 \Hy@SaveSpaceFactor
9528 \Hy@endcolorlink
9529 }%
9530 \@linkdim\ht\@tempboxa
9531 \advance\@linkdim by -6.5\p@
9532 \raise\@linkdim\hbox{}%
9533 \Hy@RestoreSpaceFactor
9534 \else
9535 \special{button: %
9536 \number\wd\@tempboxa\space
9537 \number\ht\@tempboxa\space
9538 #3,%
9539 file: #2%
9540 }%
9541 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9542 \fi
9543 \endgroup
9544 }
9545 \ifx\@pdfproducer\relax
9546 \def\@pdfproducer{dviwindo + Distiller}%
9547 \fi
9548 \HyInfo@AddonUnsupportedtrue
9549 \def\PDF@FinishDoc{%
9550 \Hy@UseMaketitleInfos
9551 \HyInfo@TrappedUnsupported
9552 \special{PDF: Keywords \@pdfkeywords}%
9553 \special{PDF: Title \@pdftitle}%
9554 \special{PDF: Creator \@pdfcreator}%
9555 \ifx\@pdfcreationdate\@empty
9556 \else
9557 \special{PDF: CreationDate \@pdfcreationdate}%
9558 \fi
9559 \ifx\@pdfmoddate\@empty
9560 \else
9561 \special{PDF: ModDate \@pdfmoddate}%
9562 \fi
9563 \special{PDF: Author \@pdfauthor}%
9564 \ifx\@pdfproducer\relax
9565 \else
9566 \special{PDF: Producer \@pdfproducer}%
9567 \fi
9568 \special{PDF: Subject \@pdfsubject}%
9569 \Hy@DisableOption{pdfauthor}%
9570 \Hy@DisableOption{pdftitle}%
9571 \Hy@DisableOption{pdfsubject}%

```

```

9572 \Hy@DisableOption{pdfcreator}%
9573 \Hy@DisableOption{pdfcreationdate}%
9574 \Hy@DisableOption{pdfmoddate}%
9575 \Hy@DisableOption{pdfproducer}%
9576 \Hy@DisableOption{pdfkeywords}%
9577 \Hy@DisableOption{pdftrapped}%
9578 \Hy@DisableOption{pdfinfo}%
9579 }
9580 \def\PDF@SetupDoc{%
9581 \ifx\@baseurl\@empty
9582 \else
9583 \special{PDF: Base \@baseurl}%
9584 \fi
9585 \ifx\@pdfpagescrop\@empty\else
9586 \special{PDF: BBox \@pdfpagescrop}%
9587 \fi
9588 \def\Hy@temp{%
9589 \ifx\@pdfstartpage\@empty
9590 \else
9591 \ifx\@pdfstartview\@empty
9592 \else
9593 \edef\Hy@temp{%
9594 ,Page=\@pdfstartpage
9595 ,View=\@pdfstartview
9596 }%
9597 \fi
9598 \fi
9599 \edef\Hy@temp{%
9600 \noexpand\pdfmark{%
9601 pdfmark=/DOCVIEW,%
9602 PageMode=/\@pdfpagemode
9603 \Hy@temp
9604 }%
9605 }%
9606 \Hy@temp
9607 \ifx\@pdfpagescrop\@empty
9608 \else
9609 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9610 \fi
9611 \edef\Hy@temp{%
9612 \ifHy@toolbar\else /HideToolbar true\fi
9613 \ifHy@menubar\else /HideMenubar true\fi
9614 \ifHy>windowui\else /HideWindowUI true\fi
9615 \ifHy@fitwindow /FitWindow true\fi
9616 \ifHy@centerwindow /CenterWindow true\fi
9617 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9618 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9619 \Hy@UseNameKey{Direction}\@pdfdirection
9620 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9621 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9622 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9623 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9624 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9625 \Hy@UseNameKey{Duplex}\@pdfduplex
9626 \ifx\@pdfpicktraybypdfsize\@empty
9627 \else
9628 /PickTrayByPDFSize \@pdfpicktraybypdfsize

```

```

9629 \fi
9630 \ifx\@pdfprintpagerange\@empty
9631 \else
9632 /PrintPageRange[\@pdfprintpagerange]%
9633 \fi
9634 \ifx\@pdfnumcopies\@empty
9635 \else
9636 /NumCopies \@pdfnumcopies
9637 \fi
9638 }%
9639 \pdfmark{pdfmark=/PUT,%
9640 Raw={%
9641 \string{Catalog\string}<<%
9642 \ifx\Hy@temp\@empty
9643 \else
9644 /ViewerPreferences<<\Hy@temp>>%
9645 \fi
9646 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9647 \ifx\@pdflang\@empty
9648 \else
9649 /Lang(\@pdflang)%
9650 \fi
9651 >>%
9652 }%
9653 }%
9654 }
9655 </dviwindo>
9656 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9657 \providecommand*\XR@ext}{pdf}
9658 \Hy@setbreaklinks{true}
9659 \def\HyPat@ObjRef{%
9660 @[\^ ]+}%
9661 }
9662 \newsavebox{\pdfm@box}
9663 \def\@pdfm@mark#1{\special{pdf:#1}}
9664 \Hy@WrapperDef\@pdfm@dest#1{%
9665 \Hy@SaveLastskip
9666 \Hy@VerboseAnchor{#1}%
9667 \begingroup
9668 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9669 \def\x{XYZ}%
9670 \ifx\x\@pdfview
9671 \def\x{XYZ @xpos @ypos null}%
9672 \else
9673 \def\x{FitH}%
9674 \ifx\x\@pdfview
9675 \def\x{FitH @ypos}%
9676 \else
9677 \def\x{FitBH}%
9678 \ifx\x\@pdfview
9679 \def\x{FitBH @ypos}%
9680 \else
9681 \def\x{FitV}%

```

```

9682     \ifx\x\@pdfview
9683         \def\x{FitV @xpos}%
9684     \else
9685         \def\x{FitBV}%
9686     \ifx\x\@pdfview
9687         \def\x{FitBV @xpos}%
9688     \else
9689         \def\x{Fit}%
9690     \ifx\x\@pdfview
9691         \let\x\@pdfview
9692     \else
9693         \def\x{FitB}%
9694     \ifx\x\@pdfview
9695         \let\x\@pdfview
9696     \else
9697         \def\x{FitR}%
9698     \ifx\x\@pdfview
9699         \Hy@Warning{'pdfview=FitR' is not supported}%
9700         \def\x{XYZ @xpos @ypos null}%
9701     \else
9702         \@onelevel@sanitize\@pdfview
9703         \Hy@Warning{%
9704             Unknown value '\@pdfview' for pdfview%
9705         }%
9706         \def\x{XYZ @xpos @ypos null}%
9707     \fi
9708 \fi
9709 \fi
9710 \fi
9711 \fi
9712 \fi
9713 \fi
9714 \fi
9715 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9716 \endgroup
9717 \Hy@RestoreLastskip
9718 }
9719 \providecommand*\@pdfview{XYZ}
9720 \providecommand*\@pdfborder{0 0 1}
9721 \providecommand*\@pdfborderstyle{}
9722 \def\hyper@anchor#1{%
9723     \@pdfm@dest{#1}%
9724 }
9725 \def\hyper@anchorstart#1{%
9726     \Hy@activeanchortrue
9727     \@pdfm@dest{#1}%
9728 }
9729 \def\hyper@anchorend{%
9730     \Hy@activeanchorfalse
9731 }
9732 \newcounter{Hy@AnnotLevel}
9733 \ifHy@ocgcolorlinks
9734     \def\OBJ@OCG@view{@OCG@view}%
9735     \@pdfm@mark{%
9736         obj \OBJ@OCG@view <<%
9737             /Type/OCG%
9738             /Name(View)%

```

```

9739     /Usage<<%
9740     /Print<<%
9741     /PrintState/OFF%
9742     >>%
9743     /View<<%
9744     /ViewState/ON%
9745     >>%
9746     >>%
9747     >>%
9748 }%
9749 \@pdfm@mark{close \OBJ@OCG@view}%
9750 \def\OBJ@OCG@print{@OCG@print}%
9751 \@pdfm@mark{%
9752   obj \OBJ@OCG@print <<%
9753     /Type/OCG%
9754     /Name(Print)%
9755     /Usage<<%
9756     /Print<<%
9757     /PrintState/ON%
9758     >>%
9759     /View<<%
9760     /ViewState/OFF%
9761     >>%
9762     >>%
9763     >>%
9764 }%
9765 \@pdfm@mark{close \OBJ@OCG@print}%
9766 \def\OBJ@OCGs{@OCGs}%
9767 \@pdfm@mark{%
9768   obj \OBJ@OCGs [%
9769     \OBJ@OCG@view\space\OBJ@OCG@print
9770   ]%
9771 }%
9772 \@pdfm@mark{close \OBJ@OCGs}%
9773 \@pdfm@mark{%
9774   put @catalog <<%
9775     /OCProperties<<%
9776     /OCGs \OBJ@OCGs
9777     /D<<%
9778     /OFF[\OBJ@OCG@print]%
9779     /AS[%
9780       <<%
9781         /Event/View%
9782         /OCGs \OBJ@OCGs
9783         /Category[/View]%
9784       >>%
9785       <<%
9786         /Event/Print%
9787         /OCGs \OBJ@OCGs
9788         /Category[/Print]%
9789       >>%
9790       <<%
9791         /Event/Export%
9792         /OCGs \OBJ@OCGs
9793         /Category[/Print]%
9794       >>%
9795     ]%

```



```

9796     >>%
9797     >>%
9798     >>%
9799     }%
9800     \AtBeginShipout{%
9801     \setbox\AtBeginShipoutBox=\hbox{%
9802     \copy\AtBeginShipoutBox
9803     \@pdfm@mark{%
9804     put @resources <<%
9805     /Properties<<%
9806     /OCView \OBJ@OCG@view
9807     /OCPrint \OBJ@OCG@print
9808     >>%
9809     >>%
9810     }%
9811     }%
9812     }%
9813     \Hy@AtBeginDocument{%
9814     \def\Hy@colorlink#1{%
9815     \begingroup
9816     \ifHy@ocgcolorlinks
9817     \def\Hy@ocgcolor{#1}%
9818     \setbox0=\hbox\bgroup\color@begingroup
9819     \else
9820     \HyColor@UseColor#1%
9821     \fi
9822     }%
9823     \def\Hy@endcolorlink{%
9824     \ifHy@ocgcolorlinks
9825     \color@endgroup\egroup
9826     \mbox{%
9827     \@pdfm@mark{content /OC/OCPrint BDC}%
9828     \rlap{\copy0}%
9829     \@pdfm@mark{content EMC/OC/OCView BDC}%
9830     \begingroup
9831     \expandafter\HyColor@UseColor\Hy@ocgcolor
9832     \box0 %
9833     \endgroup
9834     \@pdfm@mark{content EMC}%
9835     }%
9836     \fi
9837     \endgroup
9838     }%
9839     }%
9840     \else
9841     \Hy@DisableOption{ocgcolorlinks}%
9842     \fi
9843     \def\Hy@BeginAnnot#1{%
9844     \stepcounter{Hy@AnnotLevel}%
9845     \ifnum\value{Hy@AnnotLevel}=\@ne
9846     #1%
9847     \fi
9848     }
9849     \def\Hy@endAnnot{%
9850     \ifnum\value{Hy@AnnotLevel}=\@ne
9851     \Hy@endcolorlink
9852     \@pdfm@mark{eann}%

```

```

9853 \fi
9854 \addtocounter{Hy@AnnotLevel}\m@ne
9855 }

9856 \def\Hy@undefinedname{UNDEFINED}
9857 \def\hyper@linkstart#1#2{%
9858 \Hy@VerboseLinkStart{#1}{#2}%
9859 \Hy@BeginAnnot{%
9860 \protected@edef\Hy@testname{#2}%
9861 \ifx\Hy@testname\@empty
9862 \Hy@Warning{%
9863 Empty destination name,\MessageBreak
9864 using '\Hy@undefinedname'%
9865 }%
9866 \let\Hy@testname\Hy@undefinedname
9867 \else
9868 \Hy@pstringdef\Hy@testname{%
9869 \expandafter\HyperDestNameFilter\expandafter{%
9870 \Hy@testname
9871 }%
9872 }%
9873 \fi
9874 \@pdfm@mark{%
9875 bann<<%
9876 /Type/Annot%
9877 /Subtype/Link%
9878 \ifHy@pdfa /F 4\fi
9879 \Hy@setpdfborder
9880 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9881 \else
9882 /C[\csname @#1bordercolor\endcsname]%
9883 \fi
9884 /A<<%
9885 /S/GoTo%
9886 /D(\Hy@testname)%
9887 \Hy@href@nextactionraw
9888 >>%
9889 >>%
9890 }%
9891 \expandafter\Hy@colorlink\csname @#1color\endcsname
9892 }%
9893 }

9894 \def\hyper@linkend{\Hy@EndAnnot}%
9895 \def\hyper@link#1#2#3{%
9896 \hyper@linkstart{#1}{#2}#3\hyper@linkend
9897 }

9898 \def\hyper@linkfile#1#2#3{%
9899 \leavevmode
9900 \Hy@BeginAnnot{%
9901 \def\Hy@pstringF{#2}%
9902 \Hy@CleanupFile\Hy@pstringF
9903 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9904 \Hy@pstringdef\Hy@pstringD{#3}%
9905 \Hy@MakeRemoteAction
9906 \@pdfm@mark{%
9907 bann<<%
9908 /Type/Annot%
9909 /Subtype/Link%

```

```

9910     \ifHy@pdfa /F 4\fi
9911     \Hy@setpdfborder
9912     \ifx\@filebordercolor\relax
9913     \else
9914         /C[\@filebordercolor]%
9915     \fi
9916     /A<<%
9917     /S/GoToR%
9918     /F(\Hy@pstringF)%
9919     /D%
9920     \ifx\#3\%
9921         [\Hy@href@page\@pdfremotestartview]%
9922     \else
9923         (\Hy@pstringD)%
9924     \fi
9925     \Hy@SetNewWindow
9926     \Hy@href@nextactionraw
9927     >>%
9928     >>%
9929     }%
9930     \Hy@colorlink\@filecolor
9931     }%
9932     #1%
9933     \Hy@EndAnnot
9934 }
9935 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9936 \leavevmode
9937 \Hy@BeginAnnot{%
9938     \Hy@pstringdef\Hy@pstringF{#1}%
9939     \Hy@pstringdef\Hy@pstringP{#3}%
9940     \@pdfm@mark{%
9941         bann<<%
9942         /Type/Annot%
9943         /Subtype/Link%
9944         \ifHy@pdfa /F 4\fi
9945         \Hy@setpdfborder
9946         \ifx\@runbordercolor\relax
9947         \else
9948             /C[\@runbordercolor]%
9949         \fi
9950         /A<<%
9951         /F(\Hy@pstringF)%
9952         /S/Launch%
9953         \Hy@SetNewWindow
9954         \ifx\#3\%
9955         \else
9956             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9957         \fi
9958         \Hy@href@nextactionraw
9959         >>%
9960         >>%
9961     }%
9962     \Hy@colorlink\@runcolor
9963     }%
9964     #2%
9965     \Hy@EndAnnot
9966 }

```

```

9967 \def\hyper@linkurl#1#2{%
9968 \leavevmode
9969 \Hy@BeginAnnot{%
9970 \Hy@pstringdef\Hy@pstringURI{#2}%
9971 \@pdfm@mark{%
9972   bann<<%
9973     /Type/Annot%
9974     /Subtype/Link%
9975     \ifHy@pdfa /F 4\fi
9976     \Hy@setpdfborder
9977     \ifx\@urlbordercolor\relax
9978     \else
9979       /C[\@urlbordercolor]%
9980     \fi
9981     /A<<%
9982     /S/URI%
9983     /URI(\Hy@pstringURI)%
9984     \ifHy@href@ismap
9985     /IsMap true%
9986     \fi
9987     \Hy@href@nextactionraw
9988     >>%
9989     >>%
9990   }%
9991   \Hy@colorlink\@urlcolor
9992 }%
9993 #1%
9994 \Hy@EndAnnot
9995 }
9996 \def\Acrobatmenu#1#2{%
9997 \Hy@Acrobatmenu{#1}{#2}{%
9998 \Hy@BeginAnnot{%
9999 \@pdfm@mark{%
10000   bann<<%
10001     /Type/Annot%
10002     /Subtype/Link%
10003     \ifHy@pdfa /F 4\fi
10004     /A<<%
10005     /S/Named%
10006     /N/#1%
10007     \Hy@href@nextactionraw
10008     >>%
10009     \Hy@setpdfborder
10010     \ifx\@menubordercolor\relax
10011     \relax
10012     /C[\@menubordercolor]%
10013     \fi
10014     >>%
10015   }%
10016   \Hy@colorlink\@menucolor
10017 }%
10018 #2%
10019 \Hy@EndAnnot
10020 }%
10021 }
10022 \ifx\@pdfproducer\relax
10023 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```
10024 \begingroup\expandafter\expandafter\expandafter\endgroup
10025 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10026 \else
10027 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10028 \fi
10029 \fi
10030 \def\PDF@FinishDoc{%
10031 \Hy@UseMaketitleInfos
10032 \HyInfo@GenerateAddons
10033 \@pdfm@mark{%
10034 docinfo<<%
10035 /Title(\@pdftitle)%
10036 /Subject(\@pdfsubject)%
10037 /Creator(\@pdfcreator)%
10038 \ifx\@pdfcreationdate\@empty
10039 \else
10040 /CreationDate(\@pdfcreationdate)%
10041 \fi
10042 \ifx\@pdfmoddate\@empty
10043 \else
10044 /ModDate(\@pdfmoddate)%
10045 \fi
10046 /Author(\@pdfauthor)%
10047 \ifx\@pdfproducer\relax
10048 \else
10049 /Producer(\@pdfproducer)%
10050 \fi
10051 /Keywords(\@pdfkeywords)%
10052 \ifx\@pdftrapped\@empty
10053 \else
10054 /Trapped/\@pdftrapped
10055 \fi
10056 \HyInfo@Addons
10057 >>%
10058 }%
10059 \Hy@DisableOption{pdfauthor}%
10060 \Hy@DisableOption{pdftitle}%
10061 \Hy@DisableOption{pdfsubject}%
10062 \Hy@DisableOption{pdfcreator}%
10063 \Hy@DisableOption{pdfcreationdate}%
10064 \Hy@DisableOption{pdfmoddate}%
10065 \Hy@DisableOption{pdfproducer}%
10066 \Hy@DisableOption{pdfkeywords}%
10067 \Hy@DisableOption{pdftrapped}%
10068 \Hy@DisableOption{pdfinfo}%
10069 }
10070 \def\PDF@SetupDoc{%
10071 \edef\Hy@temp{%
10072 \ifHy@toolbar\else /HideToolbar true\fi
10073 \ifHy@menubar\else /HideMenubar true\fi
10074 \ifHy>windowui\else /HideWindowUI true\fi
10075 \ifHy@fitwindow /FitWindow true\fi
10076 \ifHy@centerwindow /CenterWindow true\fi
10077 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10078 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10079 \Hy@UseNameKey{Direction}\@pdfdirection
```

```

10080 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10081 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10082 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10083 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10084 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10085 \Hy@UseNameKey{Duplex}\@pdfduplex
10086 \ifx\@pdfpicktraybypdfsize\@empty
10087 \else
10088   /PickTrayByPDFSize \@pdfpicktraybypdfsize
10089 \fi
10090 \ifx\@pdfprintpagerange\@empty
10091 \else
10092   /PrintPageRange\@pdfprintpagerange]%
10093 \fi
10094 \ifx\@pdfnumcopies\@empty
10095 \else
10096   /NumCopies \@pdfnumcopies
10097 \fi
10098 }%
10099 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10100 \@pdfm@mark{%
10101 docview<<%
10102   \ifx\@pdfstartpage\@empty
10103   \else
10104     \ifx\@pdfstartview\@empty
10105     \else
10106       /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10107     \fi
10108   \fi
10109   \ifx\@baseurl\@empty
10110   \else
10111     /URI<</Base(\Hy@pstringB)>>%
10112   \fi
10113   /PageMode/\@pdfpagemode
10114   \ifx\Hy@temp\@empty
10115   \else
10116     /ViewerPreferences<<\Hy@temp>>%
10117   \fi
10118   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10119   \ifx\@pdflang\@empty
10120   \else
10121     /Lang(\@pdflang)%
10122   \fi
10123   >>%
10124 }%
10125 \ifx\@pdfpagescrop\@empty
10126 \else
10127   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10128 \fi
10129 }
10130 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10131 <*dvipdfm>
10132 \AtBeginShipoutFirst{%
10133   \ifHy@setpagesize
10134     \begingroup

```

```

10135 \@@ifundefined{stockwidth}{%
10136 \ifdim\paperwidth>\z@
10137 \ifdim\paperheight>\z@
10138 \special{papersize=\the\paperwidth,\the\paperheight}%
10139 \fi
10140 \fi
10141 }{%
10142 \ifdim\stockwidth>\z@
10143 \ifdim\stockheight>\z@
10144 \special{papersize=\the\stockwidth,\the\stockheight}%
10145 \fi
10146 \fi
10147 }%
10148 \endgroup
10149 \fi
10150 \Hy@DisableOption{setpagesize}%
10151 }
10152 </dvipdfm>

```

46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10153 <*\vtexhtml>
10154 \providecommand*{\XR@ext}{htm}
10155 \RequirePackage{vtexhtml}
10156 \newif\if@Localurl
10157 \def\PDF@FinishDoc{}
10158 \def\PDF@SetupDoc{%
10159 \ifx\@baseurl\@empty
10160 \else
10161 \special{!direct <base href="\@baseurl">}%
10162 \fi
10163 }
10164 \def\@urltype{url}
10165 \def\hyper@link#1#2#3{%
10166 \Hy@VerboseLinkStart{#1}{#2}%
10167 \leavevmode
10168 \special{!direct <a href=%
10169 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10170 #3%
10171 \special{!direct </a>}%
10172 }
10173 \def\hyper@linkurl#1#2{%
10174 \begingroup
10175 \hyper@chars
10176 \leavevmode
10177 \MathBSuppress=1\relax
10178 \special{!direct <a href=%
10179 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10180 #1%
10181 \MathBSuppress=0\relax
10182 \special{!direct </a>}%
10183 \endgroup
10184 }
10185 \def\hyper@linkfile#1#2#3{%
10186 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\@#3\@else\@#3\fi}%

```

```

10187 }
10188 \def\hyper@linkstart#1#2{%
10189 \Hy@VerboseLinkStart{#1}{#2}%
10190 \def\Hy@tempa{#1}\ifx\Hy@tempa \@urlltype
10191 \ @Localurltrtrue
10192 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10193 \else
10194 \ @Localurloffalse
10195 \beginngroup
10196 \hyper@chars
10197 \special{!aref \HyperDestNameFilter{#2}}%
10198 \endgroup
10199 \fi
10200 }
10201 \def\hyper@linkend{%
10202 \if@Localurl
10203 \special{!endaref}%
10204 \else
10205 \special{!direct </a>}%
10206 \fi
10207 }
10208 \Hy@WrapperDef\hyper@anchorstart#1{%
10209 \Hy@SaveLastskip
10210 \Hy@VerboseAnchor{#1}%
10211 \beginngroup
10212 \hyper@chars
10213 \special{!aname #1}%
10214 \special{!direct <a name=%
10215 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10216 \endgroup
10217 \Hy@activeanchortrue
10218 }
10219 \def\hyper@anchorend{%
10220 \special{!direct </a>}%
10221 \Hy@activeanchortrue
10222 \Hy@RestoreLastskip
10223 }
10224 \Hy@WrapperDef\hyper@anchor#1{%
10225 \Hy@SaveLastskip
10226 \Hy@VerboseAnchor{#1}%
10227 \beginngroup
10228 \let\protect=\string
10229 \hyper@chars
10230 \leavevmode
10231 \special{!aname #1}%
10232 \special{!direct <a name=%
10233 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10234 \endgroup
10235 \Hy@activeanchortrue
10236 \bgroup\anchor@spot\egroup
10237 \special{!direct </a>}%
10238 \Hy@activeanchortrue
10239 \Hy@RestoreLastskip
10240 }
10241 \def\@Form[#1]{%
10242 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10243 }

```



```

10244 \def\@endForm{}
10245 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10246 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10247 }
10248 \def\@TextField[#1]#2{% parameters, label
10249 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10250 }
10251 \def\@CheckBox[#1]#2{% parameters, label
10252 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10253 }
10254 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10255 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10256 }
10257 \def\@PushButton[#1]#2{% parameters, label
10258 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10259 }
10260 \def\@Reset[#1]#2{%
10261 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10262 }
10263 \def\@Submit[#1]#2{%
10264 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10265 }
10266 </vtexhtml>
10267 < *vtex>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csmame`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

10268 \ifx\mediaheight\@undefined
10269 \else
10270 \ifx\mediaheight\relax
10271 \else
10272 \ifHy@setpagesize
10273 \providecommand*\VTeXInitMediaSize{%
10274 \ltx@ifundefined{stockwidth}{%
10275 \ifdim\paperheight>0pt %
10276 \setlength\mediaheight\paperheight
10277 \fi
10278 \ifdim\paperheight>0pt %
10279 \setlength\mediawidth\paperwidth
10280 \fi
10281 }{%
10282 \ifdim\stockheight>0pt %
10283 \setlength\mediaheight\stockheight
10284 \fi
10285 \ifdim\stockwidth>0pt %
10286 \setlength\mediawidth\stockwidth
10287 \fi
10288 }%
10289 }%
10290 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10291 \fi
10292 \Hy@DisableOption{setpagesize}%
10293 \fi
10294 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10295 \providecommand*\@pdfview{xyz}

```

```

10296 \providecommand*\@pdfborder{0 0 1}
10297 \providecommand*\@pdfborderstyle{}
10298 \let\CurrentBorderColor\@linkbordercolor
10299 \Hy@WrapperDef\hyper@anchor#1{%
10300 \Hy@SaveLastskip
10301 \Hy@VerboseAnchor{#1}%
10302 \begingroup
10303 \let\protect=\string
10304 \hyper@chars
10305 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10306 \endgroup
10307 \Hy@activeanchortrue
10308 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10309 \Hy@activeanchorfalse
10310 \Hy@RestoreLastskip
10311 }
10312 \Hy@WrapperDef\hyper@anchorstart#1{%
10313 \Hy@SaveLastskip
10314 \Hy@VerboseAnchor{#1}%
10315 \begingroup
10316 \hyper@chars
10317 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10318 \endgroup
10319 \Hy@activeanchortrue
10320 }
10321 \def\hyper@anchorend{%
10322 \Hy@activeanchorfalse
10323 \Hy@RestoreLastskip
10324 }
10325 \def\@urlltype{url}
10326 \def\Hy@undefinedname{UNDEFINED}
10327 \def\hyper@linkstart#1#2{%
10328 \Hy@VerboseLinkStart{#1}{#2}%
10329 \Hy@pstringdef\Hy@pstringURI{#2}%
10330 \expandafter\Hy@colorlink\csname @#1color\endcsname
10331 \ltx@ifundefined{@#1bordercolor}{%
10332 \let\CurrentBorderColor\relax
10333 }{%
10334 \edef\CurrentBorderColor{%
10335 \csname @#1bordercolor\endcsname
10336 }%
10337 }%
10338 \def\Hy@tempa{#1}%
10339 \ifx\Hy@tempa\@urlltype
10340 \special{!%
10341 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10342 \ifHy@href@ismap
10343 /IsMap true%
10344 \fi
10345 \Hy@href@nextactionraw
10346 >;%
10347 a=<%
10348 \ifHy@pdfa /F 4\fi
10349 \Hy@setpdfborder
10350 \ifx\CurrentBorderColor\relax
10351 \else
10352 /C [\CurrentBorderColor]%

