

Hypertext marks in L^AT_EX

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2011/08/19 v6.82h

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 `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

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!

Use package `hobsub-hyperref` for faster package loading.

```

232 \IfFileExists{hobsub-hyperref.sty}{%
233 \RequirePackage{hobsub-hyperref}[2011/01/30]%
234 }{}

235 \RequirePackage{ltxcmds}[2010/10/25]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{pdftexcmds}[2009/04/10]
238 \@ifpackagelater{pdftexcmds}{2010/11/04}{-}{%
239 \ltx@ifundefined{pdfdraftmode}{%
240 \let\pdf@ifdraftmode\ltx@secondoftwo
241 }{%
242 \ifpdf
243 \def\pdf@ifdraftmode{%
244 \ifnum\pdfdraftmode=\ltx@one
245 \expandafter\ltx@firstoftwo
246 \else
247 \expandafter\ltx@secondoftwo
248 \fi
249 }%
250 \else
251 \let\pdf@ifdraftmode\ltx@secondoftwo
252 \fi
253 }%
254 }

255 \RequirePackage{infwarerr}[2010/04/08]
256 \RequirePackage{keyval}[1997/11/10]
257 \RequirePackage{kvsetkeys}[2007/09/29]
258 \RequirePackage{pdfescape}[2007/11/11]
259 \RequirePackage{ifvtex}
260 \RequirePackage{ifxetex}[2006/08/21]
261 \RequirePackage{hycolor}
262 \RequirePackage{letltxmacro}[2008/06/13]
263 \def\Hy@Error{\@PackageError{hyperref}}
264 \def\Hy@Warning{\@PackageWarning{hyperref}}
265 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
266 \def\Hy@Info{\@PackageInfo{hyperref}}

```

```

267 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
268 \def\Hy@Message#1{%
269   \GenericWarning{%
270     (hyperref)\@spaces\@spaces\@spaces\@spaces
271   }{%
272     Package hyperref Message: #1\ltx@gobble
273   }%
274 }

```

4.2 Version check

\Hy@VersionChecked

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

\Hy@VersionCheck

```

276 \def\Hy@VersionCheck#1{%
277   \begingroup
278   \ltx@ifundefined{ver@hyperref.sty}{%
279     \Hy@Error{%
280       This should not happen!\MessageBreak
281       Missing hyperref version%
282     }\@ehd
283   }{%
284     \ltx@ifundefined{ver@#1}{%
285       \Hy@Error{%
286         This should not happen!\MessageBreak
287         Missing version of '#1'%
288       }\@ehd
289     }{%
290       \def\x##1##2##3{%
291         \expandafter\expandafter\expandafter\Hy@@VersionCheck
292         \expandafter\expandafter\expandafter##2%
293         \csname ver@##3\endcsname##1##1\@nil
294       }%
295       \x{ }\y{hyperref.sty}%
296       \x{ }\z{#1}%
297       \ifx\y\z
298         \else
299           \Hy@Error{%
300             Version mismatch!\MessageBreak
301             * \y: hyperref.sty\MessageBreak
302             * \z: #1%
303           }\@ehd
304         \fi
305       }%
306     }%
307   \endgroup
308   \chardef\Hy@VersionChecked=1 %
309 }

```

\Hy@@VersionCheck

```

310 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
311   \def#1{#2 #3}%
312 }

```

4.3 Checks with regular expressions

```
313 \ltx@ifundefined{pdfmatch}{%
314 \let\Hy@Match\ltx@gobblefour
315 }{%
316 \def\Hy@Match#1#2{%
317 \begingroup
318 \edef\^{\ltx@backslashchar\string^}%
319 \edef\.\{\ltx@backslashchar.}%
320 \edef\[\{\ltx@backslashchar[]}%
321 \edef\${\ltx@backslashchar$}%
322 \edef\(\{\ltx@backslashchar(%
323 \edef\)\{\ltx@backslashchar)}%
324 \edef\|{\ltx@backslashchar|}%
325 \edef\*{\ltx@backslashchar*}%
326 \edef\+{\ltx@backslashchar+}%
327 \edef\?{\ltx@backslashchar?}%
328 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
329 \edef\}{\ltx@rightbracechar}%
330 \edef\{\{\ltx@backslashchar\ltx@backslashchar}%
331 \let\ \ltx@space
332 \ifcase\pdfmatch{#2}{#1} %
333 \endgroup
334 \expandafter\ltx@secondoftwo
335 \or
336 \endgroup
337 \expandafter\ltx@firstoftwo
338 \else
339 \Hy@Warning{%
340 Internal error: Wrong pattern!\MessageBreak
341 --> #2 <--\MessageBreak
342 Pattern check ignored%
343 }%
344 \endgroup
345 \expandafter\ltx@firstoftwo
346 \fi
347 }%
348 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{%
349 \begingroup
350 \lccode'0='\{\relax
351 \lowercase{\endgroup
352 \def\ltx@leftbracechar{0}%
353 }%
354 \begingroup
355 \lccode'0='\}\relax
356 \lowercase{\endgroup
357 \def\ltx@rightbracechar{0}%
358 }%
359 }%
360 }
```

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.

```
361 \@ifundefined{AfterBeginDocument}{}%  
362 \def\AfterBeginDocument{\AtBeginDocument}%  
363 }{}%
```

`\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.

```
364 \def\Hy@AtBeginDocument{%  
365 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook  
366 }
```

`\Hy@AtEndOfPackage`

```
367 \def\Hy@AtEndOfPackage{%  
368 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook  
369 }
```

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

```
372 \AtEndOfPackage{%  
373 \Hy@AtEndOfPackageHook  
374 \let\Hy@AtEndOfPackageHook\@undefined  
375 \AfterBeginDocument{%  
376 \Hy@AtBeginDocumentHook}%  
377 \let\Hy@AtBeginDocumentHook\@undefined  
378 }%  
379 }
```

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

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

4.5 Switches

```
381 \newif\ifHy@stoppedearly  
382 \newif\ifHy@typexml  
383 \newif\ifHy@activeanchor  
384 \newif\ifHy@backref  
385 \newif\ifHy@bookmarks  
386 \newif\ifHy@bookmarksnumbered  
387 \newif\ifHy@bookmarksopen  
388 \newif\ifHy@breaklinks  
389 \newif\ifHy@centerwindow  
390 \newif\ifHy@CJKbookmarks  
391 \newif\ifHy@colorlinks  
392 \newif\ifHy@draft  
393 \let\Hy@finaltrue\Hy@draftfalse  
394 \let\Hy@finalfalse\Hy@drafttrue  
395 \newif\ifHy@escapeform  
396 \newif\ifHy@figures
```

397 \newif\ifHy@fitwindow
 398 \newif\ifHy@frenchlinks
 399 \newif\ifHy@hyperfootnotes
 400 \newif\ifHy@hyperindex
 401 \newif\ifHy@hypertextnames
 402 \newif\ifHy@implicit
 403 \newif\ifHy@linktopage
 404 \newif\ifHy@localanchorname
 405 \newif\ifHy@menubar
 406 \newif\ifHy@naturalnames
 407 \newif\ifHy@nesting
 408 \newif\ifHy@newwindowset
 409 \newif\ifHy@newwindow
 410 \newif\ifHy@ocgcolorlinks
 411 \newif\ifHy@pageanchor
 412 \newif\ifHy@pagelabels
 413 \newif\ifHy@pdfpagehidden
 414 \newif\ifHy@pdfstring
 415 \newif\ifHy@plainpages
 416 \newif\ifHy@psize
 417 \newif\ifHy@raiselinks
 418 \newif\ifHy@seminarslides
 419 \newif\ifHy@setpagesize
 420 \newif\ifHy@texht
 421 \newif\ifHy@toolbar
 422 \newif\ifHy@unicode
 423 \newif\ifHy@usetitle
 424 \newif\ifHy@verbose
 425 \newif\ifHy>windowui
 426 \newif\ifHy@displaydoctitle
 427 \newif\ifHy@pdfa

Defaults for the switches are now set.

428 \Hy@backreffalse
 429 \Hy@bookmarksnumberedfalse
 430 \Hy@bookmarksopenfalse
 431 \Hy@bookmarkstrue
 432 \Hy@breaklinksfalse
 433 \Hy@centerwindowfalse
 434 \Hy@CJKbookmarksfalse
 435 \Hy@escapeformfalse
 436 \Hy@figuresfalse
 437 \Hy@fitwindowfalse
 438 \Hy@hyperfootnotesttrue
 439 \Hy@hyperindextrue
 440 \Hy@hypertextnamestrue
 441 \Hy@implicittrue
 442 \Hy@linktopagefalse
 443 \Hy@localanchornamefalse
 444 \Hy@menubartrue
 445 \Hy@naturalnamesfalse
 446 \Hy@nestingfalse
 447 \Hy@newwindowsetfalse
 448 \Hy@newwindowfalse
 449 \Hy@pageanchortrue
 450 \Hy@pagelabelstrue
 451 \Hy@pdfpagehiddenfalse
 452 \Hy@pdfstringfalse


```

453 \Hy@plainpagesfalse
454 \Hy@raiselinksfalse
455 \Hy@setpagesizetrue
456 \Hy@texhtfalse
457 \Hy@toolbartrue
458 \Hy@typexmlfalse
459 \Hy@unicodefalse
460 \Hy@usetitlefalse
461 \Hy@verbosefalse
462 \Hy>windowuitrue
463 \Hy@displaydoctitlefalse
464 \Hy@pdfafalse

```

5 Common help macros

`\Hy@StepCount`

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

`\Hy@GlobalStepCount`

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

```

467 \newdimen\@linkdim
468 \let\Hy@driver\ltx@empty
469 \let\MaybeStopEarly\relax
470 \newcount\Hy@linkcounter
471 \newcount\Hy@pagecounter
472 \Hy@linkcounter0
473 \Hy@pagecounter0

```

5.1 Macros for recursions

```

474 \let\Hy@ReturnEnd\@empty
475 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
476 \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.

```

477 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
478 \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 (T_EX):

```

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

\hypercalsbp
479 \begingroup\expandafter\expandafter\expandafter\endgroup
480 \expandafter\ifx\csname dimexpr\endcsname\relax
481 \def\hypercalsbpdef#1#2{%
482   \begingroup
483   \toks@{%
484     \HyCal@scan#2\hypercalsbp\@nil
485   \expandafter\endgroup
486   \expandafter\def\expandafter#1\expandafter{\the\toks@}%
487 }%
488 \def\HyCal@scan#1\hypercalsbp#2\@nil{%
489   \toks@\expandafter{\the\toks@ #1}%
490   \ifx\#2\%
491     \else
492     \ltx@ReturnAfterFi{%
493       \HyCal@do#2\@nil
494     }%
495   \fi
496 }%
497 \def\HyCal@do#1#2\@nil{%
498   \ifpackageloaded{calc}{}%
499   \Hy@Warning{%
500     For calculations \string\hypercalsbp\space needs\MessageBreak
501     package calc or e-TeX%
502   }%
503 }%
504 \setlength{\dimen@}{#1}%
505 \setlength{\dimen@}{0.99626401\dimen@}%
506 \edef\x{%
507   \toks@{%
508     \the\toks@
509     \strip@pt\dimen@
510   }%
511 } \x
512 \HyCal@scan#2\@nil
513 }%
514 \else
515 \def\hypercalsbp#1{%
516   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
517 }%
518 \def\hypercalsbpdef{\def}%
519 \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 $\text{T}_{\text{E}}\text{X}$'s view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a $\text{T}_{\text{E}}\text{X}$ interpreter!

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

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

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

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by $\text{T}_{\text{E}}\text{X}$, because the tokens have only catcodes 10 until 12.

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

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

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

```
521 \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.

```
522 \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.

```
523 \edef\0{\string\0}%
524 \edef\1{\string\1}%
525 \edef\2{\string\2}%
526 \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.

```
527 \ifHy@unicode
528 \edef\8{\string\8}%
529 \edef\9{\string\9}%
530 \fontencoding{PU}%
531 \HyPsd@UTFviii
532 \def\ifpdfstringunicode###1##2{##1}%
533 \else
534 \fontencoding{PD1}%
535 \def\ifpdfstringunicode###1##2{##2}%
536 \fi
537 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
538 \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).

```
539 \@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).

```
540 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
541 \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.

```
542 \let\{\textbraceleft
543 \let\}\textbraceright
544 \let\\\textbackslash
545 \let\#\textnumbersign
546 \let\$\textdollar
547 \let%\textpercent
548 \let&\textampersand
549 % \let~\textasciitilde
550 \let_\textunderscore
551 \let\textP\textparagraph
552 \let\ldots\textellipsis
553 \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.

```
554 \def\{\pdfstringdefWarn\}%
555 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
556 \def\TeX{\TeX}%
557 \def\LaTeX{\LaTeX}%
558 \def\LaTeXe{\LaTeXe}%
559 \LaTeX2%
560 \ifHy@unicode\textepsilon\else e\fi
561 }%
562 \def\eTeX{\eTeX}%
563 \ifHy@unicode\textepsilon\else e\fi
564 -\TeX%
565 }%
566 \def\SliTeX{\SliTeX}%
567 \def\MF{Metafont}%
568 \def\MP{Metapost}%
```

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

```
569 \let\fontencoding\@gobble
570 \let\fontfamily\@gobble
571 \let\fontseries\@gobble
572 \let\fontshape\@gobble
573 \let\fontsize\@gobbletwo
574 \let\selectfont\@empty
575 \let\usefont\@gobblefour
576 \let\emph\@firstofone
577 \let\textnormal\@firstofone
578 \let\textrm\@firstofone
579 \let\textsf\@firstofone
580 \let\texttt\@firstofone
581 \let\textbf\@firstofone
582 \let\textmd\@firstofone
583 \let\textit\@firstofone
584 \let\textsc\@firstofone
585 \let\textsl\@firstofone
586 \let\textup\@firstofone
587 \let\normalfont\@empty
588 \let\rmfamily\@empty
589 \let\sfamily\@empty
590 \let\ttfamily\@empty
591 \let\bfseries\@empty
592 \let\mdseries\@empty
593 \let\itshape\@empty
594 \let\scshape\@empty
595 \let\slshape\@empty
596 \let\upshape\@empty
597 \let\em\@empty
598 \let\rm\@empty
599 \let\Huge\@empty
600 \let\LARGE\@empty
601 \let\Large\@empty
602 \let\footnotesize\@empty
603 \let\huge\@empty
604 \let\large\@empty
605 \let\normalsize\@empty
606 \let\scriptsize\@empty
607 \let\small\@empty
608 \let\tiny\@empty
609 \let\mathversion\@gobble
610 \let\phantom\@gobble
611 \let\vphantom\@gobble
612 \let\hphantom\@gobble
```

Environments.

```
613 \def\begin#1{\csname#1\endcsname}%
614 \def\end#1{\csname end#1\endcsname}%
```

Package color.

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

Upper- and lowercase.

```

616 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
617 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

618 \let\foreignlanguage\@secondoftwo
619 \let\textlatin\@firstofone
620 \ltx@ifundefined{language@group}{-}{%
621 \csname HyPsd@babel@\language@group\endcsname
622 }%
623 \HyPsd@GreekPatch
624 \HyPsd@SpanishPatch
625 \HyPsd@RussianPatch
626 \HyPsd@BabelPatch
627 \let\@safe@activestrue\relax
628 \let\@safe@activesfalse\relax

```

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

```
629 \let\cyr\relax
```

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

```
630 \let\es@roman\@Roman
```

Package german.

```

631 \let\glqq\textglqq
632 \let\grqq\textgrqq
633 \let\glq\textglq
634 \let\grq\textgrq
635 \let\flqq\textflqq
636 \let\frqq\textfrqq
637 \let\flq\textflq
638 \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}
```

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

AMS classes.

```
640 \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.

```
641 \let\hspace\HyPsd@hspace
```

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

```
642 \let\label\@gobble
643 \let\index\@gobble
644 \let\glossary\@gobble
645 \let\href\HyPsd@href
646 \let\@mkboth\@gobbletwo
```

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

```
647 \let\ref\HyPsd@ref
648 \let\pageref\HyPsd@pageref
649 \let\nameref\HyPsd@nameref
650 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
651 \let\leavevmode\@empty
652 \let\mbox\@empty
```

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

```
653 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
654 \let\ignorespaces\HyPsd@ignorespaces
655 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
656 \HyPsd@CJKhook
```

User hook. The switch \backslash 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 \backslash 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 (\backslash bgroup, or \backslash protected@testopt, and \backslash @ifnextchar for \backslash renewcommand).

```
657 \Hy@pdfstringtrue
658 \pdfstringdefPreHook
```

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

```
659 \HyPsd@LetUnexpandableSpace\space
660 \HyPsd@LetUnexpandableSpace\ %
661 \HyPsd@LetUnexpandableSpace~%
662 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
663 \ltx@ifundefined{@xspace}{%
664 \let\xspace\HyPsd@ITALCORR
665 }{%
666 \let\xspace\HyPsd@XSPACE
667 }%
668 \let\/\HyPsd@ITALCORR
669 \let\bgroup\/%
670 \let\egroup\/%
```


Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
671 \let\discretionary\@gobbletwo
```

\@ifstar is defined in L^AT_EX as follows:

```
\def\@ifstar#1{\@ifnextchar *{\@firstoftwo{#1}}
```

\@ifnextchar doesn't work, because it uses stomach commands like \let and \futurelet. But it doesn't break. Whereas \@firstoftwo{#1} gives an error message because \@firstoftwo misses its second argument.

A mimicry of \@ifnextchar only with expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

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

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

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

```
675 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

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

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

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

\edef This version uses this standard form for expansion. It is stronger than L^AT_EX's \protected@edef. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of L^AT_EX doesn't work within an \edef, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texorpdfstring). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with \csname. However a PDF reader isn't T_EX, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

```
677 \begingroup
678 \let\GenericError@gobblefour
679 \let\GenericWarning@gobbletwo
680 \let\GenericInfo@gobbletwo
```

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

```
681 \ifx\nofrenchguillemets@undefined
682 \else
683 \nofrenchguillemets
684 \fi
```

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

```
685 \let\Hy@temp\xdef
686 \let\def\HyPsd@DefCommand
687 \let\gdef\HyPsd@DefCommand
688 \let\edef\HyPsd@DefCommand
689 \let\xdef\HyPsd@DefCommand
690 \let\futurelet\HyPsd@LetCommand
691 \let\let\HyPsd@LetCommand
692 \Hy@temp#1{#2}%
693 \endgroup
```

6.2.3 Postprocessing

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

```
694 \ifx#1\@empty
695 \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.
- `TEX` silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character `|` is appended to the string to make an outer brace to an inner one.

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

```

696 \HyPsd@ProtectSpaces#1%
697 \let\HyPsd@String\@empty
698 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
699 \global\let#1\HyPsd@String

```

Check tokens. After removing the spaces and the grouping characters the string now should only consist 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.

```

700 \let\HyPsd@SPACEOPTI\relax
701 {%
702 \let\HyPsd@String\@empty
703 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
704 \global\let#1\HyPsd@String
705 }%
706 \expandafter\HyPsd@RemoveMask\expandafter
707 | \expandafter\@empty#1\HyPsd@End#1%

```

`\HyPsd@CheckCatcodes` should not have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause too 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.

```

708 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
709 \let\HyPsd@String\@empty
710 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
711 \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.

```
712 \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.

```

713 \ifHy@unicode
714 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
715 \HyPsd@SPACEOPTI#1%
716 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
717 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
718 {\HyPsd@SPACEOPTI\80\273}#1%
719 \else
720 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
721 \expandafter\HyPsd@Subst\expandafter{%
722 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
723 \string\273}\HyPsd@SPACEOPTI\273}#1%
724 \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.

```

725 \ifHy@unicode
726 \HyPsd@StringSubst{\)}{\80\051}#1%
727 \HyPsd@Subst){\80\051}#1%
728 \let\HyPsd@empty\relax
729 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
730 {\HyPsd@empty\80\051}#1%
731 \else
732 \HyPsd@StringSubst{\)}{\051}#1%
733 \HyPsd@Subst){\051}#1%
734 \let\HyPsd@empty\relax
735 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
736 \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`.

```

737 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
738 \ltx@ifundefined{@xspace}{%
739 }{%
740 \let\HyPsd@xspace\relax
741 \expandafter\HyPsd@Subst\expandafter
742 {\HyPsd@XSPACE}\HyPsd@xspace#1%
743 \let\HyPsd@xspace\HyPsd@doxspace
744 }%
745 \xdef#1{#1\HyPsd@empty}%

```

Ligatures. T_EX forms ligatures in its stomach, but the PDF strings are treated only by T_EX's mouth. The PDFDocEncoding contains some ligatures, but the current version 3 of the AcrobatReader lacks the fi and fl glyphs, and the Linux version lacks the emdash and endash glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the AcrobatReader is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an \HyPsd@empty. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package xspace is loaded.

Since newer AcrobatReader versions now show the en- and emdash in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.78l.

```

746 \HyPsd@Subst{---}\textemdash#1%
747 \HyPsd@Subst{--}\textendash#1%
748 % \HyPsd@Subst{fi}\textfi#1%
749 % \HyPsd@Subst{fl}\textfl#1%
750 \HyPsd@Subst{!}\textexclamdown#1%
751 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```

752 \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 T_EX memory and time.

```

753 \ifHy@unicode
754 \HyPsd@StringSubst\(\textparenleft#1%
755 \HyPsd@Subst(\textparenleft#1%
756 \else
757 \HyPsd@StringSubst\({\050}#1%
758 \HyPsd@Subst({\050}#1%
759 \HyPsd@StringSubst{\050}{\string\{ }#1%
760 \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.

```

761 \ifHy@unicode
762 \edef\HyPsd@SPACEOPTI{\80\040}%
763 \else
764 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
765 \fi
766 \xdef#1{#1\@empty}%
767 \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.

```

768 \endgroup
769 \begingroup
770 \ifHy@unicode
771 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```
772 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
773 \ltx@ifundefined{StringEncodingConvertTest}{%
774 }{%
775 \EdefUnescapeString\HyPsd@temp#1%
776 \ifxetex
777 \let\HyPsd@UnescapedString\HyPsd@temp
778 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
779 {utf16be}{ascii-print}{%
780 \EdefEscapeString\HyPsd@temp\HyPsd@temp
781 \global\let#1\HyPsd@temp
782 \HyPsd@EscapeTeX#1%
783 \Hy@unicodefalse
784 }{%
785 \HyPsd@ToBigChars#1%
786 }%
787 \else
788 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
789 {utf16be}{pdfdoc}{%
790 \EdefEscapeString\HyPsd@temp\HyPsd@temp
791 \global\let#1\HyPsd@temp
792 \HyPsd@EscapeTeX#1%
793 \Hy@unicodefalse
794 }{%}
795 \fi
796 }%
797 \fi
798 \fi
799 \HyPsd@XeTeXBigCharsfalse
```

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

```
800 \pdfstringdefPostHook#1%
801 \endgroup
802 }
```

`\Hy@pdfstringdef`

```
803 \def\Hy@pdfstringdef#1#2{%
804 \pdfstringdef\Hy@gtemp{#2}%
805 \let#1\Hy@gtemp
806 }
```

6.3 Encodings

6.3.1 XeTeX

```
807 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
808 \catcode\z@=12 %
809 \ifxetex
810 \expandafter\@firstofone
811 \else
812 \let\HyPsd@XeTeXBigCharstrue\@empty
813 \let\HyPsd@XeTeXBigCharsfalse\@empty
814 \expandafter\@gobble
815 \fi
816 {%
```

```

817 \newif\ifHyPsd@XeTeXBigChars
818 \def\HyPsd@XeTeXBigCharsfalse{%
819   \global\let\ifHyPsd@XeTeXBigChars\iffalse
820 }%
821 \def\HyPsd@XeTeXBigCharstrue{%
822   \global\let\ifHyPsd@XeTeXBigChars\iftrue
823 }%
824 \def\HyPsd@ToBigChars#1{%
825   \ifHyPsd@XeTeXBigChars
826     \EdefEscapeHex\HyPsd@UnescapedString{%
827       \expandafter\@gobbletwo\HyPsd@UnescapedString
828     }%
829     \begingroup
830     \toks@{ }%
831     \escapechar=92\relax
832     \let\x\HyPsd@ToBigChar
833     \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
834     \relax\relax\relax\relax\relax\relax\relax
835     \edef\x{%
836       \endgroup
837       \gdef\noexpand#1{\the\toks@}%
838     }%
839     \x
840   \fi
841 }%
842 \def\HyPsd@ToBigChar#1#2#3#4{%
843   \ifx\relax#1\relax
844     \let\x\relax
845   \else
846     \count@=#1#2#3#4\relax
847     \let\y\@empty
848     \lccode\z@=\count@
849     \ifnum\count@=40 % (
850       \let\y\@backslashchar
851     \else
852       \ifnum\count@=41 % )
853         \let\y\@backslashchar
854       \else
855         \ifnum\count@=92 % backslash
856           \let\y\@backslashchar
857         \else
858           \ifnum\count@=10 % newline
859             \edef\y##1{\string\n}%
860           \else
861             \ifnum\count@=13 % carriage return
862               \edef\y##1{\string\r}%
863             \fi
864           \fi
865         \fi
866       \fi
867     \fi
868   \lowercase{%
869     \toks@\expandafter{%
870       \the\expandafter\toks@
871     \y
872     ^^@%
873   }%

```

```

874 }%
875 \fi
876 \x
877 }%
878 }
879 \Hy@temp

```

6.3.2 Workaround for package linguex

```

880 \@ifpackageloaded{linguex}{%
881 \let\HyLinguex@OrgB\b
882 \let\HyLinguex@OrgC\c
883 \let\HyLinguex@OrgD\d
884 \def\HyLinguex@Restore{%
885 \let\b\HyLinguex@OrgB
886 \let\c\HyLinguex@OrgC
887 \let\d\HyLinguex@OrgD
888 }%
889 \Hy@AtEndOfPackage{%
890 \pdfstringdefDisableCommands{%
891 \tx@ifundefined{oldb}{\let\b\oldb}%
892 \tx@ifundefined{oldc}{\let\c\oldc}%
893 \tx@ifundefined{oldd}{\let\d\oldd}%
894 }%
895 }%
896 }{%
897 \let\HyLinguex@Restore\relax
898 }%

```

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.

```

899 \@ifundefined{T@PD1}{%
900 \input{pd1enc.def}%
901 \HyLinguex@Restore
902 }{}
903 \DeclareFontFamily{PD1}{pdf}{}
904 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
905 \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`.

```

906 \def\HyPsd@InitUnicode{%
907 \@ifundefined{T@PU}{%
908 \input{puenc.def}%
909 \HyLinguex@Restore

```



```

910 }{}%
911 \DeclareFontFamily{PU}{pdf}{}%
912 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
913 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
914 \let\HyPsd@InitUnicode\relax
915 }

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

916 \def\texorpdfstring{%
917   \ifHy@pdfstring
918     \expandafter\@secondoftwo
919   \else
920     \expandafter\@firstoftwo
921   \fi
922 }

```

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`.

```

923 \@ifundefined{pdfstringdefPreHook}{%
924   \let\pdfstringdefPreHook\@empty
925 }{}
926 \@ifundefined{pdfstringdefPostHook}{%
927   \let\pdfstringdefPostHook\@gobble
928 }{}

```

`\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 \TeX commands like `\@gobble` or `\@firstofone`.

```

929 \def\pdfstringdefDisableCommands{%
930   \begingroup
931     \makeatletter
932     \HyPsd@DisableCommands
933 }

```

`\HyPsd@DisableCommands`

```
934 \long\def\HyPsd@DisableCommands#1{%
935   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
936   \endgroup
937 }
```

`\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`.

```
938 \def\pdfstringdefWarn#1{%
939   \expandafter\noexpand\csname<>-string#1\endcsname
940 }
```

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.

```
941 \begingroup
942   \catcode0=12 %
943   \def\x{\endgroup
944     \def\HyPsd@ignorespaces{%
945       \romannumeral\expandafter'\expandafter^^@%
946       \romannumeral'^^@%
947     }%
948   }%
949 \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`.