```

```

10353     \fi
10354     >%
10355   }%
10356 \else
10357   \protected@edef\Hy@testname{#2}%
10358   \ifx\Hy@testname\@empty
10359     \Hy@Warning{%
10360       Empty destination name,\MessageBreak
10361       using '\Hy@undefinedname'%
10362     }%
10363   \let\Hy@testname\Hy@undefinedname
10364 \fi
10365 \special{!%
10366   aref \expandafter\HyperDestNameFilter
10367     \expandafter{\Hy@testname};%
10368   a=<%
10369     \ifHy@pdfa /F 4\fi
10370     \Hy@setpdfborder
10371     \ifx\CurrentBorderColor\relax
10372     \else
10373       /C [\CurrentBorderColor]%
10374     \fi
10375   >%
10376   }%
10377 \fi
10378 }
10379 \def\hyper@linkend{%
10380   \special{!endaref}%
10381   \Hy@endcolorlink
10382 }
10383 \def\hyper@linkfile#1#2#3{%
10384   \leavevmode
10385   \def\Hy@pstringF{#2}%
10386   \Hy@CleanupFile\Hy@pstringF
10387   \special{!%
10388     aref <%
10389     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10390     f=\Hy@pstringF>#3;%
10391     a=<%
10392     \ifHy@pdfa /F 4\fi
10393     \Hy@setpdfborder
10394     \ifx\@filebordercolor\relax
10395     \else
10396       /C [\@filebordercolor]%
10397     \fi
10398     >%
10399     }%
10400   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
10401   \special{!endaref}%
10402 }
10403 \def\hyper@linkurl#1#2{%
10404   \begingroup
10405     \Hy@pstringdef\Hy@pstringURI{#2}%
10406     \hyper@chars
10407     \leavevmode
10408     \special{!%
10409       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%

```

```

10410 \ifHy@href@ismap
10411 /IsMap true%
10412 \fi
10413 \Hy@href@nextactionraw
10414 >;%
10415 a=<%
10416 \ifHy@pdfa /F 4\fi
10417 \Hy@setpdfborder
10418 \ifx \@urlbordercolor\relax
10419 \else
10420 /C [\@urlbordercolor]%
10421 \fi
10422 >%
10423 }%
10424 \Hy@colorlink \@urlcolor#1\Hy@endcolorlink
10425 \special{!endaref}%
10426 \endgroup
10427 }
10428 \def\hyper@link#1#2#3{%
10429 \Hy@VerboseLinkStart{#1}{#2}%
10430 \ltx@ifundefined{@#1bordercolor}{%
10431 \let\CurrentBorderColor\relax
10432 }{%
10433 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10434 }%
10435 \leavevmode
10436 \protected@edef\Hy@testname{#2}%
10437 \ifx\Hy@testname\@empty
10438 \Hy@Warning{%
10439 Empty destination name,\MessageBreak
10440 using '\Hy@undefinedname'%
10441 }%
10442 \let\Hy@testname\Hy@undefinedname
10443 \fi
10444 \special{!%
10445 aref \expandafter\HyperDestNameFilter
10446 \expandafter{\Hy@testname};%
10447 a=<%
10448 \ifHy@pdfa /F 4\fi
10449 \Hy@setpdfborder
10450 \ifx\CurrentBorderColor\relax
10451 \else
10452 /C [\CurrentBorderColor]%
10453 \fi
10454 >%
10455 }%
10456 \expandafter
10457 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
10458 \special{!endaref}%
10459 }
10460 \def\hyper@image#1#2{%
10461 \hyper@linkurl{#2}{#1}%
10462 }
10463 \def\@hyper@launch run:#1\|#2#3{%
10464 \Hy@pstringdef\Hy@pstringF{#1}%
10465 \Hy@pstringdef\Hy@pstringP{#3}%
10466 \leavevmode

```

```

10467 \special{!aref %
10468 <u=%
10469 /Type/Action%
10470 /S/Launch%
10471 /F(\Hy@pstringF)%
10472 \Hy@SetNewWindow
10473 \ifx\#3\%
10474 \else
10475 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10476 \fi
10477 \Hy@href@nextactionraw
10478 >;%
10479 a=<%
10480 \ifHy@pdfa /F 4\fi
10481 \Hy@setpdfborder
10482 \ifx\@runbordercolor\relax
10483 \else
10484 /C[\@runbordercolor]%
10485 \fi
10486 >%
10487 }%
10488 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
10489 \special{!endaref}%
10490 }
10491 \def\Acrobatmenu#1#2{%
10492 \Hy@Acrobatmenu{#1}{#2}{%
10493 \special{!%
10494 aref <u=/S /Named /N /#1>;%
10495 a=<%
10496 \ifHy@pdfa /F 4\fi
10497 \Hy@setpdfborder
10498 \ifx\@menubordercolor\relax
10499 \else
10500 /C[\@menubordercolor]%
10501 \fi
10502 >%
10503 }%
10504 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
10505 \special{!endaref}%
10506 }%
10507 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for $\text{V}\text{T}\text{E}\text{X}$ 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` globally.

```

10508 \ifnum\Hy@VTeXversion<702 %
10509 \else
10510 \def\hyper@pagetransition{%
10511 \ifx\@pdfpagetransition\relax
10512 \else
10513 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10514 \else
10515 \hvtex@parse@trans\@pdfpagetransition
10516 \fi
10517 \fi

```

10518 }%

I have to write an “honest” parser to convert raw PDF code into VT_EX \special.
(AVK)

Syntax of VT_EX \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:

```
10519 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10520 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10521 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10522 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10523 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10524 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10525 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
10526 \def\hvtex@par@dimension{/Dm}%
10527 \def\hvtex@par@direction{/Di}%
10528 \def\hvtex@par@duration{/D}%
10529 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
10530 \def\hvtex@gettoken{%
10531   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10532 }%
```

Notice that tokens in the input buffer must be space delimited.

```
10533 \def\hvtex@gettoken@#1 #2\@nil{%
10534   \edef\hvtex@token{#1}%
10535   \edef\hvtex@buffer{#2}%
10536 }%
10537 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
10538 \let\hvtex@trans@code\@empty
10539 \let\hvtex@param@dimension\@empty
10540 \let\hvtex@param@direction\@empty
10541 \let\hvtex@param@duration\@empty
10542 \let\hvtex@param@motion\@empty
10543 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10544 \hvtex@gettoken
10545 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10546 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10547 \else
```

```
10548 \hvtex@gettoken
```

```
10549 \fi
```

```
10550 \fi
```

```
10551 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10552 \hvtex@trans@params
```

```
10553 }%
```

Reentrant macro to parse optional parameters.

```
10554 \def\hvtex@trans@params{%
```

```
10555 \ifx\hvtex@buffer\@empty
```

```
10556 \else
```

```
10557 \hvtex@gettoken
```

```
10558 \let\hvtex@trans@par\hvtex@token
```

```
10559 \ifx\hvtex@buffer\@empty
```

```
10560 \else
```

```
10561 \hvtex@gettoken
```

```
10562 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```
10563 \let\hvtex@param@duration\hvtex@token
```

```
10564 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10565 \expandafter\edef\expandafter\hvtex@param@motion
```

```
10566 \expandafter{\expandafter\@gobble\hvtex@token}%
```

```
10567 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10568 \expandafter\edef\expandafter\hvtex@param@dimension
```

```
10569 \expandafter{\expandafter\@gobble\hvtex@token}%
```

```
10570 \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).

```
10571 \let\hvtex@param@direction\hvtex@token
```

```
10572 \fi\fi\fi\fi
```

```
10573 \fi
```

```
10574 \fi
```

```
10575 \ifx\hvtex@buffer\@empty
```

```
10576 \let\next\hvtex@produce@trans
```

```
10577 \else
```

```
10578 \let\next\hvtex@trans@params
```

```
10579 \fi
```

```
10580 \next
```

```
10581 }%
```

Merge <transition__effect> and issue the special when possible. Too lazy to validate optional parameters.

```
10582 \def\hvtex@produce@trans{%
```

```
10583 \let\vtex@trans@special\@empty
```

```
10584 \if S\hvtex@trans@code
```

```
10585 \edef\vtex@trans@special{\hvtex@trans@code
```

```
10586 \hvtex@param@dimension\hvtex@param@motion}%
```

```

10587 \else\if B\hvtex@trans@code
10588 \edef\vtex@trans@special{%
10589 \hvtex@trans@code\hvtex@param@dimension
10590 }%
10591 \else\if X\hvtex@trans@code
10592 \edef\vtex@trans@special{%
10593 \hvtex@trans@code\hvtex@param@motion
10594 }%
10595 \else\if W\hvtex@trans@code
10596 \edef\vtex@trans@special{%
10597 \hvtex@trans@code\hvtex@param@direction
10598 }%
10599 \else\if D\hvtex@trans@code
10600 \let\vtex@trans@special\hvtex@trans@code
10601 \else\if R\hvtex@trans@code
10602 \let\vtex@trans@special\hvtex@trans@code
10603 \else\if G\hvtex@trans@code
10604 \edef\vtex@trans@special{%
10605 \hvtex@trans@code\hvtex@param@direction
10606 }%
10607 \fi\fi\fi\fi\fi\fi
10608 \ifx\vtex@trans@special\@empty
10609 \else
10610 \ifx\hvtex@param@duration\@empty
10611 \else
10612 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10613 \multiply\dimen@\@m
10614 \edef\vtex@trans@special{%
10615 \vtex@trans@special,\strip@pt\dimen@
10616 }%
10617 \fi

```

And all the mess is just for this.

```

10618 \special{!trans \vtex@trans@special}%
10619 \fi
10620 }%
10621 \def\hyper@pageduration{%
10622 \ifx\@pdfpageduration\relax
10623 \else
10624 \ifx\@pdfpageduration\@empty
10625 \special{!duration-}%
10626 \else
10627 \special{!duration \@pdfpageduration}%
10628 \fi
10629 \fi
10630 }%
10631 \def\hyper@pagehidden{%
10632 \ifHy@useHidKey
10633 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10634 \fi
10635 }%
10636 \g@addto@macro\Hy@EveryPageBoxHook{%
10637 \hyper@pagetransition
10638 \hyper@pageduration
10639 \hyper@pagehidden
10640 }%

```


10641 \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

```
10642 \ifx\@pdfproducer\relax
10643 \def\@pdfproducer{VTeX}%
10644 \ifnum\Hy@VTeXversion>\z@
10645 \count@\VTeXversion
10646 \divide\count@ 100 %
10647 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10648 \multiply\count@ -100 %
10649 \advance\count@\VTeXversion
10650 \edef\@pdfproducer{%
10651 \@pdfproducer
10652 .\ifnum\count@<10 0\fi\the\count@
10653 \ifx\VTeXOS\@undefined\else
10654 \ifnum\VTeXOS>0 %
10655 \ifnum\VTeXOS<6 %
10656 \space(%
10657 \ifcase\VTeXOS
10658 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10659 \fi
10660 )%
10661 \fi
10662 \fi
10663 \fi
10664 ,\space
10665 \ifnum\OpMode=\@ne PDF\else PS\fi
10666 \space backend%
10667 \ifx\gexmode\@undefined\else
10668 \ifnum\gexmode>\z@\space with GeX\fi
10669 \fi
10670 }%
10671 \fi
10672 \fi
```

Current `!pdfinfo` key syntax:

Key	Field	Type
a	A uthor	String
b	C rop B ox	String
c	C reator	String
k	K eywords	String
l	P age L ayout	PS
p	P age M ode	PS
r	P roducer	String
s	S ubject	String
t	T itle	String
u	U RI	PS
v	V iew P references	PS

Note: PS objects that are dicts are in <<<.>>> (yuck; no choice).

```
10673 \def\PDF@SetupDoc{%
10674 \ifx\@pdfpagescrop\@empty
10675 \else
10676 \special{!pdfinfo b=<\@pdfpagescrop>}%
10677 \fi
10678 \ifx\@pdfstartpage\@empty
10679 \else
10680 \ifx\@pdfstartview\@empty
10681 \else
10682 \special{!onopen Page\@pdfstartpage}%
10683 \fi
10684 \fi
10685 \special{!pdfinfo p=</\@pdfpagemode>}%
10686 \ifx\@baseurl\@empty
10687 \else
10688 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10689 \fi
10690 \special{!pdfinfo v=<<<%
10691 \ifHy@toolbar\else /HideToolbar true\fi
10692 \ifHy@menubar\else /HideMenubar true\fi
10693 \ifHy>windowui\else /HideWindowUI true\fi
10694 \ifHy@fitwindow /FitWindow true\fi
10695 \ifHy@centerwindow /CenterWindow true\fi
10696 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10697 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10698 \Hy@UseNameKey{Direction}\@pdfdirection
10699 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10700 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10701 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10702 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10703 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10704 \Hy@UseNameKey{Duplex}\@pdfduplex
10705 \ifx\@pdfpicktraybypdfsize\@empty
10706 \else
10707 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10708 \fi
10709 \ifx\@pdfprintpagerange\@empty
10710 \else
10711 /PrintPageRange\@pdfprintpagerange}%
10712 \fi
10713 \ifx\@pdfnumcopies\@empty
10714 \else
10715 /NumCopies \@pdfnumcopies
10716 \fi
10717 >>>}%
10718 \ifx\@pdfpagelayout\@empty
10719 \else
10720 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10721 \fi
10722 }%
10723 \HyInfo@AddonUnsupportedtrue
10724 \def\PDF@FinishDoc{%
10725 \Hy@UseMaketitleInfos
10726 \HyInfo@TrappedUnsupported
10727 \special{!pdfinfo a=<\@pdfauthor>}%
10728 \special{!pdfinfo t=<\@pdftitle>}%
```

```

10729 \special{!pdfinfo s=<\@pdfsubject>}%
10730 \special{!pdfinfo c=<\@pdfcreator>}%
10731 \ifx\@pdfproducer\relax
10732 \else
10733 \special{!pdfinfo r=<\@pdfproducer>}%
10734 \fi
10735 \special{!pdfinfo k=<\@pdfkeywords>}%
10736 \Hy@DisableOption{pdfauthor}%
10737 \Hy@DisableOption{pdftitle}%
10738 \Hy@DisableOption{pdfsubject}%
10739 \Hy@DisableOption{pdfcreator}%
10740 \Hy@DisableOption{pdfcreationdate}%
10741 \Hy@DisableOption{pdfmoddate}%
10742 \Hy@DisableOption{pdfproducer}%
10743 \Hy@DisableOption{pdfkeywords}%
10744 \Hy@DisableOption{pdftrapped}%
10745 \Hy@DisableOption{pdfinfo}%
10746 }
10747 </vtex>

```

46.7 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.

```

10748 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10749 <package>\providecommand*\Hy@DistillerDestFix{}%
10750 <*pdfmark | dviwindo>
10751 \def\Hy@DistillerDestFix{%
10752 \begingroup
10753 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10754 \ifnum \@ifundefined{OpMode}{0}{%
10755 \ifundefined{gexmode}{0}{%
10756 \ifnum\gexmode>0 \OpMode\else 0\fi
10757 }}>1 %
10758 \def\x##1{%
10759 \immediate\special{!##1}%
10760 }%
10761 \fi
10762 \x{%
10763 /product where{%
10764 pop %
10765 product(Distiller)search{%
10766 pop pop pop %
10767 version(.)search{%
10768 exch pop exch pop%
10769 (3011)eq{%
10770 gsave %

```

```

10771      newpath 0 0 moveto closepath clip%
10772      /Courier findfont 10 scalefont setfont %
10773      72 72 moveto(.)show %
10774      grestore%
10775      }if%
10776      }{pop}ifelse%
10777      }{pop}ifelse%
10778      }if%
10779      }%
10780 \endgroup
10781 }
10782 </pdfmark | dviwindo>

```

46.8 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

```

```

10783 <*pdfmark>
10784 \Hy@breaklinks@unsupported
10785 \def\HyPat@ObjRef{%
10786   \{[~{}]+\}%
10787 }
10788 \Hy@WrapperDef\hyper@anchor#1{%
10789   \Hy@SaveLastskip
10790   \Hy@VerboseAnchor{#1}%
10791   \begingroup
10792   \pdfmark[\anchor@spot]{%
10793     pdfmark=/DEST,%
10794     linktype=anchor,%
10795     View=/\@pdfview \@pdfviewparams,%
10796     DestAnchor={#1}%
10797   }%
10798 \endgroup
10799 \Hy@RestoreLastskip
10800 }
10801 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10802 \Hy@WrapperDef\hyper@anchorstart#1{%
10803   \Hy@SaveLastskip
10804   \Hy@VerboseAnchor{#1}%
10805   \literalps@out{H.S}%
10806   \Hy@AllowHyphens
10807   \xdef\hyper@currentanchor{#1}%
10808   \Hy@activeanchortrue
10809 }
10810 \def\hyper@anchorend{%
10811   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%

```

```

10812 \pdfmark{%
10813   pdfmark=/DEST,%
10814   linktype=anchor,%
10815   View=/\@pdfview \@pdfviewparams,%
10816   DestAnchor=\hyper@currentanchor,%
10817 }%
10818 \Hy@activeanchorfalse
10819 \Hy@RestoreLastskip
10820 }
10821 \def\hyper@linkstart#1#2{%
10822 \Hy@VerboseLinkStart{#1}{#2}%
10823 \ifHy@breaklinks
10824 \else
10825 \leavevmode
10826 \ifmmode
10827   \def\Hy@LinkMath{${}}%
10828 \else
10829   \def\Hy@LinkMath{}%
10830 \fi
10831 \Hy@SaveSpaceFactor
10832 \hbox\bgroup
10833 \Hy@RestoreSpaceFactor
10834 \Hy@LinkMath
10835 \fi
10836 \expandafter\Hy@colorlink\csname @#1color\endcsname
10837 \literalps@out{H.S}%
10838 \Hy@AllowHyphens
10839 \xdef\hyper@currentanchor{#2}%
10840 \gdef\hyper@currentlinktype{#1}%
10841 }
10842 \def\hyper@linkend{%
10843 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10844 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10845 \let\Hy@tempcolor\relax
10846 }{%
10847 \edef\Hy@tempcolor{%
10848   \csname @\hyper@currentlinktype bordercolor\endcsname
10849 }%
10850 }%
10851 \pdfmark{%
10852   pdfmark=/ANN,%
10853   linktype=link,%
10854   Subtype=/Link,%
10855   PDFAFflags=4,%
10856   Dest=\hyper@currentanchor,%
10857   AcroHighlight=\@pdfhighlight,%
10858   Border=\@pdfborder,%
10859   BorderStyle=\@pdfborderstyle,%
10860   Color=\Hy@tempcolor,%
10861   Raw=H.B%
10862 }%
10863 \Hy@endcolorlink
10864 \ifHy@breaklinks
10865 \else
10866 \Hy@LinkMath
10867 \Hy@SaveSpaceFactor
10868 \egroup

```

```

10869 \Hy@RestoreSpaceFactor
10870 \fi
10871 }

```

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.

```

10872 \begingroup
10873 \catcode'P=12 %
10874 \catcode'T=12 %
10875 \lowercase{\endgroup
10876 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10877 }
10878 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10879 \def\hyper@pagetransition{%
10880 \ifx\@pdfpagetransition\relax
10881 \else
10882 \ifx\@pdfpagetransition\@empty
10883 % 1. Does an old entry have to be deleted?
10884 % 2. If 1=yes, how to delete?
10885 \else
10886 \pdfmark{%
10887 pdfmark=/PUT,%
10888 Raw={%
10889 \string{ThisPage\string}%
10890 <</Trans << /S /\@pdfpagetransition\space >> >>%
10891 }%
10892 }%
10893 \fi
10894 \fi
10895 }

```

`\hyper@pageduration`

```

10896 \def\hyper@pageduration{%
10897 \ifx\@pdfpageduration\relax
10898 \else
10899 \ifx\@pdfpageduration\@empty
10900 % 1. Does an old entry have to be deleted?
10901 % 2. If 1=yes, how to delete?
10902 \else
10903 \pdfmark{%
10904 pdfmark=/PUT,%
10905 Raw={%
10906 \string{ThisPage\string}%
10907 <</Dur \@pdfpageduration>>%
10908 }%
10909 }%
10910 \fi
10911 \fi
10912 }

```

`\hyper@pagehidden`

```

10913 \def\hyper@pagehidden{%
10914 \ifHy@useHidKey
10915 \pdfmark{%

```

```

10916 pdfmark=/PUT,%
10917 Raw={%
10918   \string{ThisPage\string}%
10919   <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10920 }%
10921 }%
10922 \fi
10923 }

10924 \g@addto@macro\Hy@EveryPageBoxHook{%
10925   \hyper@pagetransition
10926   \hyper@pageduration
10927   \hyper@pagehidden
10928 }

10929 \def\hyper@image#1#2{%
10930   \hyper@linkurl{#2}{#1}%
10931 }

10932 \def\Hy@undefinedname{UNDEFINED}
10933 \def\hyper@link#1#2#3{%
10934   \Hy@VerboseLinkStart{#1}{#2}%
10935   \ltx@ifundefined{@#1bordercolor}{%
10936     \let\Hy@tempcolor\relax
10937   }{%
10938     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10939   }%
10940   \begingroup
10941     \protected@edef\Hy@testname{#2}%
10942     \ifx\Hy@testname\@empty
10943       \Hy@Warning{%
10944         Empty destination name,\MessageBreak
10945         using '\Hy@undefinedname'%
10946       }%
10947     \let\Hy@testname\Hy@undefinedname
10948   \fi
10949   \pdfmark[#{#3}]{%
10950     Color=\Hy@tempcolor,%
10951     linktype={#1},%
10952     AcroHighlight=\@pdfhighlight,%
10953     Border=\@pdfborder,%
10954     BorderStyle=\@pdfborderstyle,%
10955     pdfmark=/ANN,%
10956     Subtype=/Link,%
10957     PDFAFlags=4,%
10958     Dest=\Hy@testname
10959   }%
10960   \endgroup
10961 }

10962 \newtoks\pdf@docset
10963 \def\PDF@FinishDoc{%
10964   \Hy@UseMaketitleInfos
10965   \Hy@Info@GenerateAddons
10966   \let\Hy@temp\@empty
10967   \ifx\@pdfcreationdate\@empty
10968     \else
10969     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10970   \fi
10971   \ifx\@pdfmoddate\@empty
10972     \else

```

```

10973 \expandafter\def\expandafter\Hy@temp\expandafter{%
10974 \Hy@temp
10975   ModDate=\@pdfmoddate,%
10976 }%
10977 \fi
10978 \ifx\@pdfproducer\relax
10979 \else
10980 \expandafter\def\expandafter\Hy@temp\expandafter{%
10981 \Hy@temp
10982   Producer=\@pdfproducer,%
10983 }%
10984 \fi
10985 \expandafter
10986 \pdfmark\expandafter{%
10987 \Hy@temp
10988   pdfmark=/DOCINFO,%
10989   Title=\@pdftitle,%
10990   Subject=\@pdfsubject,%
10991   Creator=\@pdfcreator,%
10992   Author=\@pdfauthor,%
10993   Keywords=\@pdfkeywords,%
10994   Trapped=\@pdftrapped
10995 }%
10996 \ifx\HyInfo@Addons\@empty
10997 \else
10998 \pdfmark{%
10999   pdfmark=/DOCINFO,%
11000   Raw={\HyInfo@Addons}%
11001 }%
11002 \fi
11003 \Hy@DisableOption{pdfauthor}%
11004 \Hy@DisableOption{pdftitle}%
11005 \Hy@DisableOption{pdfsubject}%
11006 \Hy@DisableOption{pdfcreator}%
11007 \Hy@DisableOption{pdfcreationdate}%
11008 \Hy@DisableOption{pdfmoddate}%
11009 \Hy@DisableOption{pdfproducer}%
11010 \Hy@DisableOption{pdfkeywords}%
11011 \Hy@DisableOption{pdftrapped}%
11012 \Hy@DisableOption{pdfinfo}%
11013 }
11014 \def\PDF@SetupDoc{%
11015 \def\Hy@temp{%
11016 \ifx\@pdfstartpage\@empty
11017 \else
11018 \ifx\@pdfstartview\@empty
11019 \else
11020 \edef\Hy@temp{%
11021   ,Page=\@pdfstartpage
11022   ,View=\@pdfstartview
11023 }%
11024 \fi
11025 \fi
11026 \edef\Hy@temp{%
11027 \noexpand\pdfmark{%
11028   pdfmark=/DOCVIEW,%
11029   PageMode=/\@pdfpagemode

```



```

11030     \Hy@temp
11031   }%
11032 }%
11033 \Hy@temp
11034 \ifx\@pdfpagescrop\@empty
11035 \else
11036   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11037 \fi
11038 \edef\Hy@temp{%
11039   \ifHy@toolbar\else /HideToolbar true\fi
11040   \ifHy@menubar\else /HideMenubar true\fi
11041   \ifHy>windowui\else /HideWindowUI true\fi
11042   \ifHy@fitwindow /FitWindow true\fi
11043   \ifHy@centerwindow /CenterWindow true\fi
11044   \ifHy@displaydoctitle /DisplayDocTitle true\fi
11045   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11046   \Hy@UseNameKey{Direction}\@pdfdirection
11047   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11048   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11049   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11050   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11051   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11052   \Hy@UseNameKey{Duplex}\@pdfduplex
11053   \ifx\@pdfpicktraybypdfsize\@empty
11054     \else
11055       /PickTrayByPDFSize \@pdfpicktraybypdfsize
11056     \fi
11057   \ifx\@pdfprintpagerange\@empty
11058     \else
11059       /PrintPageRange\@pdfprintpagerange}%
11060   \fi
11061   \ifx\@pdfnumcopies\@empty
11062     \else
11063       /NumCopies \@pdfnumcopies
11064     \fi
11065 }%
11066 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11067 \pdfmark{%
11068   pdfmark=/PUT,%
11069   Raw={%
11070     \string{Catalog\string}<<%
11071     \ifx\Hy@temp\@empty
11072     \else
11073       /ViewerPreferences<<\Hy@temp>>%
11074     \fi
11075     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11076     \ifx\@pdflang\@empty
11077     \else
11078       /Lang(\@pdflang)%
11079     \fi
11080     \ifx\@baseurl\@empty
11081     \else
11082       /URI<</Base(\Hy@pstringB)>>%
11083     \fi
11084     >>%
11085   }%
11086 }%

```