```
950 \def\HyPsd@BabelPatch{%
951   \let\HyOrg@languageshorthands\languageshorthands
952   \let\languageshorthands\HyPsd@LanguageShorthands
953 }
954 \begingroup\expandafter\expandafter\expandafter\endgroup
955 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
956   \let\HyPsd@langshort@system\@empty
```

```

957 \def\HyPsd@LanguageShorthands#1{%
958   \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
959     \HyPsd@langshort@system
960   \expandafter\@gobble
961 \else
962   \expandafter\@firstofone
963 \fi
964 {%
965   \HyOrg@languageshorthands{#1}%
966 }%
967 }%
968 \else
969 \def\HyPsd@LanguageShorthands#1{%
970   \ifnum\pdf@strcmp{#1}{system}=\z@
971     \expandafter\@gobble
972   \else
973     \expandafter\@firstofone
974   \fi
975 {%
976   \HyOrg@languageshorthands{#1}%
977 }%
978 }%
979 \fi
980 \def\Hy@temp{%
981   \@ifpackageloaded{babel}{%
982     \@ifpackagelater{babel}{2008/03/16}{%
983       \let\Hy@temp\@empty
984     }{%
985       \def\HyPsd@BabelPatch{%
986         \let\HyOrg@languageshorthands\languageshorthands
987       }%
988     }%
989 }{}%
990 }
991 \Hy@temp
992 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
993 \newif\ifHy@next

  Nothing to do for english.
994 \ltx@ifundefined{danish@sh@"@sel}{}{%
995   \def\HyPsd@babel@danish{%
996     \declare@shorthand{danish}{|}{|}%
997     \declare@shorthand{danish}{~}{~}%
998   }%
999 }
1000 \ltx@ifundefined{dutch@sh@"@sel}{}{%
1001   \def\HyPsd@babel@dutch{%
1002     \declare@shorthand{dutch}{|}{|}%
1003     \declare@shorthand{dutch}{~}{~}%
1004   }%
1005 }
1006 \ltx@ifundefined{finnish@sh@"@sel}{}{%
1007   \def\HyPsd@babel@finnish{%
1008     \declare@shorthand{finnish}{|}{|}%
1009   }%
1010 }
1011 \ltx@ifundefined{french@sh@"@sel}{}{%

```

```

1012 \def\HyPsd@babel@frenchb{%
1013   \def\guill@spacing{ }%
1014 }%
1015 }
1016 \ltx@ifundefined{german@sh@"@sel}{-}{-%
1017   \def\HyPsd@babel@german{%
1018     \declare@shorthand{german}{"f}{f}%
1019     \declare@shorthand{german}{"}{|}{-%
1020     \declare@shorthand{german}{"}{~}{-}%
1021   }%
1022 }
1023 \ltx@ifundefined{macedonian@sh@"@sel}{-}{-%
1024   \def\HyPsd@babel@macedonian{%
1025     \declare@shorthand{macedonian}{"}{|}{-%
1026     \declare@shorthand{macedonian}{"}{~}{-}%
1027   }%
1028 }{-}
1029 \ltx@ifundefined{ngerman@sh@"@sel}{-}{-%
1030   \def\HyPsd@babel@ngerman{%
1031     \declare@shorthand{ngerman}{"}{|}{-%
1032     \declare@shorthand{ngerman}{"}{~}{-}%
1033   }%
1034 }
1035 \ltx@ifundefined{portuges@sh@"@sel}{-}{-%
1036   \def\HyPsd@babel@portuges{%
1037     \declare@shorthand{portuges}{"}{|}{-%
1038   }%
1039 }
1040 \ltx@ifundefined{russian@sh@"@sel}{-}{-%
1041   \def\HyPsd@babel@russian{%
1042     \declare@shorthand{russian}{"}{|}{-%
1043     \declare@shorthand{russian}{"}{~}{-}%
1044   }%
1045 }
1046 \ltx@ifundefined{slovene@sh@"@sel}{-}{-%
1047   \def\HyPsd@babel@slovene{%
1048     \declare@shorthand{slovene}{"}{|}{-%
1049   }%
1050 }

```

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

```

1051 \ltx@ifundefined{spanish@sh@>@sel}{-}{-%
1052   \def\HyPsd@babel@spanish{%
1053     \declare@shorthand{spanish}{<<}{\guillemotleft}%
1054     \declare@shorthand{spanish}{>>}{\guillemotright}%
1055     \declare@shorthand{spanish}{"}{=}{-}%
1056     \declare@shorthand{spanish}{"}{~}{-}%
1057     \declare@shorthand{spanish}{"}{!}{\textexclamdown}%
1058     \declare@shorthand{spanish}{"}{?}{\textquestiondown}%
1059   }%
1060 }
1061 \ltx@ifundefined{swedish@sh@"@sel}{-}{-%
1062   \def\HyPsd@babel@swedish{%
1063     \declare@shorthand{swedish}{"}{|}{-%
1064     \declare@shorthand{swedish}{"}{~}{-}%
1065   }%
1066 }
1067 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{-%

```

```

1068 \def\HyPsd@babel@ukrainian{%
1069   \declare@shorthand{ukrainian}{"}{|}%
1070   \declare@shorthand{ukrainian}{"}{~}{-}%
1071 }%
1072 }
1073 \ltx@ifundefined{usorbian@sh@"@sel}{-}{-}%
1074 \def\HyPsd@babel@usorbian{%
1075   \declare@shorthand{usorbian}{"}{|}%
1076   \declare@shorthand{usorbian}{"}{|}%
1077 }%
1078 }

1079 \ltx@ifundefined{greek@sh@\string~@sel}{-}{-}%
1080 \let\HyPsd@GreekPatch\@empty
1081 }%
1082 \def\HyPsd@GreekPatch{%
1083   \let\greeknumeral\HyPsd@greeknumeral
1084   \let\Greeknnumeral\HyPsd@Greeknnumeral
1085 }%
1086 }

1087 \def\HyPsd@greeknumeral#1{%
1088   \HyPsd@GreekNum\@firstoftwo{#1}%
1089 }
1090 \def\HyPsd@Greeknnumeral#1{%
1091   \HyPsd@GreekNum\@secondoftwo{#1}%
1092 }
1093 \def\HyPsd@GreekNum#1#2{%
1094   \ifHy@unicode
1095     \ifnum#2<\@ne
1096       \@arabic{#2}%
1097     \else
1098       \ifnum#2<1000000 %
1099         \HyPsd@@GreekNum#1{#2}%
1100       \else
1101         \@arabic{#2}%
1102       \fi
1103     \fi
1104   \else
1105     \@arabic{#2}%
1106   \fi
1107 }

1108 \def\HyPsd@@GreekNum#1#2{%
1109   \ifnum#2<\@m
1110     \ifnum#2<10 %
1111       \expandafter\HyPsd@GreekNumI
1112       \expandafter\@gobble\expandafter#1\number#2%
1113     \else
1114       \ifnum#2<100 %
1115         \expandafter\HyPsd@GreekNumII
1116         \expandafter\@gobble\expandafter#1\number#2%
1117       \else
1118         \expandafter\HyPsd@GreekNumIII
1119         \expandafter\@gobble\expandafter#1\number#2%
1120       \fi
1121     \fi
1122   \ifnum#2>\z@
1123     \textnumeralsigngreek
1124   \fi

```

```

1125 \else
1126 \ifnum#2<\@M
1127 \expandafter\HyPsd@GreeNumIV\expandafter#1\number#2%
1128 \else
1129 \ifnum#2<100000 %
1130 \expandafter\HyPsd@GreeNumV\expandafter#1\number#2%
1131 \else
1132 \expandafter\HyPsd@GreeNumVI\expandafter#1\number#2%
1133 \fi
1134 \fi
1135 \fi
1136 }
1137 \def\HyPsd@GreeNumI#1#2#3{%
1138 #1{%
1139 \ifnum#3>\z@
1140 \textnumeralsignlowergreek
1141 \fi
1142 }%
1143 \expandafter#2%
1144 \ifcase#3 %
1145 {}{}%
1146 \or\textalpha\textAlpha
1147 \or\textbeta\textBeta
1148 \or\textgamma\textGamma
1149 \or\textdelta\textDelta
1150 \or\textepsilon\textEpsilon
1151 \or\textstigmagreek\textStigmagreek
1152 \or\textzeta\textZeta
1153 \or\texteta\textEta
1154 \or\texttheta\textTheta
1155 \else
1156 {}{}%
1157 \fi
1158 }
1159 \def\HyPsd@GreeNumII#1#2#3#4{%
1160 #1{%
1161 \ifnum#3>\z@
1162 \textnumeralsignlowergreek
1163 \fi
1164 }%
1165 \expandafter#2%
1166 \ifcase#3 %
1167 {}{}%
1168 \or\textiota\textIota
1169 \or\textkappa\textKappa
1170 \or\textlambda\textLambda
1171 \or\textmu\textMu
1172 \or\textnu\textNu
1173 \or\textxi\textXi
1174 \or\textomicron\textOmicron
1175 \or\textpi\textPi
1176 \or\textkoppagreek\textKoppagreek
1177 \else
1178 {}{}%
1179 \fi
1180 \HyPsd@GreeNumI#1#2#4%
1181 }

```

```

1182 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1183   #1{%
1184     \ifnum#3>\z@
1185       \textnumeralsignlowergreek
1186       \fi
1187   }%
1188 \expandafter#2%
1189 \ifcase#3 %
1190   {}{}%
1191 \or\textrho\textRho
1192 \or\textsigma\textSigma
1193 \or\texttau\textTau
1194 \or\textupsilon\textUpsilon
1195 \or\textphi\textPhi
1196 \or\textchi\textChi
1197 \or\textpsi\textPsi
1198 \or\textomega\textOmega
1199 \or\textsampigreek\textSampigreek
1200 \else
1201   {}{}%
1202 \fi
1203 \HyPsd@GreekNumII#1#2#4#5%
1204 }
1205 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1206 \HyPsd@GreekNumI\@firstofone#1#2%
1207 \HyPsd@@GreekNum#1{#3#4#5}%
1208 }
1209 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1210 \HyPsd@GreekNumII\@firstofone#1#2#3%
1211 \HyPsd@@GreekNum#1{#4#5#6}%
1212 }
1213 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1214 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1215 \HyPsd@@GreekNum#1{#5#6#7}%
1216 }

1217 \def\HyPsd@SpanishPatch{%
1218 \ltx@ifundefined{es@save@dot}{%
1219 }{%
1220 \let\.\es@save@dot
1221 }%
1222 }

```

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

..

```

1223 \def\HyPsd@RussianPatch{%
1224 \ltx@ifundefined{russian@sh@"@-@}{%
1225 }{%
1226 \@namedef{russian@sh@"@-@}{-}%
1227 }%
1228 }

```

6.5.3 CJK patch

```

1229 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1230 \def\HyPsd@CJKhook{%

```

```

1231 \ltx@ifpackageloaded{CJK}{%
1232   \let\CJK@kern\relax
1233   \let\CJKkern\relax
1234   \let\CJK@CJK\relax
1235   \ifHy@CJKbookmarks
1236     \HyPsd@CJHook@bookmarks
1237   \fi
1238   \HyPsd@CJHook@unicode
1239 }{}%
1240 }

```

6.5.4 CJK bookmarks

`\HyPsd@CJHook` 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 ($\geq 0x40$).

```

1241 \begingroup
1242   \catcode"7F=\active
1243   \toks@{%
1244     \let\CJK@ignorespaces\empty
1245     \def\CJK@char#1{\@gobbletwo}%
1246     \let\CJK@charx\@gobblefour
1247     \let\CJK@punctchar\@gobblefour
1248     \def\CJK@punctcharx#1{\@gobblefour}%
1249     \catcode"7F=\active
1250     \def^^7f#1^^7f#2^^7f{%
1251       \string #1\HyPsd@DecimalToOctal{#2}%
1252     }%
1253     % ... ?
1254     \ifHy@unicode
1255       \def\Hy@cjkpu{\80}%
1256     \else
1257       \let\Hy@cjkpu\@empty
1258     \fi
1259     \HyPsd@CJActiveChars
1260   }%
1261   \count@=127 %
1262   \@whilenum\count@<255 \do{%
1263     \advance\count@ by 1 %
1264     \lccode'\~=\count@
1265     \lowercase{%
1266       \toks@\expandafter{\the\toks@ ~}%
1267     }%
1268   }%
1269   \toks@\expandafter{\the\toks@ !}%
1270   \xdef\HyPsd@CJHook@bookmarks{%
1271     \the\toks@
1272   }%
1273 \endgroup

```


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

```
1274 \def\HyPsd@CJKActiveChars#1{%
1275   \ifx#1!%
1276     \let\HyPsd@CJKActiveChars\relax
1277   \else
1278     \edef#1{\noexpand\Hy@cjku\string#1}%
1279   \fi
1280 \HyPsd@CJKActiveChars
1281 }
```

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

```
1282 \def\HyPsd@DecimalToOctal#1{%
1283   \ifcase #1 %
1284     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1285     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1286     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1287     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1288     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1289     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1290     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1291     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1292     \or @\or A\or B\or C\or D\or E\or F\or G%
1293     \or H\or I\or J\or K\or L\or M\or N\or O%
1294     \or P\or Q\or R\or S\or T\or U\or V\or W%
1295     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1296     \or \140\or a\or b\or c\or d\or e\or f\or g%
1297     \or h\or i\or j\or k\or l\or m\or n\or o%
1298     \or p\or q\or r\or s\or t\or u\or v\or w%
1299     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1300     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1301     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1302     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1303     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1304     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1305     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1306     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1307     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1308     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1309     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1310     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1311     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1312     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1313     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1314     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1315     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1316   \fi
1317 }
```

6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```
1318 \def\HyPsd@CJKhook@unicode{%
1319   \let\Unicode\HyPsd@CJK@Unicode
1320   \let\CJKnumber\HyPsd@CJKnumber
1321   \let\CJKdigits\HyPsd@CJKdigits
1322 }
```

\HyPsd@CJK@Unicode

```
1323 \def\HyPsd@CJK@Unicode#1#2{%
1324 \ifnum#1<256 %
1325 \HyPsd@DecimalToOctalFirst{#1}%
1326 \HyPsd@DecimalToOctalSecond{#2}%
1327 \else
1328 \933%
1329 \expandafter\expandafter\expandafter\HyPsd@HighA
1330 \intcalcDiv{#1}{4}!%
1331 \933%
1332 \ifcase\intcalcMod{#1}{4} %
1333 4\or 5\or 6\or 7%
1334 \fi
1335 \HyPsd@DecimalToOctalSecond{#2}%
1336 \fi
1337 }

1338 \def\HyPsd@HighA#1!{%
1339 \expandafter\expandafter\expandafter\HyPsd@HighB
1340 \IntCalcDiv#1!64!!%
1341 \expandafter\expandafter\expandafter\HyPsd@HighD
1342 \IntCalcMod#1!64!!%
1343 }
1344 \def\HyPsd@HighB#1!{%
1345 \expandafter\expandafter\expandafter\HyPsd@HighC
1346 \IntCalcDec#1!!%
1347 }
1348 \def\HyPsd@HighC#1!{%
1349 \IntCalcDiv#1!4!%
1350 \@backslashchar
1351 \IntCalcMod#1!4!%
1352 }
1353 \def\HyPsd@HighD#1!{%
1354 \ifcase\IntCalcDiv#1!8! %
1355 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1356 \fi
1357 \ifcase\IntCalcMod#1!8! %
1358 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1359 \fi
1360 }
1361 \def\HyPsd@DecimalToOctalFirst#1{%
1362 \9%
1363 \ifcase#1 %
1364 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1365 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1366 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1367 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1368 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1369 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1370 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1371 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1372 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1373 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1374 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1375 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1376 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1377 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1378 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
```

```

1379 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1380 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1381 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1382 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1383 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1384 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1385 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1386 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1387 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1388 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1389 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1390 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1391 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1392 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1393 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1394 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1395 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1396 \fi
1397 }
1398 \def\HyPsd@DecimalToOctalSecond#1{%
1399 \ifcase #1 %
1400 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1401 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1402 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1403 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1404 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1405 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1406 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1407 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1408 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1409 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1410 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1411 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1412 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1413 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1414 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1415 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1416 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1417 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1418 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1419 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1420 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1421 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1422 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1423 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1424 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1425 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1426 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1427 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1428 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1429 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1430 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1431 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1432 \fi
1433 }
1434 \def\HyPsd@CJKnumber#1{%
1435 \ifnum#1<\z@

```

```

1436 \CJK@minus
1437 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1438 \else
1439 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1440 \fi
1441 }
1442 \def\HyPsd@@CJKnumber#1{%
1443 \ifcase#1 %
1444 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1445 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1446 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1447 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1448 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1449 \CJK@ten\CJK@nine
1450 \else
1451 \ifnum#1<10000 %
1452 \HyPsd@CJKnumberFour#1!\@empty{20}%
1453 \@empty
1454 \else
1455 \ifnum#1<100000000 %
1456 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1457 \IntCalcDiv#1!10000!%
1458 !}{20}%
1459 \CJK@tenthousand
1460 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1461 \IntCalcMod#1!10000!%
1462 !\CJK@zero{10}%
1463 \@empty
1464 \else
1465 \expandafter\HyPsd@CJKnumberLarge
1466 \number\IntCalcDiv#1!100000000!\expandafter!%
1467 \number\IntCalcMod#1!100000000!%
1468 \fi
1469 \fi
1470 \fi
1471 }
1472 \def\HyPsd@CJKnumberLarge#1!#2!{%
1473 \HyPsd@CJKnumberFour#1!}{20}%
1474 \CJK@hundredmillion
1475 \ifnum#2=\z@
1476 \else
1477 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1478 \IntCalcDiv#2!10000!%
1479 !\CJK@zero{10}%
1480 \CJK@tenthousand
1481 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1482 \IntCalcMod#2!10000!%
1483 !\CJK@zero{10}%
1484 \@empty
1485 \fi
1486 }
1487 \def\HyPsd@CJKnumberFour#1!#2#3{%
1488 \ifnum#1=\z@
1489 \expandafter\@gobble
1490 \else
1491 \ifnum#1<1000 %
1492 #2%

```

```

1493 \HyPsd@CJKnumberThree#1!{#3}%
1494 \else
1495 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1496 \CJK@thousand
1497 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1498 \IntCalcMod#1!1000!%
1499 !\CJK@zero{10}%
1500 \fi
1501 \fi
1502 }
1503 \def\HyPsd@CJKnumberThree#1!#2#3{%
1504 \ifnum#1=\z@
1505 \else
1506 \ifnum#1<100 %
1507 #2%
1508 \HyPsd@CJKnumberTwo#1!{#3}%
1509 \else
1510 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1511 \CJK@hundred
1512 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1513 \IntCalcMod#1!100!%
1514 !\CJK@zero{10}%
1515 \fi
1516 \fi
1517 }
1518 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1519 \ifnum#1=\z@
1520 \else
1521 \ifnum#1<#3 %
1522 #2%
1523 \HyPsd@@CJKnumber{#1}%
1524 \else
1525 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1526 \CJK@ten
1527 \ifnum\IntCalcMod#1!10!=\z@
1528 \else
1529 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1530 \fi
1531 \fi
1532 \fi
1533 }
1534 \def\HyPsd@CJKdigits#1{%
1535 \ifx*#1\relax
1536 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1537 \else
1538 \HyPsd@@CJKdigits\CJK@null{#1}%
1539 \fi
1540 }
1541 \def\HyPsd@@CJKdigits#1#2{%
1542 \ifx\#2\%
1543 \else
1544 \HyPsd@@@CJKdigits#1#2\@nil
1545 \fi
1546 }%
1547 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1548 \HyPsd@CJKdigit#1{#2}%
1549 \ifx\#3\%

```

```

1550 \expandafter\@gobble
1551 \else
1552 \expandafter\@firstofone
1553 \fi
1554 {%
1555 \HyPsd@@@CJKdigits#1#3\@nil
1556 }%
1557 }
1558 \def\HyPsd@CJKdigit#1#2{%
1559 \ifcase#2 %
1560 #1\or
1561 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1562 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1563 \fi
1564 }

```

6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of \@current@cmd and \@changed@cmd follows (L^AT_EX 2_ε release [1998/12/01]). In the normal case \pdfstringdef is executed in a context where \protect has the meaning of \@typesetprotect (= \relax).

```

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

```

```

\fi}
1565 \def\HyPsd@inmathwarn#1#2{%
1566 \ifx#2\expandafter
1567 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1568 \HyPsd@GLYPHERR
1569 \expandafter\@gobble\string#1%
1570 >%
1571 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1572 \else
1573 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1574 \fi
1575 \else
1576 \expandafter#2%
1577 \fi
1578 }
1579 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1580 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1581 \def\HyPsd@add@accent#1#2{%
1582 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1583 #2%
1584 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1585 \def\HyPsd@LetUnexpandableSpace#1{%
1586 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1587 }

```

\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.

```

1588 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```

1589 \edef\HyPsd@XSPACE{\string#\string X}
1590 \edef\HyPsd@ITALCORR{\string#\string I}
1591 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1592 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1593 \def\HyPsd@@hspace#1*#2\END{%
1594   \ifx\#2\%
1595     \HyPsd@hspacetest{#1}%
1596   \else
1597     \expandafter\HyPsd@hspacetest
1598   \fi
1599 }
```

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

```
1600 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1601 \ltx@ifundefined{tocsection}{%
1602   \let\HyPsd@AMSclassfix\relax
1603 }{%
1604   \def\HyPsd@AMSclassfix{%
1605     \let\tocpart\HyPsd@tocsection
1606     \let\tocchapter\HyPsd@tocsection
1607     \let\tocappendix\HyPsd@tocsection
1608     \let\tocsection\HyPsd@tocsection
1609     \let\tocsubsection\HyPsd@tocsection
1610     \let\tocsubsubsection\HyPsd@tocsection
1611     \let\tocparagraph\HyPsd@tocsection
1612   }%
1613   \def\HyPsd@tocsection#1#2#3{%
1614     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1615     #3%
1616   }%
1617 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1618 \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.

```
1619 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1620 \def\HyPsd@@ref#1*#2\END{%
1621   \ifx\#2\%
1622     \HyPsd@@@ref{#1}%
1623   \else
1624     \expandafter\HyPsd@@@ref
1625   \fi
1626 }
```


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

```
1627 \def\HyPsd@@@ref#1{%
1628   \expandafter\ifx\csname r@#1\endcsname\relax
1629     ??%
1630   \else
1631     \expandafter\expandafter\expandafter
1632     \@car\csname r@#1\endcsname\@nil
1633   \fi
1634 }
```

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

```
1635 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1636 \def\HyPsd@@pageref#1*#2\END{%
1637   \ifx\#2\%
1638     \HyPsd@@@pageref{#1}%
1639   \else
1640     \expandafter\HyPsd@@@pageref
1641   \fi
1642 }
```

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

```
1643 \def\HyPsd@@@pageref#1{%
1644   \expandafter\ifx\csname r@#1\endcsname\relax
1645     ??%
1646   \else
1647     \expandafter\expandafter\expandafter\expandafter
1648     \expandafter\expandafter\expandafter\@car
1649     \expandafter\expandafter\expandafter\@gobble
1650     \csname r@#1\endcsname{}\@nil
1651   \fi
1652 }
```

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

```
1653 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1654 \def\HyPsd@@nameref#1*#2\END{%
1655   \ifx\#2\%
1656     \HyPsd@@@nameref{#1}%
1657   \else
1658     \expandafter\HyPsd@@@nameref
1659   \fi
1660 }
```

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

```
1661 \def\HyPsd@@@nameref#1{%
1662   \expandafter\ifx\csname r@#1\endcsname\relax
1663     ??%
1664   \else
1665     \expandafter\expandafter\expandafter\expandafter
1666     \expandafter\expandafter\expandafter\@car
1667     \expandafter\expandafter\expandafter\@gobbletwo
```

```
1668 \csname r@#1\endcsname{}-{} \@nil
1669 \fi
1670 }
```

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

```
1671 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1672 \def\HyPsd@@autoref#1*#2\END{%
1673 \ifx\#2\%
1674 \HyPsd@@@autoref{#1}%
1675 \else
1676 \expandafter\HyPsd@@@autoref
1677 \fi
1678 }
```

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

```
1679 \def\HyPsd@@@autoref#1{%
1680 \expandafter\ifx\csname r@#1\endcsname\relax
1681 ??%
1682 \else
1683 \expandafter\expandafter\expandafter\HyPsd@autorefname
1684 \csname r@#1\endcsname{}-{}-{} \@nil
1685 \expandafter\expandafter\expandafter
1686 \@car\csname r@#1\endcsname \@nil
1687 \fi
1688 }
```

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

```
1689 \def\HyPsd@autorefname#1#2#3#4#5 \@nil{%
1690 \ifx\#4\%
1691 \else
1692 \HyPsd@@@autorefname#4.\@nil
1693 \fi
1694 }
```

`\HyPsd@@@autorefname`

```
1695 \def\HyPsd@@@autorefname#1.#2 \@nil{%
1696 \ltx@ifundefined{#1autorefname}{%
1697 \ltx@ifundefined{#1name}{%
1698 }{%
1699 \csname#1name\endcsname\space
1700 }%
1701 }{%
1702 \csname#1autorefname\endcsname\space
1703 }%
1704 }
```

6.5.12 Redefining the defining commands

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

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1705 \begingroup
1706 \def\x#1#2{%
1707 \endgroup
1708 \let#1\def
1709 \def\HyPsd@DefCommand##1##2###{%
1710 #1%
1711 \expandafter\noexpand
1712 \csname\expandafter\@gobble\string##1\@empty\endcsname
1713 \@gobble
1714 }%
1715 \let#2\let
1716 \def\HyPsd@@LetCommand##1{%
1717 \expandafter\ifx\csname##1\expandafter\endcsname
1718 \csname iftrue\endcsname
1719 \pdfstringdefWarn\let
1720 \expandafter\@gobble
1721 \else
1722 \expandafter\ifx\csname##1\expandafter\endcsname
1723 \csname iffalse\endcsname
1724 \pdfstringdefWarn\let
1725 \expandafter\expandafter\expandafter\@gobble
1726 \else
1727 #2%
1728 \expandafter\noexpand
1729 \csname##1\expandafter\expandafter\expandafter\endcsname
1730 \fi
1731 \fi
1732 }%
1733 }%
1734 \expandafter\x\csname <def>-command\expandafter\endcsname
1735 \csname <let>-command\endcsname
1736 \def\HyPsd@LetCommand#1{%
1737 \expandafter\expandafter\expandafter\HyPsd@@LetCommand

```

```

1738 \expandafter\expandafter\expandafter{%
1739 \expandafter\@gobble\string#1\@empty
1740 }%
1741 }

```

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).

```

1742 \def\HyPsd@ifnextchar#1{%
1743 \pdfstringdefWarn#1%
1744 \expandafter\@gobbletwo\@gobble
1745 }