```

11087 }
11088 </pdfmark>
11089 <*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.

```

11090 \newif\ifHy@pdfmarkerror
11091 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11092 \def\pdfmark@[#1]#2{%
11093   \Hy@pdfmarkerrorfalse
11094   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11095   \@processme
11096   \let\pdf@type\relax
11097   \kvsetkeys{PDF}{#2}%
11098   \ifHy@pdfmarkerror
11099   \else
11100     \ifx\pdf@type\relax
11101       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11102       \ifx\#1\%
11103         \else
11104           \pdf@rect{#1}%
11105           \fi
11106         \else
11107           \ifx\#1\%
11108             \literalps@out{%
11109               [\the\pdf@toks\space\pdf@type\space pdfmark%
11110               ]%
11111             \else
11112               \ltx@ifundefined{@\pdf@linktype color}{%
11113                 \Hy@colorlink\@linkcolor
11114               }{%
11115                 \expandafter\Hy@colorlink
11116                 \csname @\pdf@linktype color\endcsname
11117               }%
11118               \pdf@rect{#1}%
11119               \literalps@out{%
11120                 [\the\pdf@toks\space\pdf@type\space pdfmark%
11121                 ]%
11122                 \Hy@endcolorlink
11123               \fi
11124             \fi
11125           \fi
11126 }

```

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 (tobythain@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}

```

```

11127 \newsavebox{\pdf@box}
11128 \providecommand*\Hy@setouterhbox}{\sbox}
11129 \providecommand*\Hy@breaklinkshbox}{\unhbox}
11130 \def\Hy@DEST{/DEST}
11131 \def\pdf@rect#1{%
11132   \begingroup
11133   \chardef\x=1 %
11134   \def\Hy@temp{#1}%
11135   \ifx\Hy@temp\ltx@empty
11136     \chardef\x=0 %
11137   \else
11138     \def\y{\anchor@spot}%
11139     \ifx\Hy@temp\y
11140       \def\y{\relax}%
11141       \ifx\anchor@spot\y
11142         \chardef\x=0 %
11143       \fi
11144     \fi
11145   \fi
11146   \expandafter\endgroup
11147   \ifcase\x
11148     \literalps@out{H.S}%
11149     \literalps@out{H.R}%
11150   \else
11151     \leavevmode
11152     \Hy@SaveSpaceFactor
11153     \ifmmode
11154       \def\Hy@LinkMath{${}}%
11155     \else
11156       \def\Hy@LinkMath{}%
11157     \fi
11158     \ifHy@breaklinks
11159       \Hy@setouterhbox\pdf@box{%
11160         \Hy@RestoreSpaceFactor
11161         \Hy@LinkMath
11162         \Hy@AllowHyphens#1%
11163         \Hy@LinkMath
11164         \Hy@SaveSpaceFactor
11165       }%
11166     \else
11167       \sbox\pdf@box{%
11168         \Hy@RestoreSpaceFactor
11169         \Hy@LinkMath
11170         #1%
11171         \Hy@LinkMath
11172         \Hy@SaveSpaceFactor
11173       }%
11174     \fi
11175     \dimen@ht\pdf@box
11176     \ifdim\dp\pdf@box=\z@
11177       \literalps@out{H.S}%
11178     \else
11179       \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11180     \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. . .).

```

11181   \ifHy@breaklinks

```

```

11182 \ifhmode
11183 \Hy@breaklinksunhbox\pdf@box
11184 \else
11185 \box\pdf@box
11186 \fi
11187 \else
11188 \expandafter\box\pdf@box
11189 \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

11190 \ifdim\dimen@=\z@
11191 \literalps@out{H.R}%
11192 \else
11193 \raise\dimen@\hbox{\literalps@out{H.R}}%
11194 \fi
11195 \Hy@RestoreSpaceFactor
11196 \fi
11197 \ifx\pdf@type\Hy@DEST
11198 \else
11199 \pdf@addtoksx{H.B}%
11200 \fi
11201 }

```

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.

```

11202 \newtoks\pdf@toks
11203 \newtoks\pdf@defaulttoks
11204 \pdf@defaulttoks={}%
11205 \def\pdf@addtoks#1#2{%
11206 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11207 \@processme
11208 }
11209 \def\pdf@addtoksx#1{%
11210 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11211 \@processme
11212 }
11213 \def\PDFdefaults#1{%
11214 \pdf@defaulttoks={#1}%
11215 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11216 % what is the type of pdfmark?
11217 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11218 % what is the link type?
11219 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11220 \def\pdf@linktype{link}
11221 % parameter is a stream of PDF
11222 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11223 % parameter is a name
11224 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11225 % parameter is an array
11226 \define@key{PDF}{Border}{%
11227 \edef\Hy@temp{#1}%
11228 \ifx\Hy@temp\@empty

```

```

11229 \else
11230 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11231 \fi
11232 }
11233 \let\Hy@BorderArrayPatch\@empty
11234 % parameter is a dictionary
11235 \define@key{PDF}{BorderStyle}{%
11236 \edef\Hy@temp{#1}%
11237 \ifx\Hy@temp\@empty
11238 \else
11239 \pdf@addtoks{<<#1>>}{BS}%
11240 \fi
11241 }
11242 % parameter is a array
11243 \define@key{PDF}{Color}{%
11244 \ifx\relax#1\relax
11245 \else
11246 \pdf@addtoks{[#1]}{Color}% hash-ok
11247 \fi
11248 }
11249 % parameter is a string
11250 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11251 % parameter is a integer
11252 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11253 % parameter is a array
11254 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11255 % parameter is a string
11256 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11257 % parameter is a string or file
11258 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11259 % parameter is a destination
11260 \define@key{PDF}{Dest}{%
11261 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11262 \ifx\Hy@pstringDest\@empty
11263 \Hy@pdfmarkerrortrue
11264 \Hy@Warning{Destination with empty name ignored}%
11265 \else
11266 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11267 \fi
11268 }
11269 \define@key{PDF}{DestAnchor}{%
11270 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11271 \ifx\Hy@pstringDest\@empty
11272 \Hy@pdfmarkerrortrue
11273 \Hy@Warning{Destination with empty name ignored}%
11274 \else
11275 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11276 \fi
11277 }
11278 % parameter is a string
11279 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11280 % parameter is a string
11281 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11282 % parameter is a int
11283 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11284 \define@key{PDF}{PDFAFlags}{%
11285 \ifHy@pdfa

```

```

11286 \pdf@addtoks{#1}{F}%
11287 \fi
11288 }
11289 % parameter is a name
11290 \define@key{PDF}{AcroHighlight}{%
11291 \begingroup
11292 \edef\x{#1}%
11293 \expandafter\endgroup\ifx\x\@empty
11294 \else
11295 \pdf@addtoks{#1}{H}%
11296 \fi
11297 }
11298 % parameter is a string
11299 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
11300 % parameter is a string
11301 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
11302 % parameter is a string
11303 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11304 % parameter is a string
11305 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}
11306 % parameter is a Boolean
11307 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11308 % parameter is a integer or name
11309 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11310 % parameter is a name
11311 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11312 % parameter is a string
11313 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
11314 % parameter is a array
11315 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
11316 % parameter is a integer
11317 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11318 % parameter is a name
11319 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11320 % parameter is a string
11321 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
11322 % parameter is a string
11323 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
11324 % parameter is a string
11325 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
11326 % parameter is an array
11327 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
11328 % parameter is a string
11329 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11330 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
11331 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
11332 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
11333 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11334 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
11335 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
11336 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
11337 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11338 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
11339 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11340 \define@key{PDF}{Trapped}{%
11341 \edef\Hy@temp{#1}%

```

```

11342 \ifx\Hy@temp\@empty
11343 \else
11344 \pdf@addtoks{/#1}{Trapped}%
11345 \fi
11346 }
11347
11348 </pdfmarkbase>
11349 <*pdfmark>
11350 \def\Acrobatmenu#1#2{%
11351 \Hy@Acrobatmenu{#1}{#2}{%
11352 \pdfmark[{#2}]{%
11353 linktype=menu,%
11354 pdfmark=/ANN,%
11355 AcroHighlight=\@pdfhighlight,%
11356 Border=\@pdfborder,%
11357 BorderStyle=\@pdfborderstyle,%
11358 Action={<< /Subtype /Named /N /#1 >>},%
11359 Subtype=/Link,%
11360 PDFAFlags=4%
11361 }%
11362 }%
11363 }

```

And now for some useful examples:

```

11364 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11365 \def\PDFNextPage@[#1]#2{%
11366 \pdfmark[{#2}]{%
11367 #1,%
11368 Border=\@pdfborder,%
11369 BorderStyle=\@pdfborderstyle,%
11370 Color=.2 .1 .5,%
11371 pdfmark=/ANN,%
11372 Subtype=/Link,%
11373 PDFAFlags=4,%
11374 Page=/Next%
11375 }%
11376 }
11377 \def\PDFPreviousPage{%
11378 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}}%
11379 }
11380 \def\PDFPreviousPage@[#1]#2{%
11381 \pdfmark[{#2}]{%
11382 #1,%
11383 Border=\@pdfborder,%
11384 BorderStyle=\@pdfborderstyle,%
11385 Color=.4 .4 .1,%
11386 pdfmark=/ANN,%
11387 Subtype=/Link,%
11388 PDFAFlags=4,%
11389 Page=/Prev%
11390 }%
11391 }
11392 \def\PDFOpen#1{%
11393 \pdfmark{#1,pdfmark=/DOCVIEW}%
11394 }

```

This will only work if you use Distiller 2.1 or higher.

```

11395 \def\hyper@linkurl#1#2{%

```

```

11396 \begingroup
11397 \Hy@pstringdef\Hy@pstringURI{#2}%
11398 \hyper@chars
11399 \leavevmode
11400 \pdfmark[#{#1}]{%
11401 pdfmark=/ANN,%
11402 linktype=url,%
11403 AcroHighlight=\@pdfhighlight,%
11404 Border=\@pdfborder,%
11405 BorderStyle=\@pdfborderstyle,%
11406 Color=\@urlbordercolor,%
11407 Action={<<%
11408 /Subtype/URI%
11409 /URI(\Hy@pstringURI)%
11410 \ifHy@href@ismap
11411 /IsMap true%
11412 \fi
11413 >>},%
11414 Subtype=/Link,%
11415 PDFAFlags=4%
11416 }%
11417 \endgroup
11418 }
11419 \def\hyper@linkfile#1#2#3{%
11420 \begingroup
11421 \def\Hy@pstringF{#2}%
11422 \Hy@CleanupFile\Hy@pstringF
11423 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11424 \Hy@pstringdef\Hy@pstringD{#3}%
11425 \Hy@MakeRemoteAction
11426 \leavevmode
11427 \pdfmark[#{#1}]{%
11428 pdfmark=/ANN,%
11429 Subtype=/Link,%
11430 PDFAFlags=4,%
11431 AcroHighlight=\@pdfhighlight,%
11432 Border=\@pdfborder,%
11433 BorderStyle=\@pdfborderstyle,%
11434 linktype=file,%
11435 Color=\@filebordercolor,%
11436 Action={%
11437 <<%
11438 /S/GoToR.%
11439 \Hy@SetNewWindow
11440 /F(\Hy@pstringF)%
11441 /D%
11442 \ifx\#3\%
11443 [\Hy@href@page\@pdfremotestartview]%
11444 \else
11445 (\Hy@pstringD)cvn%
11446 \fi
11447 \Hy@href@nextactionraw
11448 >>%
11449 }%
11450 }%
11451 \endgroup
11452 }

```



```

11453 \def\@hyper@launch run:#1\|#2#3{%
11454   \begingroup
11455   \Hy@pstringdef\Hy@pstringF{#1}%
11456   \Hy@pstringdef\Hy@pstringP{#3}%
11457   \leavevmode
11458   \pdfmark[{#2}]{%
11459     pdfmark=/ANN,%
11460     Subtype=/Link,%
11461     PDFAFlags=4,%
11462     AcroHighlight=\@pdfhighlight,%
11463     Border=\@pdfborder,%
11464     BorderStyle=\@pdfborderstyle,%
11465     linktype=run,%
11466     Color=\@runbordercolor,%
11467     Action={%
11468       <<%
11469         /S/Launch%
11470         \Hy@SetNewWindow
11471         /F(\Hy@pstringF)%
11472         \ifx\|#3\|%
11473         \else
11474           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11475         \fi
11476         \Hy@href@nextactionraw
11477       >>%
11478     }%
11479   }%
11480 \endgroup
11481 }
11482 \}
```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

46.9 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.

```

11483 <*dvips>
11484 \providecommand*\XR@ext}{pdf}
11485 \def\Hy@raisedlink{}
11486 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11487 \def\headerps@out#1{\special{! #1}}%
11488 \input{pdfmark.def}%
11489 \ifx\@pdfproducer\relax
11490   \def\@pdfproducer{dvips + Distiller}%
11491 \fi
11492 \providecommand*\@pdfborder{0 0 1}
11493 \providecommand*\@pdfborderstyle{}
11494 \providecommand*\@pdfview{XYZ}
11495 \providecommand*\@pdfviewparams{ H.V}
11496 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11497 \g@addto@macro\Hy@FirstPageHook{%
11498   \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.

```
11499 /DvipsToPDF{72.27 mul Resolution div} def%
11500 /PDFToDvips{72.27 div Resolution mul} def%
11501 /BPToDvips{72 div Resolution mul}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.

```
11502 /BorderArrayPatch{%
11503   [exch{%
11504     dup dup type/integertype eq exch type/realtype eq or%
11505     {BPToDvips}if%
11506   }forall]%
11507 }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.

```
11508 /HyperBorder {1 PDFToDvips} def%
11509 /H.V {pdf@hoff pdf@voff null} def%
11510 /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

```
11511 /H.S {%
11512   currentpoint %
11513   HyperBorder add /pdf@lly exch def %
11514   dup DvipsToPDF 72 add /pdf@hoff exch def %
11515   HyperBorder sub /pdf@llx exch def%
11516 } def%
```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current \backslash 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

```
11517 /H.L {%
11518   2 sub dup%
11519   /HyperBasePt exch def %
11520   PDFToDvips /HyperBaseDvips exch def %
11521   currentpoint %
11522   HyperBaseDvips sub /pdf@ury exch def%
11523   /pdf@urx exch def%
11524 } def%
11525 /H.A {%
```

```

11526   H.L %
11527 % | /pdf@voff| = the distance from the top of the page to a point
11528 % | \baselineskip| above the current point in PDF coordinates
11529   currentpoint exch pop %
11530   vsize 72 sub exch DvipsToPDF %
11531   HyperBasePt sub % baseline skip
11532   sub /pdf@voff exch def%
11533 } def%
11534 /H.R {%
11535   currentpoint %
11536   HyperBorder sub /pdf@ury exch def %
11537   HyperBorder add /pdf@urx exch def %
11538 % | /pdf@voff| = the distance from the top of the page to the current point, in
11539 % PDF coordinates
11540   currentpoint exch pop vsize 72 sub %
11541   exch DvipsToPDF sub /pdf@voff exch def%
11542 } def%
11543 }%
11544 }
11545 \AtBeginShipoutFirst{%
11546   \ifHy@setpagesize
11547     \begingroup
11548     \@ifundefined{stockwidth}{%
11549       \ifdim\paperwidth>\z@
11550         \ifdim\paperheight>\z@
11551           \special{papersize=\the\paperwidth,\the\paperheight}%
11552         \fi
11553       \fi
11554     }{%
11555       \ifdim\stockwidth>\z@
11556         \ifdim\stockheight>\z@
11557           \special{papersize=\the\stockwidth,\the\stockheight}%
11558         \fi
11559       \fi
11560     }%
11561   \endgroup
11562 \fi
11563 \Hy@DisableOption{setpagesize}%
11564 }
11565 </dvips>

```

46.10 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.

```

11566 <*vtexpdfmark>
11567 \providecommand*\XR@ext}{pdf}
11568 \def\Hy@raisedlink{}
11569 \def\literalps@out#1{\special{pS:#1}}%
11570 \def\headerps@out#1{\immediate\special{pS:#1}}%
11571 \input{pdfmark.def}%
11572 \ifx\@pdfproducer\relax
11573   \ifnum\OpMode=\@ne
11574     \def\@pdfproducer{VTeX}%

```

```

11575 \else
11576 \def\@pdfproducer{VTeX + Distiller}%
11577 \fi
11578 \fi
11579 \providecommand*\@pdfborder{0 0 1}
11580 \providecommand*\@pdfborderstyle{}
11581 \providecommand*\@pdfview{XYZ}
11582 \providecommand*\@pdfviewparams{ H.V}

11583 \g@addto@macro\Hy@FirstPageHook{%
11584 \headerps@out{%
11585 /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.

```

11586 /HyperBorder {1} def%
11587 /H.V {pdf@hoff pdf@voff null} def%
11588 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11589 /H.S {%
11590 currentpoint %
11591 HyperBorder sub%
11592 /pdf@lly exch def %
11593 dup 72 add /pdf@hoff exch def %
11594 HyperBorder sub%
11595 /pdf@llx exch def%
11596 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11597 /H.L {%
11598 2 sub%
11599 /HyperBasePt exch def %
11600 currentpoint %
11601 HyperBasePt add HyperBorder add%
11602 /pdf@ury exch def %
11603 HyperBorder add%
11604 /pdf@urx exch def%
11605 } def%
11606 /H.A {%
11607 H.L %
11608 currentpoint exch pop %
11609 vsize 72 sub exch %
11610 HyperBasePt add add%
11611 /pdf@voff exch def%
11612 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11613 /H.R {%
11614 currentpoint %
11615 HyperBorder add%
11616 /pdf@ury exch def %
11617 HyperBorder add%
11618 /pdf@urx exch def %
11619 currentpoint exch pop vsize 72 sub add%
11620 /pdf@voff exch def%

```

```

11621   } def%
11622   }%
11623 }
11624 </vtexpdfmark>

```

46.11 Textures

```

11625 <*textures>
11626 \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.

```

11627 \begingroup
11628   \obeylines %
11629   \gdef\Hy@ps@CR{\noexpand
11630     }%
11631 \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`.

```

11632 \def\literalps@out#1{%
11633   \special{postscript 0 0 transform}%
11634   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11635 }%
11636 %

```

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.

```

11637 \def\headerps@out#1{%
11638   \special{%
11639     prepostscript TeXdict begin\Hy@ps@CR
11640       #1\Hy@ps@CR
11641     end%
11642   }%
11643 }%
11644 %

```

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.

```

11645 \g@addto@macro\Hy@FirstPageHook{%
11646   \headerps@out{%
11647     /betterpdfmark {%

```

```

11648    systemdict begin %
11649      dup /BP eq%
11650      {cleartomark gsave nulldevice []}%
11651      {dup /EP eq%
11652        {cleartomark cleartomark grestore}%
11653        {cleartomark}%
11654        ifelse%
11655      }ifelse %
11656    end%
11657  }def\Hy@ps@CR
11658  ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11659  }% end of \headerps@out
11660 }% end of \AtBeginShipoutFirst
11661 %
11662 \input{pdfmark.def}%
11663 %
11664 \ifx\@pdfproducer\relax
11665   \def\@pdfproducer{Textures + Distiller}%
11666 \fi
11667 \providecommand*\@pdfborder{0 0 1}
11668 \providecommand*\@pdfborderstyle{}
11669 \providecommand*\@pdfview{XYZ}
11670 \providecommand*\@pdfviewparams{ H.V}
11671 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

11672 \Hy@AtBeginDocument{%
11673   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11674   /vsize {\Hy@pageheight} def%
11675   /DvipsToPDF {} def%
11676   /PDFToDvips {} def%
11677   /BPToDvips {} def%
11678   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11679   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11680   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11681   /H.S {%
11682     currentpoint %
11683     HyperBorder add /pdf@lly exch def %
11684     dup DvipsToPDF 72 add /pdf@hoff exch def %
11685     HyperBorder sub /pdf@llx exch def%
11686   } def\Hy@ps@CR
11687   /H.L {%
11688     2 sub %
11689     PDFToDvips /HyperBase exch def %
11690     currentpoint %
11691     HyperBase sub /pdf@ury exch def%
11692     /pdf@urx exch def%
11693   } def\Hy@ps@CR
11694   /H.A {%
11695     H.L %
11696     currentpoint exch pop %
11697     vsize 72 sub exch DvipsToPDF %

```

```

11698   HyperBase sub % baseline skip
11699   sub /pdf@voff exch def%
11700 } def\Hy@ps@CR
11701 /H.R {%
11702   currentpoint %
11703   HyperBorder sub /pdf@ury exch def %
11704   HyperBorder add /pdf@urx exch def %
11705   currentpoint exch pop vsize 72 sub %
11706   exch DvipsToPDF sub /pdf@voff exch def%
11707 } def\Hy@ps@CR
11708 }%
11709 }

11710 \Hy@AtBeginDocument{%
11711   \ifHy@colorlinks
11712     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11713   \fi
11714 }

```

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.

```

11715 \expandafter\let\expandafter\keepPDF@SetupDoc
11716 \csname PDF@SetupDoc\endcsname
11717 \def\PDF@SetupDoc{%
11718   \ifx\@baseurl\@empty
11719     \else
11720     \special{html:<base href="\@baseurl">}%
11721   \fi
11722   \keepPDF@SetupDoc
11723 }

11724 \Hy@WrapperDef\hyper@anchor#1{%
11725   \Hy@SaveLastskip
11726   \Hy@VerboseAnchor{#1}%
11727   \begingroup
11728     \let\protect=\string
11729     \special{html:<a name=%
11730       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11731   \endgroup
11732   \Hy@activeanchortrue
11733   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11734   \special{html:</a>}%
11735   \Hy@activeanchorfalse
11736   \Hy@RestoreLastskip
11737 }

11738 \Hy@WrapperDef\hyper@anchorstart#1{%
11739   \Hy@SaveLastskip
11740   \Hy@VerboseAnchor{#1}%
11741   \begingroup
11742     \hyper@chars
11743     \special{html:<a name=%
11744       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11745   \endgroup
11746   \Hy@activeanchortrue
11747 }

11748 \def\hyper@anchorend{%
11749   \special{html:</a>}%
11750   \Hy@activeanchorfalse
11751   \Hy@RestoreLastskip

```

```

11752 }
11753 \def\@urltype{url}
11754 \def\hyper@linkstart#1#2{%
11755   \Hy@VerboseLinkStart{#1}{#2}%
11756   \expandafter\Hy@colorlink\csname @#1color\endcsname
11757   \def\Hy@tempa{#1}%
11758   \ifx\Hy@tempa\@urltype
11759     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11760   \else
11761     \begingroup
11762     \hyper@chars
11763     \special{%
11764       html:<a href=%
11765         \hyper@quote\#\Hy@HyperDestNameFilter{#2}\hyper@quote>%
11766     }%
11767     \endgroup
11768   \fi
11769 }
11770 \def\hyper@linkend{%
11771   \special{html:</a>}%
11772   \Hy@endcolorlink
11773 }
11774 \def\hyper@linkfile#1#2#3{%
11775   \hyper@linkurl{#1}{%
11776     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11777   }%
11778 }
11779 \def\hyper@linkurl#1#2{%
11780   \leavevmode
11781   \ifHy@raiselinks
11782     \Hy@SaveSpaceFactor
11783     \Hy@SaveSavedSpaceFactor
11784     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11785     \Hy@RestoreSavedSpaceFactor
11786     \@linkdim\dp\@tempboxa
11787     \lower\@linkdim\hbox{%
11788       \hyper@chars
11789       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11790     }%
11791     \Hy@colorlink\@urlcolor
11792     \Hy@RestoreSpaceFactor
11793     #1%
11794     \Hy@SaveSpaceFactor
11795     \@linkdim\ht\@tempboxa
11796     \advance\@linkdim by -6.5\p@
11797     \raise\@linkdim\hbox{\special{html:</a>}}%
11798   \Hy@endcolorlink
11799   \Hy@RestoreSpaceFactor
11800 \else
11801   \begingroup
11802   \hyper@chars
11803   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11804   \Hy@colorlink\@urlcolor#1%
11805   \special{html:</a>}%
11806   \Hy@endcolorlink
11807   \endgroup
11808 \fi

```



```

11809 }
Very poor implementation of \hyper@link without considering #1.
11810 \def\hyper@link#1#2#3{%
11811 \Hy@VerboseLinkStart{#1}{#2}%
11812 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
11813 }
11814 \def\hyper@image#1#2{%
11815 \begingroup
11816 \hyper@chars
11817 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11818 \endgroup
11819 }
11820 </textures>

```

46.12 dvipsone

```

11821 % \subsection{dvipsone driver}
11822 % Over-ride the default setup macro in pdfmark driver to use Y&Y
11823 % |\special| commands.
11824 <*dvipsone>
11825 \providecommand*{\XR@ext}{pdf}
11826 \def\Hy@raisedlink{}
11827 \providecommand*\@pdfborder{0 0 1}
11828 \providecommand*\@pdfborderstyle{}
11829 \def\literalps@out#1{\special{ps:#1}}%
11830 \def\headerps@out#1{\special{headertext=#1}}%
11831 \input{pdfmark.def}%
11832 \ifx\@pdfproducer\relax
11833 \def\@pdfproducer{dvipsone + Distiller}%
11834 \fi
11835 \HyInfo@AddonUnsupportedtrue
11836 \def\PDF@FinishDoc{%
11837 \Hy@UseMaketitleInfos
11838 \HyInfo@TrappedUnsupported
11839 \special{PDF: Keywords \@pdfkeywords}%
11840 \special{PDF: Title \@pdftitle}%
11841 \special{PDF: Creator \@pdfcreator}%
11842 \ifx\@pdfcreationdate\@empty
11843 \else
11844 \special{PDF: CreationDate \@pdfcreationdate}%
11845 \fi
11846 \ifx\@pdfmoddate\@empty
11847 \else
11848 \special{PDF: ModDate \@pdfmoddate}%
11849 \fi
11850 \special{PDF: Author \@pdfauthor}%
11851 \ifx\@pdfproducer\relax
11852 \else
11853 \special{PDF: Producer \@pdfproducer}%
11854 \fi
11855 \special{PDF: Subject \@pdfsubject}%
11856 \Hy@DisableOption{pdfauthor}%
11857 \Hy@DisableOption{pdftitle}%
11858 \Hy@DisableOption{pdfsubject}%
11859 \Hy@DisableOption{pdfcreator}%
11860 \Hy@DisableOption{pdfcreationdate}%
11861 \Hy@DisableOption{pdfmoddate}%

```

```

11862 \Hy@DisableOption{pdfproducer}%
11863 \Hy@DisableOption{pdfkeywords}%
11864 \Hy@DisableOption{pdftrapped}%
11865 \Hy@DisableOption{pdfinfo}%
11866 }
11867 \def\PDF@SetupDoc{%
11868 \def\Hy@temp{%
11869 \ifx\@pdfstartpage\@empty
11870 \else
11871 \ifx\@pdfstartview\@empty
11872 \else
11873 \edef\Hy@temp{%
11874 ,Page=\@pdfstartpage
11875 ,View=\@pdfstartview
11876 }%
11877 \fi
11878 \fi
11879 \edef\Hy@temp{%
11880 \noexpand\pdfmark{%
11881 pdfmark=/DOCVIEW,%
11882 PageMode=/\@pdfpagemode
11883 \Hy@temp
11884 }%
11885 }%
11886 \Hy@temp
11887 \ifx\@pdfpagescrop\@empty
11888 \else
11889 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11890 \fi
11891 \edef\Hy@temp{%
11892 \ifHy@toolbar\else /HideToolbar true\fi
11893 \ifHy@menubar\else /HideMenubar true\fi
11894 \ifHy>windowui\else /HideWindowUI true\fi
11895 \ifHy@fitwindow /FitWindow true\fi
11896 \ifHy@centerwindow /CenterWindow true\fi
11897 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11898 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11899 \Hy@UseNameKey{Direction}\@pdfdirection
11900 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11901 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11902 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11903 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11904 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11905 \Hy@UseNameKey{Duplex}\@pdfduplex
11906 \ifx\@pdfpicktraybypdfsize\@empty
11907 \else
11908 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11909 \fi
11910 \ifx\@pdfprintpagerange\@empty
11911 \else
11912 /PrintPageRange\@pdfprintpagerange}%
11913 \fi
11914 \ifx\@pdfnumcopies\@empty
11915 \else
11916 /NumCopies \@pdfnumcopies
11917 \fi
11918 }%

```

```

11919 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11920 \pdfmark{%
11921 pdfmark=/PUT,%
11922 Raw={%
11923 \string{Catalog\string}<<%
11924 \ifx\Hy@temp\@empty
11925 \else
11926 /ViewerPreferences<<\Hy@temp>>%
11927 \fi
11928 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11929 \ifx\@pdflang\@empty
11930 \else
11931 /Lang(\@pdflang)%
11932 \fi
11933 \ifx\@baseurl\@empty
11934 \else
11935 /URI<</Base(\Hy@pstringB)>>%
11936 \fi
11937 >>%
11938 }%
11939 }%
11940 }
11941 \providecommand*\@pdfview{XYZ}
11942 \providecommand*\@pdfviewparams{ %
11943 gsave revscl currentpoint grestore %
11944 72 add exch pop null exch null%
11945 }
11946 \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 dvipson setup. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

11947 \g@addto@macro\Hy@FirstPageHook{%
11948 \headerps@out{%

```

dvipson lives in scaled points; does this mean 65536 or 65781?

```

11949 /DvipsToPDF { 65781 div } def%
11950 /PDFToDvips { 65781 mul } def%
11951 /BPToDvips{65781 mul}def%
11952 /HyperBorder { 1 PDFToDvips } def%
11953 /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.

```

11954 /BorderArrayPatch{%
11955 [exch{%
11956 dup dup type/integertype eq exch type/realttype eq or%
11957 {BPToDvips}if%
11958 }forall%
11959 }def%
11960 /H.S {%
11961 currentpoint %
11962 HyperBorder add /pdf@lly exch def %
11963 dup DvipsToPDF 72 add /pdf@hoff exch def %
11964 HyperBorder sub /pdf@llx exch def%
11965 } def%

```

```

11966 /H.L {%
11967   2 sub %
11968   PDFToDvips /HyperBase exch def %
11969   currentpoint %
11970   HyperBase sub /pdf@ury exch def%
11971   /pdf@urx exch def%
11972 } def%
11973 /H.A {%
11974   H.L %
11975   currentpoint exch pop %
11976   HyperBase sub % baseline skip
11977   DvipsToPDF /pdf@voff exch def%
11978 } def%
11979 /H.R {%
11980   currentpoint %
11981   HyperBorder sub /pdf@ury exch def %
11982   HyperBorder add /pdf@urx exch def %
11983   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11984 } def%
11985 }%
11986 }
11987 </dvipsone>

```

46.13 TeX4ht

```

11988 < *tex4ht >
11989 \providecommand*{\XR@ext}{html}
11990 \def\Hy@raisedlink{}
11991 \@ifpackageloaded{tex4ht}{%
11992   \Hy@InfoNoLine{tex4ht is already loaded}%
11993 }{%
11994   \RequirePackage[hTeX4ht]{tex4ht}%
11995 }
11996 \hyperlinkfileprefix{}
11997 \def\PDF@FinishDoc{}
11998 \def\PDF@SetupDoc{%
11999   \ifx \@baseurl \@empty
12000     \else
12001     \special{t4ht=<base href="\@baseurl">}%
12002     \fi
12003 }
12004 \Hy@WrapperDef\hyper@anchor#1{%
12005   \Hy@SaveLastskip
12006   \Hy@VerboseAnchor{#1}%
12007   \begingroup
12008     \let\protect=\string
12009     \special{t4ht=<a name=%
12010       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12011     \endgroup
12012     \Hy@activeanchortrue
12013     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12014     \special{t4ht=</a>}%
12015     \Hy@activeanchorfalse
12016     \Hy@RestoreLastskip
12017 }
12018 \Hy@WrapperDef\hyper@anchorstart#1{%
12019   \Hy@SaveLastskip
12020   \Hy@VerboseAnchor{#1}%

```

```

12021 \begingroup
12022   \hyper@chars\special{t4ht=<a name=%
12023     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote}>%
12024 \endgroup
12025 \Hy@activeanchortrue
12026 }
12027 \def\hyper@anchorend{%
12028   \special{t4ht=</a>}%
12029   \Hy@activeanchorfalse
12030   \Hy@RestoreLastskip
12031 }
12032 \def\@urlltype{url}
12033 \def\hyper@linkstart#1#2{%
12034   \Hy@VerboseLinkStart{#1}{#2}%
12035   \expandafter\Hy@colorlink\csname @#1color\endcsname
12036   \def\Hy@tempa{#1}%
12037   \ifx\Hy@tempa\@urlltype
12038     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12039   \else
12040     \begingroup
12041       \hyper@chars
12042       \special{t4ht=<a href=%
12043         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote}>%
12044     \endgroup
12045   \fi
12046 }
12047 \def\hyper@linkend{%
12048   \special{t4ht=</a>}%
12049   \Hy@endcolorlink
12050 }
12051 \def\hyper@linkfile#1#2#3{%
12052   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\else\#3\fi}%
12053 }
12054 \def\hyper@linkurl#1#2{%
12055   \leavevmode
12056   \ifHy@raiselinks
12057     \Hy@SaveSpaceFactor
12058     \Hy@SaveSavedSpaceFactor
12059     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12060     \Hy@RestoreSavedSpaceFactor
12061     \@linkdim\dp\@tempboxa
12062     \lower\@linkdim\hbox{%
12063       \begingroup
12064         \hyper@chars
12065         \special{%
12066           t4ht=<a href=\hyper@quote#2\hyper@quote>%
12067         }%
12068       \endgroup
12069     }%
12070     \Hy@colorlink\@urllcolor
12071     \Hy@RestoreSpaceFactor
12072     #1%
12073     \Hy@SaveSpaceFactor
12074     \Hy@endcolorlink
12075     \@linkdim\ht\@tempboxa
12076     \advance\@linkdim by -6.5\p@
12077     \raise\@linkdim\hbox{\special{t4ht=</a>}}%

```

```

12078 \Hy@RestoreSpaceFactor
12079 \else
12080 \begingroup
12081 \hyper@chars
12082 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12083 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
12084 \special{t4ht=</a>}%
12085 \endgroup
12086 \fi
12087 }

```

Poor implementation of \hyper@link without considering #1.

```

12088 \def\hyper@link#1#2#3{%
12089 \Hy@VerboseLinkStart{#1}{#2}%
12090 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12091 }
12092 \def\hyper@image#1#2{%
12093 \begingroup
12094 \hyper@chars
12095 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12096 \endgroup
12097 }
12098 \let\autoref\ref
12099 \ifx \rEfLiNK \UnDef
12100 \def\rEfLiNK #1#2{#2}%
12101 \fi
12102 \def\backref#1{}

```

Fix for tex4ht.

```

12103 \AtBeginDocument{%
12104 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12105 \expandafter\def\csname Make:Label\endcsname#1#2{%
12106 \ifhmode
12107 \Hy@SaveSpaceFactor
12108 \else
12109 \global\Hy@SavedSpaceFactor=1000 %
12110 \fi
12111 \Hy@OrgMakeLabel{#1}{%
12112 \Hy@RestoreSpaceFactor
12113 #2%
12114 \Hy@SaveSpaceFactor
12115 }%
12116 \Hy@RestoreSpaceFactor
12117 }%
12118 }
12119 </tex4ht>
12120 <*tex4htcfg>
12121 \IfFileExists{\jobname.cfg}{\endinput}{}
12122 \Preamble{html}
12123 \begin{document}%
12124 \EndPreamble
12125 \def\TeX{TeX}
12126 \def\OMEGA{Omega}
12127 \def\LaTeX{LaTeX}
12128 \def\LaTeXe{\LaTeX2e}
12129 \def\eTeX{eTeX}
12130 \def\MF{Metafont}
12131 \def\MP{MetaPost}
12132 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```
12133 <*pdfmark>
12134 \long\def\@Form[#1]{%
12135 \g@addto@macro\Hy@FirstPageHook{%
12136 \headerps@out{%
12137 [%
12138 /_objdef{pdfDocEncoding}%
12139 /type/dict%
12140 /OBJ pdfmark%
12141 [%
12142 {pdfDocEncoding}%
12143 <<%
12144 /Type/Encoding%
12145 /Differences%
12146 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12147 /tilde %
12148 39/quotesingle %
12149 96/grave %
12150 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12151 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12152 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12153 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12154 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12155 164/currency %
12156 166/brokenbar %
12157 168/dieresis/copyright/ordfeminine %
12158 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12159 /twosuperior/threesuperior/acute/mu %
12160 183/periodcentered/cedilla/onesuperior/ordmasculine %
12161 188/onequarter/onehalf/threequarters %
12162 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12163 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12164 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12165 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12166 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12167 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12168 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12169 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12170 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12171 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12172 ]%
12173 >>%
12174 /PUT pdfmark%
12175 [%
12176 /_objdef{ZaDb}%
12177 /type/dict%
12178 /OBJ pdfmark%
12179 [%
12180 {ZaDb}%
12181 <<%
12182 /Type/Font%
12183 /Subtype/Type1%
12184 /Name/ZaDb%
12185 /BaseFont/ZapfDingbats%
```

```

12186 >>%
12187 /PUT pdfmark%
12188 [%
12189   /_objdef{Helv}%
12190   /type/dict%
12191 /OBJ pdfmark%
12192 [%
12193   {Helv}%
12194 <<%
12195   /Type/Font%
12196   /Subtype/Type1%
12197   /Name/Helv%
12198   /BaseFont/Helvetica%
12199   /Encoding{pdfDocEncoding}%
12200 >>%
12201 /PUT pdfmark%
12202 [%
12203   /_objdef{aform}%
12204   /type/dict%
12205 /OBJ pdfmark%
12206 [%
12207   /_objdef{afields}%
12208   /type/array%
12209 /OBJ pdfmark%
12210 {%
12211 [%
12212   /BBox[0 0 100 100]%
12213   /_objdef{Check}%
12214 /BP pdfmark %
12215 1 0 0 setrgbcolor%
12216 /ZapfDingbats 80 selectfont %
12217 20 20 moveto%
12218 (4)show%
12219 [/EP pdfmark%
12220 [%
12221   /BBox[0 0 100 100]%
12222   /_objdef{Cross}%
12223 /BP pdfmark %
12224 1 0 0 setrgbcolor%
12225 /ZapfDingbats 80 selectfont %
12226 20 20 moveto%
12227 (8)show%
12228 [/EP pdfmark%
12229 [%
12230   /BBox[0 0 250 100]%
12231   /_objdef{Submit}%
12232 /BP pdfmark %
12233 0.6 setgray %
12234 0 0 250 100 rectfill %
12235 1 setgray %
12236 2 2 moveto %
12237 2 98 lineto %
12238 248 98 lineto %
12239 246 96 lineto %
12240 4 96 lineto %
12241 4 4 lineto %
12242 fill %

```



```

12243 0.34 setgray %
12244 248 98 moveto %
12245 248 2 lineto %
12246 2 2 lineto %
12247 4 4 lineto %
12248 246 4 lineto %
12249 246 96 lineto %
12250 fill%
12251 /Helvetica 76 selectfont %
12252 0 setgray %
12253 8 22.5 moveto%
12254 (Submit)show%
12255 [/EP pdfmark%
12256 [%
12257 /BBox[0 0 250 100]%
12258 /_objdef{SubmitP}%
12259 /BP pdfmark %
12260 0.6 setgray %
12261 0 0 250 100 rectfill %
12262 0.34 setgray %
12263 2 2 moveto %
12264 2 98 lineto %
12265 248 98 lineto %
12266 246 96 lineto %
12267 4 96 lineto %
12268 4 4 lineto %
12269 fill %
12270 1 setgray %
12271 248 98 moveto %
12272 248 2 lineto %
12273 2 2 lineto %
12274 4 4 lineto %
12275 246 4 lineto %
12276 246 96 lineto %
12277 fill%
12278 /Helvetica 76 selectfont %
12279 0 setgray %
12280 10 20.5 moveto%
12281 (Submit)show%
12282 [/EP pdfmark%
12283 }?pdfmark%
12284 [%
12285 {aform}%
12286 <<%
12287 /Fields{afields}%
12288 /DR<<%
12289 /Font<<%
12290 /ZaDb{ZaDb}%
12291 /Helv{Helv}%
12292 >>%
12293 >>%
12294 /DA(/Helv 10 Tf 0 g)%
12295 /CO{corder}%
12296 \ifHy@pdfa
12297 \else
12298 \ifHyField@NeedAppearances
12299 /NeedAppearances true%

```

```

12300   \fi
12301   \fi
12302 >>%
12303 /PUT pdfmark%
12304 [%
12305   {Catalog}%
12306   <<%
12307     /AcroForm{aform}%
12308   >>%
12309 /PUT pdfmark%
12310 [%
12311   /_objdef{corder}%
12312   /type/array%
12313 /OBJ pdfmark% dps
12314 }]%
12315   \kvsetkeys{Form}{#1}%
12316 }
12317 \def\@endForm{}
12318 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12319   \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12320 }
12321 \def\@TextField[#1]#2{% parameters, label
12322   \def\Fld@name{#2}%
12323   \def\Fld@default{}%
12324   \let\Fld@value\@empty
12325   \def\Fld@width{\DefaultWidthofText}%
12326   \def\Fld@height{%
12327     \ifFld@multiline
12328       \DefaultHeightofTextMultiline
12329     \else
12330       \DefaultHeightofText
12331     \fi
12332   }%
12333   \begingroup
12334     \expandafter\HyField@SetKeys\expandafter{%
12335       \DefaultOptionsofText,#1%
12336     }%
12337     \HyField@FlagsText
12338     \ifFld@hidden\def\Fld@width{1sp}\fi
12339     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12340     \LayoutTextField{#2}{%
12341       \Hy@escapeform\PDFForm@Text
12342       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12343         pdfmark=/ANN,Raw={\PDFForm@Text}%
12344       }%
12345     }%
12346   \endgroup
12347 }
12348 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12349   \def\Fld@name{#2}%
12350   \let\Fld@default\relax
12351   \let\Fld@value\relax
12352   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12353   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12354   \begingroup
12355     \Fld@menulength=0 %
12356     \@tempdima\z@

```

```

12357 \@for\@curropt:=#3\do{%
12358   \expandafter\Fld@checkequals\@curropt==\%
12359   \Hy@StepCount\Fld@menulength
12360   \settowidth{\@tempdimb}{\@currDisplay}%
12361   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12362 }%
12363 \advance\@tempdima by 15\p@
12364 \beginngroup
12365   \HyField@SetKeys{#1}%
12366 \edef\x{\endgroup
12367   \noexpand\expandafter
12368   \noexpand\HyField@SetKeys
12369   \noexpand\expandafter{%
12370     \expandafter\noexpand\csname DefaultOptionsof%
12371     \ifFld@radio
12372       Radio%
12373     \else
12374       \ifFld@combo
12375         \ifFld@popdown
12376           PopdownBox%
12377         \else
12378           ComboBox%
12379         \fi
12380       \else
12381         ListBox%
12382       \fi
12383     \fi
12384     \endcsname
12385   }%
12386 }\x
12387 \HyField@SetKeys{#1}%
12388 \ifFld@hidden\def\Fld@width{1sp}\fi
12389 \ifx\Fld@value\relax
12390   \let\Fld@value\Fld@default
12391 \fi
12392 \LayoutChoiceField{#2}{%
12393   \ifFld@radio
12394     \HyField@FlagsRadioButton
12395     \@@Radio{#3}%
12396   \else
12397     \beginngroup
12398     \HyField@FlagsChoice
12399     \ifdim\Fld@width<\@tempdima
12400       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12401       \edef\Fld@width{\the\@tempdima}%
12402     \fi
12403     \ifFld@combo
12404     \else
12405       \@tempdima=\the\Fld@menulength\Fld@charsize
12406       \advance\@tempdima by \Fld@borderwidth bp %
12407       \advance\@tempdima by \Fld@borderwidth bp %
12408       \edef\Fld@height{\the\@tempdima}%
12409     \fi
12410     \@@ListBox{#3}%
12411   \endgroup
12412 \fi
12413 }%

```

```

12414 \endgroup
12415 }
12416 \def\@@Radio#1{%
12417 \Fld@listcount=0 %
12418 \EdefEscapeName\Fld@default{\Fld@default}%
12419 \@for\@curropt:=#1\do{%
12420 \expandafter\Fld@checkequals\@curropt==\%
12421 \EdefEscapeName\@currValue{\@currValue}%
12422 \Hy@StepCount\Fld@listcount
12423 \@currDisplay\space
12424 \Hy@escapeform\PDFForm@Radio
12425 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12426 pdfmark=/ANN,%
12427 Raw={%
12428 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12429 }%
12430 } % deliberate space between radio buttons
12431 }%
12432 }
12433 \newcount\Fld@listcount
12434 \def\@@ListBox#1{%
12435 \HyField@PDFChoices{#1}%
12436 \Hy@escapeform\PDFForm@List
12437 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12438 pdfmark=/ANN,Raw={\PDFForm@List}%
12439 }%
12440 }
12441 \def\@PushButton[#1]#2{% parameters, label
12442 \def\Fld@name{#2}%
12443 \begingroup
12444 \expandafter\HyField@SetKeys\expandafter{%
12445 \DefaultOptionsofPushButton,#1%
12446 }%
12447 \ifHy@pdfa
12448 \Hy@Error{%
12449 PDF/A: Push button with JavaScript is prohibited%
12450 }\@ehc
12451 \LayoutPushButtonField{%
12452 \leavevmode
12453 \MakeButtonField{#2}%
12454 }%
12455 \else
12456 \HyField@FlagsPushButton
12457 \ifFld@hidden\def\Fld@width{1sp}\fi
12458 \LayoutPushButtonField{%
12459 \leavevmode
12460 \Hy@escapeform\PDFForm@Push
12461 \pdfmark[\MakeButtonField{#2}]{%
12462 pdfmark=/ANN,Raw={\PDFForm@Push}%
12463 }%
12464 }%
12465 \fi
12466 \endgroup
12467 }
12468 \def\@Submit[#1]#2{%
12469 \def\Fld@width{\DefaultWidthofSubmit}%
12470 \def\Fld@height{\DefaultHeightofSubmit}%

```

```

12471 \begingroup
12472 \expandafter\HyField@SetKeys\expandafter{%
12473   \DefaultOptionsofSubmit,#1%
12474 }%
12475 \HyField@FlagsPushButton
12476 \HyField@FlagsSubmit
12477 \ifFld@hidden\def\Fld@width{1sp}\fi
12478 \Hy@escapeform\PDFForm@Submit
12479 \pdfmark[\MakeButtonField{#2}]{%
12480   pdfmark=/ANN,%
12481   Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12482 }%
12483 \endgroup
12484 }
12485 \def\@Reset[#1]#2{%
12486   \def\Fld@width{\DefaultWidthofReset}%
12487   \def\Fld@height{\DefaultHeightofReset}%
12488   \begingroup
12489     \expandafter\HyField@SetKeys\expandafter{%
12490       \DefaultOptionsofReset,#1%
12491     }%
12492     \leavevmode
12493     \ifHy@pdfa
12494       \Hy@Error{%
12495         PDF/A: Reset action is prohibited%
12496       }\@ehc
12497       \MakeButtonField{#2}%
12498     \else
12499       \HyField@FlagsPushButton
12500       \ifFld@hidden\def\Fld@width{1sp}\fi
12501       \Hy@escapeform\PDFForm@Reset
12502       \pdfmark[\MakeButtonField{#2}]{%
12503         pdfmark=/ANN,Raw={\PDFForm@Reset}%
12504       }%
12505     \fi
12506   \endgroup
12507 }%
12508 \def\@CheckBox[#1]#2{% parameters, label
12509   \def\Fld@name{#2}%
12510   \def\Fld@default{0}%
12511   \begingroup
12512     \def\Fld@width{\DefaultWidthofCheckBox}%
12513     \def\Fld@height{\DefaultHeightofCheckBox}%
12514     \expandafter\HyField@SetKeys\expandafter{%
12515       \DefaultOptionsofCheckBox,#1%
12516     }%
12517     \HyField@FlagsCheckBox
12518     \ifFld@hidden\def\Fld@width{1sp}\fi
12519     \LayoutCheckField{#2}{%
12520       \Hy@escapeform\PDFForm@Check
12521       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12522         pdfmark=/ANN,Raw={\PDFForm@Check}%
12523       }%
12524     }%
12525   \endgroup
12526 }
12527 \pdfmark}

```

47.2 HyperTeX

```
12528 ⟨*hypertex⟩
12529 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12530 \def\@endForm{ }
12531 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12532 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12533 }
12534 \def\@TextField[#1]#2{% parameters, label
12535 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12536 }
12537 \def\@CheckBox[#1]#2{% parameters, label
12538 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12539 }
12540 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12541 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12542 }
12543 \def\@PushButton[#1]#2{% parameters, label
12544 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12545 }
12546 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12547 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12548 /hypertex)
```

47.3 TeX4ht

```
12549 ⟨*tex4ht⟩
12550 \def\@Form[#1]{%
12551 \kvsetkeys{Form}{#1}%
12552 \HCode{<form action="\Form@action" method="\Form@method">}%
12553 }
12554 \def\@endForm{\HCode{</form>}}
12555 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12556 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12557 }
12558 \def\@TextField[#1]#2{% parameters, label
12559 \let\Hy@reserved@a\@empty
12560 \def\Fld@name{#2}%
12561 \def\Fld@default{ }%
12562 \bgroup
12563 \Field@toks={ }%
12564 \kvsetkeys{Field}{#1}%
12565 \HCode{<label for="\Fld@name">#2</label>}%
12566 \ifFld@password
12567 \@@PasswordField
12568 \else
12569 \@@TextField
12570 \fi
12571 \egroup
12572 }
12573 \def\@@PasswordField{%
12574 \HCode{%
12575 <input type="password" %
12576 id="\Fld@name" %
12577 name="\Fld@name" %
12578 \ifFld@hidden type="hidden" \fi
12579 value="\Fld@default" %
12580 \the\Field@toks
12581 >%
```

```

12582 }%
12583 }
12584 \def\@@TextField{%
12585   \ifFld@multiline
12586     \HCode{<textarea %
12587       \ifFld@readonly readonly \fi
12588       id="\Fld@name" %
12589       name="\Fld@name" %
12590       \ifFld@hidden type="hidden" \fi
12591       \the\Field@toks>%
12592   }%
12593   \Fld@default
12594   \HCode{</textarea>}%
12595 \else
12596   \HCode{<input type="text" %
12597     \ifFld@readonly readonly \fi
12598     id="\Fld@name" %
12599     name="\Fld@name" %
12600     \ifFld@hidden type="hidden" \fi
12601     value="\Fld@default" %
12602     \the\Field@toks>%
12603   }%
12604 \fi
12605 }
12606 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12607   \def\Fld@name{#2}%
12608   \def\Fld@default{#3}%
12609   \let\Hy@reserved@a\relax
12610   \begingroup
12611     \expandafter\Fld@findlength#3\%
12612     \Field@toks={ }%
12613     \kvsetkeys{Field}{#1}%
12614     #2%
12615     \ifFld@radio
12616       \expandafter\@@Radio#3\%
12617     \else
12618       \expandafter\@@Menu#3\%
12619     \fi
12620   \endgroup
12621 }
12622 \def\Fld@findlength#1\%
12623   \Fld@menulength=0 %
12624   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12625 }
12626 \def\@@Menu#1\%
12627   \HCode{<select size="\the\Fld@menulength" %
12628     name="\Fld@name" %
12629     \the\Field@toks>%
12630   }%
12631   \@for\@curropt:=#1\do{%
12632     \expandafter\Fld@checkequals\@curropt==\%
12633     \HCode{<option %
12634       \ifx\@curropt\Fld@default selected \fi
12635       value="\@currValue">\@currDisplay</option>%
12636     }%
12637   }%
12638   \HCode{</select>}%

```

```

12639 }
12640 \def\@@Radio#1\{\%
12641 \@for\@curropt:=#1\do{\%
12642 \expandafter\Fld@checkequals\@curropt==\%
12643 \HCode{\<input type="radio" \%
12644 \ifx\@curropt\Fld@default checked \fi
12645 name="\Fld@name" \%
12646 value="\@currValue" \%
12647 \the\Fld@toks>\%
12648 }%
12649 \@currDisplay
12650 }%
12651 }
12652 \def\@PushButton[#1]#2{\% parameters, label
12653 \def\Fld@name{#2}\%
12654 \bgroup
12655 \Fld@toks={ }%
12656 \kvsetkeys{Field}{#1}%
12657 \HCode{\<input type="button" \%
12658 name="\Fld@name" \%
12659 value="#2" \%
12660 \the\Fld@toks>\%
12661 }%
12662 \HCode{\</button>}\%
12663 \egroup
12664 }
12665 \def\@Submit[#1]#2{\%
12666 \HCode{\<button type="submit">#2</button>}\%
12667 }
12668 \def\@Reset[#1]#2{\%
12669 \HCode{\<button type="reset">#2</button>}\%
12670 }
12671 \def\@CheckBox[#1]#2{\% parameters, label
12672 \let\Hy@reserved@a\@empty
12673 \def\Fld@name{#2}\%
12674 \def\Fld@default{0}\%
12675 \bgroup
12676 \Fld@toks={ }%
12677 \kvsetkeys{Field}{#1}%
12678 \HCode{\<input type="checkbox" \%
12679 \ifFld@checked checked \fi
12680 \ifFld@disabled disabled \fi
12681 \ifFld@readonly readonly \fi
12682 name="\Fld@name" \%
12683 \ifFld@hidden type="hidden" \fi
12684 value="\Fld@default" \%
12685 \the\Fld@toks>\%
12686 #2%
12687 }%
12688 \egroup
12689 }
12690 \</tex4ht>