```

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`.

```

1746 \def\HyPsd@protected@testopt#1{%
1747 \pdfstringdefWarn#1%
1748 \@gobbletwo
1749 }

```

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:

```

1750 \def\HyPsd@Warning#1{%
1751 \begingroup
1752 \let\space\ltx@space
1753 \Hy@Warning{#1}%
1754 \endgroup
1755 }

```

6.6.2 Protecting spaces

```

1756 \RequirePackage{etexcmds}[2007/09/09]
1757 \ifetex@unexpanded
1758 \expandafter\@secondoftwo
1759 \else
1760 \expandafter\@firstoftwo
1761 \fi
1762 {%

```

`\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`.

```

1763 \def\HyPsd@ProtectSpaces#1{%
1764   \iftrue
1765     \expandafter\HyPsd@@ProtectSpacesFi
1766     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1767   \fi
1768 }%
```

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

```

1769 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1770   \fi
1771   \ifx\scrollmode#2\scrollmode
1772     \HyPsd@RemoveMask#1\HyPsd@End#3%
1773   \else
1774     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1775     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1776   \fi
1777 }%
```

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.

```

1778 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1779   \toks@\expandafter{#1}%
1780   \xdef#2{\the\toks@}%
1781 }%

1782 }{%
1783   \let\HyPsd@fi\fi
1784   \def\HyPsd@ProtectSpaces#1{%
1785     \xdef#1{%
1786       \iftrue
1787         \expandafter\HyPsd@@ProtectSpacesFi
1788         \expandafter|\expandafter\@empty#1| %
1789       \HyPsd@fi
1790     }%
1791     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1792   }%
1793   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1794     \fi
1795     \etex@unexpanded{#1}%
1796     \ifx\scrollmode#2\scrollmode
1797     \else
1798       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1799     \HyPsd@fi
1800   }%
1801   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1802     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1803   }%
1804 }
```

6.6.3 Remove grouping braces

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

```
1805 \def\HyPsd@RemoveBraces#1{%
1806 \ifx\scrollmode#1\scrollmode
1807 \else
1808 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1809 \fi
1810 }
```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text #1#2. By a comparison with the original form in #3 we can decide whether #1 is a single token or a group. To avoid the case that #2 is a group, the string is extended by a | before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\ltx@ReturnAfterFi`.

```
1811 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1812 \fi
1813 \def\Hy@temp@A{#1#2}%
1814 \def\Hy@temp@B{#3}%
1815 \ifx\Hy@temp@A\Hy@temp@B
1816 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1817 \HyPsd@String#1%
1818 }%
1819 \ifx\scrollmode#2\scrollmode
1820 \else
1821 \Hy@ReturnAfterFiFiEnd{%
1822 \HyPsd@RemoveBraces{#2}%
1823 }%
1824 \fi
1825 \else
1826 \def\Hy@temp@A{#1}%
1827 \HyPsd@AppendItalcorr\HyPsd@String
1828 \ifx\Hy@temp@A\@empty
1829 \Hy@ReturnAfterElseFiFiEnd{%
1830 \HyPsd@RemoveBraces{#2}%
1831 }%
1832 \else
1833 \HyPsd@ProtectSpaces\Hy@temp@A
1834 \HyPsd@AppendItalcorr\Hy@temp@A
1835 \Hy@ReturnAfterFiFiEnd{%
1836 \expandafter\HyPsd@RemoveBraces\expandafter
1837 {\Hy@temp@A#2}%
1838 }%
1839 \fi
1840 \fi
1841 \Hy@ReturnEnd
1842 }
```

`\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`.

```
1843 \def\HyPsd@AppendItalcorr#1{%
1844 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
```

```

1845 }
1846 \def\HyPsd@@AppendItalcorr#1#2{%
1847 \expandafter\def\expandafter#2\expandafter{#2#1}%
1848 }

```

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`).

```

1849 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1850 \global\let\HyPsd@Rest\relax
1851 \ifcat\relax\noexpand#1\relax
1852 \ifx#1\protect
1853 \else
1854 \ifx#1\penalty
1855 \setbox\z@=\hbox{%
1856 \afterassignment\HyPsd@AfterCountRemove
1857 \count@=#2\HyPsd@End
1858 }%
1859 \else
1860 \ifx#1\kern
1861 \setbox\z@=\hbox{%
1862 \afterassignment\HyPsd@AfterDimenRemove
1863 \dimen@=#2\HyPsd@End
1864 }%
1865 \else
1866 \ifx#1\hskip
1867 \setbox\z@=\hbox{%
1868 \afterassignment\HyPsd@AfterSkipRemove
1869 \skip@=#2\HyPsd@End
1870 }%
1871 \else
1872 \HyPsd@CatcodeWarning{#1}%
1873 \fi
1874 \fi
1875 \fi
1876 \fi
1877 \else
1878 \ifcat#1A% letter
1879 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1880 \HyPsd@String#1%
1881 }%
1882 \else
1883 \ifcat#1 % SPACE
1884 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1885 \HyPsd@String\HyPsd@SPACEOPTI
1886 }%
1887 \else

```

```

1888 \ifcat$#1%
1889 \HyPsd@CatcodeWarning{math shift}%
1890 \else
1891 \ifcat&#1%
1892 \HyPsd@CatcodeWarning{alignment tab}%
1893 \else
1894 \ifcat^#1%
1895 \HyPsd@CatcodeWarning{superscript}%
1896 \else
1897 \ifcat_#1%
1898 \HyPsd@CatcodeWarning{subscript}%
1899 \else
1900 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1901 \HyPsd@String#1%
1902 }%
1903 \fi
1904 \fi
1905 \fi
1906 \fi
1907 \fi
1908 \fi
1909 \fi
1910 \ifx\HyPsd@Rest\relax
1911 \ifx\scrollmode#2\scrollmode
1912 \else
1913 \Hy@ReturnAfterFiFiEnd{%
1914 \HyPsd@CheckCatcodes#2\HyPsd@End
1915 }%
1916 \fi
1917 \else
1918 \ifx\HyPsd@Rest\@empty
1919 \else
1920 \Hy@ReturnAfterFiFiEnd{%
1921 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1922 }%
1923 \fi
1924 \fi
1925 \Hy@ReturnEnd
1926 }

```

Remove counts, dimens, skips.

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

```

1927 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1928 \gdef\HyPsd@Rest{#1}%
1929 }

```

`\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.

```

1930 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1931 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1932 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1933 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1934 \else
1935 \ifdim\dimen@=\z@

```



```

1936 \else
1937 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1938 \fi
1939 \gdef\HyPsd@Rest{#1}%
1940 \fi
1941 }

```

`\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).

```

1942 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1943 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>1ex %
1944 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1945 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1946 \else
1947 \ifdim\skip@=\z@
1948 \else
1949 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1950 \fi
1951 \gdef\HyPsd@Rest{#1}%
1952 \fi
1953 }

```

Catcode warnings.

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

```

1954 \def\HyPsd@CatcodeWarning#1{%
1955 \HyPsd@Warning{%
1956 Token not allowed in a PDF string (%
1957 \ifHy@unicode
1958 Unicode%
1959 \else
1960 PDFDocEncoding%
1961 \fi
1962 ):%
1963 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1964 }%
1965 }
1966 \begingroup
1967 \catcode'\|=0 %
1968 \catcode'\|=12 %
1969 |gdef|HyPsd@RemoveCmdPrefix#1{%
1970 |expandafter|HyPsd@@RemoveCmdPrefix
1971 |string#1|\@empty\<-|\@empty|\@empty
1972 }%
1973 |gdef|HyPsd@@RemoveCmdPrefix#1\<-#2|\@empty#3|\@empty{#1#2}%
1974 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1975 \def\HyPsd@RemoveSpaceWarning#1{%
1976 \HyPsd@Warning{%
1977 Token not allowed in a PDF string (%
1978 \ifHy@unicode
1979 Unicode%
1980 \else
1981 PDFDocEncoding%
1982 \fi
1983 ):%

```

```

1984 \MessageBreak #1\MessageBreak
1985 removed%
1986 }%
1987 }

```

\HyPsd@ReplaceSpaceWarning

```

1988 \def\HyPsd@ReplaceSpaceWarning#1{%
1989 \HyPsd@Warning{%
1990 Token not allowed in a PDF string (%
1991 \ifHy@unicode
1992 Unicode%
1993 \else
1994 PDFDocEncoding%
1995 \fi
1996 ):%
1997 \MessageBreak #1\MessageBreak
1998 replaced by space%
1999 }%
2000 }

```

6.6.5 Check for wrong glyphs

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

```

2001 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2002 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2003 \HyPsd@String#1%
2004 }%
2005 \ifx\#2\%
2006 \else
2007 \tx@ReturnAfterFi{%
2008 \HyPsd@GlyphProcessWarning#2\@empty
2009 }%
2010 \fi
2011 }
2012 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2013 \HyPsd@@GlyphProcessWarning#1++>%
2014 \HyPsd@GlyphProcess#2\@empty
2015 }
2016 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2017 \ifx\#2\%
2018 \HyPsd@Warning{%
2019 Glyph not defined in %
2020 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2021 removing ‘\@backslashchar#1’%
2022 }%
2023 \else
2024 \HyPsd@Warning{%
2025 Composite letter ‘\@backslashchar#1+#2’\MessageBreak
2026 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2027 \MessageBreak
2028 removing ‘\@backslashchar#1’%
2029 }%
2030 \fi
2031 }

```

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`.

```
2032 \def\HyPsd@spaceopti#1{ % first space
2033 \ifx\HyPsd@spaceopti#1%
2034 \040%
2035 \else
2036 #1%
2037 \fi
2038 }%
```

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.

```
2039 \def\HyPsd@Subst#1#2#3{%
2040 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
2041 \fi
2042 ##1%
2043 \ifx\scrollmode##2\scrollmode
2044 \else
2045 #2%
2046 \HyPsd@@ReplaceFi##2\END
2047 \fi
2048 }%
2049 \xdef#3{%
2050 \iftrue
2051 \expandafter\HyPsd@@ReplaceFi#3#1\END
2052 \fi
2053 }%
2054 }
```

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

```
2055 \def\HyPsd@StringSubst#1{%
2056 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2057 }
```

`\HyPsd@EscapeTeX`

```
2058 \begingroup
2059 \lccode'\!='\%%
2060 \lccode'\|='\%%
2061 \lccode'\(='\{%
2062 \lccode'\)='\}%
2063 \lccode'0=\ltx@zero
2064 \lccode'1=\ltx@zero
2065 \lccode'3=\ltx@zero
2066 \lccode'4=\ltx@zero
2067 \lccode'5=\ltx@zero
2068 \lccode'7=\ltx@zero
2069 \lowercase{\endgroup
2070 \def\HyPsd@EscapeTeX#1{%
```

```

2071 \HyPsd@Subst!{|045}#1%
2072 \HyPsd@Subst({|173}#1%
2073 \HyPsd@Subst){|175}#1%
2074 }%
2075 }

```

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.

```

2076 \def\HyPsd@doxspace#1{%
2077 \ifx#1\relax\else
2078 \ifx#1.\else
2079 \ifx#1:\else
2080 \ifx#1,\else
2081 \ifx#1;\else
2082 \ifx#1!\else
2083 \ifx#1?\else
2084 \ifx#1/\else
2085 \ifx#1-\else
2086 \ifx#1'\else
2087 \HyPsd@SPACEOPTI
2088 \fi
2089 \fi
2090 \fi
2091 \fi
2092 \fi
2093 \fi
2094 \fi
2095 \fi
2096 \fi
2097 \fi
2098 #1%
2099 }%

```

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.

```

2100 \begingroup
2101 \catcode'\|=0 %
2102 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

2103 |gdef|HyPsd@ConvertToUnicode#1{%
2104 |xdef#1{%
2105 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2106 }%
2107 |ifx#1|@empty
2108 |else
2109 |xdef#1{%
2110 \376\377%
2111 #1%
2112 }%

```

```
2113 |fi
2114 }%
```

\HyPsd@DoConvert

```
2115 |gdef|HyPsd@DoConvert#1{%
2116 |ifx#1|@empty
2117 |else
2118 |ltx@ReturnAfterFi{%
2119 |ifx#1\%%
2120 \%%
2121 |expandafter|HyPsd@DoEscape
2122 |else
2123 |HyPsd@Char{#1}%
2124 |expandafter|HyPsd@DoConvert
2125 |fi
2126 }%
2127 |fi
2128 }%
```

\HyPsd@DoEscape

```
2129 |gdef|HyPsd@DoEscape#1{%
2130 |ifx#19%
2131 |expandafter|HyPsd@GetTwoBytes
2132 |else
2133 |ltx@ReturnAfterFi{%
2134 |ifx#18%
2135 00%
2136 |expandafter|HyPsd@GetTwoBytes
2137 |else
2138 #1%
2139 |expandafter|HyPsd@GetOneByte
2140 |fi
2141 }%
2142 |fi
2143 }%
```

\HyPsd@GetTwoBytes

```
2144 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2145 #1\#2#3#4%
2146 |HyPsd@DoConvert
2147 }%
```

\HyPsd@GetOneByte

```
2148 |gdef|HyPsd@GetOneByte#1#2{%
2149 #1#2%
2150 |HyPsd@DoConvert
2151 }%
2152 |endgroup
```

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

```
2153 \def\HyPsd@@GetNextTwoTokens#1#2#3\END#4{%
2154 \xdef#4{#4#1#2}%
2155 \HyPsd@@ConvertToUnicode#3\END#4%
2156 }
```

\HyPsd@Char

```
2157 \begingroup
```

```

2158 \catcode0=9 %
2159 \catcode'\^=7 %
2160 \catcode'\^^=12 %
2161 \def\x{^^^0000}%
2162 \expandafter\endgroup
2163 \ifx\x\@empty
2164 \def\HyPsd@Char#1{%
2165 \ifnum'#1<128 %
2166 \@backslashchar 000#1%
2167 \else
2168 \ifnum'#1<65536 %
2169 \expandafter\HyPsd@CharTwoByte\number'#1!%
2170 \else
2171 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2172 \intcalcSub{'#1}{65536}!%
2173 \fi
2174 \fi
2175 }%
2176 \def\HyPsd@CharTwoByte#1!{%
2177 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2178 \IntCalcDiv#1!256!!%
2179 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2180 \IntCalcMod#1!256!!%
2181 }%
2182 \def\HyPsd@CharOctByte#1!{%
2183 \@backslashchar
2184 \IntCalcDiv#1!64!%
2185 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2186 \IntCalcMod#1!8!%
2187 }%
2188 \def\HyPsd@CharSurrogate#1!{%
2189 \@backslashchar 33%
2190 \IntCalcDiv#1!262144!%
2191 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2192 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2193 \@backslashchar 33%
2194 \expandafter\expandafter\expandafter\IntCalcAdd
2195 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2196 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2197 \IntCalcMod#1!256!!%
2198 }%
2199 \else
2200 \def\HyPsd@Char#1{%
2201 \@backslashchar 000#1%
2202 }%
2203 \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 `eTeXhere` 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

2204 \begingroup\expandafter\expandafter\expandafter\endgroup
2205 \expandafter\ifx\csname numexpr\endcsname\relax
2206 \let\HyPsd@UTFviii\relax
2207 \else
2208 \begingroup
2209 \lccode'\~='^^f4\relax
2210 \lowercase{\endgroup
2211 \def\HyPsd@UTFviii{%
2212 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2213 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2214 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2215 \ifx~\HyPsd@UTFviii@ccxliv@undef
2216 \let~\HyPsd@UTFviii@ccxliv@def
2217 \fi
2218 \let\unichar\HyPsd@unichar
2219 }%
2220 }%
2221 \def\HyPsd@UTFviii@ccxliv@undef{\@inpencc@undefined@{utf8}}%
2222 \edef\HyPsd@UTFviii@ccxliv@def{%
2223 \noexpand\UTFviii@four@octets\string ^^f4%
2224 }%

```

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

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

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

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

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

$$(5)$$

```

2225 \def\HyPsd@UTFviii@two#1#2{%
2226 \expandafter\HyPsd@UTFviii@@two
2227 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2228 \number'#1\expandafter| %
2229 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2230 \number'#2 \@nil
2231 }%
2232 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2233 \expandafter\8%
2234 \number\numexpr #1-48\expandafter\relax
2235 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2236 \number\numexpr #3-8*%
2237 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2238 \number\numexpr #4-8*#3\relax
2239 }%

```

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

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

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

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

$$d := B - 4 * (B/4) \tag{9}$$

$$e := C/8 - 16 \tag{10}$$

$$f := C - 8 * (C/8) \tag{11}$$

$$\tag{12}$$

```

2240 \def\HyPsd@UTFviii@three#1#2#3{%
2241 \expandafter\HyPsd@UTFviii@@three
2242 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2243 \number'#1\expandafter| %
2244 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2245 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2246 \number'#2\expandafter| %
2247 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2248 \number'#3 \@nil
2249 }%
2250 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2251 \expandafter\9%
2252 \number\numexpr #1-56\expandafter\relax
2253 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2254 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2255 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2256 \number\numexpr #6-16\expandafter\relax
2257 \number\numexpr #7-8*#6\relax
2258 }%

```

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

```

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

```

```

2259 \def\HyPsd@UTFviii@four#1#2{%
2260 \expandafter\HyPsd@@UTFviii@four\number
2261 \numexpr-1+(#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2262 \expandafter|\number
2263 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2264 }%
2265 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2266 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2267 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2268 \ifodd#2 %
2269 \number\numexpr(#2-1)/2\relax
2270 \else
2271 \number\numexpr#2/2\relax
2272 \fi
2273 \number\numexpr\ifodd#2 4+\fi
2274 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2275 \933%
2276 \expandafter\HyPsd@@@UTFviii@four\number
2277 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2278 }%
2279 \def\HyPsd@@@UTFviii@four#1|#2{%
2280 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2281 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2282 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2283 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax

```


2284 }%

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

```
2285 \def\HyPsd@unicar#1{%
2286   \ifHy@unicode
2287     \ifnum#1>"10FFFF %
2288       \HyPsd@UnicodeReplacementCharacter % illegal
2289     \else
2290       \ifnum#1>"FFFF %
```

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

```
2291   \expandafter\HyPsd@unicar\expandafter{%
2292     \number\numexpr 55296+%
2293     \dimexpr.0009765625\dimexpr\number#1sp-\p@
2294     \relax\relax\relax
2295   }%
```

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

```
2296   \expandafter\HyPsd@unicar\expandafter{%
2297     \number\numexpr#1-9216%
2298     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2299     \relax\relax\relax
2300   }%
2301   \else
2302     \ifnum#1>"7FF %
2303     \9%
2304     \expandafter\HyPsd@unicar@first@byte\expandafter{%
2305       \number
2306       \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2307     }%
2308     \else
2309       \8%
2310       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2311     \fi
2312     \expandafter\HyPsd@unicar@second@byte\expandafter{%
2313       \number
2314       \numexpr#1-256*\number
2315       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2316     }%
2317     \fi
2318     \fi
2319     \else
2320     .% unsupported (Unicode -> PDF Doc Encoding)
2321     \fi
2322   }%
2323 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2324 \def\HyPsd@unicar@first@byte#1{%
2325   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2326   \expandafter\HyPsd@unicar@octtwo\expandafter{%
2327     \number
2328     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2329     \relax\relax\relax
2330   }%
2331 }%
2332 \def\HyPsd@unicar@second@byte#1{%
2333   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2334   \expandafter\HyPsd@unicar@octtwo\expandafter{%
```

```

2335 \number
2336 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2337 \relax\relax\relax
2338 }%
2339 }%
2340 \def\HyPsd@unichar@octtwo#1{%
2341 \number\dimexpr.125\dimexpr#1sp\relax\relax
2342 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2343 \relax\relax\relax
2344 }%
2345 \fi

```

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

```

2346 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2347 \ifx\@gobble#1%
2348 \else
2349 [Please insert \textbackslash PrerenderUnicode%
2350 \textbraceleft#1\textbraceright\space
2351 into preamble]%
2352 \fi
2353 }%

```

7 Support of other packages

7.1 Class memoir

```

2354 \@ifclassloaded{memoir}{%
2355 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2356 }{}

```

7.2 Package subfigure

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

```

2357 \@ifpackageloaded{subfigure}{%
2358 \ltx@ifundefined{sub@label}{%
2359 \Hy@hypertexnamesfalse
2360 }{%
2361 \renewcommand*{\sub@label}[1]{%
2362 \@bsphack
2363 \subfig@oldlabel{#1}%
2364 \if@filesw
2365 \begingroup
2366 \edef\@currentlabstr{%
2367 \expandafter\strip@prefix\meaning\@currentlabelname
2368 }%
2369 \protected@write\@auxout{}{%
2370 \string\newlabel{sub@#1}{%
2371 {\@nameuse{\@thesub\@captive}}%
2372 {\thepage}%
2373 }%
2374 \expandafter\strip@period\@currentlabstr
2375 \relax.\relax\@@@%
2376 }%
2377 {\@currentHref}%
2378 }%
2379 }%

```

```

2380     }%
2381     \endgroup
2382     \fi
2383     \@esphack
2384 }%
2385 \@ifpackagelater{subfigure}{2002/03/26}{\fi}%
2386 \providecommand*\toclevel@subfigure{1}%
2387 \providecommand*\toclevel@subtable{1}%
2388 }%
2389 }%
2390 }{}

```

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:

```

2391 \ltx@ifundefined{XR@addURL}{%
2392 }{}%

```

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.

```

2393 \def\XR@addURL#1{\XR@dURL#1{}{}{}%
2394 \def\XR@dURL#1#2#3#4#5\{#1}
2395 {#2}%
2396 \if#4!%
2397 \else
2398 {#3}{#4}{\XR@URL}%
2399 \fi
2400 }%
2401 }

```

```

2402 \def\Hy@true{true}
2403 \def\Hy@false{false}

```

Providing dummy definitions.

```

2404 \let\literalps@out@gobble
2405 \newcommand\pdfbookmark[3]{}
2406 \def\Acrobatmenu#1#2{\leavevmode#2}
2407 \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

```

2408 \let\HyperRaiseLinkHook\@empty
2409 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2410 \newcount\Hy@SavedSpaceFactor
2411 \def\Hy@SaveSpaceFactor{%
2412   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2413 }
2414 \def\Hy@RestoreSpaceFactor{%
2415   \relax
2416   \ifhmode
2417     \ifnum\Hy@SavedSpaceFactor>\z@
2418       \spacefactor=\Hy@SavedSpaceFactor
2419     \fi
2420   \fi
2421 }
2422 \def\Hy@SaveSavedSpaceFactor{%
2423   \edef\Hy@RestoreSavedSpaceFactor{%
2424     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2425   }%
2426 }
2427 \def\Hy@raisedlink#1{%
2428   \ifvmode
2429     #1%
2430   \else
2431     \Hy@SaveSpaceFactor
2432     \penalty\@M
2433     \smash{%
2434       \begingroup
2435         \let\HyperRaiseLinkLength\@tempdima
2436         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2437         \HyperRaiseLinkHook
2438       \expandafter\endgroup
2439       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2440         \Hy@RestoreSpaceFactor
2441         #1%
2442         \Hy@SaveSpaceFactor
2443       }%
2444     }%
2445     \Hy@RestoreSpaceFactor
2446   \fi
2447 }

```

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

```

2448 \def\Hy@SaveLastskip{%
2449   \let\Hy@RestoreLastskip\relax
2450   \ifvmode
2451     \ifdim\lastskip=\z@
2452       \let\Hy@RestoreLastskip\nobreak
2453     \else
2454       \begingroup
2455         \skip@=-\lastskip
2456       \edef\x{%
2457         \endgroup
2458       \def\noexpand\Hy@RestoreLastskip{%
2459         \noexpand\ifvmode
2460         \noexpand\nobreak
2461         \vskip\the\skip@
2462         \vskip\the\lastskip\relax
2463       \noexpand\fi

```

```

2464     }%
2465     }%
2466     \x
2467     \fi
2468 \else
2469 \ifhmode
2470 \ifdim\lastskip=\z@
2471 \let\Hy@RestoreLastskip\nobreak
2472 \else
2473 \begingroup
2474 \skip@=-\lastskip
2475 \edef\x{%
2476 \endgroup
2477 \def\noexpand\Hy@RestoreLastskip{%
2478 \noexpand\ifhmode
2479 \noexpand\nobreak
2480 \hskip\the\skip@
2481 \hskip\the\lastskip\relax
2482 \noexpand\fi
2483 }%
2484 }%
2485 \x
2486 \fi
2487 \fi
2488 \fi
2489 }%

```

9 Options

```

2490 \SetupKeyvalOptions{%
2491 family=Hyp,%
2492 prefix=HyOpt%
2493 }

```

9.1 Help macros

`\IfHyperBooleanExists`

```

2494 \def\IfHyperBooleanExists#1{%
2495 \ltx@ifundefined{ifHy@#1}\ltx@secondoftwo\ltx@firstoftwo
2496 }

```

`\IfHyperBoolean`

```

2497 \def\IfHyperBoolean#1{%
2498 \IfHyperBooleanExists{#1}{%
2499 \csname ifHy@#1\endcsname
2500 \expandafter\ltx@firstoftwo
2501 \else
2502 \expandafter\ltx@secondoftwo
2503 \fi
2504 }\ltx@secondoftwo
2505 }

```

`\Hy@boolkey`

```

2506 \def\Hy@boolkey{@dblarg\Hy@@boolkey}
2507 \def\Hy@@boolkey[#1]#2#3{%
2508 \edef\Hy@tempa{#3}%
2509 \lowercase\expandafter{%

```

```

2510 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2511 }%
2512 \ifx\Hy@tempa\@empty
2513 \let\Hy@tempa\Hy@true
2514 \fi
2515 \ifx\Hy@tempa\Hy@true
2516 \else
2517 \ifx\Hy@tempa\Hy@false
2518 \else
2519 \let\Hy@tempa\relax
2520 \fi
2521 \fi
2522 \ifx\Hy@tempa\relax
2523 \Hy@WarnOptionValue{#3}{#1}{'true' or 'false'}%
2524 \else
2525 \Hy@Info{Option '#1' set '\Hy@tempa'}%
2526 \csname Hy@#2\Hy@tempa\endcsname
2527 \fi
2528 \begingroup
2529 \def\x{#1}%
2530 \def\y{#2}%
2531 \expandafter\endgroup
2532 \ifx\x\y
2533 \else
2534 \expandafter\def\csname ifHy@#1\expandafter\endcsname
2535 \expandafter{%
2536 \csname ifHy@#2\endcsname
2537 }%
2538 \fi
2539 }

```

\Hy@WarnOptionValue

```

2540 \def\Hy@WarnOptionValue#1#2#3{%
2541 \Hy@Warning{%
2542 Unexpected value '#1'\MessageBreak
2543 of option '#2' instead of\MessageBreak
2544 #3%
2545 }%
2546 }

```

\Hy@DisableOption

```

2547 \def\Hy@DisableOption#1{%
2548 \@ifundefined{KV@Hyp@#1@default}{%
2549 \define@key{Hyp}{#1}%
2550 }{%
2551 \define@key{Hyp}{#1}[]%
2552 }%
2553 {\Hy@WarnOptionDisabled{#1}}%
2554 }

```

\Hy@WarnOptionDisabled

```

2555 \def\Hy@WarnOptionDisabled#1{%
2556 \Hy@Warning{%
2557 Option '#1' has already been used,\MessageBreak
2558 setting the option has no effect%
2559 }%
2560 }

```

`\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`.

```

2561 \def\Hy@CheckOptionValue#1#2#3{%
2562 \begingroup
2563 \edef\x{#1}%
2564 \@onelevel@sanitize\x
2565 \let\y=y%
2566 \def\do##1##2{%
2567 \def\z{##1}%
2568 \@onelevel@sanitize\z
2569 \ifx\x\z
2570 \let\y=n%
2571 \let\do\@gobbletwo
2572 \fi
2573 }%
2574 #3%
2575 \ifx\y y%
2576 \def\do##1##2{%
2577 * '##1'%
2578 \ifx\##2\else\space(##2)\fi
2579 \MessageBreak
2580 }%
2581 \Hy@Warning{%
2582 Values of option '#2':\MessageBreak
2583 #3%
2584 * An empty value disables the option.\MessageBreak
2585 Unknown value '\x'%
2586 }%
2587 \fi
2588 \endgroup
2589 }

```

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

```

2590 \def\Hy@DefNameKey#1{%
2591 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2592 }

```

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

```

2593 \def\Hy@@DefNameKey#1#2#3{%
2594 \define@key{Hyp}{#2}{%
2595 \edef#1{##1}%
2596 \ifx#1\@empty
2597 \else
2598 \Hy@CheckOptionValue{##1}{#2}{#3}%
2599 \fi
2600 }%
2601 \let#1\@empty
2602 }

```

`\Hy@UseNameKey`

```

2603 \def\Hy@UseNameKey#1#2{%
2604 \ifx#2\@empty

```

```

2605 \else
2606   /#1/#2%
2607 \fi
2608 }

```

9.2 Defining the options

```

2609 \define@key{Hyp}{implicit}[true]{%
2610   \Hy@boolkey{implicit}{#1}%
2611 }
2612 \define@key{Hyp}{draft}[true]{%
2613   \Hy@boolkey{draft}{#1}%
2614 }
2615 \define@key{Hyp}{final}[true]{%
2616   \Hy@boolkey{final}{#1}%
2617 }
2618 \let\KV@Hyp@nolinks\KV@Hyp@draft
2619 \def\Hy@ObsoletePaperOption#1{%
2620   \Hy@WarningNoLine{%
2621     Option '#1' is no longer used%
2622   }%
2623   \define@key{Hyp}{#1}[true]{}%
2624 }
2625 \def\Hy@temp#1{%
2626   \define@key{Hyp}{#1}[true]{%
2627     \Hy@ObsoletePaperOption{#1}%
2628   }%
2629 }
2630 \Hy@temp{a4paper}
2631 \Hy@temp{a5paper}
2632 \Hy@temp{b5paper}
2633 \Hy@temp{letterpaper}
2634 \Hy@temp{legalpaper}
2635 \Hy@temp{executivepaper}
2636 \define@key{Hyp}{setpagesize}[true]{%
2637   \Hy@boolkey{setpagesize}{#1}%
2638 }
2639 \define@key{Hyp}{debug}[true]{%
2640   \Hy@boolkey[debug]{verbose}{#1}%
2641 }
2642 \define@key{Hyp}{linktopage}[true]{%
2643   \Hy@boolkey{linktopage}{#1}%
2644   \ifHy@linktopage
2645     \let\Hy@linktoc\Hy@linktoc@page
2646   \else
2647     \let\Hy@linktoc\Hy@linktoc@section
2648   \fi
2649 }
2650 \chardef\Hy@linktoc@none=0 %
2651 \chardef\Hy@linktoc@section=1 %
2652 \chardef\Hy@linktoc@page=2 %
2653 \chardef\Hy@linktoc@all=3 %
2654 \ifHy@linktopage
2655   \let\Hy@linktoc\Hy@linktoc@page
2656 \else
2657   \let\Hy@linktoc\Hy@linktoc@section
2658 \fi

```



```

2659 \define@key{Hyp}{linktoc}{%
2660   \@ifundefined{Hy@linktoc@#1}{%
2661     \Hy@Warning{%
2662       Unexpected value '#1' of\MessageBreak
2663       option 'linktoc' instead of 'none',\MessageBreak
2664       'section', 'page' or 'all'%
2665     }%
2666   }{%
2667     \expandafter\let\expandafter\Hy@linktoc
2668     \csname Hy@linktoc@#1\endcsname
2669   }%
2670 }
2671 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2672 \let\XR@ext\relax
2673 \define@key{Hyp}{verbose}[true]{%
2674   \Hy@boolkey{verbose}{#1}%
2675 }
2676 \define@key{Hyp}{typexml}[true]{%
2677   \Hy@boolkey{typexml}{#1}%
2678 }

```

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.

```

2679 \define@key{Hyp}{raiselinks}[true]{%
2680   \Hy@boolkey{raiselinks}{#1}%
2681 }

```

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

```

2682 \def\Hy@setbreaklinks#1{%
2683   \csname breaklinks#1\endcsname
2684 }
2685 \def\Hy@breaklinks@unsupported{%
2686   \ifx\Hy@setbreaklinks@gobble
2687     \ifHy@breaklinks
2688       \Hy@WarningNoLine{%
2689         You have enabled option 'breaklinks'.\MessageBreak
2690         But driver '\Hy@driver.def' does not support this.\MessageBreak
2691         Expect trouble with the link areas of broken links%
2692       }%
2693     \fi
2694   \fi
2695 }
2696 \define@key{Hyp}{breaklinks}[true]{%
2697   \Hy@boolkey{breaklinks}{#1}%
2698   \let\Hy@setbreaklinks@gobble
2699 }
2700 \define@key{Hyp}{localanchorname}[true]{%
2701   \Hy@boolkey{localanchorname}{#1}%
2702 }

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

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

```

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

```

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

```

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

```

2712 \define@key{Hyp}{hypertexnames}[true]{%
2713   \Hy@boolkey{hypertexnames}{#1}%
2714 }

```

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

```

2715 \define@key{Hyp}{nesting}[true]{%
2716   \Hy@boolkey{nesting}{#1}%
2717 }

```

```

2718 \define@key{Hyp}{unicode}[true]{%
2719   \Hy@boolkey{unicode}{#1}%
2720   \ifHy@unicode
2721     \def\HyPsd@pdfencoding{unicode}%
2722     \HyPsd@LoadUnicode
2723   \else
2724     \def\HyPsd@pdfencoding{pdfdoc}%
2725   \fi
2726 }
2727 \def\HyPsd@LoadUnicode{%
2728   \@ifundefined{T@PU}{%
2729     \input{puenc.def}%
2730     \HyLinguex@Restore
2731   }{}%
2732   \DeclareFontFamily{PU}{pdf}{}%
2733   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2734   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2735   \global\let\HyPsd@LoadUnicode\relax
2736 }
2737 \Hy@AtBeginDocument{%
2738   \ifx\HyPsd@LoadUnicode\relax
2739     \else
2740       \def\HyPsd@LoadUnicode{%
2741         \Hy@Error{%
2742           Unicode support for bookmarks is not available.\MessageBreak
2743           Activate unicode support by using one of the options\MessageBreak
2744           'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2745           in the preamble%
2746         }\@ehc
2747         \global\let\HyPsd@LoadUnicode\relax
2748         \global\Hy@unicodefalse
2749         \global\let\Hy@unicodetrue\Hy@unicodefalse
2750       }%
2751     \fi
2752 }
2753 \define@key{Hyp}{pdfencoding}{%
2754   \edef\HyPsd@temp{#1}%
2755   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2756     \let\HyPsd@pdfencoding\HyPsd@temp

```

```

2757 \Hy@unicodedefalse
2758 \else
2759 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2760     \z@
2761     \else
2762     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2763     \z@
2764     \else
2765     \@ne
2766     \fi
2767     \fi
2768 \let\HyPsd@pdfencoding\HyPsd@temp
2769 \hypersetup{unicode}%
2770 \ifHy@unicode
2771     \def\HyPsd@pdfencoding{#1}%
2772     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2773     \HyPsd@LoadStringEnc
2774     \fi
2775     \else
2776     \Hy@Warning{Cannot switch to unicode bookmarks}%
2777     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2778     \fi
2779 \else
2780     \@onelevel@sanitize\HyPsd@temp
2781     \Hy@Warning{%
2782     Values of option 'pdfencoding':\MessageBreak
2783     'pdfdoc', 'unicode', 'auto'.\MessageBreak
2784     Ignoring unknown value '\HyPsd@temp'%
2785     }%
2786     \fi
2787 \fi
2788 }
2789 \def\HyPsd@pdfencoding@auto{auto}
2790 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2791 \def\HyPsd@pdfencoding@unicode{unicode}
2792 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2793 \def\HyPsd@LoadStringEnc{%
2794 \RequirePackage{stringenc}[2009/12/15]%
2795 \let\HyPsd@LoadStringEnc\relax
2796 }
2797 \Hy@AtBeginDocument{%
2798 \@ifpackageloaded{stringenc}{%
2799 \let\HyPsd@LoadStringEnc\relax
2800 }{%
2801 \def\HyPsd@LoadStringEnc{%
2802 \Hy@WarningNoLine{%
2803 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2804 in the preamble or load the package there%
2805 }%
2806 }%
2807 }%
2808 }
2809 \def\hypersetup{\kvsetkeys{Hyp}}
2810 \newif\ifHy@setpdfversion
2811 \define@key{Hyp}{pdfversion}{%
2812 \@ifundefined{Hy@pdfversion@#1}{%
2813 \PackageWarning{hyperref}{%

```

```

2814     Unsupported PDF version '#1'.\MessageBreak
2815     Valid values: 1.2 until 1.9%
2816   }%
2817 }{%
2818   \Hy@setpdfversiontrue
2819   \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2820 }%
2821 }
2822 \@namedef{Hy@pdfversion@1.2}{2}%
2823 \@namedef{Hy@pdfversion@1.3}{3}%
2824 \@namedef{Hy@pdfversion@1.4}{4}%
2825 \@namedef{Hy@pdfversion@1.5}{5}%
2826 \@namedef{Hy@pdfversion@1.6}{6}%
2827 \@namedef{Hy@pdfversion@1.7}{7}%
2828 \@namedef{Hy@pdfversion@1.8}{8}%
2829 \@namedef{Hy@pdfversion@1.9}{9}%
2830 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2831 \newif\ifHy@DviMode
2832 \let\Hy@DviErrMsg\ltx@empty
2833 \ifpdf
2834   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2835 \else
2836   \ifxetex
2837     \def\Hy@DviErrMsg{XeTeX is running}%
2838   \else
2839     \ifvtex
2840       \ifvtexdvi
2841         \Hy@DviModetrue
2842       \else
2843         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2844       \fi
2845     \else
2846       \Hy@DviModetrue
2847     \fi
2848   \fi
2849 \fi
2850 \def\Hy@Opt@CheckDvi#1{%
2851   \ifHy@DviMode
2852     \expandafter\ltx@firstofone
2853   \else
2854     \Hy@Error{%
2855       Wrong DVI mode driver option '#1',\MessageBreak
2856       because \Hy@DviErrMsg
2857     }\@ehc
2858     \expandafter\ltx@gobble
2859   \fi
2860 }
2861 \DeclareVoidOption{tex4ht}{%
2862   \Hy@texhttrue
2863   \kvsetkeys{Hyp}{colorlinks=true}%
2864   \def\BeforeTeXIVht{\RequirePackage{color}}%
2865   \def\Hy@driver{htex4ht}%
2866   \def\MaybeStopEarly{%
2867     \Hy@Message{Stopped early}%

```

```

2868 \Hy@AtBeginDocument{%
2869 \PDF@FinishDoc
2870 \gdef\PDF@FinishDoc{%}
2871 }%
2872 \endinginput
2873 }%
2874 }
2875 \DeclareVoidOption{pdftex}{%
2876 \ifpdf
2877 \def\Hy@driver{hpdftex}%
2878 \else
2879 \Hy@Error{%
2880 Wrong driver option 'pdftex',\MessageBreak
2881 because pdfTeX in PDF mode is not detected%
2882 }\@ehc
2883 \fi
2884 }
2885 \DeclareVoidOption{nativepdf}{%
2886 \HyOpt@CheckDvi{nativepdf}{%
2887 \def\Hy@driver{hdvips}%
2888 }%
2889 }
2890 \DeclareVoidOption{dvipdfm}{%
2891 \HyOpt@CheckDvi{dvipdfm}{%
2892 \def\Hy@driver{hdvipdfm}%
2893 }%
2894 }
2895 \DeclareVoidOption{dvipdfmx}{%
2896 \HyOpt@CheckDvi{dvipdfmx}{%
2897 \def\Hy@driver{hdvipdfm}%
2898 }%
2899 }
2900 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2901 \expandafter\ifx\csname if#1\expandafter\endcsname
2902 \csname iftrue\endcsname
2903 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2904 \else
2905 \chardef\SpecialDvipdfmxOutlineOpen\z@
2906 \fi
2907 }
2908 \DeclareVoidOption{xetex}{%
2909 \ifxetex
2910 \def\Hy@driver{hxetex}%
2911 \else
2912 \Hy@Error{%
2913 Wrong driver option 'xetex',\MessageBreak
2914 because XeTeX is not detected%
2915 }\@ehc
2916 \fi
2917 }
2918 \DeclareVoidOption{pdfmark}{%
2919 \HyOpt@CheckDvi{pdfmark}{%
2920 \def\Hy@driver{hdvips}%
2921 }%
2922 }
2923 \DeclareVoidOption{dvips}{%
2924 \HyOpt@CheckDvi{dvips}{%

```

```

2925 \def\Hy@driver{hdvips}%
2926 }%
2927 }
2928 \DeclareVoidOption{hypertex}{%
2929 \HyOpt@CheckDvi{hypertex}{%
2930 \def\Hy@driver{hypertex}%
2931 }%
2932 }
2933 \let\Hy@MaybeStopNow\relax
2934 \DeclareVoidOption{vtex}{%
2935 \ifvtex
2936 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2937 \def\Hy@driver{hvtex}%
2938 \else
2939 \ifnum\OpMode=10\relax
2940 \def\Hy@driver{hvtexhtm}%
2941 \def\MaybeStopEarly{%
2942 \Hy@Message{Stopped early}%
2943 \Hy@AtBeginDocument{%
2944 \PDF@FinishDoc
2945 \gdef\PDF@FinishDoc{}}%
2946 }%
2947 \endinput
2948 }%
2949 \else
2950 \Hy@Error{%
2951 Wrong driver option ‘vtex’,\MessageBreak
2952 because of wrong OpMode (\the\OpMode)%
2953 }\@ehc
2954 \fi
2955 \fi
2956 \else
2957 \Hy@Error{%
2958 Wrong driver option ‘vtex’,\MessageBreak
2959 because VTeX is not running%
2960 }\@ehc
2961 \fi
2962 }
2963 \DeclareVoidOption{vtexpdfmark}{%
2964 \ifvtex
2965 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2966 \def\Hy@driver{hvtexmrk}%
2967 \else
2968 \Hy@Error{%
2969 Wrong driver option ‘vtexpdfmark’,\MessageBreak
2970 because of wrong OpMode (\the\OpMode)%
2971 }\@ehc
2972 \fi
2973 \else
2974 \Hy@Error{%
2975 Wrong driver option ‘vtexpdfmark’,\MessageBreak
2976 because VTeX is not running%
2977 }\@ehc
2978 \fi
2979 }
2980 \DeclareVoidOption{dviwindo}{%
2981 \HyOpt@CheckDvi{dviwindo}{%

```

```

2982 \def\Hy@driver{hdvwind}%
2983 \kvsetkeys{Hyp}{colorlinks}%
2984 \PassOptionsToPackage{dviwindo}{color}%
2985 }%
2986 }
2987 \DeclareVoidOption{dvipsone}{%
2988 \HyOpt@CheckDvi{dvipsone}{%
2989 \def\Hy@driver{hdvipson}%
2990 }%
2991 }
2992 \DeclareVoidOption{textures}{%
2993 \HyOpt@CheckDvi{textures}{%
2994 \def\Hy@driver{httexture}%
2995 }%
2996 }
2997 \DeclareVoidOption{latex2html}{%
2998 \HyOpt@CheckDvi{latex2html}{%
2999 \Hy@AtBeginDocument{\@@@latextohtmlX}%
3000 }%
3001 }

```

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

```

3002 \DeclareVoidOption{ps2pdf}{%
3003 \HyOpt@CheckDvi{ps2pdf}{%
3004 \def\Hy@driver{hdvips}%
3005 }%
3006 }
3007 \let\HyOpt@DriverFallback\ltx@empty
3008 \define@key{Hyp}{driverfallback}{%
3009 \ifHy@DviMode
3010 \def\HyOpt@DriverFallback{#1}%
3011 \Hy@Match\HyOpt@DriverFallback{%
3012 ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertext|ps2pdf|
3013 latex2html|tex4ht)$%
3014 }-}{%
3015 \let\HyOpt@DriverFallback\ltx@empty
3016 }%
3017 \fi
3018 }

```

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.

```

3019 \define@key{Hyp}{hyperfigures}[true]{%
3020 \Hy@boolkey[hyperfigures]{figures}{#1}%
3021 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3022 \define@key{Hyp}{hyperfootnotes}[true]{%
3023 \Hy@boolkey[hyperfootnotes]{#1}%
3024 }

```

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

```

3025 \def\back@none{none}
3026 \def\back@section{section}
3027 \def\back@page{page}
3028 \def\back@slide{slide}

```

```

3029 \define@key{Hyp}{backref}[section]{%
3030 \lowercase{\def\Hy@tempa{#1}}%
3031 \ifx\Hy@tempa\@empty
3032 \let\Hy@tempa\back@section
3033 \fi
3034 \ifx\Hy@tempa\Hy@false
3035 \let\Hy@tempa\back@none
3036 \fi
3037 \ifx\Hy@tempa\back@slide
3038 \let\Hy@tempa\back@section
3039 \fi
3040 \ifx\Hy@tempa\back@page
3041 \PassOptionsToPackage{hyperpageref}{backref}%
3042 \Hy@backreftrue
3043 \else
3044 \ifx\Hy@tempa\back@section
3045 \PassOptionsToPackage{hyperref}{backref}%
3046 \Hy@backreftrue
3047 \else
3048 \ifx\Hy@tempa\back@none
3049 \Hy@backreffalse
3050 \else
3051 \Hy@WarnOptionValue{#1}{backref}{%
3052 'section', 'slide', 'page', 'none',\MessageBreak
3053 or 'false'}%
3054 \fi
3055 \fi
3056 \fi
3057 }
3058 \define@key{Hyp}{pagebackref}[true]{%
3059 \edef\Hy@tempa{#1}%
3060 \lowercase\expandafter{%
3061 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3062 }%
3063 \ifx\Hy@tempa\@empty
3064 \let\Hy@tempa\Hy@true
3065 \fi
3066 \ifx\Hy@tempa\Hy@true
3067 \PassOptionsToPackage{hyperpageref}{backref}%
3068 \Hy@backreftrue
3069 \else
3070 \ifx\Hy@tempa\Hy@false
3071 \Hy@backreffalse
3072 \else
3073 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3074 \fi
3075 \fi
3076 }

```

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

```

3077 \define@key{Hyp}{hyperindex}[true]{%
3078 \Hy@boolkey{hyperindex}{#1}%
3079 }

```

Configuration of encap char.

```

3080 \define@key{Hyp}{encap}[|]{%
3081 \def\HyInd@EncapChar{#1}%

```


3082 }

12 Language options

The `\autoref` feature depends on the language.

```
3083 \def\HyLang@afrikaans{%
3084 \def\equationautorefname{Vergelyking}%
3085 \def\footnoteautorefname{Voetnota}%
3086 \def\itemautorefname{Item}%
3087 \def\figureautorefname{Figuur}%
3088 \def\tableautorefname{Tabel}%
3089 \def\partautorefname{Deel}%
3090 \def\appendixautorefname{Bylae}%
3091 \def\chapterautorefname{Hoofstuk}%
3092 \def\sectionautorefname{Afdeling}%
3093 \def\subsectionautorefname{Subafdeling}%
3094 \def\subsubsectionautorefname{Subsubafdeling}%
3095 \def\paragraphautorefname{Paragraaf}%
3096 \def\subparagraphautorefname{Subparagraaf}%
3097 \def\FancyVerbLineautorefname{Lyn}%
3098 \def\theoremautorefname{Teorema}%
3099 \def\pageautorefname{Bladsy}%
3100 }
3101 \def\HyLang@english{%
3102 \def\equationautorefname{Equation}%
3103 \def\footnoteautorefname{footnote}%
3104 \def\itemautorefname{item}%
3105 \def\figureautorefname{Figure}%
3106 \def\tableautorefname{Table}%
3107 \def\partautorefname{Part}%
3108 \def\appendixautorefname{Appendix}%
3109 \def\chapterautorefname{chapter}%
3110 \def\sectionautorefname{section}%
3111 \def\subsectionautorefname{subsection}%
3112 \def\subsubsectionautorefname{subsubsection}%
3113 \def\paragraphautorefname{paragraph}%
3114 \def\subparagraphautorefname{subparagraph}%
3115 \def\FancyVerbLineautorefname{line}%
3116 \def\theoremautorefname{Theorem}%
3117 \def\pageautorefname{page}%
3118 }
3119 \def\HyLang@french{%
3120 \def\equationautorefname{'Equation}%
3121 \def\footnoteautorefname{note}%
3122 \def\itemautorefname{item}%
3123 \def\figureautorefname{Figure}%
3124 \def\tableautorefname{Tableau}%
3125 \def\partautorefname{Partie}%
3126 \def\appendixautorefname{Appendice}%
3127 \def\chapterautorefname{chapitre}%
3128 \def\sectionautorefname{section}%
3129 \def\subsectionautorefname{sous-section}%
3130 \def\subsubsectionautorefname{sous-sous-section}%
3131 \def\paragraphautorefname{paragraphe}%
3132 \def\subparagraphautorefname{sous-paragraphe}%
3133 \def\FancyVerbLineautorefname{ligne}%
```

```

3134 \def\theoremautorefname{Th'eor'eme}%
3135 \def\pageautorefname{page}%
3136 }
3137 \def\HyLang@german{%
3138 \def\equationautorefname{Gleichung}%
3139 \def\footnoteautorefname{Fu'ss note}%
3140 \def\itemautorefname{Punkt}%
3141 \def\figureautorefname{Abbildung}%
3142 \def\tableautorefname{Tabelle}%
3143 \def\partautorefname{Teil}%
3144 \def\appendixautorefname{Anhang}%
3145 \def\chapterautorefname{Kapitel}%
3146 \def\sectionautorefname{Abschnitt}%
3147 \def\subsectionautorefname{Unterabschnitt}%
3148 \def\subsubsectionautorefname{Unterunterabschnitt}%
3149 \def\paragraphautorefname{Absatz}%
3150 \def\subparagraphautorefname{Unterabsatz}%
3151 \def\FancyVerbLineautorefname{Zeile}%
3152 \def\theoremautorefname{Theorem}%
3153 \def\pageautorefname{Seite}%
3154 }
3155 \def\HyLang@italian{%
3156 \def\equationautorefname{Equazione}%
3157 \def\footnoteautorefname{nota}%
3158 \def\itemautorefname{punto}%
3159 \def\figureautorefname{Figura}%
3160 \def\tableautorefname{Tabella}%
3161 \def\partautorefname{Parte}%
3162 \def\appendixautorefname{Appendice}%
3163 \def\chapterautorefname{Capitolo}%
3164 \def\sectionautorefname{sezione}%
3165 \def\subsectionautorefname{sottosezione}%
3166 \def\subsubsectionautorefname{sottosottosezione}%
3167 \def\paragraphautorefname{paragrafo}%
3168 \def\subparagraphautorefname{sottoparagrafo}%
3169 \def\FancyVerbLineautorefname{linea}%
3170 \def\theoremautorefname{Teorema}%
3171 \def\pageautorefname{Pag.\@}%
3172 }
3173 \def\HyLang@magyar{%
3174 \def\equationautorefname{Egyenlet}%
3175 \def\footnoteautorefname{[l'abjegyzet]}%
3176 \def\itemautorefname{Elem}%
3177 \def\figureautorefname{'Abra}%
3178 \def\tableautorefname{T'abl'azat}%
3179 \def\partautorefname{R'esz}%
3180 \def\appendixautorefname{F"uggel'ek}%
3181 \def\chapterautorefname{fejezet}%
3182 \def\sectionautorefname{szakasz}%
3183 \def\subsectionautorefname{alszakasz}%
3184 \def\subsubsectionautorefname{alalszakasz}%
3185 \def\paragraphautorefname{bekezd'es}%
3186 \def\subparagraphautorefname{albekezd'es}%
3187 \def\FancyVerbLineautorefname{sor}%
3188 \def\theoremautorefname{T'etel}%
3189 \def\pageautorefname{oldal}%
3190 }

```

```

3191 \def\HyLang@portuges{%
3192 \def\equationautorefname{Equa\c c\~ao}%
3193 \def\footnoteautorefname{Nota de rodap\~e}%
3194 \def\itemautorefname{Item}%
3195 \def\figureautorefname{Figura}%
3196 \def\tableautorefname{Tabela}%
3197 \def\partautorefname{Parte}%
3198 \def\appendixautorefname{Ap\~endice}%
3199 \def\chapterautorefname{Cap\~itulo}%
3200 \def\sectionautorefname{Se\c c\~ao}%
3201 \def\subsectionautorefname{Subse\c c\~ao}%
3202 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3203 \def\paragraphautorefname{par\~agrafo}%
3204 \def\subparagraphautorefname{subpar\~agrafo}%
3205 \def\FancyVerbLineautorefname{linha}%
3206 \def\theoremautorefname{Teorema}%
3207 \def\pageautorefname{P\~agina}%
3208 }

```

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the `\equationautorefname`, `\theoremautorefname` and the `\FancyVerbLineautorefname`. But those three, and also the `\footnoteautorefname` are not *too* often referenced. Another rather weak point is the `\appendixautorefname`.

```

3209 \def\HyLang@russian{%

```

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the `\theoremautorefname`?

```

3210 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

3211 % \def\equationautorefname{%
3212 % \cyr\cyrv\cyrery\cyr\cyrz\cyr\cyrn\cyr\cyr
3213 % }%

```

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

```

3214 \def\footnoteautorefname{%
3215 \cyr\cyrp\cyr\cyr\cyr\cyr\cyr.\ \cyr\cyr\cyr\cyr.%
3216 }%

```

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`”

```

3217 % \def\footnoteautorefname{%
3218 % \cyr\cyrp\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\ %
3219 % \cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr\cyr %
3220 % }%

```

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

```

3221 % \def\Nomfootnoteautorefname{\cyr\cyr\cyr\cyr\cyr\cyr\cyr}%
3222 % \def\Accfootnoteautorefname{\cyr\cyr\cyr\cyr\cyr\cyr\cyr}%

```

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

```
3223 \def\itemautorefname{\cyr\cyrp.}%
3224 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
3225 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3226 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
```

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
3227 \def\partautorefname{\cyr\cyrch.}%
3228 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3229 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

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

```
3230 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3231 % \def\appendixautorefname{%
3232 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
3233 % }%
```

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.

```
3234 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3235 \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.

```
3236 \def\paragraphautorefname{\cyr\cyrp.}%
3237 \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.

```
3238 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3239 % \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.

```
3240 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3241 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3242 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3243 % \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 ...