```

47.4 pdfTeX

```

12691 \<*pdfTeX>
12692 \def\@Gauge[#1]#2#3#4{\% parameters, label, minimum, maximum
12693 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}\%

```



```

12694 }
12695 \def\MakeFieldObject#1#2{\sbox0{#1}%
12696 \immediate\pdfxform0 %
12697 \expandafter\edef\csname #2Object\endcsname{%
12698 \the\pdfastxform\space 0 R%
12699 }%
12700 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12701 }%
12702 \def\HyField@afields{}
12703 \begingroup\expandafter\expandafter\expandafter\endgroup
12704 \expandafter\ifx\csname pdfastlink\endcsname\relax
12705 \let\HyField@AddToFields\relax
12706 \PackageInfo{hyperref}{%
12707 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12708 \MessageBreak
12709 Adobe Reader/Acrobat accepts an empty /Field array,%
12710 \MessageBreak
12711 but other PDF viewers might complain%
12712 }%
12713 \else
12714 \def\HyField@AuxAddToFields#1{%
12715 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12716 \Hy@AtBeginDocument{%
12717 \if@filesw
12718 \immediate\write\@mainaux{%
12719 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12720 }%
12721 \fi
12722 \let\HyField@AfterAuxOpen\@firstofone
12723 \def\HyField@AuxAddToFields#1{%
12724 \xdef\HyField@afields{%
12725 \ifx\HyField@afields\@empty
12726 \else
12727 \HyField@afields
12728 \space
12729 \fi
12730 #1 0 R%
12731 }%
12732 }%
12733 }%
12734 \def\HyField@AddToFields{%
12735 \expandafter\HyField@@AddToFields\expandafter{%
12736 \the\pdfastlink
12737 }%
12738 }%
12739 \def\HyField@@AddToFields#1{%
12740 \HyField@AfterAuxOpen{%
12741 \if@filesw
12742 \write\@mainaux{%
12743 \string\HyField@AuxAddToFields{#1}%
12744 }%
12745 \fi
12746 }%
12747 }%
12748 \fi
12749 \def\@Form[#1]{%
12750 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%

```

```

12751 \kvsetkeys{Form}{#1}%
12752 \pdf@ifdraftmode{}{%
12753   \Hy@FormObjects
12754   \ifnum\pdfTeXversion>13 %
12755     \pdfrefobj\OBJ@pdfdocencoding
12756     \pdfrefobj\OBJ@ZaDb
12757     \pdfrefobj\OBJ@Helv
12758   \fi
12759   \AtVeryEndDocument{%
12760     \immediate\pdfobj{%
12761       <<%
12762       /Fields[\HyField@afields]%
12763       /DR<<%
12764       /Font<<%
12765         /ZaDb \OBJ@ZaDb\space 0 R%
12766         /Helv \OBJ@Helv\space 0 R%
12767       >>%
12768       >>%
12769       /DA(/Helv 10 Tf 0 g)%
12770       \ifHy@pdfa
12771       \else
12772         \ifHyField@NeedAppearances
12773         /NeedAppearances true%
12774       \fi
12775       \fi
12776     >>%
12777   }%
12778   \edef\OBJ@acroform{\the\pdfastobj}%
12779   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12780 }%
12781 }%
12782 \MakeFieldObject{%

Same as \ding{123} of package pifont.
12783   \begingroup
12784   \fontfamily{pzd}%
12785   \fontencoding{U}%
12786   \fontseries{m}%
12787   \fontshape{n}%
12788   \selectfont
12789   \char123 %
12790   \endgroup
12791 }{Ding}%
12792 \MakeFieldObject{%
12793   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12794 }{Submit}%
12795 \MakeFieldObject{%
12796   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12797 }{SubmitP}%
12798 }
12799 \def\@endForm{}
12800 \def\@TextField[#1]#2{% parameters, label
12801   \def\Fld@name{#2}%
12802   \def\Fld@default{}%
12803   \let\Fld@value\@empty
12804   \def\Fld@width{\DefaultWidthofText}%
12805   \def\Fld@height{%
12806     \ifFld@multiline

```

```

12807     \DefaultHeightofTextMultiline
12808     \else
12809     \DefaultHeightofText
12810     \fi
12811 }%
12812 \begingroup
12813 \expandafter\HyField@SetKeys\expandafter{%
12814     \DefaultOptionsofText,#1%
12815 }%
12816 \PDFForm@Name
12817 \HyField@FlagsText
12818 \ifFld@hidden\def\Fld@width{1sp}\fi
12819 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12820 \LayoutTextField{#2}{%
12821     \Hy@escapeform\PDFForm@Text
12822     \pdfstartlink user {\PDFForm@Text}\relax
12823     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12824     \HyField@AddToFields
12825 }%
12826 \endgroup
12827 }
12828 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12829     \def\Fld@name{#2}%
12830     \let\Fld@default\relax
12831     \let\Fld@value\relax
12832     \def\Fld@width{\DefaultWidthofChoiceMenu}%
12833     \def\Fld@height{\DefaultHeightofChoiceMenu}%
12834     \begingroup
12835     \Fld@menulength=0 %
12836     \@tempdima\z@
12837     \@for\@curropt:=#3\do{%
12838         \expandafter\Fld@checkequals\@curropt==\%
12839         \Hy@StepCount\Fld@menulength
12840         \settowidth{\@tempdimb}{\@currDisplay}%
12841         \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12842     }%
12843     \advance\@tempdima by 15\p@
12844     \begingroup
12845     \HyField@SetKeys{#1}%
12846     \edef\x{\endgroup
12847     \noexpand\expandafter
12848     \noexpand\HyField@SetKeys
12849     \noexpand\expandafter{%
12850     \expandafter\noexpand\curname DefaultOptionsof%
12851     \ifFld@radio
12852         Radio%
12853     \else
12854     \ifFld@combo
12855         \ifFld@popdown
12856             PopdownBox%
12857         \else
12858             ComboBox%
12859         \fi
12860     \else
12861         ListBox%
12862     \fi
12863     \fi

```

```

12864     \endcsname
12865     }%
12866 } \x
12867 \HyField@SetKeys{#1}%
12868 \PDFForm@Name
12869 \ifFld@hidden\def\Fld@width{1sp}\fi
12870 \ifx\Fld@value\relax
12871     \let\Fld@value\Fld@default
12872 \fi
12873 \LayoutChoiceField{#2}{%
12874     \ifFld@radio
12875         \HyField@FlagsRadioButton
12876         \@@Radio{#3}%
12877     \else
12878         \beginngroup
12879         \HyField@FlagsChoice
12880         \ifdim\Fld@width<\@tempdima
12881             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12882             \edef\Fld@width{\the\@tempdima}%
12883         \fi
12884         \ifFld@combo
12885         \else
12886             \@tempdima=\the\Fld@menulength\Fld@charsize
12887             \advance\@tempdima by \Fld@borderwidth bp %
12888             \advance\@tempdima by \Fld@borderwidth bp %
12889             \edef\Fld@height{\the\@tempdima}%
12890         \fi
12891         \@@ListBox{#3}%
12892     \endgroup
12893 \fi
12894 }%
12895 \endgroup
12896 }
12897 \def\@@Radio#1{%
12898     \Fld@listcount=0 %
12899     \EdefEscapeName\Fld@default{\Fld@default}%
12900     \@for\@curropt=#1\do{%
12901         \expandafter\Fld@checkequals\@curropt==\%
12902         \EdefEscapeName\@currValue{\@currValue}%
12903         \Hy@StepCount\Fld@listcount
12904         \@currDisplay\space
12905         \leavevmode
12906         \Hy@escapeform\PDFForm@Radio
12907         \pdfstartlink user {%
12908             \PDFForm@Radio
12909             /AP<<%
12910             /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.

```

12911         /\@currValue\space \DingObject
12912         >>%
12913     >>%
12914 }%
12915 \relax
12916 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12917 \ifnum\Fld@listcount=1 %

```

```

12918     \HyField@AddToFields
12919     \fi
12920     \space % deliberate space between radio buttons
12921 }%
12922 }
12923 \newcount\Fld@listcount
12924 \def\@@ListBox#1{%
12925   \HyField@PDFChoices{#1}%
12926   \leavevmode
12927   \Hy@escapeform\PDFForm@List
12928   \pdfstartlink user {\PDFForm@List}\relax
12929   \MakeChoiceField{\Fld@width}{\Fld@height}%
12930   \pdfendlink
12931   \HyField@AddToFields
12932 }
12933 \def\@PushButton[#1]#2{% parameters, label
12934   \def\Fld@name{#2}%
12935   \begingroup
12936     \expandafter\HyField@SetKeys\expandafter{%
12937       \DefaultOptionsofPushButton,#1%
12938     }%
12939     \PDFForm@Name
12940     \ifHy@pdfa
12941       \Hy@Error{%
12942         PDF/A: Push button with JavaScript is prohibited%
12943       }\@ehc
12944       \LayoutPushButtonField{%
12945         \leavevmode
12946         \MakeButtonField{#2}%
12947       }%
12948     \else
12949       \HyField@FlagsPushButton
12950       \ifFld@hidden\def\Fld@width{1sp}\fi
12951       \LayoutPushButtonField{%
12952         \leavevmode
12953         \Hy@escapeform\PDFForm@Push
12954         \pdfstartlink user {\PDFForm@Push}\relax
12955         \MakeButtonField{#2}%
12956         \pdfendlink
12957         \HyField@AddToFields
12958       }%
12959     \fi
12960   \endgroup
12961 }
12962 \def\@Submit[#1]#2{%
12963   \def\Fld@width{\DefaultWidthofSubmit}%
12964   \def\Fld@height{\DefaultHeightofSubmit}%
12965   \begingroup
12966     \expandafter\HyField@SetKeys\expandafter{%
12967       \DefaultOptionsofSubmit,#1%
12968     }%
12969     \HyField@FlagsPushButton
12970     \HyField@FlagsSubmit
12971     \ifFld@hidden\def\Fld@width{1sp}\fi
12972     \leavevmode
12973     \Hy@escapeform\PDFForm@Submit
12974     \pdfstartlink user {%

```

```

12975 \PDFForm@Submit
12976 /AP<</N \SubmitObject/D \SubmitPObject>>%
12977 }%
12978 \relax
12979 \MakeButtonField{#2}%
12980 \pdfendlink
12981 \HyField@AddToFields
12982 \endgroup
12983 }
12984 \def\@Reset[#1]#2{%
12985 \def\Fld@width{\DefaultWidthofReset}%
12986 \def\Fld@height{\DefaultHeightofReset}%
12987 \begingroup
12988 \expandafter\HyField@SetKeys\expandafter{%
12989 \DefaultOptionsofReset,#1%
12990 }%
12991 \leavevmode
12992 \ifHy@pdfa
12993 \Hy@Error{%
12994 PDF/A: Reset action is prohibited%
12995 }\@ehc
12996 \MakeButtonField{#2}%
12997 \else
12998 \HyField@FlagsPushButton
12999 \ifFld@hidden\def\Fld@width{1sp}\fi
13000 \Hy@escapeform\PDFForm@Reset
13001 \pdfstartlink user {\PDFForm@Reset}\relax
13002 \MakeButtonField{#2}%
13003 \pdfendlink
13004 \HyField@AddToFields
13005 \fi
13006 \endgroup
13007 }
13008 \def\@CheckBox[#1]#2{% parameters, label
13009 \def\Fld@name{#2}%
13010 \def\Fld@default{0}%
13011 \begingroup
13012 \def\Fld@width{\DefaultWidthofCheckBox}%
13013 \def\Fld@height{\DefaultHeightofCheckBox}%
13014 \expandafter\HyField@SetKeys\expandafter{%
13015 \DefaultOptionsofCheckBox,#1%
13016 }%
13017 \PDFForm@Name
13018 \HyField@FlagsCheckBox
13019 \ifFld@hidden\def\Fld@width{1sp}\fi
13020 \LayoutCheckField{#2}{%
13021 \Hy@escapeform\PDFForm@Check
13022 \pdfstartlink user {\PDFForm@Check}\relax
13023 \MakeCheckField{\Fld@width}{\Fld@height}%
13024 \pdfendlink
13025 \HyField@AddToFields
13026 }%
13027 \endgroup
13028 }
13029 \def\Hy@FormObjects{%
13030 \pdfobj {%
13031 <<%

```

13032 /Type/Encoding%
13033 /Differences[%
13034 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13035 /ring/tilde %
13036 39/quotesingle %
13037 96/grave %
13038 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13039 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13040 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13041 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13042 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13043 164/currency %
13044 166/brokenbar %
13045 168/dieresis/copyright/ordfeminine %
13046 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13047 /twosuperior/threesuperior/acute/mu %
13048 183/periodcentered/cedilla/onesuperior/ordmasculine %
13049 188/onequarter/onehalf/threequarters %
13050 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13051 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13052 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13053 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13054 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13055 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13056 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13057 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13058 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13059 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13060]%
13061 >>%
13062 }%
13063 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13064 \pdfobj{%
13065 <<%
13066 /Type/Font%
13067 /Subtype/Type1%
13068 /Name/ZaDb%
13069 /BaseFont/ZapfDingbats%
13070 >>%
13071 }%
13072 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13073 \pdfobj{%
13074 <<%
13075 /Type/Font%
13076 /Subtype/Type1%
13077 /Name/Helv%
13078 /BaseFont/Helvetica%
13079 /Encoding \OBJ@pdfdocencoding\space 0 R%
13080 >>%
13081 }%
13082 \xdef\OBJ@Helv{\the\pdflastobj}%
13083 \global\let\Hy@FormObjects\relax
13084 }
13085 \pdfTeX)

47.5 dvipdfm, xetex

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13086 ⟨*dvipdfm | xetex⟩
```

```
\@Gauge
```

```
13087 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13088 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13089 }
```

```
\@Form
```

```
13090 \def\@Form[#1]{%
13091 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13092 \kvsetkeys{Form}{#1}%
13093 \Hy@FormObjects
13094 \@pdfm@mark{obj @afields []}%
13095 \@pdfm@mark{obj @corder []}%
13096 \@pdfm@mark{%
13097   obj @aform <<%
13098     /Fields @afields%
13099     /DR<<%
13100     /Font<<%
13101     /ZaDb @OBJZaDb%
13102     /Helv @OBJHelv%
13103     >>%
13104     >>%
13105     /DA(/Helv 10 Tf 0 g)%
13106     /CO @corder%
13107     \ifHy@pdfa
13108     \else
13109     \ifHyField@NeedAppearances
13110     /NeedAppearances true%
13111     \fi
13112     \fi
13113     >>%
13114   }%
13115 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13116 }
```

```
\@endForm
```

```
13117 \def\@endForm{}
```

```
\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
```

```
13118 \def\dvipdfm@setdim{%
13119   height \the\ht\pdfm@box\space
13120   width \the\wd\pdfm@box\space
13121   depth \the\dp\pdfm@box\space
13122 }
```

```
\HyField@AnnotCount
```

```
13123 \newcount\HyField@AnnotCount
13124 \HyField@AnnotCount=\z@
```

```
\HyField@AdvanceAnnotCount
```

```
13125 \def\HyField@AdvanceAnnotCount{%
```



```

13126 \global\advance\HyField@AnnotCount\@ne
13127 }

```

\HyField@TheAnnotCount

```

13128 \def\HyField@TheAnnotCount{%
13129 \the\HyField@AnnotCount
13130 }

```

\@TextField

```

13131 \def\@TextField[#1]#2{% parameters, label
13132 \def\Fld@name{#2}%
13133 \def\Fld@default{}}%
13134 \let\Fld@value\@empty
13135 \def\Fld@width{\DefaultWidthofText}%
13136 \def\Fld@height{%
13137 \ifFld@multiline
13138 \DefaultHeightofTextMultiline
13139 \else
13140 \DefaultHeightofText
13141 \fi
13142 }%
13143 \begingroup
13144 \expandafter\HyField@SetKeys\expandafter{%
13145 \DefaultOptionsofText,#1%
13146 }%
13147 \PDFForm@Name
13148 \HyField@FlagsText
13149 \ifFld@hidden\def\Fld@width{1sp}\fi
13150 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13151 \setbox\pdfm@box=\hbox{%
13152 \MakeTextField{\Fld@width}{\Fld@height}%
13153 }%
13154 \HyField@AdvanceAnnotCount
13155 \LayoutTextField{#2}{%
13156 \Hy@escapeform\PDFForm@Text
13157 \@pdfm@mark{%
13158 ann @text\HyField@TheAnnotCount\space
13159 \dvipdfm@setdim << \PDFForm@Text >>%
13160 }%
13161 }%
13162 \unhbox\pdfm@box
13163 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13164 % record in @afields array
13165 \endgroup
13166 }

```

\@ChoiceMenu

```

13167 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13168 \def\Fld@name{#2}%
13169 \let\Fld@default\relax
13170 \let\Fld@value\relax
13171 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13172 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13173 \begingroup
13174 \Fld@menulength=0 %
13175 \@tempdima\z@
13176 \@for\@curropt:=#3\do{%

```

```

13177 \expandafter\Fld@checkequals\@curropt==\%
13178 \Hy@StepCount\Fld@menulength
13179 \settowidth{\@tempdimb}{\@currDisplay}%
13180 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13181 }%
13182 \advance\@tempdima by 15\p@
13183 \begingroup
13184 \HyField@SetKeys{#1}%
13185 \edef\x{\endgroup
13186 \noexpand\expandafter
13187 \noexpand\HyField@SetKeys
13188 \noexpand\expandafter{%
13189 \expandafter\noexpand\csname DefaultOptionsof%
13190 \ifFld@radio
13191 Radio%
13192 \else
13193 \ifFld@combo
13194 \ifFld@popdown
13195 PopdownBox%
13196 \else
13197 ComboBox%
13198 \fi
13199 \else
13200 ListBox%
13201 \fi
13202 \fi
13203 \endcsname
13204 }%
13205 }\x
13206 \HyField@SetKeys{#1}%
13207 \PDFForm@Name
13208 \ifFld@hidden\def\Fld@width{1sp}\fi
13209 \ifx\Fld@value\relax
13210 \let\Fld@value\Fld@default
13211 \fi
13212 \LayoutChoiceField{#2}{%
13213 \ifFld@radio
13214 \HyField@FlagsRadioButton
13215 \@@Radio{#3}%
13216 \else
13217 \begingroup
13218 \HyField@FlagsChoice
13219 \ifdim\Fld@width<\@tempdima
13220 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13221 \edef\Fld@width{\the\@tempdima}%
13222 \fi
13223 \ifFld@combo
13224 \else
13225 \@tempdima=\the\Fld@menulength\Fld@charsize
13226 \advance\@tempdima by \Fld@borderwidth bp %
13227 \advance\@tempdima by \Fld@borderwidth bp %
13228 \edef\Fld@height{\the\@tempdima}%
13229 \fi
13230 \@@ListBox{#3}%
13231 \endgroup
13232 \fi
13233 }%

```

```
13234 \endgroup
13235 }
```

\@@Radio

```
13236 \def\@@Radio#1{%
13237   \Fld@listcount=0 %
13238   \EdefEscapeName\Fld@default{\Fld@default}%
13239   \setbox\pdfm@box=\hbox{%
13240     \MakeRadioField{\Fld@width}{\Fld@height}%
13241   }%
13242   \for\@curropt:=#1\do{%
13243     \expandafter\Fld@checkequals\@curropt==\%
13244     \EdefEscapeName\@currValue{\@currValue}%
13245     \Hy@StepCount\Fld@listcount
13246     \@currDisplay\space
13247     \leavevmode
13248     \Hy@escapeform\PDFForm@Radio
13249     \ifnum\Fld@listcount=1 %
13250       \HyField@AdvanceAnnotCount
13251     \fi
13252     \@pdfm@mark{%
13253       ann %
13254       \ifnum\Fld@listcount=1 %
13255         @radio\HyField@TheAnnotCount%
13256       \space
13257     \fi
13258     \dvi pdfm@setdim
13259     <<%
13260     \PDFForm@Radio
13261     /AP<</N<</\@currValue /null>>>>%
13262     >>%
13263   }%
13264   \unhcopy\pdfm@box\space% deliberate space between radio buttons
13265   \ifnum\Fld@listcount=1 %
13266     \@pdfm@mark{%
13267       put @afields @radio\HyField@TheAnnotCount
13268     }%
13269   \fi
13270 }%
13271 }
```

\Fld@listcount

```
13272 \newcount\Fld@listcount
```

\@@Listbox

```
13273 \def\@@Listbox#1{%
13274   \HyField@PDFChoices{#1}%
13275   \setbox\pdfm@box=\hbox{%
13276     \MakeChoiceField{\Fld@width}{\Fld@height}%
13277   }%
13278   \leavevmode
13279   \Hy@escapeform\PDFForm@List
13280   \HyField@AdvanceAnnotCount
13281   \@pdfm@mark{%
13282     ann @list\HyField@TheAnnotCount\space
13283     \dvi pdfm@setdim
13284     <<\PDFForm@List>>%

```

```

13285 }%
13286 \unhbox\pdfm@box
13287 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13288 }

```

\@PushButton

```

13289 \def\@PushButton[#1]#2{% parameters, label
13290 \def\Fld@name{#2}%
13291 \begingroup
13292 \expandafter\HyField@SetKeys\expandafter{%
13293 \DefaultOptionsofPushButton,#1%
13294 }%
13295 \PDFForm@Name
13296 \ifHy@pdfa
13297 \Hy@Error{%
13298 PDF/A: Push button with JavaScript is prohibited%
13299 }\@ehc
13300 \LayoutPushButtonField{%
13301 \leavevmode
13302 \MakeButtonField{#2}%
13303 }%
13304 \else
13305 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13306 \HyField@FlagsPushButton
13307 \ifFld@hidden\def\Fld@width{1sp}\fi
13308 \HyField@AdvanceAnnotCount
13309 \LayoutPushButtonField{%
13310 \leavevmode
13311 \Hy@escapeform\PDFForm@Push
13312 \@pdfm@mark{%
13313 ann @push\HyField@TheAnnotCount\space
13314 \dvipdfm@setdim
13315 <<\PDFForm@Push>>%
13316 }%
13317 }%
13318 \unhbox\pdfm@box
13319 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13320 \fi
13321 \endgroup
13322 }

```

\@Submit

```

13323 \def\@Submit[#1]#2{%
13324 \def\Fld@width{\DefaultWidthofSubmit}%
13325 \def\Fld@height{\DefaultHeightofSubmit}%
13326 \begingroup
13327 \expandafter\HyField@SetKeys\expandafter{%
13328 \DefaultOptionsofSubmit,#1%
13329 }%
13330 \HyField@FlagsPushButton
13331 \HyField@FlagsSubmit
13332 \ifFld@hidden\def\Fld@width{1sp}\fi
13333 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13334 \leavevmode
13335 \Hy@escapeform\PDFForm@Submit
13336 \HyField@AdvanceAnnotCount
13337 \@pdfm@mark{%

```

```

13338   ann @submit\HyField@TheAnnotCount\space
13339   \dvipdfm@setdim
13340   <<\PDFForm@Submit>>%
13341   }%
13342   \unhbox\pdfm@box%
13343   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13344 \endgroup
13345 }

```

\@Reset

```

13346 \def\@Reset[#1]#2{%
13347   \def\Fld@width{\DefaultWidthofReset}%
13348   \def\Fld@height{\DefaultHeightofReset}%
13349   \begingroup
13350   \expandafter\HyField@SetKeys\expandafter{%
13351     \DefaultOptionsofReset,#1%
13352   }%
13353   \leavevmode
13354   \ifHy@pdfa
13355     \Hy@Error{%
13356       PDF/A: Reset action is prohibited%
13357     }\@ehc
13358     \MakeButtonField{#2}%
13359   \else
13360     \HyField@FlagsPushButton
13361     \ifFld@hidden\def\Fld@width{1sp}\fi
13362     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13363     \Hy@escapeform\PDFForm@Reset
13364     \HyField@AdvanceAnnotCount
13365     \@pdfm@mark{%
13366       ann @reset\HyField@TheAnnotCount\space
13367       \dvipdfm@setdim
13368       <<\PDFForm@Reset>>%
13369     }%
13370     \unhbox\pdfm@box
13371     \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13372   \fi
13373 \endgroup
13374 }

```

\@CheckBox

```

13375 \def\@CheckBox[#1]#2{% parameters, label
13376   \def\Fld@name{#2}%
13377   \def\Fld@default{0}%
13378   \begingroup
13379   \def\Fld@width{\DefaultWidthofCheckBox}%
13380   \def\Fld@height{\DefaultHeightofCheckBox}%
13381   \expandafter\HyField@SetKeys\expandafter{%
13382     \DefaultOptionsofCheckBox,#1%
13383   }%
13384   \PDFForm@Name
13385   \HyField@FlagsCheckBox
13386   \ifFld@hidden\def\Fld@width{1sp}\fi
13387   \setbox\pdfm@box=\hbox{%
13388     \MakeCheckBox{\Fld@width}{\Fld@height}%
13389   }%
13390   \HyField@AdvanceAnnotCount

```

```

13391 \LayoutCheckField{#2}{%
13392 \Hy@escapeform\PDFForm@Check
13393 \@pdfm@mark{%
13394   ann @check\HyField@TheAnnotCount\space
13395   \dvipdfm@setdim
13396   <<\PDFForm@Check>>%
13397   }%
13398   \unhbox\pdfm@box
13399   \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13400   }%
13401 \endgroup
13402 }

13403 \def\Hy@FormObjects{%
13404 \@pdfm@mark{obj @OBJpdfdocencoding%
13405 <<%
13406 /Type/Encoding%
13407 /Differences[%
13408   24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13409   39/quotesingle %
13410   96/grave %
13411   128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13412   /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13413   /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13414   /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13415   /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13416   164/currency %
13417   166/brokenbar %
13418   168/dieresis/copyright/ordfeminine %
13419   172/logicalnot/.notdef/registered/macron/degree/plusminus%
13420   /twosuperior/threesuperior/acute/mu %
13421   183/periodcentered/cedilla/onesuperior/ordmasculine %
13422   188/onequarter/onehalf/threequarters %
13423   192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13424   /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13425   /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13426   /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13427   /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13428   /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13429   /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13430   /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13431   /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13432   /thorn/ydieresis%
13433   ]%
13434   >>%
13435   }%
13436 \@pdfm@mark{obj @OBJZaDb%
13437 <<%
13438   /Type/Font%
13439   /Subtype/Type1%
13440   /Name/ZaDb%
13441   /BaseFont/ZapfDingbats%
13442   >>%
13443   }%
13444 \@pdfm@mark{obj @OBJHelv%
13445 <<%
13446   /Type/Font%
13447   /Subtype/Type1%

```

```

13448 /Name/Helv%
13449 /BaseFont/Helvetica%
13450 /Encoding @OBJpdfdocencoding%
13451 >>%
13452 }%
13453 \global\let\Hy@FormObjects\relax
13454 }
13455 </dvipdfm | xetex>

```

47.6 Common forms part

```
13456 <*pdfform>
```

\Hy@escapestring

```

13457 \begingroup\expandafter\expandafter\expandafter\endgroup
13458 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13459 \let\Hy@escapestring\@firstofone
13460 \def\Hy@escapeform#1{%
13461 \ifHy@escapeform
13462 \def\Hy@escapestring##1{%
13463 \noexpand\Hy@escapestring{\noexpand##1}%
13464 }%
13465 \edef\Hy@temp{#1}%
13466 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13467 \def\Hy@escapestring##1{%
13468 \@ifundefined{Hy@esc@\string##1}{%
13469 ##1%
13470 \ThisShouldNotHappen
13471 }{%
13472 \csname Hy@esc@\string##1\endcsname
13473 }%
13474 }%
13475 \else
13476 \let\Hy@escapestring\@firstofone
13477 \fi
13478 }%
13479 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13480 \ifx\#3\%
13481 \else
13482 \expandafter
13483 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13484 \Hy@ReturnAfterFi{%
13485 \Hy@@escapeform#3\@nil
13486 }%
13487 \fi
13488 }%
13489 \else
13490 \def\Hy@escapeform#1{%
13491 \ifHy@escapeform
13492 \let\Hy@escapestring\pdfescapestring
13493 \else
13494 \let\Hy@escapestring\@firstofone
13495 \fi
13496 }%
13497 \Hy@escapeform}%
13498 \fi

```

\PDFForm@Name

```
13499 \def\PDFForm@Name{%
13500 \PDFForm@@Name\Fld@name
13501 \ifx\Fld@altname\relax
13502 \else
13503 \PDFForm@@Name\Fld@altname
13504 \fi
13505 \ifx\Fld@mappingname\relax
13506 \else
13507 \PDFForm@@Name\Fld@mappingname
13508 \fi
13509 }
```

\PDFForm@@Name

```
13510 \def\PDFForm@@Name#1{%
13511 \begingroup
13512 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13513 \ifHy@unicode
13514 \Hy@unicodefalse
13515 \fi
13516 \fi
13517 \HyPsd@XeTeXBigCharstrue
13518 \pdfstringdef\Hy@gtemp#1%
13519 \endgroup
13520 \let#1\Hy@gtemp
13521 }
```

\Fld@additionalactions

```
13522 \def\Fld@@additionalactions{%
K input (keystroke) format
13523 \ifx\Fld@keystroke@code\@empty
13524 \else
13525 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13526 \fi
F display format
13527 \ifx\Fld@format@code\@empty
13528 \else
13529 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13530 \fi
V validation
13531 \ifx\Fld@validate@code\@empty
13532 \else
13533 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13534 \fi
C calculation
13535 \ifx\Fld@calculate@code\@empty
13536 \else
13537 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13538 \fi
Fo receiving the input focus
13539 \ifx\Fld@onfocus@code\@empty
13540 \else
13541 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13542 \fi
```


Blousing the input focus (blurred)

```
13543 \ifx\Fld@onblur@code\@empty
13544 \else
13545 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13546 \fi
```

D pressing the mouse button (down)

```
13547 \ifx\Fld@onmousedown@code\@empty
13548 \else
13549 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13550 \fi
```

U releasing the mouse button (up)

```
13551 \ifx\Fld@onmouseup@code\@empty
13552 \else
13553 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13554 \fi
```

E cursor enters the annotation's active area.

```
13555 \ifx\Fld@onenter@code\@empty
13556 \else
13557 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13558 \fi
```

X cursor exits the annotation's active area.

```
13559 \ifx\Fld@onexit@code\@empty
13560 \else
13561 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13562 \fi
13563 }
13564 \def\Fld@additionalactions{%
13565 \if\Fld@@additionalactions-%
13566 \else
13567 \ifHy@pdfa
13568 \else
13569 /AA<<\Fld@@additionalactions>>%
13570 \fi
13571 \fi
13572 }
```

\Fld@annotnames

```
13573 \def\Fld@annotnames{%
13574 /T(\Fld@name)%
13575 \ifx\Fld@altname\relax
13576 \else
13577 /TU(\Fld@altname)%
13578 \fi
13579 \ifx\Fld@mappingname\relax
13580 \else
13581 /TM(\Fld@mappingname)%
13582 \fi
13583 }
```

\PDFForm@Check

```
13584 \def\PDFForm@Check{%
13585 /Subtype/Widget%
13586 \Fld@annotflags
13587 \Fld@annotnames
```

```

13588 /FT/Btn%
13589 \Fld@flags
13590 /Q \Fld@align
13591 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13592 /MK<<%
13593 \ifnum\Fld@rotation=\z@
13594 \else
13595 /R \Fld@rotation
13596 \fi
13597 \ifx\Fld@bordercolor\relax
13598 \else
13599 /BC[\Fld@bordercolor]%
13600 \fi
13601 \ifx\Fld@bcolor\relax
13602 \else
13603 /BG[\Fld@bcolor]%
13604 \fi
13605 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13606 >>%
13607 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13608 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13609 /H/P%
13610 \ifFld@checked /V/Yes\else /V/Off\fi
13611 \Fld@additionalactions
13612 }

```

\PDFForm@Push

```

13613 \ifHy@pdfa
13614 \else
13615 \def\PDFForm@Push{%
13616 /Subtype/Widget%
13617 \Fld@annotflags
13618 \Fld@annotnames
13619 /FT/Btn%
13620 \Fld@flags
13621 /H/P%
13622 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13623 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13624 \ifx\Fld@bordercolor\relax\else 1\fi
13625 \space
13626 \else
13627 /MK<<%
13628 \ifnum\Fld@rotation=\z@
13629 \else
13630 /R \Fld@rotation
13631 \fi
13632 \ifx\Fld@bordercolor\relax
13633 \else
13634 /BC[\Fld@bordercolor]%
13635 \fi
13636 >>%
13637 \fi
13638 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13639 \Fld@additionalactions
13640 }%
13641 \fi

```

\PDFForm@List

```
13642 \def\PDFForm@List{%
13643 /Subtype/Widget%
13644 \Fld@annotflags
13645 \Fld@annotnames
13646 /FT/Ch%
13647 \Fld@flags
13648 /Q \Fld@align
13649 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13650 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13651     \ifx\Fld@bordercolor\relax\else 1\fi
13652     \ifx\Fld@bcolor\relax \else 1\fi
13653     \space
13654 \else
13655 /MK<<%
13656     \ifnum\Fld@rotation=\z@
13657     \else
13658     /R \Fld@rotation
13659     \fi
13660     \ifx\Fld@bordercolor\relax
13661     \else
13662     /BC[\Fld@bordercolor]%
13663     \fi
13664     \ifx\Fld@bcolor\relax
13665     \else
13666     /BG[\Fld@bcolor]%
13667     \fi
13668     >>%
13669 \fi
13670 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13671     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13672 \Fld@choices
13673 \Fld@additionalactions
13674 }
```

\PDFForm@Radio

```
13675 \def\PDFForm@Radio{%
13676 /Subtype/Widget%
13677 \Fld@annotflags
13678 \Fld@annotnames
13679 /FT/Btn%
13680 \Fld@flags
13681 /H/P%
13682 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13683 /MK<<%
13684     \ifnum\Fld@rotation=\z@
13685     \else
13686     /R \Fld@rotation
13687     \fi
13688     \ifx\Fld@bordercolor\relax
13689     \else
13690     /BC[\Fld@bordercolor]%
13691     \fi
13692     \ifx\Fld@bcolor\relax
13693     \else
13694     /BG[\Fld@bcolor]%
13695     \fi
```

```

13696 /CA(\Fld@radiosymbol)%
13697 >>%
13698 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13699 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13700 \ifx\@currValue\Fld@default
13701 /V/\Fld@default
13702 /DV/\Fld@default
13703 \else
13704 /V/Off%
13705 /DV/Off%
13706 \fi
13707 \Fld@additionalactions
13708 }

```

\PDFForm@Text

```

13709 \def\PDFForm@Text{%
13710 /Subtype/Widget%
13711 \Fld@annotflags
13712 \Fld@annotnames
13713 /FT/Tx%
13714 \Fld@flags
13715 /Q \Fld@align
13716 /BS<</W \Fld@borderwidth\space /S \Fld@borderstyle>>%
13717 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13718 \ifx\Fld@bordercolor\relax\else 1\fi
13719 \ifx\Fld@bcolor\relax \else 1\fi
13720 \space
13721 \else
13722 /MK<<%
13723 \ifnum\Fld@rotation=\z@
13724 \else
13725 /R \Fld@rotation
13726 \fi
13727 \ifx\Fld@bordercolor\relax
13728 \else
13729 /BC[\Fld@bordercolor]%
13730 \fi
13731 \ifx\Fld@bcolor\relax
13732 \else
13733 /BG[\Fld@bcolor]%
13734 \fi
13735 >>%
13736 \fi
13737 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13738 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13739 /DV(\Hy@escapestring{\Fld@default})%
13740 /V(\Hy@escapestring{\Fld@value})%
13741 \Fld@additionalactions
13742 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13743 }

```

\PDFForm@Submit

```

13744 \def\PDFForm@Submit{%
13745 /Subtype/Widget%
13746 \Fld@annotflags
13747 \Fld@annotnames
13748 /FT/Btn%

```

```

13749 \Fld@flags
13750 /H/P%
13751 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13752 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13753     \ifx\Fld@bordercolor\relax\else 1\fi
13754     \space
13755 \else
13756 /MK<<%
13757     \ifnum\Fld@rotation=\z@
13758     \else
13759     /R \Fld@rotation
13760     \fi
13761     \ifx\Fld@bordercolor\relax
13762     \else
13763     /BC[\Fld@bordercolor]%
13764     \fi
13765 >>%
13766 \fi
13767 /A<<%
13768 /S/SubmitForm%
13769 /F<<%
13770 /FS/URL%
13771 /F(\Hy@escapestring{\Form@action})%
13772 >>%
13773 \Fld@submitflags
13774 >>%
13775 \Fld@additionalactions
13776 }

```

\PDFForm@Reset

```

13777 \ifHy@pdfa
13778 \else
13779 \def\PDFForm@Reset{%
13780 /Subtype/Widget%
13781 \Fld@annotflags
13782 \Fld@annotnames
13783 /FT/Btn%
13784 \Fld@flags
13785 /H/P%
13786 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13787 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13788     \ifx\Fld@bordercolor\relax\else 1\fi
13789     \space
13790 \else
13791 /MK<<%
13792     \ifnum\Fld@rotation=\z@
13793     \else
13794     /R \Fld@rotation
13795     \fi
13796     \ifx\Fld@bordercolor\relax
13797     \else
13798     /BC[\Fld@bordercolor]%
13799     \fi
13800 % /CA (Clear)
13801 % /AC (Done)
13802 >>%
13803 \fi

```

```

13804 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13805 /A<</S/ResetForm>>%
13806 \Fld@additionalactions
13807 }%
13808 \fi

13809 </pdfform>
13810 <*package>

```

48 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`

```

13811 \def\phantomsection{%
13812 \Hy@MakeCurrentHrefAuto{section*}%
13813 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13814 }
13815 </package>

```

48.1 Bookmarks

```
13816 <*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.

```

13817 \def\Hy@writebookmark#1#2#3#4#5{%
13818 % section number, text, label, level, file
13819 \ifx\WriteBookmarks\relax%
13820 \else
13821 \ifnum#4>\Hy@bookmarksdepth\relax
13822 \else
13823 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13824 \fi
13825 \fi
13826 }
13827 \def\Hy@currentbookmarklevel{0}
13828 \def\Hy@numberline#1{#1 }
13829 \def\@@writetorep#1#2#3#4#5{%

```

```

13830 \begingroup
13831 \edef\Hy@tempa{#5}%
13832 \ifx\Hy@tempa\Hy@bookmarkstype
13833 \edef\Hy@level{#4}%
13834 \ifx\Hy@levelcheck Y%
13835 \@tempcnta\Hy@level\relax
13836 \advance\@tempcnta by -1 %
13837 \ifnum\Hy@currentbookmarklevel<\@tempcnta
13838 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13839 \advance\@tempcnta by 1 %
13840 \Hy@Warning{%
13841 Difference (\the\@tempcnta) between bookmark levels is %
13842 greater \MessageBreak than one, level fixed%
13843 }%
13844 \@tempcnta\Hy@currentbookmarklevel
13845 \advance\@tempcnta by 1 %
13846 \edef\Hy@level{\the\@tempcnta}%
13847 \fi
13848 \else
13849 \global\let\Hy@levelcheck Y%
13850 \fi
13851 \global\let\Hy@currentbookmarklevel\Hy@level
13852 \@tempcnta\Hy@level\relax
13853 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13854 \advance\@tempcnta by -1 %
13855 \edef\Hy@tempa{#3}%
13856 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13857 \ifx\Hy@tempa\Hy@tempb
13858 \Hy@Warning{%
13859 The anchor of a bookmark and its parent's must not%
13860 \MessageBreak be the same. Added a new anchor%
13861 }%
13862 \phantomsection
13863 \fi
13864 \ifHy@bookmarksnumbered
13865 \let\numberline\Hy@numberline
13866 \let\booknumberline\Hy@numberline
13867 \let\partnumberline\Hy@numberline
13868 \let\chapternumberline\Hy@numberline
13869 \else
13870 \let\numberline\@gobble
13871 \let\booknumberline\@gobble
13872 \let\partnumberline\@gobble
13873 \let\chapternumberline\@gobble
13874 \fi
13875 \HyPsd@XeTeXBigCharstrue
13876 \pdfstringdef\Hy@tempa{#2}%
13877 \HyPsd@SanitizeForOutFile\Hy@tempa
13878 \if@filesw
13879 \stepcounter{bookmark@seq@number}%
13880 \@ifundefined{@outlinefile}{%
13881 }{%
13882 \protected@write\@outlinefile}{%
13883 \protect\BOOKMARK
13884 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13885 {\Hy@tempa}{\Hy@tempb}%
13886 \@percentchar\space\thebookmark@seq@number

```

```

13887     }%
13888     }%
13889     \fi
13890     \fi
13891 \endgroup
13892 }
13893 \newcounter{bookmark@seq@number}

13894 \begingroup
13895 \lccode'('= '{%
13896 \lccode')=' }%
13897 \lccode'1=\z@
13898 \lccode'2=\z@
13899 \lccode'3=\z@
13900 \lccode'5=\z@
13901 \lccode'7=\z@
13902 \lccode'\#=\z@
13903 \lccode'\='=\z@
13904 \lccode'\{=\z@
13905 \lccode'\}=\z@
13906 \lowercase{%
13907 \endgroup
13908 \def\HyPsd@SanitizeForOutFile#1{%
13909   \@onelevel@sanitize\Hy@tempa
13910   \escapechar'\%
13911   \edef\Hy@tempa{%
13912     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13913     }%
13914   \edef\Hy@tempa{%
13915     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13916     }%
13917   }%
13918 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13919   #1%
13920   \ifx\#2\%
13921     \expandafter\ltx@gobble
13922   \else
13923     \expandafter\ltx@firstofone
13924   \fi
13925   {%
13926     \string\173%
13927     \HyPsd@SanitizeOut@BraceLeft#2\@nil
13928   }%
13929 }%
13930 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13931   #1%
13932   \ifx\#2\%
13933     \expandafter\ltx@gobble
13934   \else
13935     \expandafter\ltx@firstofone
13936   \fi
13937   {%
13938     \string\175%
13939     \HyPsd@SanitizeOut@BraceRight#2\@nil
13940   }%
13941 }%
13942 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely,

that the level number contains].

```
13943 \newcommand{\currentpdfbookmark}{%
13944 \pdfbookmark{\Hy@currentbookmarklevel}%
13945 }
13946 \newcommand{\subpdfbookmark}{%
13947 \@tempcnta\Hy@currentbookmarklevel
13948 \Hy@StepCount\@tempcnta
13949 \expandafter\pdfbookmark\expandafter{\the\@tempcnta}%
13950 }
13951 \newcommand{\belowpdfbookmark}[2]{%
13952 \@tempcnta\Hy@currentbookmarklevel
13953 \Hy@StepCount\@tempcnta
13954 \expandafter\pdfbookmark\expandafter{\the\@tempcnta}{#1}{#2}%
13955 \advance\@tempcnta by -1 %
13956 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13957 }
```

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.

```
13958 \renewcommand\pdfbookmark[3][0]{%
13959 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
13960 \hyper@anchorstart{#3.#1}\hyper@anchorend
13961 }
13962 \def\BOOKMARK{%
13963 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
13964 }
13965 \def\@BOOKMARK[#1]{%
13966 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
13967 }
```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```
13968 \RequirePackage{rerunfilecheck}[2009/12/10]
13969 \def\Hy@OutlineRerunCheck{%
13970 \RerunFileCheck{\jobname.out}{%
13971 \immediate\closeout\@outlinefile
13972 }{%
13973 Rerun to get outlines right\MessageBreak
13974 or use package 'bookmark'%
13975 }%
13976 }
```

48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```
13977 <*vtex>
13978 \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.

```
13979 \begingroup
13980 \catcode'\ '=12 %
13981 \ifnum\Hy@VTeXversion<650 %
13982 \catcode'\ "=12 %
13983 \gdef\hv@pdf@char#1#2#3{%
13984 \char
13985 \ifcase'#1#2#3 %
13986 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13987 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13988 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13989 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13990 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13991 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13992 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13993 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13994 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13995 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13996 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13997 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13998 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13999 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14000 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14001 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14002 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14003 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14004 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14005 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14006 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14007 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14008 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14009 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14010 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14011 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14012 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14013 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14014 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14015 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14016 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14017 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14018 \fi
14019 }%
14020 \else
14021 \gdef\hv@pdf@char{\char'}%
14022 \fi
14023 \endgroup
```

\@@BOOKMARK

```
14024 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14025 \expandafter\edef\csname @count@#3\endcsname{%
14026 \the\@serial@counter
14027 }%
14028 \edef\@mycount{\the\@serial@counter}%
14029 \Hy@StepCount\@serial@counter
14030 \edef\@parcount{%
14031 \expandafter\ifx\csname @count@#5\endcsname\relax
14032 0%
```

```

14033 \else
14034 \csname @count@#5\endcsname
14035 \fi
14036 }%
14037 \immediate\special{%
14038 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14039 s=\ifx#2-c\else o\fi,t=#4%
14040 }%
14041 }%

```

\ReadBookmarks

```

14042 \def\ReadBookmarks{%
14043 \begingroup
14044 \def\0{\hv@pdf@char 0}%
14045 \def\1{\hv@pdf@char 1}%
14046 \def\2{\hv@pdf@char 2}%
14047 \def\3{\hv@pdf@char 3}%
14048 \def\({}%
14049 \def\)}%
14050 \def\do##1{%
14051 \ifnum\catcode'##1=\active
14052 \@makeother##1%
14053 \else
14054 \ifnum\catcode'##1=6 %
14055 \@makeother##1%
14056 \fi
14057 \fi
14058 }%
14059 \dospecials
14060 \Hy@safe@activetrue
14061 \InputIfFileExists{\jobname.out}{-}{-}%
14062 \endgroup
14063 \ifx\WriteBookmarks\relax
14064 \else
14065 \if@filesw
14066 \newwrite\@outlinefile
14067 \Hy@OutlineRerunCheck
14068 \immediate\openout\@outlinefile=\jobname.out\relax
14069 \ifHy@typexml
14070 \immediate\write\@outlinefile{<relaxxml>\relax}%
14071 \fi
14072 \fi
14073 \fi
14074 }

14075 </vtex>
14076 <*\vtex>
14077 \def\ReadBookmarks{%
14078 \pdf@ifdraftmode}{-}{-}%
14079 \begingroup
14080 \def\do##1{%
14081 \ifnum\catcode'##1=\active
14082 \@makeother##1%
14083 \else
14084 \ifnum\catcode'##1=6 %
14085 \@makeother##1%
14086 \fi

```

```

14087   \fi
14088 }%
14089 \dospecials
14090 \Hy@safe@activestruer
14091 \escapechar='\%
14092 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14093   \calc@bm@number{##5}%
14094 }%
14095 \InputIfFileExists{\jobname.out}{-}{-}%
14096 \ifx\WriteBookmarks\relax
14097   \global\let\WriteBookmarks\relax
14098 \fi
14099 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14100   \def\Hy@temp{##4}%
14101 <*pdftex>
14102   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14103   \Hy@OutlineName{\Hy@pstringName{
14104     ##2\check@bm@number{##3}}%
14105   }-%
14106   \expandafter\strip@prefix\meaning\Hy@temp
14107 }%
14108 </pdftex>
14109 <*pdfmark>
14110   \pdfmark{%
14111     pdfmark=/OUT,%
14112     Count={##2\check@bm@number{##3}},%
14113     Dest={##3},%
14114     Title=\expandafter\strip@prefix\meaning\Hy@temp
14115   }%
14116 </pdfmark>
14117 <*dvipdfm | xetex>
14118   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14119   \@pdfm@mark{%
14120     outline \ifHy@DvipdfmxOutlineOpen
14121       [%
14122         \ifnum##21>\z@
14123         \else
14124         -%
14125         \fi
14126         ] %
14127         \fi
14128         ##1<<%
14129         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14130         /A<<%
14131         /S/GoTo%
14132         /D(\Hy@pstringName)%
14133         >>%
14134         >>%
14135       }%
14136 </dvipdfm | xetex>
14137 }%
14138 \begingroup
14139   \def\WriteBookmarks{0}%
14140   \InputIfFileExists{\jobname.out}{-}{-}%
14141 \endgroup
14142 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14143 \endgroup

```

```

14144 }%
14145 \ifx\WriteBookmarks\relax
14146 \else
14147 \if@filesw
14148 \newwrite\@outlinefile
14149 \Hy@OutlineRerunCheck
14150 \immediate\openout\@outlinefile=\jobname.out\relax
14151 \ifHy@typexml
14152 \immediate\write\@outlinefile{<relaxxml>\relax}%
14153 \fi
14154 \fi
14155 \fi
14156 }
14157 <*pdftex>
14158 \def\Hy@OutlineName#1#2#3#4{%
14159 \pdfoutline goto name{#2}count#3{#4}%
14160 }
14161 </pdftex>
14162 \def\check@bm@number#1{%
14163 \expandafter\ifx\csname B_#1\endcsname\relax
14164 0%
14165 \else
14166 \csname B_#1\endcsname
14167 \fi
14168 }
14169 \def\calc@bm@number#1{%
14170 \@tempcnta=\check@bm@number{#1}\relax
14171 \advance\@tempcnta by 1 %
14172 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14173 }
14174 </!vtex>

14175 \ifHy@implicit
14176 \else
14177 \expandafter\endinput
14178 \fi

14179 </outlines>
14180 <*outlines | hypertex>

14181 \newlength\Hy@SectionHShift
14182 \def\Hy@SectionAnchorHref#1{%
14183 \ifx\protect\@typeset@protect
14184 \Hy@@@SectionAnchor{#1}%
14185 \fi
14186 }
14187 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14188 \leavevmode
14189 \hbox to 0pt{%
14190 \kern-\Hy@SectionHShift
14191 \Hy@raisedlink{%
14192 \hyper@anchorstart{#1}\hyper@anchorend
14193 }%
14194 \hss
14195 }%
14196 }
14197 \let\H@old@ssect\@ssect
14198 \def\@ssect#1#2#3#4#5{%
14199 \Hy@MakeCurrentHrefAuto{section*}%

```

```

14200 \setlength{\Hy@SectionHShift}{#1}%
14201 \begingroup
14202 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14203 \toks\tw@\expandafter{%
14204   \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14205   #5%
14206 }%
14207 \edef\x{\endgroup
14208   \the\toks@{\the\toks\tw@}}%
14209 }x
14210 }
14211 \let\H@old@schapter\@schapter
14212 \def\@schapter#1{%
14213   \begingroup
14214   \let\@mkboth\@gobbletwo
14215   \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14216   \Hy@raisedlink{%
14217     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14218   }%
14219   \endgroup
14220   \H@old@schapter{#1}%
14221 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

14222 \ltx@ifundefined{@chapter}{}{%
14223   \let\Hy@org@chapter\@chapter
14224   \def\@chapter{%
14225     \def\Hy@next{%
14226       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14227       \Hy@raisedlink{%
14228         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14229       }%
14230     }%
14231     \ifnum\c@secnumdepth>\m@ne
14232       \ltx@ifundefined{if@mainmatter}%
14233       \iftrue{\csname if@mainmatter\endcsname}%
14234       \let\Hy@next\relax
14235     \fi
14236     \fi
14237     \Hy@next
14238     \Hy@org@chapter
14239   }%
14240 }

14241 \let\H@old@part\@part
14242 \begingroup\expandafter\expandafter\expandafter\endgroup
14243 \expandafter\ifx\csname chapter\endcsname\relax
14244 \let\Hy@secnum@part\z@
14245 \else
14246 \let\Hy@secnum@part\m@ne
14247 \fi
14248 \def\@part{%
14249   \ifnum\Hy@secnum@part>\c@secnumdepth
14250     \phantomsection
14251   \fi
14252   \H@old@part

```

```

14253 }
14254 \let\H@old@spart\@spart
14255 \def\@spart#1{%
14256 \Hy@MakeCurrentHrefAuto{part*}%
14257 \Hy@raisedlink{%
14258 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14259 }%
14260 \H@old@spart{#1}%
14261 }
14262 \let\H@old@sect\@sect
14263 \def\@sect#1#2#3#4#5#6[#7]#8{%
14264 \ifnum #2>\c@secnumdepth
14265 \expandafter\@firstoftwo
14266 \else
14267 \expandafter\@secondoftwo
14268 \fi
14269 {%
14270 \Hy@MakeCurrentHrefAuto{section*}%
14271 \setlength{\Hy@SectionHShift}{#3}%
14272 \begingroup
14273 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14274 \toks\tw@\expandafter{%
14275 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14276 #8%
14277 }%
14278 \edef\x{\endgroup
14279 \the\toks@\the\toks\tw@}%
14280 }\x
14281 }{%
14282 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14283 }%
14284 }

14285 </outlines | hypertex>
14286 <*outlines>

14287 \expandafter\def\csname Parent-4\endcsname{}
14288 \expandafter\def\csname Parent-3\endcsname{}
14289 \expandafter\def\csname Parent-2\endcsname{}
14290 \expandafter\def\csname Parent-1\endcsname{}
14291 \expandafter\def\csname Parent0\endcsname{}
14292 \expandafter\def\csname Parent1\endcsname{}
14293 \expandafter\def\csname Parent2\endcsname{}
14294 \expandafter\def\csname Parent3\endcsname{}
14295 \expandafter\def\csname Parent4\endcsname{}