```
3244 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3245 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3246 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3247 \def\pageautorefname{\cyr\cyrs.}%
```

```
3248 }
```

```
3249 \def\HyLang@spanish{%
```

```
3250 \def\equationautorefname{Ecuaci'on}%
```

```
3251 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
3252 \def\itemautorefname{Elemento}%
```

```
3253 \def\figureautorefname{Figura}%
```

```
3254 \def\tableautorefname{Tabla}%
```

```
3255 \def\partautorefname{Parte}%
```

```
3256 \def\appendixautorefname{Ap'endice}%
```

```
3257 \def\chapterautorefname{Cap'itulo}%
```

```
3258 \def\sectionautorefname{Secci'on}%
```

```
3259 \def\subsectionautorefname{Subsecci'on}%
```

```
3260 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
3261 \def\paragraphautorefname{P'arrafo}%
```

```
3262 \def\subparagraphautorefname{Subp'arrafo}%
```

```
3263 \def\FancyVerbLineautorefname{L'inea}%
```

```
3264 \def\theoremautorefname{Teorema}%
```

```
3265 \def\pageautorefname{P'agina}%
```

```
3266 }
```

```
3267 \def\HyLang@vietnamese{%
```

```
3268 \def\equationautorefname{Ph\uhorn{ }\ohorn{ }ng tr'inh}%
```

```
3269 \def\footnoteautorefname{Ch'u th'ich}%
```

```
3270 \def\itemautorefname{m\{d\{u\}c}%
```

```
3271 \def\figureautorefname{H'inh}%
```

```
3272 \def\tableautorefname{B'h{a}ng}%
```

```
3273 \def\partautorefname{Ph'\acircumflex{n}%
```

```
3274 \def\appendixautorefname{Ph\{d\{u\} l\{d\{u\}c}%
```

```
3275 \def\chapterautorefname{ch\uhorn{ }\ohorn{ }ng}%
```

```
3276 \def\sectionautorefname{m\{d\{u\}c}%
```

```
3277 \def\subsectionautorefname{m\{d\{u\}c}%
```

```
3278 \def\subsubsectionautorefname{m\{d\{u\}c}%
```

```
3279 \def\paragraphautorefname{\dj{ }o\{d\{a\}n}%
```

```
3280 \def\subparagraphautorefname{\dj{ }o\{d\{a\}n}%
```

```
3281 \def\FancyVerbLineautorefname{d'ong}%
```

```
3282 \def\theoremautorefname{\DJ{\ }d{i}nh l'y}%
```

```
3283 \def\pageautorefname{Trang}%
```

```
3284 }
```

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

```
3285 \def\HyLang@addto#1#2{%
```

```
3286 #2%
```

```
3287 \@temptokena{#2}%
```

```
3288 \ifx#1\relax
```

```
3289 \let#1\@empty
```

```
3290 \fi
```

```
3291 \ifx#1\@undefined
```

```

3292 \edef#1{\the\@temptokena}%
3293 \else
3294 \toks@\expandafter{#1}%
3295 \edef#1{\the\toks@\the\@temptokena}%
3296 \fi
3297 \@temptokena{}\toks@\@temptokena
3298 }

3299 \def\HyLang@DeclareLang#1#2#3{%
3300 \@ifpackagewith{babel}{#1}{%
3301 \expandafter\HyLang@addto
3302 \csname extras#1\expandafter\endcsname
3303 \csname HyLang@#2\endcsname
3304 \begingroup
3305 \edef\x{\endgroup
3306 #3%
3307 }%
3308 \x
3309 \@namedef{HyLang@#1@done}{}%
3310 }{}%
3311 \begingroup
3312 \edef\x##1##2{%
3313 \noexpand\ifx##2\relax
3314 \errmessage{No definitions for language #2' found!}%
3315 \noexpand\fi
3316 \endgroup
3317 \noexpand\define@key{Hyp}{#1}[]{}%
3318 \noexpand\@ifundefined{HyLang@#1@done}{%
3319 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3320 #3%
3321 \noexpand\@namedef{HyLang@#1@done}{}%
3322 }{}%
3323 }%
3324 }%
3325 \expandafter\x\csname extras#1\expandafter\endcsname
3326 \csname HyLang@#2\endcsname
3327 }

3328 \HyLang@DeclareLang{english}{english}{}
3329 \HyLang@DeclareLang{UKenglish}{english}{}
3330 \HyLang@DeclareLang{british}{english}{}
3331 \HyLang@DeclareLang{USenglish}{english}{}
3332 \HyLang@DeclareLang{american}{english}{}
3333 \HyLang@DeclareLang{german}{german}{}
3334 \HyLang@DeclareLang{austrian}{german}{}
3335 \HyLang@DeclareLang{ngerman}{german}{}
3336 \HyLang@DeclareLang{naustrian}{german}{}
3337 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3338 \HyLang@DeclareLang{brazil}{portuges}{}
3339 \HyLang@DeclareLang{brazilian}{portuges}{}
3340 \HyLang@DeclareLang{portuguese}{portuges}{}
3341 \HyLang@DeclareLang{spanish}{spanish}{}
3342 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3343 \HyLang@DeclareLang{french}{french}{}
3344 \HyLang@DeclareLang{frenchb}{french}{}
3345 \HyLang@DeclareLang{français}{french}{}
3346 \HyLang@DeclareLang{acadian}{french}{}
3347 \HyLang@DeclareLang{canadien}{french}{}
3348 \HyLang@DeclareLang{italian}{italian}{}

```

```

3349 \HyLang@DeclareLang{magyar}{magyar}{-}
3350 \HyLang@DeclareLang{hungarian}{magyar}{-}

```

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

```

3351 \DeclareVoidOption{vietnamese}{-%
3352 \HyLang@addto\extravietnamese\HyLang@vietnamese
3353 \Hy@AtEndOfPackage{%
3354 \@ifundefined{T@PU}{-}{-%
3355 \input{puvnenc.def}%
3356 }%
3357 }%
3358 }
3359 \DeclareVoidOption{vietnam}{-%
3360 \HyLang@addto\extravietnam\HyLang@vietnamese
3361 \Hy@AtEndOfPackage{%
3362 \@ifundefined{T@PU}{-}{-%
3363 \input{puvnenc.def}%
3364 }%
3365 }%
3366 }

```

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

```

3367 \DeclareVoidOption{arabic}{-%
3368 \Hy@AtEndOfPackage{%
3369 \@ifundefined{T@PU}{-}{-%
3370 \input{puarenc.def}%
3371 }%
3372 }%
3373 }

```

13 Options to change appearance of links

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

```

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

```

```

3398 }{}%
3399 \endgroup
3400 }
3401 \define@key{Hyp}{frenchlinks}[true]{%
3402 \Hy@boolkey{frenchlinks}{#1}%
3403 }

```

14 Bookmarking

```

3404 \begingroup\expandafter\expandafter\expandafter\endgroup
3405 \expandafter\ifx\csname chapter\endcsname\relax
3406 \def\toclevel@part{0}%
3407 \else
3408 \def\toclevel@part{-1}%
3409 \fi
3410 \def\toclevel@chapter{0}
3411 \def\toclevel@section{1}
3412 \def\toclevel@subsection{2}
3413 \def\toclevel@subsubsection{3}
3414 \def\toclevel@paragraph{4}
3415 \def\toclevel@subparagraph{5}
3416 \def\toclevel@figure{0}
3417 \def\toclevel@table{0}
3418 \@ifpackageloaded{listings}{%
3419 \providecommand*\theHlstlisting{\thelstlisting}%
3420 \providecommand*\toclevel@lstlisting{0}%
3421 }{}
3422 \@ifpackageloaded{listing}{%
3423 \providecommand*\theHlisting{\thelisting}%
3424 \providecommand*\toclevel@listing{0}%
3425 }{}
3426 \define@key{Hyp}{bookmarks}[true]{%
3427 \Hy@boolkey{bookmarks}{#1}%
3428 }
3429 \define@key{Hyp}{bookmarksopen}[true]{%
3430 \Hy@boolkey{bookmarksopen}{#1}%
3431 }

```

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.

```

3432 \let\Hy@bookmarksdepth\c@tocdepth
3433 \define@key{Hyp}{bookmarksdepth}[]{}%
3434 \begingroup
3435 \edef\x{#1}%
3436 \ifx\x\empty
3437 \global\let\Hy@bookmarksdepth\c@tocdepth
3438 \else

```



```

3439 \@@ifundefined{toclevel@x}{%
3440 \@onelevel@sanitize\x
3441 \edef\y{\expandafter\@car\x\@nil}%
3442 \ifcase 0\expandafter\ifx\y-1\fi
3443 \expandafter\ifnum\expandafter'\y>47 %
3444 \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3445 \Hy@Warning{Unknown document division name (\x)}%
3446 \else
3447 \setbox\z@=\hbox{%
3448 \count@=\x
3449 \xdef\Hy@bookmarksdepth{\the\count@}%
3450 }%
3451 \fi
3452 }{%
3453 \setbox\z@=\hbox{%
3454 \count@=\csname toclevel@x\endcsname
3455 \xdef\Hy@bookmarksdepth{\the\count@}%
3456 }%
3457 }%
3458 \fi
3459 \endgroup
3460 }

```

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

```

3461 \define@key{Hyp}{bookmarksopenlevel}{%
3462 \def\@bookmarksopenlevel{#1}%
3463 }
3464 \def\@bookmarksopenlevel{\maxdimen}
3465 % 'bookmarkstype' to specify which 'toc' file to mimic
3466 \define@key{Hyp}{bookmarkstype}{%
3467 \def\Hy@bookmarkstype{#1}%
3468 }
3469 \def\Hy@bookmarkstype{toc}

```

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

```

3470 \define@key{Hyp}{bookmarksnumbered}[true]{%
3471 \Hy@boolkey{bookmarksnumbered}{#1}%
3472 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3473 \define@key{Hyp}{CJKbookmarks}[true]{%
3474 \Hy@boolkey{CJKbookmarks}{#1}%
3475 }

3476 \def\Hy@temp#1{%
3477 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3478 }
3479 \def\Hy@@temp#1#2#3{%
3480 \define@key{Hyp}{#2color}{%
3481 \HyColor@HyperrefColor{##1}#1%
3482 }%
3483 \def#1{#3}%
3484 }
3485 \Hy@temp{link}{red}
3486 \Hy@temp{anchor}{black}
3487 \Hy@temp{cite}{green}
3488 \Hy@temp{file}{cyan}
3489 \Hy@temp{url}{magenta}

```

```

3490 \Hy@temp{menu}{red}
3491 \Hy@temp{run}{\@filecolor}
3492 \define@key{Hyp}{pagecolor}{%
3493   \Hy@WarningPageColor
3494 }
3495 \def\Hy@WarningPageColor{%
3496   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3497   \global\let\Hy@WarningPageColor\relax
3498 }
3499 \define@key{Hyp}{allcolors}{%
3500   \HyColor@HyperrefColor{#1}\@linkcolor
3501   \HyColor@HyperrefColor{#1}\@anchorcolor
3502   \HyColor@HyperrefColor{#1}\@citecolor
3503   \HyColor@HyperrefColor{#1}\@filecolor
3504   \HyColor@HyperrefColor{#1}\@urlcolor
3505   \HyColor@HyperrefColor{#1}\@menucolor
3506   \HyColor@HyperrefColor{#1}\@runcolor
3507 }

3508 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3509 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3510 \let\@baseurl\@empty
3511 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3512 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3513 \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.

```

3514 \let\@pdfpagetransition\relax
3515 \define@key{Hyp}{pdfpagetransition}{%
3516   \def\@pdfpagetransition{#1}%
3517 }

```

`\@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.

```

3518 \let\@pdfpageduration\relax
3519 \define@key{Hyp}{pdfpageduration}{%
3520   \def\@pdfpageduration{#1}%
3521   \Hy@Match\@pdfpageduration{%
3522     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3523   }{-%
3524     \Hy@Warning{%
3525       Invalid value '\@pdfpageduration'\MessageBreak
3526       of option 'pdfpageduration'\MessageBreak
3527       is replaced by an empty value%
3528     }%
3529     \let\@pdfpageduration\ltx@empty
3530   }%
3531 }

```

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.

```
3532 \newif\ifHy@useHidKey
3533 \Hy@useHidKeyfalse
3534 \define@key{Hyp}{pdfpagehidden}[true]{%
3535 \Hy@boolkey{pdfpagehidden}{#1}%
3536 \ifHy@pdfpagehidden
3537 \global\Hy@useHidKeytrue
3538 \fi
3539 }
```

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).

```
3540 \def\Hy@ColorList{cite,file,link,menu,run,url}
3541 \@for\Hy@temp:=\Hy@ColorList\do{%
3542 \edef\Hy@temp{%
3543 \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3544 \noexpand\Hy@Color@HyperrefBorderColor
3545 {##1}%
3546 \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3547 {hyperref}%
3548 {\Hy@temp bordercolor}%
3549 }%
3550 }%
3551 \Hy@temp
3552 }
3553 \define@key{Hyp}{pagebordercolor}{%
3554 \Hy@WarningPageBorderColor
3555 }
3556 \def\Hy@WarningPageBorderColor{%
3557 \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3558 \global\let\Hy@WarningPageBorderColor\relax
3559 }
3560 \define@key{Hyp}{allbordercolors}{%
3561 \def\Hy@temp##1##2{%
3562 \Hy@Color@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3563 }%
3564 \Hy@temp\@citebordercolor{cite}%
3565 \Hy@temp\@filebordercolor{file}%
3566 \Hy@temp\@linkbordercolor{link}%
3567 \Hy@temp\@menubordercolor{menu}%
3568 \Hy@temp\@runbordercolor{run}%
3569 \Hy@temp\@urlbordercolor{url}%
3570 }
3571 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3572 \Hy@DefNameKey{pdfhighlight}{%
3573 \do{/I}{Invert}%
3574 \do{/N}{None}%
3575 \do{/O}{Outline}%
3576 \do{/P}{Push}%
3577 }
3578 \define@key{Hyp}{pdfborder}{%
3579 \let\Hy@temp\@pdfborder
```

```

3580 \def\@pdfborder{#1}%
3581 \Hy@Match\@pdfborder{%
3582   ~\HyPat@NonNegativeReal/ %
3583   \HyPat@NonNegativeReal/ %
3584   \HyPat@NonNegativeReal/%
3585   ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*]?$%
3586 }-{}-%
3587 \Hy@Warning{%
3588   Invalid value '\@pdfborder'\MessageBreak
3589   for option 'pdfborder'\MessageBreak
3590   Option setting is ignored%
3591 }%
3592 \let\@pdfborder\Hy@temp
3593 }%
3594 }
3595 \define@key{Hyp}{pdfborderstyle}{%
3596 \let\Hy@temp\@pdfborderstyle
3597 \def\@pdfborderstyle{#1}%
3598 \Hy@Match\@pdfborderstyle{%
3599   ~%
3600   ( */Type */Border%
3601   | */W +\HyPat@NonNegativeReal/%
3602   | */S */[SDBIU]%
3603   | */D *[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?]?%
3604   )* *$%
3605 }-{}-%
3606 \Hy@Warning{%
3607   Invalid value '\@pdfborderstyle'\MessageBreak
3608   for option 'pdfborderstyle'\MessageBreak
3609   Option setting is ignored%
3610 }%
3611 \let\@pdfborderstyle\Hy@temp
3612 }%
3613 }
3614 \def\Hy@setpdfborder{%
3615 \ifx\@pdfborder\@empty
3616 \else
3617   /Border[\@pdfborder]%
3618 \fi
3619 \ifx\@pdfborderstyle\@empty
3620 \else
3621   /BS<<\@pdfborderstyle>>%
3622 \fi
3623 }
3624 \Hy@DefNameKey{pdfpagemode}{%
3625 \do{UseNone}{}%
3626 \do{UseOutlines}{}%
3627 \do{UseThumbs}{}%
3628 \do{FullScreen}{}%
3629 \do{UseOC}{PDF 1.5}%
3630 \do{UseAttachments}{PDF 1.6}%
3631 }
3632 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3633 \do{UseNone}{}%
3634 \do{UseOutlines}{}%
3635 \do{UseThumbs}{}%
3636 \do{FullScreen}{}%

```

```

3637 \do{UseOC}{PDF 1.5}%
3638 \do{UseAttachments}{PDF 1.6}%
3639 }
3640 \Hy@DefNameKey{pdfdirection}{%
3641 \do{L2R}{Left to right}%
3642 \do{R2L}{Right to left}%
3643 }
3644 \Hy@DefNameKey{pdfviewarea}{%
3645 \do{MediaBox}{}%
3646 \do{CropBox}{}%
3647 \do{BleedBox}{}%
3648 \do{TrimBox}{}%
3649 \do{ArtBox}{}%
3650 }
3651 \Hy@DefNameKey{pdfviewclip}{%
3652 \do{MediaBox}{}%
3653 \do{CropBox}{}%
3654 \do{BleedBox}{}%
3655 \do{TrimBox}{}%
3656 \do{ArtBox}{}%
3657 }
3658 \Hy@DefNameKey{pdfprintarea}{%
3659 \do{MediaBox}{}%
3660 \do{CropBox}{}%
3661 \do{BleedBox}{}%
3662 \do{TrimBox}{}%
3663 \do{ArtBox}{}%
3664 }
3665 \Hy@DefNameKey{pdfprintclip}{%
3666 \do{MediaBox}{}%
3667 \do{CropBox}{}%
3668 \do{BleedBox}{}%
3669 \do{TrimBox}{}%
3670 \do{ArtBox}{}%
3671 }
3672 \Hy@DefNameKey{pdfprintscaling}{%
3673 \do{AppDefault}{}%
3674 \do{None}{}%
3675 }
3676 \Hy@DefNameKey{pdfduplex}{%
3677 \do{Simplex}{}%
3678 \do{DuplexFlipShortEdge}{}%
3679 \do{DuplexFlipLongEdge}{}%
3680 }
3681 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3682 \do{true}{}%
3683 \do{false}{}%
3684 }
3685 \define@key{Hyp}{pdfprintpagerange}{%
3686 \def\@pdfprintpagerange{#1}%
3687 }
3688 \Hy@DefNameKey{pdfnumcopies}{%
3689 \do{2}{two copies}%
3690 \do{3}{three copies}%
3691 \do{4}{four copies}%
3692 \do{5}{five copies}%
3693 }

```

```

3694 \define@key{Hyp}{pdfusetitle}[true]{%
3695   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3696 }
3697 \def\HyXeTeX@CheckUnicode{%
3698   \ifxetex
3699     \ifHy@unicode
3700     \else
3701       \Hy@WarningNoLine{%
3702         XeTeX driver only supports unicode.\MessageBreak
3703         Enabling option 'unicode'%
3704       }%
3705       \kvsetkeys{Hyp}{unicode}%
3706     \fi
3707   \else
3708     \let\HyXeTeX@CheckUnicode\relax
3709   \fi
3710 }
3711 \def\HyPsd@PrerenderUnicode#1{%
3712   \begingroup
3713   \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3714   \else
3715     \sbox0{%
3716       \let\GenericInfo\@gobbletwo
3717       \let\GenericWarning\@gobbletwo
3718       \let\GenericError\@gobblefour
3719       \PrerenderUnicode{#1}%
3720     }%
3721   \fi
3722   \endgroup
3723 }
3724 \define@key{Hyp}{pdftitle}{%
3725   \HyXeTeX@CheckUnicode
3726   \HyPsd@XeTeXBigCharstrue
3727   \HyPsd@PrerenderUnicode{#1}%
3728   \pdfstringdef\@pdftitle{#1}%
3729 }
3730 \define@key{Hyp}{pdfauthor}{%
3731   \HyXeTeX@CheckUnicode
3732   \HyPsd@XeTeXBigCharstrue
3733   \HyPsd@PrerenderUnicode{#1}%
3734   \pdfstringdef\@pdfauthor{#1}%
3735 }
3736 \define@key{Hyp}{pdfproducer}{%
3737   \HyXeTeX@CheckUnicode
3738   \HyPsd@XeTeXBigCharstrue
3739   \HyPsd@PrerenderUnicode{#1}%
3740   \pdfstringdef\@pdfproducer{#1}%
3741 }
3742 \define@key{Hyp}{pdfcreator}{%
3743   \HyXeTeX@CheckUnicode
3744   \HyPsd@XeTeXBigCharstrue
3745   \HyPsd@PrerenderUnicode{#1}%
3746   \pdfstringdef\@pdfcreator{#1}%
3747 }
3748 \define@key{Hyp}{pdfcreationdate}{%
3749   \begingroup
3750   \Hy@unicodefalse

```

```

3751 \pdfstringdef\@pdfcreationdate{#1}%
3752 \endgroup
3753 }
3754 \define@key{Hyp}{pdfmoddate}{%
3755 \begingroup
3756 \Hy@unicodedefalse
3757 \pdfstringdef\@pdfmoddate{#1}%
3758 \endgroup
3759 }
3760 \define@key{Hyp}{pdfsubject}{%
3761 \HyXeTeX@CheckUnicode
3762 \HyPsd@XeTeXBigCharstrue
3763 \HyPsd@PrerenderUnicode{#1}%
3764 \pdfstringdef\@pdfsubject{#1}%
3765 }
3766 \define@key{Hyp}{pdfkeywords}{%
3767 \HyXeTeX@CheckUnicode
3768 \HyPsd@XeTeXBigCharstrue
3769 \HyPsd@PrerenderUnicode{#1}%
3770 \pdfstringdef\@pdfkeywords{#1}%
3771 }
3772 \define@key{Hyp}{pdftrapped}{%
3773 \lowercase{\edef\Hy@temp{#1}}%
3774 \ifx\Hy@temp\HyInfo@trapped@true
3775 \def\@pdftrapped{True}%
3776 \else
3777 \ifx\Hy@temp\HyInfo@trapped@false
3778 \def\@pdftrapped{False}%
3779 \else
3780 \ifx\Hy@temp\HyInfo@trapped@unknown
3781 \def\@pdftrapped{Unknown}%
3782 \else
3783 \ifx\Hy@temp\@empty
3784 \else
3785 \Hy@Warning{%
3786 Unsupported value '#1'\MessageBreak
3787 for option 'pdftrapped'%
3788 }%
3789 \fi
3790 \def\@pdftrapped{}%
3791 \fi
3792 \fi
3793 \fi
3794 }
3795 \def\HyInfo@trapped@true{true}
3796 \def\HyInfo@trapped@false{false}
3797 \def\HyInfo@trapped@unknown{unknown}
3798 \def\HyInfo@TrappedUnsupported{%
3799 \ifx\@pdftrapped\@empty
3800 \else
3801 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3802 \gdef\HyInfo@TrappedUnsupported{}%
3803 \fi
3804 }
3805 \define@key{Hyp}{pdfinfo}{%
3806 \kvsetkeys{pdfinfo}{#1}%
3807 }

```

```

3808 \def\Hy@temp#1{%
3809   \lowercase{\Hy@temp@A{#1}}{#1}%
3810 }
3811 \def\Hy@temp@A#1#2{%
3812   \define@key{pdfinfo}{#2}{%
3813     \hypersetup{pdf#1={##1}}%
3814   }%
3815 }
3816 \Hy@temp{Title}
3817 \Hy@temp{Author}
3818 \Hy@temp{Keywords}
3819 \Hy@temp{Subject}
3820 \Hy@temp{Creator}
3821 \Hy@temp{Producer}
3822 \Hy@temp{CreationDate}
3823 \Hy@temp{ModDate}
3824 \Hy@temp{Trapped}
3825 \newif\ifHyInfo@AddonUnsupported
3826 \kv@set@family@handler{pdfinfo}{%
3827   \HyInfo@AddonHandler{#1}{#2}%
3828 }
3829 \let\HyInfo@do\relax
3830 \def\HyInfo@AddonHandler#1#2{%
3831   \ifx\kv@value\relax
3832     \Hy@Warning{%
3833       Option 'pdfinfo': ignoring key '\kv@key' without value%
3834     }%
3835   \else
3836     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3837     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3838     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3839     \ifHyInfo@AddonUnsupported
3840       \Hy@Warning{%
3841         This driver does not support additional\MessageBreak
3842         information entries, therefore\MessageBreak
3843         '\kv@key' is ignored%
3844       }%
3845     \else
3846       \define@key{pdfinfo}{\HyInfo@Key}{%
3847         \HyXeTeX@CheckUnicode
3848         \HyPsd@XeTeXBigCharstrue
3849         \HyPsd@PrerenderUnicode{##1}%
3850         \pdfstringdef\HyInfo@Value{##1}%
3851         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3852         \HyInfo@Value
3853       }%
3854     \edef\HyInfo@AddonList{%
3855       \HyInfo@AddonList
3856       \HyInfo@do{\HyInfo@Key}%
3857     }%
3858     \kv@parse@normalized{%
3859       \HyInfo@Key={#2}%
3860     }{%
3861       \kv@processor@default{pdfinfo}%
3862     }%
3863     \fi
3864   \else

```



```

3865 \kv@parse@normalized{%
3866 \HyInfo@Key={#2}%
3867 }{%
3868 \kv@processor@default{pdfinfo}%
3869 }%
3870 \fi
3871 \fi
3872 }
3873 \def\HyInfo@GenerateAddons{%
3874 \ifHyInfo@AddonUnsupported
3875 \def\HyInfo@Addons{}%
3876 \else
3877 \begingroup
3878 \toks@{}%
3879 \def\HyInfo@do###1{%
3880 \EdefEscapeName\HyInfo@Key{##1}%
3881 \edef\x{%
3882 \toks@{%
3883 \the\toks@
3884 /\HyInfo@Key(\csname HyInfo@Value@###1\endcsname)%
3885 }%
3886 }%
3887 \x
3888 }%
3889 \HyInfo@AddonList
3890 \edef\x{\endgroup
3891 \def\noexpand\HyInfo@Addons{\the\toks@}%
3892 }%
3893 \x
3894 \fi
3895 }
3896 \let\HyInfo@AddonList\ltx@empty

3897 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3898 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3899 \let\setpdfinkmargin@gobble
3900 \def\calculate@pdfview#1 #2\{%
3901 \def\@pdfview{#1}%
3902 \ifx\#2\%
3903 \def\@pdfviewparams{-32768}%
3904 \else
3905 \def\@pdfviewparams{#2}%
3906 \fi
3907 }
3908 \begingroup\expandafter\expandafter\expandafter\endgroup
3909 \expandafter\ifx\csname numexpr\endcsname\relax
3910 \def\Hy@number#1{%
3911 \expandafter\@firstofone\expandafter{\number#1}%
3912 }%
3913 \else
3914 \def\Hy@number#1{%
3915 \the\numexpr#1\relax
3916 }%
3917 \fi
3918 \define@key{Hyp}{pdfstartpage}{%
3919 \ifx\#1\%
3920 \let\@pdfstartpage\ltx@empty
3921 \else