14296 </outlines>

```

49 Compatibility with koma-script classes

```
14297 <*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 ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

14298 \def\Hy@tempa{%
14299 \def\@addchap[##1]##2{%

```

```

14300 \typeout{##2}%
14301 \if@twoside
14302   \@mkboth{##1}{}%
14303 \else
14304   \@mkboth{}{##1}%
14305 \fi
14306 \addtocontents{lof}{\protect\addvspace{10\p@}}%
14307 \addtocontents{lot}{\protect\addvspace{10\p@}}%
14308 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14309 \Hy@raisedlink{%
14310   \hyper@anchorstart{\@currentHref}\hyper@anchorend
14311 }%
14312 \if@twocolumn
14313   \@topnewpage[\@makeschapterhead{##2}]%
14314 \else
14315   \@makeschapterhead{##2}%
14316   \@afterheading
14317 \fi
14318 \addcontentsline{toc}{chapter}{##1}%
14319 }%
14320 }
14321 \ifclassloaded{scrbook}{%
14322   \@ifclasslater{scrbook}{2001/01/01}{%
14323     \let\Hy@tempa\@empty
14324   }{}%
14325 }{%
14326   \@ifclassloaded{scrreprt}{%
14327     \@ifclasslater{scrreprt}{2001/01/01}{%
14328       \let\Hy@tempa\@empty
14329     }{}%
14330   }{}%
14331   \let\Hy@tempa\@empty
14332 }%
14333 }%
14334 \Hy@tempa
14335 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

14336 <*pd1enc>
14337 \DeclareFontEncoding{PD1}{}{}

Accents
14338 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14339 \DeclareTextAccent{\'}{PD1}{\textacute}
14340 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14341 \DeclareTextAccent{\~}{PD1}{\texttilde}
14342 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14343 \DeclareTextAccent{\r}{PD1}{\textring}
14344 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14345 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14346 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14347 \DeclareTextAccent{\=}{PD1}{\textasciimacron}

```



```

14348 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14349 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14350 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14351 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14352 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
14353 \DeclareTextCompositeCommand{\-}{PD1}{\@empty}{\texttilde}
14354 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14355 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14356 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14357 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14358 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14359 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14360 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14361 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14362 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14363 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14364 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
14365 \DeclareTextCompositeCommand{\-}{PD1}{\ }{\texttilde}
14366 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14367 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14368 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14369 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14370 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14371 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14372 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14373 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14374 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14375 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14376 \DeclareTextCommand{\newtie}{PD1}[1]{%
14377 \TextSymbolUnavailable{\newtie{#1}}#1%
14378 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14379 % U+0009 (CHARACTER TABULATION)
14380 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14381 % U+000A (LINE FEED)
14382 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14383 % U+000D (CARRIAGE RETURN)
14384 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14385 % U+02D8 BREVE; breve
14386 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14387 % U+02C7 CARON; caron
14388 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14389 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14390 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14391 % U+02D9 DOT ABOVE; dotaccent
14392 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14393 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14394 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14395 % U+02DB OGONEK; ogonek
14396 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14397 % U+02DA RING ABOVE; ring
14398 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14399 % U+02DC SMALL TILDE; ilde, *tilde
14400 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14401 % U+0022 QUOTATION MARK; quotedbl
14402 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14403 % U+0023 NUMBER SIGN; numbersign
14404 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14405 % U+0024 DOLLAR SIGN; dollar
14406 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14407 % U+0025 PERCENT SIGN; percent
14408 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14409 % U+0026 AMPERSAND; ampersand
14410 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
\047: U+0027 APOSTROPHE; quotesingle

14411 % U+0028 LEFT PARENTHESIS; parenleft
14412 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14413 % U+0029 RIGHT PARENTHESIS; parenright
14414 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14415 % U+002E FULL STOP; period
14416 \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
14417 % U+003C LESS-THAN SIGN; less
14418 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
\075: U+003D EQUALS SIGN; equal
14419 % U+003E GREATER-THAN SIGN; greater
14420 \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
14421 % U+005C REVERSE SOLIDUS; backslash
14422 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
\135: U+005D RIGHT SQUARE BRACKET; bracketright
14423 % U+005E CIRCUMFLEX ACCENT; asciicircum
14424 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
14425 % U+005F LOW LINE; underscore
14426 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
14427 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
14428 % U+0060 GRAVE ACCENT; grave
14429 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
\141: U+0061 LATIN SMALL LETTER A; a
...

\150: U+0068 LATIN SMALL LETTER H; h
 14430 % U+0069 LATIN SMALL LETTER I; i
 14431 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14432 % U+007B LEFT CURLY BRACKET; braceleft
 14433 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14434 % U+007C VERTICAL LINE; *bar, verticalbar
 14435 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14436 % U+007D RIGHT CURLY BRACKET; braceright
 14437 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14438 % U+007E TILDE; asciitilde
 14439 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14440 % U+2022 BULLET; bullet
 14441 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14442 % U+2020 DAGGER; dagger
 14443 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14444 % U+2021 DOUBLE DAGGER; daggerdbl
 14445 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14446 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14447 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14448 % U+2014 EM DASH; emdash
 14449 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14450 % U+2013 EN DASH; endash
 14451 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14452 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14453 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14454 % U+2044 FRACTION SLASH; fraction
 14455 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14456 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 -ingleft
 14457 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14458 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 -ingright
 14459 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14460 % U+2212 MINUS SIGN; minus
 14461 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14462 % U+2030 PER MILLE SIGN; perthousand
 14463 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14464 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14465 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14466 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14467 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14468 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14469 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14470 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14471 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14472 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14473 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14474 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14475 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14476 % U+2122 TRADE MARK SIGN; trademark
 14477 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14478 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14479 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01

14480 % U+FB02 LATIN SMALL LIGATURE FL; fl
14481 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14482 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14483 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14484 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14485 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14486 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14487 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14488 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14489 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
14490 \DeclareTextCommand{\IJ}{PD1}{\230}
14491 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14492 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14493 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14494 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14495 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14496 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14497 % U+0153 LATIN SMALL LIGATURE OE; oe
14498 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14499 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14500 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14501 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14502 \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.
14503 % U+20AC EURO SIGN; *Euro, euro
14504 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14505 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14506 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14507 % U+00A2 CENT SIGN; cent
14508 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14509 % U+00A3 POUND SIGN; sterling
14510 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14511 % U+00A4 CURRENCY SIGN; currency
14512 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14513 % U+00A5 YEN SIGN; yen
14514 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14515 % U+00A6 BROKEN BAR; brokenbar
14516 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14517 % U+00A7 SECTION SIGN; section
14518 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14519 % U+00A8 DIAERESIS; dieresis
14520 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14521 % U+00A9 COPYRIGHT SIGN; copyright
14522 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14523 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14524 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14525 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14526 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14527 % U+00AC NOT SIGN; logicalnot
14528 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14529 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14530 % U+00AE REGISTERED SIGN; registered
14531 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14532 % U+00AF MACRON; *macron, overscore

14533 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14534 % U+00B0 DEGREE SIGN; degree
14535 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14536 % U+00B1 PLUS-MINUS SIGN; plusminus
14537 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14538 % U+00B2 SUPERSCRIP T TWO; twosuperior
14539 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14540 % U+00B3 SUPERSCRIP T THREE; threesuperior
14541 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14542 % U+00B4 ACUTE ACCENT; acute
14543 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14544 % U+00B5 MICRO SIGN; mu, mu1
14545 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14546 % U+00B6 PILCROW SIGN; paragraph
14547 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14548 % U+00B7 MIDDLE DOT; middot, *periodcentered
14549 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14550 % U+00B8 CEDILLA; cedilla
14551 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14552 % U+00B9 SUPERSCRIP T ONE; onesuperior
14553 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14554 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14555 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14556 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
14557 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14558 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14559 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14560 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14561 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14562 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14563 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14564 % U+00BF INVERTED QUESTION MARK; questiondown
14565 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14566 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14567 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14568 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14569 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14570 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14571 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14572 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14573 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14574 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14575 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14576 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14577 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14578 % U+00C6 LATIN CAPITAL LETTER AE; AE
14579 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14580 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14581 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14582 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14583 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14584 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14585 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14586 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14587 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14588 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis

14589 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB
14590 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14591 \DeclareTextCompositeCommand{'}{PD1}{I}{\314}% U+00CC
14592 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14593 \DeclareTextCompositeCommand{'}{PD1}{I}{\315}% U+00CD
14594 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14595 \DeclareTextCompositeCommand{'}{PD1}{I}{\316}% U+00CE
14596 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14597 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF
14598 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14599 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14600 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14601 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14602 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14603 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14604 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2
14605 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14606 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3
14607 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14608 \DeclareTextCompositeCommand{'}{PD1}{O}{\324}% U+00D4
14609 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14610 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14611 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14612 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6
14613 % U+00D7 MULTIPLICATION SIGN; multiply
14614 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14615 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14616 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14617 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14618 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9
14619 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14620 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA
14621 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14622 \DeclareTextCompositeCommand{'}{PD1}{U}{\333}% U+00DB
14623 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14624 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14625 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14626 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD
14627 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14628 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14629 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14630 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14631 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14632 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0
14633 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute
14634 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1
14635 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14636 \DeclareTextCompositeCommand{'}{PD1}{a}{\342}% U+00E2
14637 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14638 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14639 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14640 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14641 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14642 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14643 % U+00E6 LATIN SMALL LETTER AE; ae
14644 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14645 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla

14646 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14647 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14648 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14649 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14650 \DeclareTextCompositeCommand{\`}{PD1}{e}{\351}% U+00E9
14651 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14652 \DeclareTextCompositeCommand{\`}{PD1}{e}{\352}% U+00EA
14653 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14654 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14655 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14656 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14657 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14658 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14659 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
14660 \DeclareTextCompositeCommand{\`}{PD1}{i}{\355}% U+00ED
14661 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14662 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
14663 \DeclareTextCompositeCommand{\`}{PD1}{i}{\356}% U+00EE
14664 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14665 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14666 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14667 % U+00F0 LATIN SMALL LETTER ETH; eth
14668 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14669 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14670 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14671 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14672 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
14673 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14674 \DeclareTextCompositeCommand{\`}{PD1}{o}{\363}% U+00F3
14675 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14676 \DeclareTextCompositeCommand{\`}{PD1}{o}{\364}% U+00F4
14677 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14678 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14679 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14680 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14681 % U+00F7 DIVISION SIGN; divide
14682 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14683 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14684 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14685 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14686 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
14687 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14688 \DeclareTextCompositeCommand{\`}{PD1}{u}{\372}% U+00FA
14689 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14690 \DeclareTextCompositeCommand{\`}{PD1}{u}{\373}% U+00FB
14691 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14692 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
14693 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14694 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD
14695 % U+00FE LATIN SMALL LETTER THORN; thorn
14696 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14697 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14698 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
14699 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14700 \DeclareTextCommand{\SS}{PD1}{SS}
14701 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

```
14702 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14703 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14704 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14705 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14706 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14707 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14708 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14709 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}
```

Aliases (math names)

```
14710 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14711 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14712 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14713 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14714 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14715 \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).

```
14716 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14717 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
14718 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14719 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
14720 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
14721 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
14722 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14723 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14724 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
14725 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14726 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
14727 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
14728 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
14729 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
14730 </pdlenc>
```

50.2 PU encoding

```
14731 <*puenc>
14732 \DeclareFontEncoding{PU}{-}{-}
```

50.2.1 NFSS2 accents