```

```

3922 \edef\@pdfstartpage{\Hy@number{#1}}%
3923 \fi
3924 }%
3925 \define@key{Hyp}{pdfstartview}{%
3926 \ifx\#1\%
3927 \let\@pdfstartview\ltx@empty
3928 \else
3929 \hypercalcbpdef\@pdfstartview{/#1}%
3930 \fi
3931 }
3932 \def\HyPat@NonNegativeReal/{%
3933 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3934 }
3935 \define@key{Hyp}{pdfremotestartview}{%
3936 \ifx\#1\%
3937 \def\@pdfremotestartview{/Fit}%
3938 \else
3939 \hypercalcbpdef\@pdfremotestartview{#1}%
3940 \edef\@pdfremotestartview{\@pdfremotestartview}%
3941 \Hy@Match\@pdfremotestartview{%
3942 ^{XYZ}-(null|\HyPat@NonNegativeReal/)%
3943 -(null|\HyPat@NonNegativeReal/)%
3944 (null|\HyPat@NonNegativeReal/)|%
3945 Fit(|B|)%
3946 (H|V|BH|BV)(null|\HyPat@NonNegativeReal/)|%
3947 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3948 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3949 )}$%
3950 }-}%
3951 \Hy@Warning{%
3952 Invalid value '\@pdfremotestartview'\MessageBreak
3953 of 'pdfremotestartview'\MessageBreak
3954 is replaced by 'Fit'%
3955 }%
3956 \let\@pdfremotestartview\@empty
3957 }%
3958 \ifx\@pdfremotestartview\@empty
3959 \def\@pdfremotestartview{/Fit}%
3960 \else
3961 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3962 \fi
3963 \fi
3964 }
3965 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3966 \define@key{Hyp}{pdftoolbar}[true]{%
3967 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3968 }
3969 \define@key{Hyp}{pdfmenubar}[true]{%
3970 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3971 }
3972 \define@key{Hyp}{pdfwindowui}[true]{%
3973 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3974 }
3975 \define@key{Hyp}{pdffitwindow}[true]{%
3976 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3977 }
3978 \define@key{Hyp}{pdfcenterwindow}[true]{%

```

```

3979 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3980 }
3981 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3982 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3983 }
3984 \define@key{Hyp}{pdfa}[true]{%
3985 \Hy@boolkey[pdfa]{#1}%
3986 }
3987 \define@key{Hyp}{pdfnewwindow}[true]{%
3988 \def\Hy@temp{#1}%
3989 \ifx\Hy@temp\@empty
3990 \Hy@newwindowsetfalse
3991 \else
3992 \Hy@newwindowsettrue
3993 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3994 \fi
3995 }
3996 \def\Hy@SetNewWindow{%
3997 \ifHy@newwindowset
3998 /NewWindow %
3999 \ifHy@newwindow true\else false\fi
4000 \fi
4001 }
4002 \Hy@DefNameKey[pdfpagelayout]{%
4003 \do{SinglePage}{}%
4004 \do{OneColumn}{}%
4005 \do{TwoColumnLeft}{}%
4006 \do{TwoColumnRight}{}%
4007 \do{TwoPageLeft}{PDF 1.5}%
4008 \do{TwoPageRight}{PDF 1.5}%
4009 }
4010 \define@key{Hyp}{pdflang}{%
4011 \def\@pdflang{#1}%
4012 }
4013 \define@key{Hyp}{pdfpagelabels}[true]{%
4014 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
4015 }
4016 \define@key{Hyp}{pdfescapeform}[true]{%
4017 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
4018 }

```

Default values:

```

4019 \def\@linkbordercolor{1 0 0}
4020 \def\@urlbordercolor{0 1 1}
4021 \def\@menubordercolor{1 0 0}
4022 \def\@filebordercolor{0 .5 .5}
4023 \def\@runbordercolor{0 .7 .7}
4024 \def\@citebordercolor{0 1 0}
4025 \def\@pdfhighlight{/I}
4026 \let\@pdftitle\ltx@empty
4027 \let\@pdfauthor\ltx@empty
4028 \let\@pdfproducer\relax
4029 \def\@pdfcreator{LaTeX with hyperref package}
4030 \let\@pdfcreationdate\ltx@empty
4031 \let\@pdfmoddate\ltx@empty
4032 \let\@pdfsubject\ltx@empty
4033 \let\@pdfkeywords\ltx@empty
4034 \let\@pdftrapped\ltx@empty

```

```

4035 \let\@pdfpagescrop\ltx@empty
4036 \def\@pdfstartview{/Fit}
4037 \def\@pdfremotestartview{/Fit}
4038 \def\@pdfstartpage{1}
4039 \let\@pdfprintpagerange\ltx@empty
4040 \let\@pdfiang\ltx@empty
4041 \let\PDF@SetupDoc\@empty
4042 \let\PDF@FinishDoc\@empty
4043 \let\phantomsection\@empty
4044 \let\special@paper\@empty
4045 \def\HyperDestNameFilter#1{#1}
4046 \Hy@AtBeginDocument{%
4047   \begingroup
4048   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4049   \dimen@=\x\relax
4050   \ifdim\dimen@>\z@
4051   \else
4052     \dimen@=11in\relax
4053     \Hy@WarningNoLine{%
4054       Height of page (\expandafter\string\x) %
4055       is invalid (\the\x),\MessageBreak
4056       using 11in%
4057     }%
4058   \fi
4059   \dimen@=0.99626401\dimen@
4060   \xdef\Hy@pageheight{\strip@pt\dimen@}%
4061 \endgroup
4062 }
4063 \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.

```

4064 \let\hyper@normalise\ExecuteOptions
4065 \let\ExecuteOptions\hypersetup
4066 \Hy@RestoreCatcodes
4067 \InputIfFileExists{hyperref.cfg}{-}{-}
4068 \Hy@SetCatcodes
4069 \let\ExecuteOptions\hyper@normalise
4070 \ifx\Hy@MaybeStopNow\relax
4071 \else
4072   \Hy@stoppedearlytrue
4073   \expandafter\Hy@MaybeStopNow
4074 \fi
4075 \Hy@stoppedearlyfalse

```

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

```

4076 \SetupKeyvalOptions{family=Hyp}
4077 \DeclareLocalOptions{%
4078   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4079 }

```

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

```

4080 \@ifpackageloaded{tex4ht}{%
4081   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4082   \PassOptionsToPackage{tex4ht}{hyperref}%
4083 }%

```

```

4084 }{}
4085 \let\ReadBookmarks\relax
4086 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4087 \def\Hy@xspace@end{}
4088 \ltx@ifundefined{xspaceaddexceptions}{%
4089 \Hy@AtBeginDocument{%
4090 \ltx@ifundefined{xspaceaddexceptions}{%
4091 }{%
4092 \def\Hy@xspace@end{%
4093 \ltx@gobble{end for xspace}%
4094 }%
4095 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4096 }%
4097 }%
4098 }{%
4099 \def\Hy@xspace@end{%
4100 \ltx@gobble{end for xspace}%
4101 }%
4102 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4103 }

```

15.2 Option draft

```

4104 \Hy@AtBeginDocument{%
4105 \ifHy@draft
4106 \let\hyper@@anchor@gobble
4107 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4108 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4109 \def\hyper@anchorend{\Hy@xspace@end}%
4110 \let\hyper@linkstart@gobbletwo
4111 \def\hyper@linkend{\Hy@xspace@end}%
4112 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4113 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4114 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4115 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4116 \let\PDF@SetupDoc@empty
4117 \let\PDF@FinishDoc@empty
4118 \let\@fifthoffive\@secondoftwo
4119 \let\@secondoffive\@secondoftwo
4120 \let\ReadBookmarks\relax
4121 \let\WriteBookmarks\relax
4122 \Hy@WarningNoLine{Draft mode on}%
4123 \fi
4124 \Hy@DisableOption{draft}%
4125 \Hy@DisableOption{nolinks}%
4126 \Hy@DisableOption{final}%
4127 }

```

15.3 PDF/A

```

4128 \Hy@DisableOption{pdfa}
4129 \ifHy@pdfa
4130 \kvsetkeys{Hyp}{pdfversion=1.4}%

```

```

4131 \def\Hy@Acrobatmenu#1#2{%
4132   \leavevmode
4133   \begingroup
4134   \edef\x{#1}%
4135   \@onelevel@sanitize\x
4136   \ifx\x\Hy@NextPage
4137     \let\y=Y%
4138   \else
4139     \ifx\x\Hy@PrevPage
4140       \let\y=Y%
4141     \else
4142       \ifx\x\Hy@FirstPage
4143         \let\y=Y%
4144       \else
4145         \ifx\x\Hy@LastPage
4146           \let\y=Y%
4147         \else
4148           \let\y=N%
4149         \fi
4150       \fi
4151     \fi
4152   \fi
4153   \expandafter\endgroup
4154   \ifx\y Y%
4155   \else
4156     \Hy@Error{%
4157       PDF/A: Named action '#1' is not permitted%
4158     }\@ehc
4159     {#2}%
4160   \expandafter\@gobble
4161   \fi
4162 }%
4163 \def\Hy@temp#1{%
4164   \expandafter\def\csname Hy@#1\endcsname{#1}%
4165   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4166 }%
4167 \Hy@temp{NextPage}%
4168 \Hy@temp{PrevPage}%
4169 \Hy@temp{FirstPage}%
4170 \Hy@temp{LastPage}%
4171 \else
4172 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4173 \fi

```

15.4 Patch for babel's \texttilde

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

```

4174 \Hy@nextfalse
4175 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
4176 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
4177 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
4178 \ifHy@next
4179   \let\texttilde\~%
4180 \fi

4181 \def\Hy@wrapper@babel#1#2{%
4182   \begingroup

```

```

4183 \Hy@safe@activetrue
4184 \set@display@protect
4185 \edef\x{#2}%
4186 \@onelevel@sanitize\x
4187 \toks@{#1}%
4188 \edef\x{\endgroup\the\toks@\x}%
4189 \x
4190 }
4191 \def\Hy@WrapperDef#1{%
4192 \begingroup
4193 \escapechar=\m@ne
4194 \xdef\Hy@gtemp{%
4195 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4196 }%
4197 \endgroup
4198 \edef#1{%
4199 \noexpand\Hy@wrapper@babel
4200 \expandafter\noexpand\Hy@gtemp
4201 }%
4202 \expandafter\def\Hy@gtemp
4203 }

4204 \ifHy@figures
4205 \Hy@Info{Hyper figures ON}%
4206 \else
4207 \Hy@Info{Hyper figures OFF}%
4208 \fi
4209 \ifHy@nesting
4210 \Hy@Info{Link nesting ON}%
4211 \else
4212 \Hy@Info{Link nesting OFF}%
4213 \fi
4214 \ifHy@hyperindex
4215 \Hy@Info{Hyper index ON}%
4216 \else
4217 \Hy@Info{Hyper index OFF}%
4218 \fi
4219 \ifHy@plainpages
4220 \Hy@Info{Plain pages ON}%
4221 \else
4222 \Hy@Info{Plain pages OFF}%
4223 \fi
4224 \ifHy@backref
4225 \Hy@Info{Backreferencing ON}%
4226 \else
4227 \Hy@Info{Backreferencing OFF}%
4228 \fi
4229 \ifHy@typexml
4230 \Hy@AtEndOfPackage{%
4231 \RequirePackage{color}%
4232 \RequirePackage{nameref}%
4233 }%
4234 \fi
4235 \Hy@DisableOption{typexml}
4236 \ifHy@implicit
4237 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4238 \else
4239 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%

```

```

4240 \def\MaybeStopEarly{%
4241   \Hy@Message{Stopped early}%
4242   \Hy@AtBeginDocument{%
4243     \PDF@FinishDoc
4244     \gdef\PDF@FinishDoc{}}%
4245   }%
4246   \endinput
4247 }%
4248 \Hy@AtBeginDocument{%
4249   \let\autoref\ref
4250   \let\autopageref\pageref
4251   \ifx\@pdfpagemode\@empty
4252     \gdef\@pdfpagemode{UseNone}%
4253   \fi
4254   \global\Hy@backreffalse
4255 }%
4256 \Hy@AtEndOfPackage{%
4257   \global\let\ReadBookmarks\relax
4258   \global\let\WriteBookmarks\relax
4259 }%
4260 \fi
4261 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4262 \Hy@AtEndOfPackage{%
4263   \@ifpackageloaded{tex4ht}{%
4264     \def\Hy@driver{htex4ht}%
4265     \Hy@texhttrue
4266   }{}%

```

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.

```

4267   \ifx\Hy@driver\@empty
4268     \else
4269     \def\Hy@temp{hpdfTeX}%
4270     \ifpdf
4271       \ifx\Hy@driver\Hy@temp
4272         \else
4273         \Hy@WarningNoLine{%
4274           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4275           pdfTeX is running in PDF mode.\MessageBreak
4276           Forcing driver ‘\Hy@temp.def’%
4277         }%
4278         \let\Hy@driver\Hy@temp
4279       \fi
4280     \else
4281     \ifx\Hy@driver\Hy@temp
4282       \Hy@WarningNoLine{%
4283         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4284         pdfTeX is not running in PDF mode.\MessageBreak
4285         Using default driver%
4286       }%
4287       \let\Hy@driver\@empty
4288     \fi
4289   \fi
4290 \fi
4291 \ifHy@texht

```



```

4292 \else
4293 \ifx\Hy@driver\@empty
4294 \else
4295 \def\Hy@temp{hxtex}%
4296 \ifxetex
4297 \ifx\Hy@driver\Hy@temp
4298 \else
4299 \Hy@WarningNoLine{%
4300 Wrong driver '\Hy@driver.def';\MessageBreak
4301 XeTeX is running.\MessageBreak
4302 Forcing driver '\Hy@temp.def' for XeTeX%
4303 }%
4304 \let\Hy@driver\Hy@temp
4305 \fi
4306 \fi
4307 \fi
4308 \fi
4309 \ifx\Hy@driver\@empty
4310 \else
4311 \def\Hy@temp{hvtexhtm}%
4312 \ifvtexhtml
4313 \ifx\Hy@driver\Hy@temp
4314 \else
4315 \Hy@WarningNoLine{%
4316 Wrong driver '\Hy@driver.def';\MessageBreak
4317 VTeX is running in HTML mode.\MessageBreak
4318 Forcing driver '\Hy@temp.def'%
4319 }%
4320 \let\Hy@driver\Hy@temp
4321 \fi
4322 \else
4323 \ifx\Hy@driver\Hy@temp
4324 \Hy@WarningNoLine{%
4325 Wrong driver '\Hy@driver.def';\MessageBreak
4326 VTeX is not running in HTML mode.\MessageBreak
4327 Using default driver%
4328 }%
4329 \let\Hy@driver\@empty
4330 \fi
4331 \fi
4332 \fi

```

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

```

4333 \def\HyOpt@DriverType{}%
4334 \ifx\Hy@driver\@empty
4335 \def\HyOpt@DriverType{ (autodetected)}%
4336 \providecommand*\Hy@defaultdriver{hypertex}%
4337 \ifpdf
4338 \def\Hy@driver{hpdftex}%
4339 \else
4340 \ifxetex
4341 \def\Hy@driver{hxtex}%
4342 \else
4343 \ifvtexhtml
4344 \def\Hy@driver{hvtexhtm}%
4345 \def\MaybeStopEarly{%
4346 \Hy@Message{Stopped early}%
4347 \Hy@AtBeginDocument{%

```

```

4348     \PDF@FinishDoc
4349     \gdef\PDF@FinishDoc{}%
4350   }%
4351   \endinput
4352 }%
4353 \else
4354   \ifvtexpdf
4355     \def\Hy@driver{hvtex}%
4356   \else
4357     \ifvtexps
4358       \def\Hy@driver{hvtex}%
4359     \else
4360       \ifx\HyOpt@DriverFallback\ltx@empty
4361         \let\Hy@driver\Hy@defaultdriver
4362         \def\HyOpt@DriverType{ (default)}%
4363       \else
4364         \begingroup
4365           \toks@\expandafter{\HyOpt@DriverFallback}%
4366           \edef\x{\endgroup
4367             \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4368           }%
4369         \x
4370         \ifx\Hy@driver\ltx@empty
4371           \let\Hy@driver\Hy@defaultdriver
4372           \def\HyOpt@DriverType{ (default)}%
4373         \else
4374           \def\HyOpt@DriverType{ (fallback)}%
4375         \fi
4376       \fi
4377     \fi
4378   \fi
4379 \fi
4380 \fi
4381 \fi
4382 \ifx\Hy@driver\Hy@defaultdriver
4383   \def\Hy@temp{hdvwind}%
4384   \ifx\Hy@temp\Hy@driver
4385     \kvsetkeys{Hyp}{colorlinks}%
4386     \PassOptionsToPackage{dviwindo}{color}%
4387   \fi
4388 \fi
4389 \fi
4390 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4391 \chardef\Hy@VersionChecked=0 %
4392 \input{\Hy@driver.def}%
4393 \ifcase\Hy@VersionChecked
4394   \Hy@VersionCheck{\Hy@driver.def}%
4395 \fi
4396 \let\@unprocessedoptions\relax
4397 \Hy@RestoreCatcodes
4398 \Hy@DisableOption{tex4ht}%
4399 \Hy@DisableOption{pdftex}%
4400 \Hy@DisableOption{nativepdf}%
4401 \Hy@DisableOption{dviPDFM}%
4402 \Hy@DisableOption{dviPDFMX}%
4403 \Hy@DisableOption{dviPDFMX-outline-open}%
4404 \Hy@DisableOption{pdfmark}%

```

```

4405 \Hy@DisableOption{dvips}%
4406 \Hy@DisableOption{hypertex}%
4407 \Hy@DisableOption{vtex}%
4408 \Hy@DisableOption{vtexpdfmark}%
4409 \Hy@DisableOption{dviwindo}%
4410 \Hy@DisableOption{dvipsone}%
4411 \Hy@DisableOption{textures}%
4412 \Hy@DisableOption{latex2html}%
4413 \Hy@DisableOption{ps2pdf}%
4414 \Hy@DisableOption{xetex}%
4415 \Hy@DisableOption{pdfversion}%
4416 }

```

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.

```

4417 \newif\ifHy@DvipdfmxOutlineOpen
4418 \ifxetex
4419 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4420 \else
4421 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4422 \Hy@DvipdfmxOutlineOpentruer
4423 \fi
4424 \fi
4425 \begingroup\expandafter\expandafter\expandafter\endgroup
4426 \expandafter\ifx\cename SpecialDvipdfmxOutlineOpen\endcename\relax
4427 \else
4428 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4429 \Hy@DvipdfmxOutlineOpentruer
4430 \fi
4431 \fi

```

15.4.2 Bookmarks

```

4432 \def\WriteBookmarks{0}
4433 \def\@bookmarkopenstatus#1{%
4434 \ifHy@bookmarksopen

```

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

```

4435 \ifnum#1<\expandafter\@firstofone\expandafter
4436 \{\number\@bookmarksopenlevel} % explicit space
4437 \else
4438 -%
4439 \fi
4440 \else
4441 -%
4442 \fi
4443 }
4444 \ifHy@bookmarks
4445 \Hy@Info{Bookmarks ON}%
4446 \ifx\@pdfpagemode\@empty
4447 \def\@pdfpagemode{UseOutlines}%
4448 \fi
4449 \else
4450 \let\@bookmarkopenstatus\ltx@gobble
4451 \Hy@Info{Bookmarks OFF}%
4452 \Hy@AtEndOfPackage{%
4453 \global\let\ReadBookmarks\relax

```

```

4454 \global\let\WriteBookmarks\relax
4455 }%
4456 \ifx\@pdfpagemode\@empty
4457 \def\@pdfpagemode{UseNone}%
4458 \fi
4459 \fi
4460 \Hy@DisableOption{bookmarks}

```

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

```

4461 \def\Hy@CatcodeWrapper#1{%
4462 \let\Hy@endWrap\ltx@empty
4463 \def\TMP@EnsureCode###1##2{%
4464 \edef\Hy@endWrap{%
4465 \Hy@endWrap
4466 \catcode###1 \the\catcode###1\relax
4467 }%
4468 \catcode###1 ##2\relax
4469 }%
4470 \TMP@EnsureCode{10}{12}% ^^J
4471 \TMP@EnsureCode{33}{12}% !
4472 \TMP@EnsureCode{34}{12}% "
4473 \TMP@EnsureCode{36}{3}% $ (math)
4474 \TMP@EnsureCode{38}{4}% & (alignment)
4475 \TMP@EnsureCode{39}{12}% '
4476 \TMP@EnsureCode{40}{12}% (
4477 \TMP@EnsureCode{41}{12}% )
4478 \TMP@EnsureCode{42}{12}% *
4479 \TMP@EnsureCode{43}{12}% +
4480 \TMP@EnsureCode{44}{12}% ,
4481 \TMP@EnsureCode{45}{12}% -
4482 \TMP@EnsureCode{46}{12}% .
4483 \TMP@EnsureCode{47}{12}% /
4484 \TMP@EnsureCode{58}{12}% :
4485 \TMP@EnsureCode{59}{12}% ;
4486 \TMP@EnsureCode{60}{12}% <
4487 \TMP@EnsureCode{61}{12}% =
4488 \TMP@EnsureCode{62}{12}% >
4489 \TMP@EnsureCode{63}{12}% ?
4490 \TMP@EnsureCode{91}{12}% [
4491 \TMP@EnsureCode{93}{12}% ]
4492 \TMP@EnsureCode{94}{7}% ^ (superscript)
4493 \TMP@EnsureCode{95}{8}% _ (subscript)
4494 \TMP@EnsureCode{96}{12}% `
4495 \TMP@EnsureCode{124}{12}% |
4496 \TMP@EnsureCode{126}{13}% ~ (active)
4497 #1\relax
4498 \Hy@endWrap
4499 }

```

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

```

4500 \Hy@AtBeginDocument{%
4501 \ifHy@ocgcolorlinks
4502 \kvsetkeys{Hyp}{colorlinks}%
4503 \ifHy@pdfa
4504 \Hy@Warning{%
4505 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4506 using 'colorlinks' instead of 'ocgcolorlinks'%
4507 }%

```

```

4508 \Hy@ocgcolorlinksfalse
4509 \fi
4510 \fi
4511 \ifHy@ocgcolorlinks
4512 \else
4513 \Hy@DisableOption{ocgcolorlinks}%
4514 \fi
4515 \ifHy@colorlinks
4516 \def\@pdfborder{0 0 0}%
4517 \let\@pdfborderstyle\@empty
4518 \ifHy@typexml
4519 \else
4520 \Hy@CatcodeWrapper{%
4521 \RequirePackage{color}%
4522 }%
4523 \fi
4524 \def\Hy@colorlink#1{%
4525 \begingroup
4526 \HyColor@UseColor#1%
4527 }%
4528 \def\Hy@endcolorlink{\endgroup}%
4529 \Hy@Info{Link coloring ON}%
4530 \else
4531 \ifHy@frenchlinks
4532 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4533 \def\Hy@endcolorlink{\endgroup}%
4534 \Hy@Info{French linking ON}%
4535 \else
for grouping consistency:
4536 \def\Hy@colorlink#1{\begingroup}%
4537 \def\Hy@endcolorlink{\endgroup}%
4538 \Hy@Info{Link coloring OFF}%
4539 \fi
4540 \fi
4541 \Hy@DisableOption{colorlinks}%
4542 \Hy@DisableOption{frenchlinks}%
4543 \ifHy@texht
4544 \long\def\@firstoffive#1#2#3#4#5{#1}%
4545 \long\def\@secondoffive#1#2#3#4#5{#2}%
4546 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4547 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4548 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4549 \providecommand*\@safe@activestruetrue{}%
4550 \providecommand*\@safe@activesfalse{}%
4551 \def\T@ref#1{%
4552 \Hy@safe@activestruetrue
4553 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4554 \Hy@safe@activesfalse
4555 }%
4556 \def\T@pageref#1{%
4557 \Hy@safe@activestruetrue
4558 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4559 \Hy@safe@activesfalse
4560 }%
4561 \else
4562 \ifHy@typexml
4563 \else

```

```

4564 \Hy@CatcodeWrapper{%
4565 \RequirePackage{nameref}%
4566 }%
4567 \fi
4568 \fi
4569 \DeclareRobustCommand\ref{%
4570 \@ifstar\@refstar\T@ref
4571 }%
4572 \DeclareRobustCommand\pageref{%
4573 \@ifstar\@pagerefstar\T@pageref
4574 }%
4575 % \@ifclassloaded{memoir}{%
4576 % \ltx@ifundefined{@mem@titlerefnoLink}\ltx@secondoftwo{%
4577 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4578 % }%
4579 % }\ltx@secondoftwo
4580 % {%
4581 % \DeclareRobustCommand*{\nameref}{%
4582 % \@ifstar\@mem@titlerefnoLink\@mem@titleref
4583 % }%
4584 % }{%
4585 \DeclareRobustCommand*{\nameref}{%
4586 \@ifstar\@namerefstar\T@nameref
4587 }%
4588 % }%
4589 }
4590 \Hy@AtBeginDocument{%
4591 \ifHy@texht
4592 \else
4593 \Hy@CatcodeWrapper\ReadBookmarks
4594 \fi
4595 }

4596 \ifHy@backref
4597 \RequirePackage{backref}%
4598 \else
4599 \let\Hy@backout\@gobble
4600 \fi
4601 \Hy@DisableOption{backref}
4602 \Hy@DisableOption{pagebackref}
4603 \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`.

```

4604 \begingroup
4605 \endlinechar=-1 %
4606 \catcode'\^^A=14 %
4607 \catcode'\^^M\active
4608 \catcode'\%\active
4609 \catcode'\#\active
4610 \catcode'\_\active

```

```

4611 \catcode'\$\active
4612 \catcode'\&\active
4613 \gdef\hyper@normalise{^^A
4614   \begingroup
4615   \catcode'\^^M\active
4616   \def^^M{ }^^A
4617   \catcode'\%\active
4618   \let%\@percentchar
4619   \let%\@percentchar
4620   \catcode'\#\active
4621   \def#{\hyper@hash}^^A
4622   \def\#{\hyper@hash}^^A
4623   \@makeother\&^^A
4624   \edef&{\string&}^^A
4625   \edef&{\string&}^^A
4626   \edef\textunderscore{\string_}^^A
4627   \let_\textunderscore
4628   \catcode'\_\active
4629   \let_\textunderscore
4630   \let~\hyper@tilde
4631   \let~\hyper@tilde
4632   \let\textasciitilde\hyper@tilde
4633   \let\\@backslashchar
4634   \edef$\string$\^^A
4635   \Hy@safe@activetrue
4636   \hyper@n@rmalise
4637 }^^A
4638 \catcode'\#=6 ^^A
4639 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4640 \gdef\hyper@n@rmalise#1#2{^^A
4641   \def\Hy@tempa{#2}^^A
4642   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4643     \tx@ReturnAfterElseFi{^^A
4644       \hyper@@normalise{#1}^^A
4645     }^^A
4646   \else
4647     \tx@ReturnAfterFi{^^A
4648       \hyper@@normalise{#1}{#2}^^A
4649     }^^A
4650   \fi
4651 }^^A
4652 \gdef\hyper@@normalise#1#2{^^A
4653   \edef\Hy@tempa{^^A
4654     \endgroup
4655     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4656   }^^A
4657   \Hy@tempa
4658 }^^A
4659 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4660   #1^^A
4661   \ifx\limits#2\limits
4662   \else
4663     \tx@ReturnAfterFi{^^A
4664       \Hy@RemovePercentCr #2\@nil
4665     }^^A
4666   \fi
4667 }^^A

```

```

4668 \endgroup
4669 \providecommand*\hyper@chars{%
4670 \let\#\hyper@hash
4671 \let\%\@percentchar
4672 \Hy@safe@activetrue
4673 }

4674 \def\hyperlink#1#2{%
4675 \hyper@link{#1}{#2}%
4676 }

4677 \def\Hy@VerboseLinkStart#1#2{%
4678 \ifHy@verbose
4679 \begingroup
4680 \Hy@safe@activetrue
4681 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4682 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4683 \xdef\Hy@VerboseGlobalTemp{%
4684 \Hy@VerboseGlobalTemp, %
4685 line \the\inputlineno
4686 }%
4687 \endgroup
4688 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4689 \@onelevel@sanitize\Hy@VerboseLinkInfo
4690 \fi
4691 }

4692 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4693 \def\Hy@VerboseLinkStop{%
4694 \ifHy@verbose
4695 \begingroup
4696 \edef\x{\endgroup
4697 \write\m@ne{%
4698 Package 'hyperref' Info: %
4699 End of reference \Hy@VerboseLinkInfo.%
4700 }%
4701 }%
4702 \x
4703 \fi
4704 }

4705 \def\Hy@VerboseAnchor#1{%
4706 \ifHy@verbose
4707 \begingroup
4708 \Hy@safe@activetrue
4709 \Hy@Info{Anchor '\Hy@HyperDestNameFilter{#1}'}%
4710 \endgroup
4711 \fi
4712 }

4713 \def\Hy@AllowHyphens{%
4714 \relax
4715 \ifhmode
4716 \penalty\@M
4717 \hskip\z@skip
4718 \fi
4719 }

4720 \DeclareRobustCommand*\href[1]{}{%
4721 \begingroup
4722 \setkeys{href}{#1}%

```



```

4723 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href}%
4724 }
4725 \def\Hy@href#{%
4726 \hyper@normalise\href@
4727 }
4728 \begingroup
4729 \catcode'\$=6 %
4730 \catcode'\#=12 %
4731 \gdef\href@1{\expandafter\href@split$1##\}%
4732 \gdef\href@split$1#$2#$3\\$4{%
4733 \hyper@@link{$1}->{$2}->{$4}%
4734 \endgroup
4735 }%
4736 \endgroup

```

Option ‘page’.

```

4737 \define@key{href}{page}{%
4738 \def\Hy@href@page{#1}%
4739 }
4740 \let\Hy@href@page\@empty
4741 \newcount\c@Hy@tempcnt
4742 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4743 \def\Hy@MakeRemoteAction{%
4744 \ifx\Hy@href@page\@empty
4745 \def\Hy@href@page{0}%
4746 \else
4747 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4748 \ifnum\c@Hy@tempcnt<\@ne
4749 \Hy@Warning{%
4750 Invalid page number (\theHy@tempcnt)\MessageBreak
4751 for remote PDF file.\MessageBreak
4752 Using page 1%
4753 }%
4754 \def\Hy@href@page{0}%
4755 \else
4756 \global\advance\c@Hy@tempcnt\m@ne
4757 \edef\Hy@href@page{\theHy@tempcnt}%
4758 \fi
4759 \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.