```
14733 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14734 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
14735 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14736 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
14737 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14738 \DeclareTextCommand{\`}{PU}[1]{\#1\83\002}% U+0302
14739 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14740 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
14741 % U+0304 COMBINING MACRON; macroncmb
14742 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
14743 % U+0306 COMBINING BREVE; brevecmb
14744 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
14745 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306
14746 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14747 \DeclareTextCommand{\.}{PU}[1]{\#1\83\007}% U+0307
14748 % U+0308 COMBINING DIAERESIS; dieresiscmb
```


14749 \DeclareTextCommand{"}{PU}[1]{#1\83\010}% U+0308
14750 % U+030A COMBINING RING ABOVE; ringcmb
14751 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14752 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14753 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14754 % U+030C COMBINING CARON; caroncmb
14755 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14756 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14757 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14758 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14759 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14760 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14761 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
14762 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14763 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14764 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14765 % U+0327 COMBINING CEDILLA; cedillacmb
14766 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14767 % U+0328 COMBINING OGONEK; ogonekcmb
14768 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14769 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14770 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14771 % U+20DD COMBINING ENCLOSING CIRCLE
14772 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

14773 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
14774 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textacute}
14775 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
14776 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
14777 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14778 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14779 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14780 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14781 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14782 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14783 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14784 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14785 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14786 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14787 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14788 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14789 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14790 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14791 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
14792 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14793 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textacute}
14794 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14795 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
14796 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14797 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14798 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14799 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14800 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14801 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14802 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14803 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}

14804 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
 14805 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
 14806 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
 14807 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
 14808 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
 14809 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
 14810 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

Accents for capitals (see encoding TS1)

14811 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
 14812 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
 14813 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
 14814 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
 14815 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\~{#1}}
 14816 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
 14817 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\\"{#1}}
 14818 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
 14819 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
 14820 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
 14821 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
 14822 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
 14823 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
 14824 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
 14825 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

14826 % U+0009 (CHARACTER TABULATION)
 14827 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
 14828 % U+000A (LINE FEED)
 14829 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
 14830 % U+000D (CARRIAGE RETURN)
 14831 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
 \80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 14832 % U+0022 QUOTATION MARK; quotedbl
 14833 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
 14834 % U+0023 NUMBER SIGN; numbersign
 14835 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 14836 % U+0024 DOLLAR SIGN; dollar
 14837 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 14838 % U+0025 PERCENT SIGN; percent
 14839 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 14840 % U+0026 AMPERSAND; ampersand
 14841 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 14842 % U+0027 APOSTROPHE; quotesingle
 14843 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 14844 % U+0028 LEFT PARENTHESIS; parenleft
 14845 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 14846 % U+0029 RIGHT PARENTHESIS; parenright
 14847 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 14848 % U+002A ASTERISK; asterisk
 14849 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)
 \80\053: U+002B PLUS SIGN; plus
 \80\054: U+002C COMMA; comma
 \80\055: U+002D HYPHEN-MINUS; hyphen

\80\056: U+002E FULL STOP; period
 \80\057: U+002F SOLIDUS; slash
 \80\060: U+0030 DIGIT ZERO; zero
 ...
 \80\071: U+0039 DIGIT NINE; nine
 \80\072: U+003A COLON; colon
 \80\073: U+003B SEMICOLON; semicolon
 14850 % U+003C LESS-THAN SIGN; less
 14851 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 14852 % U+003E GREATER-THAN SIGN; greater
 14853 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E
 \80\077: U+003F QUESTION MARK; question
 \80\100: U+0040 COMMERCIAL AT; at
 \80\101: U+0041 LATIN CAPITAL LETTER A; A
 ...
 \80\132: U+005A LATIN CAPITAL LETTER Z; Z
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft
 14854 % U+005C REVERSE SOLIDUS; backslash
 14855 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 14856 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14857 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14858 % U+005F LOW LINE; underscore
 14859 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14860 % U+0060 GRAVE ACCENT; grave
 14861 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060
 \80\141: U+0061 LATIN SMALL LETTER A; a
 ...
 \80\150: U+0068 LATIN SMALL LETTER H; h
 14862 % U+0069 LATIN SMALL LETTER I; i
 14863 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 14864 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 \80\152: U+006A LATIN SMALL LETTER J; j
 ...
 \80\172: U+007A LATIN SMALL LETTER Z; z
 14865 % U+007B LEFT CURLY BRACKET; braceleft
 14866 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14867 % U+007C VERTICAL LINE; *bar, verticalbar
 14868 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14869 % U+007D RIGHT CURLY BRACKET; braceright
 14870 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14871 % U+007E TILDE; asciitilde
 14872 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

50.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
 14873 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14874 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14875 % U+00A2 CENT SIGN; cent
 14876 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2

14877 % U+00A3 POUND SIGN; sterling
14878 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
14879 % U+00A4 CURRENCY SIGN; currency
14880 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
14881 % U+00A5 YEN SIGN; yen
14882 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
14883 % U+00A6 BROKEN BAR; brokenbar
14884 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
14885 % U+00A7 SECTION SIGN; section
14886 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
14887 % U+00A8 DIAERESIS; dieresis
14888 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
14889 % U+00A9 COPYRIGHT SIGN; copyright
14890 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
14891 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14892 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
14893 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14894 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
14895 % U+00AC NOT SIGN; logicalnot
14896 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
14897 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
14898 % U+00AE REGISTERED SIGN; registered
14899 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
14900 % U+00AF MACRON; *macron, overscore
14901 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
14902 % U+00B0 DEGREE SIGN; degree
14903 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
14904 % U+00B1 PLUS-MINUS SIGN; plusminus
14905 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
14906 % U+00B2 SUPERSCRIP T TWO; twosuperior
14907 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
14908 % U+00B3 SUPERSCRIP T THREE; threesuperior
14909 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
14910 % U+00B4 ACUTE ACCENT; acute
14911 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14912 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
14913 % U+00B5 MICRO SIGN; mu, mu1
14914 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
14915 % U+00B6 PILCROW SIGN; paragraph
14916 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
14917 % U+00B7 MIDDLE DOT; middot, *periodcentered
14918 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
14919 % U+00B8 CEDILLA; cedilla
14920 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
14921 % U+00B9 SUPERSCRIP T ONE; onesuperior
14922 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
14923 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14924 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
14925 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
14926 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
14927 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14928 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
14929 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14930 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD

14931 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14932 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
14933 % U+00BF INVERTED QUESTION MARK; questiondown
14934 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
14935 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14936 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
14937 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Acute
14938 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
14939 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14940 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
14941 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14942 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
14943 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14944 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
14945 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14946 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
14947 % U+00C6 LATIN CAPITAL LETTER AE; AE
14948 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
14949 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14950 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
14951 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14952 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
14953 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14954 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
14955 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14956 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
14957 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14958 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
14959 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14960 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
14961 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14962 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
14963 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14964 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
14965 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14966 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
14967 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14968 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
14969 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14970 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
14971 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14972 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
14973 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14974 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
14975 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14976 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
14977 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14978 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
14979 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14980 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
14981 % U+00D7 MULTIPLICATION SIGN; multiply
14982 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14983 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14984 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
14985 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14986 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
14987 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute

14988 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
14989 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14990 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
14991 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14992 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC
14993 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14994 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
14995 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14996 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
14997 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14998 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
14999 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15000 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
15001 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15002 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15003 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15004 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15005 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15006 \DeclareTextCompositeCommand{\-}{PU}{a}{\80\343}% U+00E3
15007 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15008 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15009 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15010 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15011 % U+00E6 LATIN SMALL LETTER AE; ae
15012 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15013 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15014 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15015 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15016 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
15017 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15018 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15019 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15020 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15021 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15022 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15023 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15024 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15025 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15026 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15027 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15028 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15029 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15030 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15031 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15032 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15033 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15034 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15035 % U+00F0 LATIN SMALL LETTER ETH; eth
15036 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15037 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15038 \DeclareTextCompositeCommand{\-}{PU}{n}{\80\361}% U+00F1
15039 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15040 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
15041 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15042 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
15043 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15044 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4

15045 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 15046 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 15047 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15048 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 15049 % U+00F7 DIVISION SIGN; divide
 15050 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15051 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15052 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15053 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15054 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 15055 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15056 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 15057 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15058 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 15059 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15060 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 15061 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15062 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15063 % U+00FE LATIN SMALL LETTER THORN; thorn
 15064 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15065 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15066 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15067 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15068 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 15069 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15070 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 15071 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15072 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15073 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15074 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15075 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15076 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15077 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15078 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15079 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 15080 \DeclareTextCompositeCommand{\`}{PU}{C}{\81\006}% U+0106
 15081 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 15082 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 15083 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 15084 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 15085 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 15086 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 15087 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 15088 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 15089 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 15090 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 15091 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 15092 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 15093 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 15094 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 15095 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 15096 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 15097 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 15098 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F

15099 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15100 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15101 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15102 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15103 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15104 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15105 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15106 \DeclareTextCompositeCommand{\=} {PU}{e}{\81\023}% U+0113
15107 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15108 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15109 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15110 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15111 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15112 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15113 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15114 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15115 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15116 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15117 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15118 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15119 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15120 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15121 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15122 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15123 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15124 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15125 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15126 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15127 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15128 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15129 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15130 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15131 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
15132 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15133 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15134 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
15135 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
15136 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15137 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15138 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15139 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15140 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15141 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15142 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15143 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15144 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15145 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
15146 \DeclareTextCommand{\textslash}{PU}{\81\047}% U+0127
15147 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15148 \DeclareTextCompositeCommand{\-}{PU}{I}{\81\050}% U+0128
15149 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15150 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}% U+0129
15151 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}% U+0129
15152 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15153 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15154 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron

15155 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
15156 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
15157 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15158 \DeclareTextCompositeCommand{\u} {PU}{I}{\81\054}% U+012C
15159 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15160 \DeclareTextCompositeCommand{\u} {PU}{i}{\81\055}% U+012D
15161 \DeclareTextCompositeCommand{\u} {PU}{i}{\81\055}% U+012D
15162 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15163 \DeclareTextCompositeCommand{\k} {PU}{I}{\81\056}% U+012E
15164 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15165 \DeclareTextCompositeCommand{\k} {PU}{i}{\81\057}% U+012F
15166 \DeclareTextCompositeCommand{\k} {PU}{i}{\81\057}% U+012F
15167 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15168 \DeclareTextCompositeCommand{\.} {PU}{I}{\81\060}% U+0130
15169 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15170 \DeclareTextCommand{\i} {PU}{\81\061}% U+0131
15171 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15172 \DeclareTextCommand{\IJ} {PU}{\81\062}% U+0132
15173 % U+0133 LATIN SMALL LIGATURE IJ; ij
15174 \DeclareTextCommand{\ij} {PU}{\81\063}% U+0133
15175 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15176 \DeclareTextCompositeCommand{\^} {PU}{J}{\81\064}% U+0134
15177 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15178 \DeclareTextCompositeCommand{\^} {PU}{j}{\81\065}% U+0135
15179 \DeclareTextCompositeCommand{\^} {PU}{j}{\81\065}% U+0135
15180 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15181 \DeclareTextCompositeCommand{\c} {PU}{K}{\81\066}% U+0136
15182 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15183 \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 chosen `\textkra`.

15184 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15185 \DeclareTextCommand{\textkra} {PU}{\81\070}% U+0138
15186 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15187 \DeclareTextCompositeCommand{\'} {PU}{L}{\81\071}% U+0139
15188 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15189 \DeclareTextCompositeCommand{\'} {PU}{l}{\81\072}% U+013A
15190 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15191 \DeclareTextCompositeCommand{\c} {PU}{L}{\81\073}% U+013B
15192 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15193 \DeclareTextCompositeCommand{\c} {PU}{l}{\81\074}% U+013C
15194 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15195 \DeclareTextCompositeCommand{\v} {PU}{L}{\81\075}% U+013D
15196 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15197 \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`.

15198 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
15199 \DeclareTextCompositeCommand{\.} {PU}{L}{\81\077}% U+013F
15200 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15201 \DeclareTextCompositeCommand{\.} {PU}{l}{\81\100}% U+0140
15202 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15203 \DeclareTextCommand{\L} {PU}{\81\101}% U+0141

15204 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15205 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15206 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15207 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15208 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15209 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15210 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
15211 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15212 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15213 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15214 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15215 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15216 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15217 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15218 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
15219 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15220 % U+014A LATIN CAPITAL LETTER ENG; Eng
15221 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15222 % U+014B LATIN SMALL LETTER ENG; eng
15223 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15224 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15225 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15226 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15227 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15228 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15229 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15230 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15231 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15232 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
15233 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15234 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
15235 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15236 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15237 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15238 % U+0153 LATIN SMALL LIGATURE OE; oe
15239 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15240 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15241 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
15242 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15243 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
15244 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
15245 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15246 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15247 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15248 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15249 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15250 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15251 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15252 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15253 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
15254 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15255 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B

15256 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15257 \DeclareTextCompositeCommand{\~}{PU}{S}{\81\134}% U+015C
15258 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15259 \DeclareTextCompositeCommand{\~}{PU}{s}{\81\135}% U+015D
15260 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15261 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15262 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15263 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15264 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15265 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15266 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15267 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15268 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
15269 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15270 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15271 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15272 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15273 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15274 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15275 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15276 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15277 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15278 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15279 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15280 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15281 \DeclareTextCompositeCommand{\-}{PU}{U}{\81\150}% U+0168
15282 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15283 \DeclareTextCompositeCommand{\-}{PU}{u}{\81\151}% U+0169
15284 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15285 \DeclareTextCompositeCommand{\=} {PU}{U}{\81\152}% U+016A
15286 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15287 \DeclareTextCompositeCommand{\=} {PU}{u}{\81\153}% U+016B
15288 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15289 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15290 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15291 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
15292 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15293 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15294 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15295 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15296 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-
cute, Uhungarumlaut
15297 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15298 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacut
e, uhungarumlaut
15299 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15300 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15301 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15302 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15303 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15304 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15305 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15306 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15307 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15308 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15309 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176

15310 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15311 \DeclareTextCompositeCommand{\~}{PU}{y}{\81\167}% U+0177
 15312 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15313 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15314 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15315 \DeclareTextCompositeCommand{\' }{PU}{Z}{\81\171}% U+0179
 15316 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15317 \DeclareTextCompositeCommand{\`}{PU}{z}{\81\172}% U+017A
 15318 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15319 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15320 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15321 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15322 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15323 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15324 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15325 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15326 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15327 \DeclareTextCommand{\textlongs}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15328 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15329 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15330 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15331 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15332 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15333 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15334 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15335 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15336 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15337 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15338 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15339 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15340 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15341 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15342 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15343 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15344 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 15345 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15346 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15347 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15348 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 15349 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15350 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 15351 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 15352 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 15353 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 15354 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 15355 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 15356 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 15357 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 15358 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 15359 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 15360 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 15361 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 15362 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 15363 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 15364 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

15365 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15366 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15367 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15368 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15369 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15370 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15371 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
15372 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15373 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15374 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15375 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15376 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15377 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15378 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslasha-
acute, Ostrokeacut
15379 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15380 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslasha-
acute, ostrokeacute
15381 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15382 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15383 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15384 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15385 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15386 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15387 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15388 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15389 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15390 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15391 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15392 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15393 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15394 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15395 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15396 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15397 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15398 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15399 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15400 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15401 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15402 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15403 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15404 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15405 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15406 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15407 % U+021E LATIN CAPITAL LETTER H WITH CARON
15408 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
15409 % U+021F LATIN SMALL LETTER H WITH CARON
15410 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
15411 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
15412 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
15413 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
15414 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
15415 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
15416 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
15417 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
15418 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
15419 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE

15420 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15421 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15422 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15423 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15424 \DeclareTextCompositeCommand{\=} {PU}{Y}{\82\062}% U+0232
 15425 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15426 \DeclareTextCompositeCommand{\=} {PU}{y}{\82\063}% U+0233
 15427 % U+0237 LATIN SMALL LETTER DOTLESS J
 15428 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15429 % U+02C7 CARON; caron
 15430 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15431 % U+02D8 BREVE; breve
 15432 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15433 % U+02D9 DOT ABOVE; dotaccent
 15434 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15435 % U+02DA RING ABOVE; ring
 15436 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15437 % U+02DB OGONEK; ogonek
 15438 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15439 % U+02DC SMALL TILDE; ilde, *tilde
 15440 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15441 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15442 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15443 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15444 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15445 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15446 % U+02F7 MODIFIER LETTER LOW TILDE
 15447 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15448 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15449 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15450 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15451 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15452 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15453 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15454 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15455 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15456 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15457 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15458 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15459 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15460 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15461 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15462 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
 15463 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15464 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15465 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15466 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15467 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15468 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15469 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A

15470 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
15471 \DeclareTextCompositeCommand{'}{PU}{\textOmicron}{\83\214}% U+038C
15472 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
15473 \DeclareTextCompositeCommand{'}{PU}{\textUpsilon}{\83\216}% U+038E
15474 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
15475 \DeclareTextCompositeCommand{'}{PU}{\textOmega}{\83\217}% U+038F
15476 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadiesistonos
15477 \DeclareTextCompositeCommand{'}{PU}{\textIotadiesis}{\83\220}% U+0390
15478 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
15479 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
15480 % U+0392 GREEK CAPITAL LETTER BETA; Beta
15481 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
15482 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
15483 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
15484 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
15485 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
15486 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
15487 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
15488 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
15489 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
15490 % U+0397 GREEK CAPITAL LETTER ETA; Eta
15491 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
15492 % U+0398 GREEK CAPITAL LETTER THETA; Theta
15493 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15494 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15495 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15496 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
15497 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15498 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15499 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15500 % U+039C GREEK CAPITAL LETTER MU; Mu
15501 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15502 % U+039D GREEK CAPITAL LETTER NU; Nu
15503 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15504 % U+039E GREEK CAPITAL LETTER XI; Xi
15505 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15506 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15507 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15508 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15509 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15510 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15511 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15512 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15513 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15514 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15515 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15516 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15517 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15518 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15519 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15520 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15521 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15522 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15523 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15524 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega

15525 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15526 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15527 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15528 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15529 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis
15530 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15531 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15532 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15533 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
15534 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15535 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15536 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15537 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15538 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15539 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
15540 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
15541 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15542 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15543 % U+03B2 GREEK SMALL LETTER BETA; beta
15544 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15545 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15546 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15547 % U+03B4 GREEK SMALL LETTER DELTA; delta
15548 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15549 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15550 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15551 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15552 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15553 % U+03B7 GREEK SMALL LETTER ETA; eta
15554 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15555 % U+03B8 GREEK SMALL LETTER THETA; theta
15556 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15557 % U+03B9 GREEK SMALL LETTER IOTA; iota
15558 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15559 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15560 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15561 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15562 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15563 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15564 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15565 % U+03BD GREEK SMALL LETTER NU; nu
15566 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15567 % U+03BE GREEK SMALL LETTER XI; xi
15568 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15569 % U+03BF GREEK SMALL LETTEROMICRON; omicron
15570 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15571 % U+03C0 GREEK SMALL LETTER PI; pi
15572 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15573 % U+03C1 GREEK SMALL LETTER RHO; rho
15574 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15575 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15576 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15577 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15578 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15579 % U+03C4 GREEK SMALL LETTER TAU; tau

15580 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15581 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15582 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15583 % U+03C6 GREEK SMALL LETTER PHI; phi
15584 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15585 % U+03C7 GREEK SMALL LETTER CHI; chi
15586 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15587 % U+03C8 GREEK SMALL LETTER PSI; psi
15588 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15589 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15590 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15591 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
15592 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
15593 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silonudieresis
15594 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
15595 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15596 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
15597 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15598 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15599 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
15600 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15601 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
15602 % U+03DA GREEK LETTER STIGMA; Stigmagreek
15603 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
15604 % U+03DB GREEK SMALL LETTER STIGMA
15605 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
15606 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
15607 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
15608 % U+03DD GREEK SMALL LETTER DIGAMMA
15609 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
15610 % U+03DE GREEK LETTER KOPPA; Koppagreek
15611 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
15612 % U+03DF GREEK SMALL LETTER KOPPA
15613 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
15614 % U+03E0 GREEK LETTER SAMPI; Sampigreek
15615 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
15616 % U+03E1 GREEK SMALL LETTER SAMPI
15617 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

15618 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
15619 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
15620 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
15621 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
15622 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
15623 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15624 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15625 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15626 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
15627 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
15628 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15629 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15630 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405

15631 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
15632 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15633 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
15634 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15635 \DeclareTextCompositeCommand{\'}{PU}{\CYRII}{\84\007}% U+0407
15636 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15637 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15638 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15639 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15640 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15641 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15642 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15643 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15644 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15645 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15646 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15647 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
15648 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
15649 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15650 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15651 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15652 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15653 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15654 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15655 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15656 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15657 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15658 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15659 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15660 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15661 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15662 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15663 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15664 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15665 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15666 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15667 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15668 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15669 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15670 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15671 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15672 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15673 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15674 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15675 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15676 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15677 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15678 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15679 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15680 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15681 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15682 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15683 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15684 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15685 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15686 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034

15687 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15688 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15689 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15690 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15691 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15692 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15693 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15694 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15695 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15696 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15697 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15698 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15699 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15700 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15701 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15702 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15703 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15704 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15705 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15706 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15707 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15708 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15709 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15710 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15711 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15712 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15713 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15714 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15715 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15716 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15717 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15718 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15719 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15720 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15721 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15722 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15723 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15724 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15725 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15726 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15727 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15728 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15729 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15730 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15731 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15732 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15733 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15734 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15735 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15736 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15737 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15738 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15739 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15740 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15741 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15742 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B
15743 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic

15744 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15745 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15746 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15747 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15748 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15749 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15750 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15751 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15752 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15753 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15754 \DeclareTextCommand{\cyrse}{PU}{\84\101}% U+0441
15755 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15756 \DeclareTextCommand{\cyrte}{PU}{\84\102}% U+0442
15757 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15758 \DeclareTextCommand{\cyrui}{PU}{\84\103}% U+0443
15759 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15760 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15761 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15762 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15763 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15764 \DeclareTextCommand{\cyrct}{PU}{\84\106}% U+0446
15765 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15766 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15767 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15768 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15769 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15770 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15771 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15772 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15773 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15774 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15775 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15776 \DeclareTextCommand{\cyrsoftsn}{PU}{\84\114}% U+044C
15777 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15778 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
15779 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15780 \DeclareTextCommand{\cyrui}{PU}{\84\116}% U+044E
15781 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15782 \DeclareTextCommand{\cyrui}{PU}{\84\117}% U+044F
15783 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15784 \DeclareTextCompositeCommand{\'}{PU}{\cyrui}{\84\120}% U+0450
15785 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15786 \DeclareTextCommand{\cyrui}{PU}{\84\121}% U+0451
15787 \DeclareTextCompositeCommand{\"}{PU}{\cyrui}{\84\121}% U+0451
15788 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15789 \DeclareTextCommand{\cyrui}{PU}{\84\122}% U+0452
15790 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15791 \DeclareTextCompositeCommand{\'}{PU}{\cyrui}{\84\123}% U+0453
15792 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
15793 \DeclareTextCommand{\cyrui}{PU}{\84\124}% U+0454
15794 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
15795 \DeclareTextCommand{\cyrui}{PU}{\84\125}% U+0455
15796 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
15797 \DeclareTextCommand{\cyrui}{PU}{\84\126}% U+0456
15798 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
15799 \DeclareTextCommand{\cyrui}{PU}{\84\127}% U+0457

15800 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
15801 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15802 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
15803 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15804 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
15805 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15806 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
15807 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15808 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
15809 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15810 \DeclareTextCompositeCommand{'}{PU}{\cyrk}{\84\134}% U+045C
15811 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15812 \DeclareTextCompositeCommand{'}{PU}{\cyri}{\84\135}% U+045D
15813 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
15814 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
15815 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
15816 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15817 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
15818 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
15819 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15820 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
15821 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15822 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
15823 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15824 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
15825 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
15826 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
15827 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
15828 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
15829 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
15830 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic
15831 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
15832 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic
15833 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
15834 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleio-
tifiedcyrillic
15835 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
15836 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
fiedcyrillic
15837 \DeclareTextCommand{\cyrriotlyus}{PU}{\84\151}% U+0469
15838 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
15839 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
15840 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
15841 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
15842 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
15843 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
15844 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
15845 \DeclareTextCommand{\cyrriotbyus}{PU}{\84\155}% U+046D
15846 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
15847 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
15848 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
15849 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
15850 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
15851 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
15852 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic

15853 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
15854 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
15855 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
15856 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
15857 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
15858 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
15859 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
15860 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
15861 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
15862 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; Izhitsadblgravecyrillic
15863 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
15864 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; izhitsadblgravecyrillic
15865 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
15866 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
15867 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
15868 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
15869 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
15870 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
lic
15871 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
15872 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
15873 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
15874 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
cyrillic
15875 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
15876 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
cyrillic
15877 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
15878 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
15879 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
15880 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
15881 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
15882 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
15883 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
15884 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
15885 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
15886 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
15887 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
liccmb
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
cyrilliccmb
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
liccmb
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
15888 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
15889 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
15890 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
15891 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
15892 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
15893 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C

15894 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
15895 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
15896 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
15897 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
15898 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
15899 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
15900 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
cyrillic, *afii10050
15901 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
15902 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
upturncyrillic
15903 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
15904 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
cyrillic
15905 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
15906 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
15907 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
15908 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
dlehookcyrillic
15909 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
15910 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
dlehookcyrillic
15911 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
15912 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
dercyrillic
15913 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
15914 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
dercyrillic
15915 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
15916 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
dercyrillic
15917 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
15918 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
15919 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
cyrillic
15920 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
15921 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
15922 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
dercyrillic
15923 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
15924 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-
cyrillic
15925 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
15926 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
ticalstrokecyrillic
15927 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
15928 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
ticalstrokecyrillic
15929 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
15930 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
15931 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
15932 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
15933 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
15934 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
15935 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
15936 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
15937 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1

15938 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
15939 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
15940 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
15941 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
15942 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
15943 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
15944 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
15945 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
15946 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
15947 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
15948 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
15949 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
15950 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
15951 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
15952 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
15953 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
15954 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
15955 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
15956 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
15957 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
15958 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
15959 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
15960 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
15961 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
15962 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
15963 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
15964 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
15965 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
15966 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
15967 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
15968 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
15969 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
15970 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
15971 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
15972 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
15973 \DeclareTextCommand{\CYRHDS}{PU}{\84\262}% U+04B2
15974 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
15975 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
15976 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
15977 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
15978 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
15979 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
15980 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic

15981 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
15982 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
15983 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
15984 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
verticalstrokecyrillic
15985 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
15986 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
verticalstrokecyrillic
15987 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
15988 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
15989 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
15990 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
15991 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
15992 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
15993 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
15994 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
lic
15995 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
15996 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
15997 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
15998 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
15999 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
16000 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
16001 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16002 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
16003 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16004 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
16005 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16006 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
16007 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
16008 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16009 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16010 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16011 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
16012 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
16013 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16014 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16015 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
16016 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16017 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16018 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16019 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
16020 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
cyrillic
16021 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16022 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
16023 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
16024 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16025 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16026 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16027 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

16028 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevocyrrilic
16029 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16030 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevocyrrilic
16031 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16032 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
lic
16033 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2
16034 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrrilic
16035 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3
16036 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrrilic
16037 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16038 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrrilic
16039 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16040 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrrilic
16041 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16042 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrrilic
16043 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16044 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrrilic
16045 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16046 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrrilic
16047 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9
16048 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrrilic
16049 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16050 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrrilic
16051 \DeclareTextCompositeCommand{\"}{PU}{\cyrswa}{\84\333}% U+04DB
16052 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrrilic
16053 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC
16054 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
cyrrilic
16055 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD
16056 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
cyrrilic
16057 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE
16058 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrrilic
16059 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF
16060 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
cyrrilic
16061 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16062 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrrilic
16063 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16064 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrrilic
16065 \DeclareTextCompositeCommand{\=} {PU}{\CYRI}{\84\342}% U+04E2
16066 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrrilic
16067 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3
16068 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrrilic
16069 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4
16070 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrrilic
16071 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5
16072 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
lic
16073 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% U+04E6
16074 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrrilic
16075 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% U+04E7
16076 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrrilic

16077 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16078 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
16079 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16080 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
SIS; Obarreddieresiscyrillic
16081 \DeclareTextCompositeCommand{\'}{PU}{\CYROTLD}{\84\352}% U+04EA
16082 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
dieresiscyrillic
16083 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% U+04EB
16084 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16085 \DeclareTextCompositeCommand{\"}{PU}{\CYREREV}{\84\354}% U+04EC
16086 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16087 \DeclareTextCompositeCommand{\"}{PU}{\cyreref}{\84\355}% U+04ED
16088 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16089 \DeclareTextCompositeCommand{\=} {PU}{\CYRU}{\84\356}% U+04EE
16090 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16091 \DeclareTextCompositeCommand{\=} {PU}{\cyru}{\84\357}% U+04EF
16092 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
16093 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U+04F0
16094 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
16095 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% U+04F1
16096 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
garumlautcyrillic
16097 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
16098 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
garumlautcyrillic
16099 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
16100 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
siscyrillic
16101 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
16102 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chediere-
siscyrillic
16103 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
16104 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
16105 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
16106 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
16107 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
16108 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
16109 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
16110 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
16111 \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
16112 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
16113 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
16114 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
16115 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

16116 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
16117 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16118 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
16119 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
16120 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
16121 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
16122 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
16123 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
16124 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
16125 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
16126 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
16127 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
16128 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
16129 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
16130 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
16131 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
16132 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
16133 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
16134 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
16135 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
16136 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
16137 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
16138 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
16139 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
16140 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16141 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
16142 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16143 \DeclareTextCompositeCommand{\=} {PU}{G}{\9036\040}% U+1E20
16144 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16145 \DeclareTextCompositeCommand{\=} {PU}{g}{\9036\041}% U+1E21
16146 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16147 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
16148 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16149 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
16150 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16151 \DeclareTextCompositeCommand{\`}{PU}{H}{\9036\046}% U+1E26
16152 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
16153 \DeclareTextCompositeCommand{\`}{PU}{h}{\9036\047}% U+1E27
16154 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16155 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
16156 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16157 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
16158 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16159 \DeclareTextCompositeCommand{\`}{PU}{K}{\9036\060}% U+1E30
16160 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16161 \DeclareTextCompositeCommand{\`}{PU}{k}{\9036\061}% U+1E31
16162 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16163 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
16164 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16165 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
16166 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16167 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
16168 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16169 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
16170 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16171 \DeclareTextCompositeCommand{\`}{PU}{M}{\9036\076}% U+1E3E
16172 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16173 \DeclareTextCompositeCommand{\`}{PU}{m}{\9036\077}% U+1E3F

16174 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16175 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
16176 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16177 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
16178 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16179 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
16180 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16181 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
16182 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16183 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
16184 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16185 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
16186 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16187 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
16188 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16189 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
16190 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16191 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
16192 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16193 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
16194 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16195 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
16196 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
16197 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
16198 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16199 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
16200 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16201 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
16202 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16203 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
16204 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16205 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
16206 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16207 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16208 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16209 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
16210 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16211 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16212 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16213 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16214 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16215 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16216 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16217 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16218 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16219 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
16220 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16221 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
16222 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16223 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16224 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16225 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16226 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16227 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
16228 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16229 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
16230 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent

16231 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
16232 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16233 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
16234 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16235 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
16236 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16237 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
16238 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16239 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
16240 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16241 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
16242 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16243 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16244 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16245 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16246 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16247 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16248 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16249 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16250 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16251 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16252 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16253 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
16254 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
16255 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
16256 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
16257 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
16258 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
cent
16259 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
16260 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
16261 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
16262 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
16263 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
16264 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
16265 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
16266 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
16267 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
16268 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
16269 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
16270 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
16271 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16272 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
16273 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
16274 % U+2013 EN DASH; endash
16275 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
16276 % U+2014 EM DASH; emdash
16277 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
16278 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
16279 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
16280 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
16281 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
16282 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
16283 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
16284 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase

16285 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
16286 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
16287 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
16288 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
16289 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
16290 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
16291 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
16292 % U+2020 DAGGER; dagger
16293 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
16294 % U+2021 DOUBLE DAGGER; daggerdbl
16295 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
16296 % U+2022 BULLET; bullet
16297 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
16298 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
16299 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
16300 % U+2030 PER MILLE SIGN; perthousand
16301 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
16302 % U+2031 PER TEN THOUSAND SIGN
16303 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
16304 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
ingleft
16305 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
16306 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
ingright
16307 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
16308 % U+203B REFERENCE MARK; referencemark
16309 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
16310 % U+203D INTERROBANG
16311 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
16312 % U+2044 FRACTION SLASH; fraction
16313 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
16314 % U+2045 LEFT SQUARE BRACKET WITH QUILL
16315 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
16316 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
16317 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
16318 % U+2052 COMMERCIAL MINUS SIGN
16319 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16320 % U+2070 SUPERSCRIPT ZERO; zerosuperior
16321 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
16322 % U+2074 SUPERSCRIPT FOUR; foursuperior
16323 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
16324 % U+2075 SUPERSCRIPT FIVE; fivesuperior
16325 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
16326 % U+2076 SUPERSCRIPT SIX; sixsuperior
16327 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
16328 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
16329 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
16330 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
16331 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
16332 % U+2079 SUPERSCRIPT NINE; ninesuperior
16333 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
16334 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
16335 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
16336 % U+207B SUPERSCRIPT MINUS
16337 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}

16338 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 16339 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 16340 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 16341 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 16342 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 16343 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 16344 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 16345 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 16346 % U+2080 SUBSCRIPT ZERO; zeroinferior
 16347 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 16348 % U+2081 SUBSCRIPT ONE; oneinferior
 16349 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 16350 % U+2082 SUBSCRIPT TWO; twoinferior
 16351 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 16352 % U+2083 SUBSCRIPT THREE; threeinferior
 16353 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 16354 % U+2084 SUBSCRIPT FOUR; fourinferior
 16355 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 16356 % U+2085 SUBSCRIPT FIVE; fiveinferior
 16357 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 16358 % U+2086 SUBSCRIPT SIX; sixinferior
 16359 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 16360 % U+2087 SUBSCRIPT SEVEN; seveninferior
 16361 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 16362 % U+2088 SUBSCRIPT EIGHT; eightinferior
 16363 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 16364 % U+2089 SUBSCRIPT NINE; nineinferior
 16365 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 16366 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 16367 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 16368 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 16369 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16370 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 16371 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 16372 % U+20A4 LIRA SIGN; afii08941, *lira
 16373 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 16374 % U+20A6 NAIRA SIGN
 16375 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 16376 % U+20A7 PESETA SIGN; peseta
 16377 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 16378 % U+20A9 WON SIGN; won
 16379 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 16380 % U+20AB DONG SIGN; dong
 16381 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 16382 % U+20AC EURO SIGN; *Euro, euro
 16383 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 16384 % U+20B1 PESO SIGN
 16385 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 16386 % U+20B2 GUARANI SIGN
 16387 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16388 % U+2103 DEGREE CELSIUS; centigrade
 16389 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 16390 % U+2116 NUMERO SIGN; *afii61352, numero

16391 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
16392 % U+2117 SOUND RECORDING COPYRIGHT
16393 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
16394 % U+211E PRESCRIPTION TAKE; prescription
16395 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
16396 % U+2120 SERVICE MARK
16397 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
16398 % U+2122 TRADE MARK SIGN; trademark
16399 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
16400 % U+2126 OHM SIGN; Ohm, Omega
16401 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
16402 % U+2127 INVERTED OHM SIGN
16403 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
16404 % U+212B ANGSTROM SIGN; angstrom
16405 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
16406 % U+212E ESTIMATED SYMBOL; estimated
16407 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
16408 % U+2135 ALEF SYMBOL; aleph
16409 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16410 % U+2190 LEFTWARDS ARROW; arrowleft
16411 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
16412 % U+2191 UPWARDS ARROW; arrowup
16413 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
16414 % U+2192 RIGHTWARDS ARROW; arrowright
16415 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
16416 % U+2193 DOWNWARDS ARROW; arrowdown
16417 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16418 % U+2212 MINUS SIGN; minus
16419 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
16420 % U+221A SQUARE ROOT; radical
16421 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16422 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
16423 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
16424 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
16425 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16426 % U+2422 BLANK SYMBOL
16427 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
16428 % U+2423 OPEN BOX; blank
16429 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16430 % U+2460 CIRCLED DIGIT ONE; onecircle
16431 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
16432 % U+2461 CIRCLED DIGIT TWO; twocircle
16433 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
16434 % U+2462 CIRCLED DIGIT THREE; threecircle
16435 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
16436 % U+2463 CIRCLED DIGIT FOUR; fourcircle
16437 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463

16438 % U+2464 CIRCLED DIGIT FIVE; fivecircle
16439 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
16440 % U+2465 CIRCLED DIGIT SIX; sixcircle
16441 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
16442 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
16443 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
16444 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
16445 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
16446 % U+2468 CIRCLED DIGIT NINE; ninecircle
16447 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
16448 % U+2469 CIRCLED NUMBER TEN; tencircle
16449 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
16450 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
16451 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
16452 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
16453 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
16454 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
16455 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
16456 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
16457 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
16458 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
16459 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
16460 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
16461 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
16462 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
16463 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
16464 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
16465 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
16466 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
16467 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
16468 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
16469 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
16470 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
16471 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
16472 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
16473 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
16474 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
16475 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
16476 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
16477 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
16478 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
16479 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
16480 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
16481 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
16482 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
16483 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
16484 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
16485 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
16486 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
16487 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
16488 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
16489 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
16490 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
16491 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
16492 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
16493 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
16494 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle

16495 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
16496 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
16497 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
16498 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
16499 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
16500 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
16501 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
16502 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
16503 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
16504 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
16505 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
16506 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
16507 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
16508 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
16509 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
16510 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
16511 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
16512 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
16513 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
16514 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
16515 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
16516 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
16517 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16518 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16519 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16520 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16521 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16522 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16523 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16524 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16525 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16526 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16527 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16528 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16529 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16530 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
16531 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16532 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16533 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16534 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16535 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16536 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16537 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16538 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16539 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16540 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16541 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16542 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16543 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16544 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16545 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16546 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16547 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16548 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16549 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16550 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16551 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE

16552 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16553 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16554 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16555 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16556 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16557 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16558 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16559 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16560 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16561 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16562 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16563 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16564 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16565 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16566 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16567 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16568 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16569 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16570 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16571 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16572 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16573 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
16574 % U+24EA CIRCLED DIGIT ZERO
16575 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16576 % U+25E6 WHITE BULLET; *openbullet, whitebullet
16577 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
16578 % U+25EF LARGE CIRCLE; largecircle
16579 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16580 % U+266A EIGHTH NOTE; musicalnote
16581 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
16582 % U+26AD MARRIAGE SYMBOL
16583 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
16584 % U+26AE DIVORCE SYMBOL
16585 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16586 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
16587 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
16588 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
16589 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16590 % U+FB01 LATIN SMALL LIGATURE FI; fi
16591 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
16592 % U+FB02 LATIN SMALL LIGATURE FL; fl
16593 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16594 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

```

16595 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16596 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16597 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16598 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16599 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16600 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16601 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16602 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
Aliases (math names)
16603 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16604 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16605 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16606 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16607 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16608 \end{puenc}

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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16609 \begin{puvnc}
16610 \DeclareTextCommand{\abreve}{PU}{\81\003}
16611 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16612 \DeclareTextCommand{\dj}{PU}{\81\021}
16613 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16614 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16615 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16616 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16617 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16618 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16619 \DeclareTextCommand{\DJ}{PU}{\81\020}
16620 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16621 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16622 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16623 \DeclareTextCommand{\UHORN}{PU}{\81\257}
16624 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16625 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16626 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16627 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16628 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16629 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16630 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16631 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16632 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16633 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16634 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16635 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16636 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16637 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16638 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16639 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16640 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16641 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16642 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16643 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16644 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}

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16645 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16646 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16647 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16648 \DeclareTextCompositeCommand{\-}{PU}{\ecircumflex}{\9036\305}
16649 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16650 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16651 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16652 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16653 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}
16654 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
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16656 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16657 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16658 \DeclareTextCompositeCommand{\-}{PU}{o}{\80\365}
16659 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16660 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16661 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16662 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16663 \DeclareTextCompositeCommand{\-}{PU}{\ocircumflex}{\9036\327}
16664 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16665 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16666 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
16667 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
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16669 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16670 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16671 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16672 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16673 \DeclareTextCompositeCommand{\-}{PU}{u}{\81\151}
16674 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
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16686 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16687 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16688 \DeclareTextCompositeCommand{\-}{PU}{A}{\80\303}
16689 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16690 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16691 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
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16696 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
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16700 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16701 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}

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16702 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16703 \DeclareTextCompositeCommand{\-}{PU}{E}{\9036\274}
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16705 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16706 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}
16707 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16708 \DeclareTextCompositeCommand{\-}{PU}{\ECIRCUMFLEX}{\9036\304}
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16739 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
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16742 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16743 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}
16744 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

16745 <*puarenc>
16746 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LET-
TER HAMZA
16747 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16748 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16749 \DeclareTextCommand{\wawhamza}{PU}{\86\044} % 0624;afii57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE

```

16750 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW

16751 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE

16752 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

16753 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

16754 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

16755 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

16756 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH

16757 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM

16758 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

16759 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

16760 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

16761 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

16762 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

16763 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

16764 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

16765 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN

16766 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD

16767 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD

16768 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

16769 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

16770 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

16771 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

16772 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL

16773 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH

16774 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

16775 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF

16776 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM

16777 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM

16778 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

16779 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH

16780 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW

16781 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA

16782 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

16783 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN

16784 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

16785 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN

16786 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

16787 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

16788 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA

16789 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

16790 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

16791 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH

16792 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH

16793 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH

16794 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF


```
16795 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16796 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
      TER YEH
16797 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16798 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16799 </puarenc>
```

51 End of file hyccheck.tex

```
16800 <*check>
16801 \typeout{}
16802 \begin{document}
16803 \end{document}
16804 </check>
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