```

4760 \ifx\Hy@href@nextactionraw\@empty
4761 \else
4762 \Hy@newwindowsettrue
4763 \Hy@newwindowtrue
4764 \fi
4765 }

```

Option ‘pdfremotestartview’.

```

4766 \define@key{href}{pdfremotestartview}{%
4767 \setkeys{Hyp}{pdfremotestartview={#1}}%
4768 }

```

Option ‘pdfnewwindow’.

```

4769 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4770 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4771 \newif\ifHy@href@ismap
4772 \define@key{href}{ismap}[true]{%
4773 \ltx@ifundefined{Hy@href@ismap#1}{%
4774 \Hy@Error{%
4775   Invalid value (#1) for key 'ismap'.\MessageBreak
4776   Permitted values are 'true' or 'false'.\MessageBreak
4777   Ignoring 'ismap'%
4778 } \@ehc
4779 }{%
4780 \csname Hy@href@ismap#1\endcsname
4781 }%
4782 }

```

Option ‘nextactionraw’.

```

4783 \let\Hy@href@nextactionraw\@empty
4784 \define@key{href}{nextactionraw}{%
4785 \edef\Hy@href@nextactionraw{#1}%
4786 \ifx\Hy@href@nextactionraw\@empty
4787 \else
4788 \Hy@Match\Hy@href@nextactionraw{%
4789   ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|%
4790   \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$}%
4791 }-}{%
4792 \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
4793 \Hy@href@nextactionraw\MessageBreak
4794   The action is discarded%
4795 }%
4796 }%
4797 \ifx\Hy@href@nextactionraw\@empty
4798 \else
4799 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4800 \fi
4801 \fi
4802 }
4803 \def\HyPat@ObjRef/{.+}

```

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

```

4804 \RequirePackage{url}
4805 \let\HyOrg@url\url
4806 \def\Hurl{\begingroup \Url}
4807 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4808 \def\nolinkurl@#1{\Hurl{#1}}
4809 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4810 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4811 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4812 \providecommand\hyper@image[2]{#2}
4813 \def\hypertarget#1#2{%
4814 \ifHy@nesting
4815 \hyper@@anchor{#1}{#2}%
4816 \else
4817 \hyper@@anchor{#1}{\relax}#2%
4818 \fi
4819 }

```

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

`\hyperdef`, it is the name of a \LaTeX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4820 \DeclareRobustCommand*{\hyperref}{%
4821   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4822 }
4823 \def\Hy@babelnormalise#1[#2]{%
4824   \begingroup
4825   \Hy@safe@activetrue
4826   \edef\Hy@tempa{%
4827     \endgroup
4828     \noexpand#1[#2]}%
4829   }%
4830 \Hy@tempa
4831 }
4832 \def\@hyperref{\hyper@normalise\@hyperref}
4833 \def\@hyperref#1#2#3{%
4834   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4835   \expandafter\tryhyper@link\ref@one\{#1}%
4836 }
4837 \def\tryhyper@link#1\#2{%
4838   \hyper@@link{#2}{#1}%
4839 }

4840 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4841 \def\@hyperdef#1#2#3{%, category, name, text
4842   \ifx\#1\%
4843     \def\Hy@AnchorName{#2}%
4844   \else
4845     \def\Hy@AnchorName{#1.#2}%
4846   \fi
4847   \ifHy@nesting
4848     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4849   \else
4850     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4851   \fi
4852 }

```

We also have a need to give a \LaTeX label to a hyper reference, to ease the pain of referring to it later.

```

4853 \def\label@hyperref[#1]{%
4854   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4855 }%
4856 \def\label@@hyperref#1#2#3{%
4857   \ifx#1\relax
4858     \protect\G@refundefinedtrue
4859     \@latex@warning{%
4860       Hyper reference '#2' on page \thepage \space undefined%
4861     }%
4862     \begingroup
4863     #3%
4864   \endgroup
4865   \else
4866     \hyper@@link{\expandafter\@fifthoffive#1}%
4867     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4868   \fi
4869 }
4870 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4871   % anchor text

```

```

4872 \@bsphack
4873 \ifx\#2\%
4874 \def\Hy@AnchorName{#3}%
4875 \else
4876 \def\Hy@AnchorName{#2.#3}%
4877 \fi
4878 \if@filesw
4879 \protected@write\@auxout{}{%
4880 \string\newlabel{#1}{-}{-}{\Hy@AnchorName}{-}}%
4881 }%
4882 \fi
4883 \@esphack
4884 \ifHy@nesting
4885 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4886 \else
4887 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4888 \fi
4889 }

```

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.

```

4890 \def\hyper@@link{\let\Hy@reserved@a\relax
4891 \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4892 }
4893 \def\hyper@link@[#1]#2#3#4{%
4894 \begingroup
4895 \protected@edef\Hy@tempa{#2}%
4896 \Hy@safe@activestrue
4897 \edef\x{#3}%
4898 \ifx\Hy@tempa\@empty
4899 \toks0{\hyper@link{#1}}%
4900 \else
4901 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4902 \fi
4903 \toks2{%
4904 \Hy@safe@activesfalse
4905 #4%
4906 }%
4907 \edef\Hy@tempa{\the\toks2}%
4908 \edef\x{\endgroup
4909 \ifx\Hy@tempa\@empty
4910 \noexpand\Hy@Warning{Suppressing empty link}%
4911 \else
4912 \the\toks0 {\x}{\the\toks2}}%
4913 \fi
4914 }%
4915 \x
4916 }

```

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.

```
4917 \def\hyper@readexternallink#1\|#2#3#4{%
4918   \begingroup
4919   \let\\\relax
4920   \expandafter\endgroup
4921   \expandafter\@hyper@\@readexternallink#1\|#2#\{#3}\{#4}%
4922 }
4923 \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.

```
4924 \@hyper@readexternallink{#2}\{#3}\{#4}#1::\{#1}%
4925 }
```

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

```
4926 \def\@pdftempwordfile{file}%
4927 \def\@pdftempwordrun{run}%
4928 \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:

```
4929 \ifx\|#6\|%
4930   \@hyper@linkfile file:#7\|#3}\{#2}\{#7}%
4931 \else
4932   \ifx\|#4\|%
4933     \@hyper@linkfile file:#7\|#3}\{#2}\{#7}%
4934   \else
```

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

```
4935   \def\@pdftempa{#4}%
4936   \ifx\@pdftempa\@pdftempwordfile
4937     \@hyper@linkfile#7\|#3}\{#2}\{#7}%
4938   \else
```

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

```
4939   \ifx\@pdftempa\@pdftempwordrun
4940     \ifHy@pdfa
4941       \Hy@Error{%
4942         PDF/A: Launch action is prohibited%
4943       }\@ehc
4944     \begingroup
4945     \leavevmode
4946     #2%
4947   \endgroup
4948   \else
```

```

4949     \@hyper@launch#7\{\#3}{#2}%
4950     \fi
4951     \else

```

otherwise its a URL

```

4952     \hyper@linkurl{#3}{#7\ifx\#2\else\hyper@hash#2\fi}%
4953     \fi
4954     \fi
4955     \fi
4956     \fi
4957 }

```

By default, turn run: into file:

```

4958 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4959 \hyper@linkurl{#2}{%
4960 \Hy@linkfileprefix
4961 #1%
4962 \ifx\#3\%
4963 \else
4964 \hyper@hash
4965 #3%
4966 \fi
4967 }%
4968 }

```

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

```

4969 \def\@hyper@linkfile file:#1\#2#3#4{%
4970 %file url,link string, name, original uri
4971 \filename@parse{#1}%
4972 \ifx\filename@ext\relax
4973 \edef\filename@ext{\XR@ext}%
4974 \fi
4975 \def\use@file{\filename@area\filename@base.\filename@ext}%
4976 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4977 \hyper@linkfile{#2}{\use@file}{#3}%
4978 }{%
4979 \ifx\@baseurl\@empty
4980 \hyper@linkurl{#2}{%
4981 #4\ifx\#3\else\hyper@hash#3\fi
4982 }%
4983 \else
4984 \hyper@linkurl{#2}{\use@file\ifx\#3\else\hyper@hash#3\fi}%
4985 \fi
4986 }%
4987 }

4988 \def\Hy@IfStringEndsWith#1#2{%
4989 \begingroup
4990 \edef\x{#1}%
4991 \@onelevel@sanitize\x
4992 \edef\x{.\x$}%
4993 \edef\y{#2}%
4994 \@onelevel@sanitize\y
4995 \edef\y{.\y$}%
4996 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4997 \endgroup
4998 \ifx\relax##2\relax
4999 \expandafter\ltx@secondoftwo

```

```

5000     \else
5001     \expandafter\ltx@firstoftwo
5002     \fi
5003   }%
5004 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5005 }

5006 \def\Hy@StringLocalhost{localhost}
5007 \@onelevel@sanitize\Hy@StringLocalhost
5008 \def\Hy@CleanupFile#1{%
5009   \edef#1{#1}%
5010   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5011 }
5012 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5013   \begingroup
5014   \toks@{\endgroup}%
5015   \def\x{#1}%
5016   \ifx\x\@empty
5017     \def\x{#2}%
5018   \ifx\x\@empty
5019     \toks@{\endgroup\def#5{/#3}}%
5020   \else
5021     \@onelevel@sanitize\x
5022     \ifx\x\Hy@StringLocalhost
5023       \toks@{\endgroup\def#5{/#3}}%
5024     \fi
5025   \fi
5026   \fi
5027   \the\toks@
5028 }

```

Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a `\special` around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that `#2` comes here a multiple letters, and the `noexpand` just looks at the first one, putting the rest in the output. Yuck.

```

5029 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5030 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5031   \ifx\#1\%
5032     #2\Hy@Warning{Ignoring empty anchor}%
5033   \else
5034     \def\anchor@spot{#2#3}%
5035     \let\put@me@back\@empty
5036     \ifx\relax#2\relax
5037     \else
5038       \ifHy@nesting
5039       \else
5040         \ifcat a\noexpand#2\relax
5041         \else
5042           \ifcat 0\noexpand#2 \relax
5043           \else
5044             \typeout{Anchor start is not alphanumeric %
5045             on input line\the\inputlineno%
5046             }%
5047           \let\anchor@spot\@empty
5048         \def\put@me@back{#2#3}%

```

```

5049     \fi
5050     \fi
5051     \fi
5052     \fi
5053     \ifHy@activeanchor
5054     \anchor@spot
5055     \else
5056     \hyper@anchor{#1}%
5057     \fi
5058     \expandafter\put@me@back
5059     \fi
5060     \let\anchor@spot\@empty
5061 }
5062 \let\anchor@spot\ltx@empty

```

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.

```

5063 \let\htmladdimg\hyperimage
5064 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5065 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5066 \def\htmlref#1#2{% anchor text, label
5067   \label@hyperref[{#2}]{#1}%
5068 }

```

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.

```

5069 \def\@l@texttohtmlX{%
5070   \let\hhyperref\hyperref
5071   \def\hyperref##1##2##3##4{% anchor text for HTML
5072     % text to print before label in print
5073     % label
5074     % post-label text in print
5075     ##2\ref{##4}##3%
5076   }%
5077 }

```

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.

```

5078 \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
5079 \def\HyField@NewFlag#1#2{%
5080 \lowercase{\HyField@NewOption{#2}}%
5081 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5082 }
```

```
\HyField@NewFlagOnly
5083 \def\HyField@NewFlagOnly#1#2{%
5084 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5085 }
```

```
\HyField@NewOption #1: option name
5086 \def\HyField@NewOption#1{%
5087 \expandafter\newif\csname ifFld@#1\endcsname
5088 \define@key{Field}{#1}[true]{%
5089 \lowercase{\Field@boolkey{##1}}{#1}%
5090 }%
5091 }
```

\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
5092 \def\HyField@NewBitsetFlag#1#2#3#4{%
5093 \begingroup
5094 \count@=#4\relax
5095 \advance\count@\m@ne
5096 \def\x##1{%
5097 \endgroup
5098 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5099 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5100 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5101 (\number#4) #2%
5102 }%
5103 \else
5104 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5105 \csname HyField@#3@##1\endcsname
5106 /#2%
5107 }%
5108 \fi
5109 }%
5110 \expandafter\x\expandafter{\the\count@}%
5111 }
```

```
\HyField@UseFlag The bit set is HyField@#1
5112 \def\HyField@UseFlag#1#2{%
5113 \lowercase{\HyField@UseFlag{#2}}{#1}%
5114 }
```

`\HyField@@UseFlag`

```
5115 \def\HyField@@UseFlag#1#2{%
5116 \bitsetSetValue{HyField@#2}{%
5117 \csname HyField@#2@#1\endcsname
5118 }{%
5119 \csname ifFld@#1\endcsname 1\else 0\fi
5120 }%
5121 }
```

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

```
5122 \def\HyField@SetFlag#1#2{%
5123 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5124 }
```

`\HyField@@@SetFlag`

```
5125 \def\HyField@@@SetFlag#1#2{%
5126 \bitsetSetValue{HyField@#2}{%
5127 \csname HyField@#2@#1\endcsname
5128 }{1}%
5129 }
```

`\HyField@PrintFlags`

```
5130 \def\HyField@PrintFlags#1#2{%
5131 \ifHy@verbose
5132 \begingroup
5133 \let\Hy@temp\@empty
5134 \let\MessageBreak\relax
5135 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5136 \bitsetGetSetBitList{HyField@#1}\do{%
5137 \edef\Hy@temp{%
5138 \Hy@temp
5139 \csname HyField@#1@\x\endcsname\MessageBreak
5140 }%
5141 }%
5142 \edef\x{\endgroup
5143 \noexpand\Hy@Info{%
5144 Field flags: %
5145 \expandafter\ifx\@car#1\@nil S\else/\fi
5146 #1 %
5147 \bitsetGetDec{HyField@#1} %
5148 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5149 \Hy@temp
5150 for #2%
5151 }%
5152 }\x
5153 \fi
5154 }
```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5155 \HyField@NewFlag{Ff}{ReadOnly}{1}
5156 \HyField@NewFlag{Ff}{Required}{2}
5157 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5158 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
```

```

5159 \HyField@NewFlag{Ff}{Radio}{16}
5160 \HyField@NewFlag{Ff}{Pushbutton}{17}
5161 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5162 \HyField@NewFlag{Ff}{Multiline}{13}
5163 \HyField@NewFlag{Ff}{Password}{14}
5164 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5165 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5166 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5167 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5168 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5169 \HyField@NewFlag{Ff}{Combo}{18}
5170 \HyField@NewFlag{Ff}{Edit}{19}
5171 \HyField@NewFlag{Ff}{Sort}{20}
5172 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5173 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5174 \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.

```

5175 \newif\ifFld@popdown
5176 \define@key{Field}{popdown}[true]{%
5177   \lowercase{\Field@boolkey{#1}}{popdown}%
5178 }

```

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.

```

5179 \HyField@NewFlag{F}{Invisible}{1}
5180 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5181 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5182 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5183 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5184 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5185 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5186 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5187 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5188 \ifHy@pdfa
5189   \def\HyField@PDFAFflagWarning#1#2{%
5190     \Hy@Warning{%
5191       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5192       be set to ‘#2’%
5193     }%
5194   }%
5195   \Fld@invisiblefalse
5196   \def\Fld@invisibletrue{%
5197     \HyField@PDFAFflagWarning{invisible}{false}%
5198   }%
5199   \Fld@hiddenfalse
5200   \def\Fld@hiddentrue{%
5201     \HyField@PDFAFflagWarning{hidden}{false}%
5202   }%

```

```

5203 \Fld@printrue
5204 \def\Fld@printfalse{%
5205   \HyField@PDFAFIWarning{print}{true}%
5206 }%
5207 \Fld@nozoomtrue
5208 \def\Fld@nozoomfalse{%
5209   \HyField@PDFAFIWarning{nozoom}{true}%
5210 }%
5211 \Fld@norotatetrue
5212 \def\Fld@norotatefalse{%
5213   \HyField@PDFAFIWarning{norotate}{true}%
5214 }%
5215 \Fld@noviewfalse
5216 \def\Fld@noviewtrue{%
5217   \HyField@PDFAFIWarning{noview}{false}%
5218 }%
5219 \fi

```

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

```

5220 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5221 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5222 \HyField@NewFlag{Submit}{GetMethod}{4}
5223 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5224 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5225 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5226 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5227 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5228 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5229 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5230 \HyField@NewFlag{Submit}{ExclFKey}{12}
5231 \HyField@NewFlag{Submit}{EmbedForm}{14}

5232 \define@key{Field}{export}{%
5233   \lowercase{\def\Hy@temp{#1}}%
5234   \@ifundefined{Fld@export@\Hy@temp}{%
5235     \@onelevel@sanitize\Hy@temp
5236     \Hy@Error{%
5237       Unknown export format '\Hy@temp'.\MessageBreak
5238       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5239     }\@ehc
5240   }{%
5241     \let\Fld@export\Hy@temp
5242   }%
5243 }
5244 \def\Fld@export{fdf}
5245 \@namedef{Fld@export@fdf}{0}%
5246 \@namedef{Fld@export@html}{1}%
5247 \@namedef{Fld@export@xfdf}{2}%
5248 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5249 \def\HyField@FlagsSubmit{%
5250   \bitsetReset{HyField@Submit}%
5251   \ifcase\@nameuse{Fld@export@\Fld@export} %
5252     % FDF
5253   \HyField@UseFlag{Submit}{IncludeNoValueFields}%

```

```

5254 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5255 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5256 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5257 \HyField@UseFlag{Submit}{CanonicalFormat}%
5258 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5259 \HyField@UseFlag{Submit}{ExclFKey}%
5260 \HyField@UseFlag{Submit}{EmbedForm}%
5261 \or % HTML
5262 \HyField@SetFlag{Submit}{ExportFormat}%
5263 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5264 \HyField@UseFlag{Submit}{GetMethod}%
5265 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5266 \HyField@UseFlag{Submit}{CanonicalFormat}%
5267 \or % XFDF
5268 \HyField@SetFlag{Submit}{XFDF}%
5269 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5270 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5271 \HyField@UseFlag{Submit}{CanonicalFormat}%
5272 \or % PDF
5273 \HyField@SetFlag{Submit}{SubmitPDF}%
5274 \HyField@UseFlag{Submit}{GetMethod}%
5275 \fi
5276 \HyField@PrintFlags{Submit}{submit button field}%
5277 \bitsetIsEmpty{HyField@Submit}{%
5278 \let\Fld@submitflags\ltx@empty
5279 }{%
5280 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
5281 }%
5282 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5283 \def\HyField@FlagsAnnot#1{%
5284 \bitsetReset{HyField@F}%
5285 \HyField@UseFlag{F}{Invisible}%
5286 \HyField@UseFlag{F}{Hidden}%
5287 \HyField@UseFlag{F}{Print}%
5288 \HyField@UseFlag{F}{NoZoom}%
5289 \HyField@UseFlag{F}{NoRotate}%
5290 \HyField@UseFlag{F}{NoView}%
5291 \HyField@UseFlag{F}{Locked}%
5292 \HyField@UseFlag{F}{ToggleNoView}%
5293 \HyField@UseFlag{F}{LockedContents}%
5294 \HyField@PrintFlags{F}{#1}%
5295 \bitsetIsEmpty{HyField@F}{%
5296 \let\Fld@annotflags\ltx@empty
5297 }{%
5298 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5299 }%
5300 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5301 \def\HyField@FlagsPushButton{%
5302 \HyField@FlagsAnnot{push button field}%

```

```

5303 \bitsetReset{HyField@Ff}%
5304 \HyField@UseFlag{Ff}{ReadOnly}%
5305 \HyField@UseFlag{Ff}{Required}%
5306 \HyField@UseFlag{Ff}{NoExport}%
5307 \HyField@SetFlag{Ff}{Pushbutton}%
5308 \HyField@PrintFlags{Ff}{push button field}%
5309 \bitsetIsEmpty{HyField@Ff}{-%
5310 \let\Fld@flags\ltx@empty
5311 }{%
5312 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5313 }%
5314 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5315 \def\HyField@FlagsCheckBox{%
5316 \HyField@FlagsAnnot{check box field}%
5317 \bitsetReset{HyField@Ff}%
5318 \HyField@UseFlag{Ff}{ReadOnly}%
5319 \HyField@UseFlag{Ff}{Required}%
5320 \HyField@UseFlag{Ff}{NoExport}%
5321 \HyField@PrintFlags{Ff}{check box field}%
5322 \bitsetIsEmpty{HyField@Ff}{-%
5323 \let\Fld@flags\ltx@empty
5324 }{%
5325 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5326 }%
5327 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5328 \def\HyField@FlagsRadioButton{%
5329 \HyField@FlagsAnnot{radio button field}%
5330 \bitsetReset{HyField@Ff}%
5331 \HyField@UseFlag{Ff}{ReadOnly}%
5332 \HyField@UseFlag{Ff}{Required}%
5333 \HyField@UseFlag{Ff}{NoExport}%
5334 \HyField@UseFlag{Ff}{NoToggleToOff}%
5335 \HyField@SetFlag{Ff}{Radio}%
5336 \HyField@UseFlag{Ff}{RadiosInUnison}%
5337 \HyField@PrintFlags{Ff}{radio button field}%
5338 \bitsetIsEmpty{HyField@Ff}{-%
5339 \let\Fld@flags\ltx@empty
5340 }{%
5341 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5342 }%
5343 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5344 \def\HyField@FlagsText{%
5345 \HyField@FlagsAnnot{text field}%
5346 \bitsetReset{HyField@Ff}%

```

```

5347 \HyField@UseFlag{Ff}{ReadOnly}%
5348 \HyField@UseFlag{Ff}{Required}%
5349 \HyField@UseFlag{Ff}{NoExport}%
5350 \HyField@UseFlag{Ff}{Multiline}%
5351 \HyField@UseFlag{Ff}{Password}%
5352 \HyField@UseFlag{Ff}{FileSelect}%
5353 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5354 \HyField@UseFlag{Ff}{DoNotScroll}%
5355 \ifFld@comb
5356   \ifcase0\ifFld@multiline
5357     \else\ifFld@password
5358     \else\ifFld@fileselect
5359     \else 1\fi\fi\fi\relax
5360   \Hy@Error{%
5361     Field option 'comb' cannot used together with\MessageBreak
5362     'multiline', 'password', or 'fileselect'%
5363   }\@ehc
5364   \else
5365     \HyField@UseFlag{Ff}{Comb}%
5366   \fi
5367 \fi
5368 \HyField@UseFlag{Ff}{RichText}%
5369 \HyField@PrintFlags{Ff}{text field}%
5370 \bitsetIsEmpty{HyField@Ff}{%
5371   \let\Fld@flags\ltx@empty
5372 }{%
5373   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5374 }%
5375 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5376 \def\HyField@FlagsChoice{%
5377   \HyField@FlagsAnnot{choice field}%
5378   \bitsetReset{HyField@Ff}%
5379   \HyField@UseFlag{Ff}{ReadOnly}%
5380   \HyField@UseFlag{Ff}{Required}%
5381   \HyField@UseFlag{Ff}{NoExport}%
5382   \HyField@UseFlag{Ff}{Combo}%
5383   \ifFld@combo
5384     \HyField@UseFlag{Ff}{Edit}%
5385   \fi
5386   \HyField@UseFlag{Ff}{Sort}%
5387   \HyField@UseFlag{Ff}{MultiSelect}%
5388   \ifFld@combo
5389     \ifFld@edit
5390       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5391     \fi
5392   \fi
5393   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5394   \HyField@PrintFlags{Ff}{choice field}%
5395   \bitsetIsEmpty{HyField@Ff}{%
5396     \let\Fld@flags\ltx@empty
5397   }{%
5398     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5399   }%

```

5400 }

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`.

```
5401 \def\HyField@PDFChoices#1{%
5402   \begingroup
5403   \global\let\Fld@choices\ltx@empty
5404   \let\HyTmp@optlist\ltx@empty
5405   \let\HyTmp@optitem\relax
5406   \count@=0 %
5407   \kv@parse{#1}{%
5408     \Hy@pdfstringdef\kv@key\kv@key
5409     \ifx\kv@value\relax
5410       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5411         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5412       \else
5413         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5414       \fi
5415     \else
5416       \Hy@pdfstringdef\kv@value\kv@value
5417       \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5418     \fi
5419     \edef\HyTmp@optlist{%
5420       \HyTmp@optlist
5421       \HyTmp@optitem{\the\count@}{\kv@key}0%
5422     }%
5423     \advance\count@ by 1 %
5424     \@gobbletwo
5425   }%
5426   \xdef\Fld@choices{/Opt[\Fld@choices]}%
5427   \ifFld@multiselect
5428     \HyField@@PDFChoices{DV}\Fld@default
5429     \HyField@@PDFChoices{V}\Fld@value
5430   \else
5431     \ifx\Fld@default\relax
5432     \else
5433       \pdfstringdef\Hy@gtemp\Fld@default
5434       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5435     \fi
5436     \ifx\Fld@value\relax
5437     \else
5438       \pdfstringdef\Hy@gtemp\Fld@value
5439       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5440     \fi
5441   \fi
5442 \endgroup
5443 }
```

`\HyField@@PDFChoices`

```
5444 \def\HyField@@PDFChoices#1#2{%
5445   \ifx#2\relax
5446   \else
5447     \count@=0 %
5448     \def\HyTmp@optitem##1##2##3{%
```



```

5449 \def\HyTmp@key{##2}%
5450 \ifx\HyTmp@key\Hy@gtemp
5451 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5452 \HyTmp@optlist
5453 \HyTmp@optitem{##1}{##2}1%
5454 }%
5455 \let\HyTmp@found=Y%
5456 \else
5457 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5458 \HyTmp@optlist
5459 \HyTmp@optitem{##1}{##2}##3%
5460 }%
5461 \fi
5462 }%
5463 \expandafter\comma@parse\expandafter{#2}{%
5464 \pdfstringdef\Hy@gtemp\comma@entry
5465 \let\HyTmp@found=N %
5466 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5467 \HyTmp@optlist
5468 \ifx\HyTmp@found Y%
5469 \advance\count@ by 1 %
5470 \else
5471 \@onelevel@sanitize\comma@entry
5472 \PackageWarning{hyperref}{%
5473 \string\ChoiceBox: Ignoring value '\comma@entry',%
5474 \MessageBreak
5475 it cannot be found in the choices%
5476 }%
5477 \fi
5478 \@gobble
5479 }%
5480 \def\HyTmp@optitem##1##2##3{%
5481 \ifnum##3=1 %
5482 (##2)%
5483 \fi
5484 }%
5485 \ifcase\count@
5486 \or
5487 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5488 \else
5489 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5490 \ifx#1V%
5491 \def\HyTmp@optitem##1##2##3{%
5492 \ifnum##3=1 %
5493 \@firstofone{ ##1}%
5494 \fi
5495 }%
5496 \edef\HyTmp@optlist{\HyTmp@optlist}%
5497 \xdef\Fld@choices{%
5498 \Fld@choices
5499 /I[\expandafter\@firstofone\HyTmp@optlist]%
5500 }%
5501 \fi
5502 \fi
5503 \fi
5504 }

```

19.3 Forms

\HyField@SetKeys

```
5505 \def\HyField@SetKeys{%
5506   \kvsetkeys{Field}%
5507 }

5508 \newif\ifFld@checked
5509 \newif\ifFld@disabled
5510 \Fld@checkedfalse
5511 \Fld@disabledfalse
5512 \newcount\Fld@menulength
5513 \newdimen\Fld@Width
5514 \newdimen\Fld@charsize
5515 \Fld@charsize=10\p@
5516 \def\Fld@maxlen{0}
5517 \def\Fld@align{0}
5518 \def\Fld@color{0 0 0 rg}
5519 \def\Fld@bcolor{1 1 1}
5520 \def\Fld@bordercolor{1 0 0}
5521 \def\Fld@bordersep{1\p@}
5522 \def\Fld@borderwidth{1}
5523 \def\Fld@borderstyle{S}
5524 \def\Fld@cbsymbol{4}
5525 \def\Fld@radiosymbol{H}
5526 \def\Fld@rotation{0}
5527 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5528 \def\endForm{\@endForm}
5529 \newif\ifForm@html
5530 \Form@htmlfalse
5531 \def\Form@boolkey#1#2{%
5532   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5533 }
5534 \define@key{Form}{action}{%
5535   \hyper@normalise\Hy@DefFormAction{#1}%
5536 }
5537 \def\Hy@DefFormAction{\def\Form@action}
5538 \def\enc@html{html}
5539 \define@key{Form}{encoding}{%
5540   \def\Hy@tempa{#1}%
5541   \ifx\Hy@tempa\enc@html
5542     \Form@htmltrue
5543   \def\Fld@export{html}%
5544   \else
5545     \Hy@Warning{%
5546       Form 'encoding' key with \MessageBreak
5547       unknown value '#1'%
5548     }%
5549   \Form@htmlfalse
5550   \fi
5551 }
5552 \define@key{Form}{method}{%
5553   \lowercase{\def\Hy@temp{#1}}%
5554   \@ifundefined{Form@method@\Hy@temp}{%
5555     \@onelevel@sanitize\Hy@temp
5556     \Hy@Error{%
5557       Unknown method '\Hy@temp'.\MessageBreak
5558       Known values are 'post' and 'get'%
```

```

5559   }\@ehc
5560   }{%
5561   \let\Form@method\Hy@temp
5562   \ifcase\@nameuse{Form@method@\Hy@temp} %
5563   \Fld@getmethodfalse
5564   \else
5565   \Fld@getmethodtrue
5566   \fi
5567   }%
5568 }
5569 \def\Form@method{}
5570 \@namedef{Form@method@post}{0}
5571 \@namedef{Form@method@get}{1}

5572 \newif\ifHyField@NeedAppearances
5573 \def\HyField@NeedAppearancesfalse{%
5574 \global\let\ifHyField@NeedAppearances\iffalse
5575 }
5576 \def\HyField@NeedAppearancetrue{%
5577 \global\let\ifHyField@NeedAppearances\ifftrue
5578 }
5579 \HyField@NeedAppearancetrue
5580 \define@key{Form}{NeedAppearances}[true]{%
5581 \edef\Hy@tempa{#1}%
5582 \ifx\Hy@tempa\Hy@true
5583 \HyField@NeedAppearancetrue
5584 \else
5585 \ifx\Hy@tempa\Hy@false
5586 \HyField@NeedAppearancesfalse
5587 \else
5588 \Hy@Error{%
5589 Unexpected value '\Hy@tempa'\MessageBreak
5590 of option 'NeedAppearances' instead of\MessageBreak
5591 'true' or 'false'%
5592 }\@ehc
5593 \fi
5594 \fi
5595 }
5596 \def\Field@boolkey#1#2{%
5597 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5598 }
5599 \ifHy@texht
5600 \newtoks\Field@toks
5601 \Field@toks={ }%
5602 \def\Field@addtoks#1#2{%
5603 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5604 \@processme
5605 }%
5606 \else
5607 \def\Hy@WarnHTMLFieldOption#1{%
5608 \Hy@Warning{%
5609 HTML field option '#1'\MessageBreak
5610 is ignored%
5611 }%
5612 }%
5613 \fi
5614 \def\Fld@checkequals#1=#2=#3\{\%
5615 \def\@currDisplay{#1}%

```

```

5616 \ifx\#2\%
5617 \def\@currValue{#1}%
5618 \else
5619 \def\@currValue{#2}%
5620 \fi
5621 }
5622 \define@key{Field}{loc}{%
5623 \def\Fld@loc{#1}%
5624 }
5625 \define@key{Field}{checked}[true]{%
5626 \lowercase{\Field@boolkey{#1}}{checked}%
5627 }
5628 \define@key{Field}{disabled}[true]{%
5629 \lowercase{\Field@boolkey{#1}}{disabled}%
5630 }
5631 \ifHy@texht
5632 \define@key{Field}{accesskey}{%
5633 \Field@addtoks{accesskey}{#1}%
5634 }%
5635 \define@key{Field}{tabkey}{%
5636 \Field@addtoks{tabkey}{#1}%
5637 }%
5638 \else
5639 \define@key{Field}{accesskey}{%
5640 \Hy@WarnHTMLFieldOption{accesskey}%
5641 }%
5642 \define@key{Field}{tabkey}{%
5643 \Hy@WarnHTMLFieldOption{tabkey}%
5644 }%
5645 \fi
5646 \define@key{Field}{name}{%
5647 \def\Fld@name{#1}%
5648 }
5649 \let\Fld@altname\relax
5650 \define@key{Field}{altname}{%
5651 \def\Fld@altname{#1}%
5652 }
5653 \let\Fld@mappingname\relax
5654 \define@key{Field}{mappingname}{%
5655 \def\Fld@mappingname{#1}%
5656 }
5657 \define@key{Field}{width}{%
5658 \def\Fld@width{#1}%
5659 \Field@Width#1\setbox0=\hbox{m}%
5660 }
5661 \define@key{Field}{maxlen}{%
5662 \def\Fld@maxlen{#1}%
5663 }
5664 \define@key{Field}{menulength}{%
5665 \Fld@menulength=#1\relax
5666 }
5667 \define@key{Field}{height}{%
5668 \def\Fld@height{#1}%
5669 }
5670 \define@key{Field}{charsize}{%
5671 \Fld@charsize#1%
5672 }

```

```

5673 \define@key{Field}{borderwidth}{%
5674   \def\Fld@borderwidth{#1}%
5675 }
5676 \define@key{Field}{borderstyle}{%
5677   \let\Hy@temp\Fld@borderstyle
5678   \def\Fld@borderstyle{#1}%
5679   \Hy@Match\Fld@borderstyle{%
5680     ^[SDBIU]$%
5681   }{}{%
5682     \Hy@Warning{%
5683       Invalid value '\@pdfborderstyle'\MessageBreak
5684       for option 'pdfborderstyle'. Valid values:\MessageBreak
5685       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5686       \space\space I (Inset), U (Underline)\MessageBreak
5687       Option setting is ignored%
5688     }%
5689     \let\Fld@borderstyle\Hy@temp
5690   }%
5691 }
5692 \define@key{Field}{bordersep}{%
5693   \def\Fld@bordersep{#1}%
5694 }
5695 \define@key{Field}{default}{%
5696   \def\Fld@default{#1}%
5697 }
5698 \define@key{Field}{align}{%
5699   \def\Fld@align{#1}%
5700 }
5701 \define@key{Field}{value}{%
5702   \def\Fld@value{#1}%
5703 }
5704 \define@key{Field}{checkboxsymbol}{%
5705   \Fld@DingDef\Fld@cbsymbol{#1}%
5706 }
5707 \define@key{Field}{radiosymbol}{%
5708   \Fld@DingDef\Fld@radiosymbol{#1}%
5709 }
5710 \def\Fld@DingDef#1#2{%
5711   \let\Fld@temp\ltx@empty
5712   \Fld@@DingDef#2\ding{ }\@nil
5713   \let#1\Fld@temp
5714 }
5715 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5716   \expandafter\def\expandafter\Fld@temp\expandafter{%
5717     \Fld@temp
5718     #1%
5719   }%
5720   \ifx\\#3\\%
5721     \expandafter\@gobble
5722   \else
5723     \begingroup
5724     \lccode'0=#2\relax
5725     \lowercase{\endgroup
5726     \expandafter\def\expandafter\Fld@temp\expandafter{%
5727       \Fld@temp
5728       0%
5729     }%

```

```

5730 }%
5731 \expandafter\@firstofone
5732 \fi
5733 {%
5734 \Fld@@DingDef#3\@nil
5735 }%
5736 }

5737 \define@key{Field}{rotation}{%
5738 \def\Fld@rotation{#1}%
5739 }

5740 \define@key{Field}{backgroundcolor}{%
5741 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5742 }
5743 \define@key{Field}{bordercolor}{%
5744 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5745 }
5746 \define@key{Field}{color}{%
5747 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5748 }

5749 \let\Fld@onclick@code\ltx@empty
5750 \let\Fld@format@code\ltx@empty
5751 \let\Fld@validate@code\ltx@empty
5752 \let\Fld@calculate@code\ltx@empty
5753 \let\Fld@keystroke@code\ltx@empty
5754 \let\Fld@onfocus@code\ltx@empty
5755 \let\Fld@onblur@code\ltx@empty
5756 \let\Fld@onmousedown@code\ltx@empty
5757 \let\Fld@onmouseup@code\ltx@empty
5758 \let\Fld@onenter@code\ltx@empty
5759 \let\Fld@onexit@code\ltx@empty
5760 \def\Hy@temp#1{%
5761 \expandafter\Hy@@temp\cename Fld@#1@code\endcsname{#1}%
5762 }
5763 \def\Hy@@temp#1#2{%
5764 \ifHy@pdfa
5765 \define@key{Field}{#2}{%
5766 \Hy@Error{%
5767 PDF/A: Additional action '#2' is prohibited%
5768 }\@ehc
5769 }%
5770 \else
5771 \define@key{Field}{#2}{%
5772 \def#1{##1}%
5773 }%
5774 \fi
5775 }
5776 \Hy@temp{keystroke}
5777 \Hy@temp{format}
5778 \Hy@temp{validate}
5779 \Hy@temp{calculate}
5780 \Hy@temp{onfocus}
5781 \Hy@temp{onblur}
5782 \Hy@temp{onenter}
5783 \Hy@temp{onexit}
5784 \ifHy@texht
5785 \def\Hy@temp#1{%

```

```

5786 \define@key{Field}{#1}{%
5787   \Field@addtoks{#1}{##1}%
5788 }%
5789 }%
5790 \else
5791 \def\Hy@temp#1{%
5792   \define@key{Field}{#1}{%
5793     \Hy@WarnHTMLFieldOption{#1}%
5794   }%
5795 }%
5796 \fi
5797 \Hy@temp{ondblclick}
5798 \Hy@temp{onmousedown}
5799 \Hy@temp{onmouseup}
5800 \Hy@temp{onmouseover}
5801 \Hy@temp{onmousemove}
5802 \Hy@temp{onmouseout}
5803 \Hy@temp{onkeydown}
5804 \Hy@temp{onkeyup}
5805 \Hy@temp{onselect}
5806 \Hy@temp{onchange}
5807 \Hy@temp{onkeypress}
5808 \ifHy@texht
5809   \define@key{Field}{onclick}{%
5810     \Field@addtoks{onclick}{#1}%
5811   }%
5812 \else
5813   \ifHy@pdfa
5814     \define@key{Field}{onclick}{%
5815       \Hy@Error{%
5816         PDF/A: Action 'onclick' is prohibited%
5817       }\@ehc
5818     }%
5819   \else
5820     \define@key{Field}{onclick}{%
5821       \def\Fld@onclick@code{#1}%
5822     }%
5823   \fi
5824 \fi

5825 \DeclareRobustCommand\TextField{%
5826   \@ifnextchar[{\@TextField}{\@TextField[]}%
5827 }
5828 \DeclareRobustCommand\ChoiceMenu{%
5829   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5830 }
5831 \DeclareRobustCommand\CheckBox{%
5832   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5833 }
5834 \DeclareRobustCommand\PushButton{%
5835   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5836 }
5837 \DeclareRobustCommand\Gauge{%
5838   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5839 }
5840 \DeclareRobustCommand\Submit{%
5841   \@ifnextchar[{\@Submit}{\@Submit[]}%
5842 }

```

```

5843 \DeclareRobustCommand\Reset{%
5844 \@ifnextchar[{\@Reset}{\@Reset[]}%
5845 }
5846 \def\LayoutTextField#1#2{% label, field
5847 #1 #2%
5848 }
5849 \def\LayoutChoiceField#1#2{% label, field
5850 #1 #2%
5851 }
5852 \def\LayoutCheckField#1#2{% label, field
5853 #1 #2%
5854 }
5855 \def\LayoutPushButtonField#1{% button
5856 #1%
5857 }
5858 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5859 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5860 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5861 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5862 \def\MakeButtonField#1{%
5863 \sbox0{%
5864 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5865 }%
5866 \@tempdima\ht0 %
5867 \advance\@tempdima by \Fld@borderwidth bp %
5868 \advance\@tempdima by \Fld@borderwidth bp %
5869 \ht0\@tempdima
5870 \@tempdima\dp0 %
5871 \advance\@tempdima by \Fld@borderwidth bp %
5872 \advance\@tempdima by \Fld@borderwidth bp %
5873 \dp0\@tempdima
5874 \box0\relax
5875 }
5876 \def\DefaultHeightofSubmit{14pt}
5877 \def\DefaultWidthofSubmit{2cm}
5878 \def\DefaultHeightofReset{14pt}
5879 \def\DefaultWidthofReset{2cm}
5880 \def\DefaultHeightofCheckBox{\baselineskip}
5881 \def\DefaultWidthofCheckBox{\baselineskip}
5882 \def\DefaultHeightofChoiceMenu{\baselineskip}
5883 \def\DefaultWidthofChoiceMenu{\baselineskip}
5884 \def\DefaultHeightofText{\baselineskip}
5885 \def\DefaultHeightofTextMultiline{4\baselineskip}
5886 \def\DefaultWidthofText{3cm}
5887 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5888 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5889 \def\DefaultOptionsofPushButton{print}
5890 \def\DefaultOptionsofCheckBox{print}
5891 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5892 \def\DefaultOptionsofListBox{print}
5893 \def\DefaultOptionsofComboBox{print,edit,sort}
5894 \def\DefaultOptionsofPopdownBox{print}
5895 \def\DefaultOptionsofRadio{print,notoggletooff}

```


20 Setup

```
5896 \ifHy@figures
5897 \Hy@Info{Hyper figures ON}%
5898 \else
5899 \Hy@Info{Hyper figures OFF}%
5900 \fi
5901 \ifHy@nesting
5902 \Hy@Info{Link nesting ON}%
5903 \else
5904 \Hy@Info{Link nesting OFF}%
5905 \fi
5906 \ifHy@hyperindex
5907 \Hy@Info{Hyper index ON}%
5908 \else
5909 \Hy@Info{Hyper index OFF}%
5910 \fi
5911 \ifHy@backref
5912 \Hy@Info{backreferencing ON}%
5913 \else
5914 \Hy@Info{backreferencing OFF}%
5915 \fi
5916 \ifHy@colorlinks
5917 \Hy@Info{Link coloring ON}%
5918 \else
5919 \Hy@Info{Link coloring OFF}%
5920 \fi
5921 \ifHy@ocgcolorlinks
5922 \Hy@Info{Link coloring with OCG ON}%
5923 \else
5924 \Hy@Info{Link coloring with OCG OFF}%
5925 \fi
5926 \ifHy@pdfa
5927 \Hy@Info{PDF/A mode ON}%
5928 \else
5929 \Hy@Info{PDF/A mode OFF}%
5930 \fi
```

21 Low-level utility macros

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

```
5931 \edef\hyper@hash{\string#}
5932 \edef\hyper@tilde{\string~}
5933 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
5934 \def\@currentHref{Doc-Start}
5935 \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.

```
5936 \Hy@AtBeginDocument{%
5937 \Hy@pdfstringtrue
5938 \PDF@SetupDoc
5939 \let\PDF@SetupDoc\@empty
5940 \Hy@DisableOption{pdfpagescrop}%
5941 \Hy@DisableOption{pdfpagemode}%
5942 \Hy@DisableOption{pdfnonfullscreenpagemode}%
```

```

5943 \Hy@DisableOption{pdfdirection}%
5944 \Hy@DisableOption{pdfviewarea}%
5945 \Hy@DisableOption{pdfviewclip}%
5946 \Hy@DisableOption{pdfprintarea}%
5947 \Hy@DisableOption{pdfprintclip}%
5948 \Hy@DisableOption{pdfprintscaling}%
5949 \Hy@DisableOption{pdfduplex}%
5950 \Hy@DisableOption{pdfpicktraybypdfsize}%
5951 \Hy@DisableOption{pdfprintpagerange}%
5952 \Hy@DisableOption{pdfnumcopies}%
5953 \Hy@DisableOption{pdfstartview}%
5954 \Hy@DisableOption{pdfstartpage}%
5955 \Hy@DisableOption{pdftoolbar}%
5956 \Hy@DisableOption{pdfmenubar}%
5957 \Hy@DisableOption{pdfwindowui}%
5958 \Hy@DisableOption{pdfitwindow}%
5959 \Hy@DisableOption{pdfcenterwindow}%
5960 \Hy@DisableOption{pdfdisplaydoctitle}%
5961 \Hy@DisableOption{pdfpagelayout}%
5962 \Hy@DisableOption{pdflang}%
5963 \Hy@DisableOption{baseurl}%
5964 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5965 \Hy@pdfstringfalse
5966 }

```

Ignore star from referencing macros:

```

5967 \LetLtxMacro\NoHy@OrgRef\ref
5968 \DeclareRobustCommand*\ref*{\ref}{%
5969 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5970 }
5971 \LetLtxMacro\NoHy@OrgPageRef\pageref
5972 \DeclareRobustCommand*\pageref*{\pageref}{%
5973 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5974 }

```

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.

```

5975 \def\NoHyper{%
5976 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
5977 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
5978 \global\let\hyper@livelink\hyper@link
5979 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
5980 \let\hyper@anchor\ltx@gobble
5981 \let\hyper@anchorstart\ltx@gobble
5982 \def\hyper@anchorend{\Hy@xspace@end}%
5983 \let\hyper@linkstart\ltx@gobbletwo
5984 \def\hyper@linkend{\Hy@xspace@end}%
5985 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
5986 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
5987 \let\Hy@backout\@gobble
5988 }
5989 \def\stop@hyper{%

```

```

5990 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
5991 \let\Hy@backout\@gobble
5992 \let\hyper@@anchor\tx@gobble
5993 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
5994 \let\hyper@anchor\tx@gobble
5995 \let\hyper@anchorstart\tx@gobble
5996 \def\hyper@anchorend{\Hy@xspace@end}%
5997 \let\hyper@linkstart\tx@gobbletwo
5998 \def\hyper@linkend{\Hy@xspace@end}%
5999 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6000 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6001 }
6002 \def\endNoHyper{%
6003 \global\let\hyper@link\hyper@livelink
6004 }
6005 </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:

```

6006 <*nohyperref>
6007 \RequirePackage{letltxmacro}[2008/06/13]
6008 \let\hyper@@anchor\@gobble
6009 \def\hyper@link##1##2##3{##3}%
6010 \let\hyper@anchorstart\@gobble
6011 \let\hyper@anchorend\@empty
6012 \let\hyper@linkstart\@gobbletwo
6013 \let\hyper@linkend\@empty
6014 \def\hyper@linkurl##1##2{##1}%
6015 \def\hyper@linkfile##1##2##3{##1}%
6016 \def\hyper@link@[##1]##2##3{##3}%
6017 \let\PDF@SetupDoc\@empty
6018 \let\PDF@FinishDoc\@empty
6019 \def\nohyperpage##1{##1}

```

Some top-level commands:

```

6020 \def\Acrobatmenu##1##2{\leavevmode##2}
6021 \let\pdfstringdefDisableCommands\@gobbletwo
6022 \let\texorpdfstring\@firstoftwo
6023 \let\pdfbookmark\@undefined
6024 \newcommand\pdfbookmark[3]{}
6025 \let\phantomsection\@empty
6026 \let\hypersetup\@gobble
6027 \let\hyperbaseurl\@gobble
6028 \newcommand*\href[3]{}
6029 \let\hyperdef\@gobbletwo
6030 \let\hyperlink\@gobble
6031 \let\hypertarget\@gobble
6032 \def\hyperref{%
6033 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6034 }

```

```

6035 \long\def\@gobbleopt[#1]{ }
6036 \let\hyperpage\@empty
Ignore star from referencing macros:
6037 \LetLtxMacro\NoHy@OrgRef\ref
6038 \DeclareRobustCommand*\ref}{ }
6039 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6040 }
6041 \LetLtxMacro\NoHy@OrgPageRef\pageref
6042 \DeclareRobustCommand*\pageref}{ }
6043 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6044 }
6045 </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}`

```

6046 (*package)
6047 \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.

```

6048 \if@filesw
6049 \ifHy@typexml
6050 \immediate\closeout\@mainaux
6051 \immediate\openout\@mainaux\jobname.aux\relax
6052 \immediate\write\@auxout{<relax.xml>\relax }
6053 \fi
6054 \immediate\write\@auxout{ }
6055 \string\providecommand\string\HyperFirstAtBeginDocument{ }
6056 \string\AtBeginDocument}^^J%
6057 \string\HyperFirstAtBeginDocument{ }
6058 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6059 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6060 \string\gdef\string\contentsline%
6061 \string#1\string#2\string#3\string#4{ }
6062 \string\oldcontentsline%
6063 {\string#1}{\string#2}{\string#3}}^^J%
6064 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6065 \string\gdef\string\newlabel\string#1\string#2{ }
6066 \string\newlabelxx{\string#1}\string#2}^^J%
6067 \string\gdef\string\newlabelxx%
6068 \string#1\string#2\string#3\string#4\string#5\string#6{ }
6069 \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.

```

6070 \string\AtEndDocument{ }
6071 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6072 \string\let\string\contentsline\string\oldcontentsline^^J%
6073 \string\let\string\newlabel\string\oldnewlabel^^J%
6074 \string\fi%
6075 }^^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.

```

6076     \string\fi%
6077     }^^J%
6078     \string\global\string\let\string\hyper@last\relax^^J%
6079     \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6080     }%
6081     \fi
6082     \let\HyperFirstAtBeginDocument\ltx@firstofone

```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

6083     \ifx\hyper@last\@undefined
6084     \def\@starttoc#1{%
6085     \begingroup
6086     \makeatletter
6087     \IfFileExists{\jobname.#1}{%
6088     \Hy@WarningNoLine{%
6089     old #1 file detected, not used; run LaTeX again%
6090     }%
6091     }{}%
6092     \if@filesw
6093     \expandafter\newwrite\csname tf@#1\endcsname
6094     \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6095     \fi
6096     \@nobeckfalse
6097     \endgroup
6098     }%
6099     \def\newlabel#1#2{\@newlabel r{#1}{#2}{-}{-}{-}}%
6100     \fi
6101     }

```

25 Title strings

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

```

6102 \ifHy@usetitle
6103 \let\HyOrg@title\title
6104 \let\HyOrg@author\author
6105 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6106 \def\Hy@scanopttitle[#1]{%
6107 \gdef\Hy@title{#1}%
6108 \HyOrg@title{#1}}%
6109 }%
6110 \def\Hy@scantitle#1{%
6111 \gdef\Hy@title{#1}%
6112 \HyOrg@title{#1}%
6113 }%
6114 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6115 \def\Hy@scanoptauthor[#1]{%
6116 \gdef\Hy@author{#1}%
6117 \HyOrg@author{#1}}%
6118 }%

```

```

6119 \def\Hy@scanauthor#1{%
6120 \gdef\Hy@author{#1}%
6121 \HyOrg@author{#1}%
6122 }%

```

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.

```

6123 \begingroup
6124 \def\process@me#1\@nil#2{%
6125 \expandafter\let\expandafter\x\csname @#2\endcsname
6126 \edef\y{\expandafter\strip@prefix\meaning\x}%
6127 \def\c##1#1##2\@nil{%
6128 \ifx\\##1\\%
6129 \else
6130 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6131 \expandafter{\x}%
6132 \fi
6133 }%
6134 \expandafter\c\y\relax#1\@nil
6135 }%
6136 \expandafter\process@me\string\@latex@\@nil{title}%
6137 \expandafter\process@me\string\@latex@\@nil{author}%
6138 \endgroup
6139 \fi
6140 \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.

```

6141 \def\Hy@UseMaketitleString#1{%
6142 \ltx@ifundefined{Hy@#1}{-}{%
6143 \begingroup
6144 \let\Hy@saved@hook\pdfstringdefPreHook
6145 \pdfstringdefDisableCommands{%
6146 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6147 \let\newline\\%
6148 }%
6149 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6150 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6151 \csname Hy@#1\endcsname\@empty
6152 }%
6153 \fi
6154 \global\let\pdfstringdefPreHook\Hy@saved@hook
6155 \endgroup
6156 }%
6157 }
6158 \def\Hy@newline@title#1{ #1}
6159 \def\Hy@newline@author#1{, #1}
6160 \def\Hy@UseMaketitleInfos{%
6161 \Hy@UseMaketitleString{title}%
6162 \Hy@UseMaketitleString{author}%

```

```
6163 }
```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```
6164 \RequirePackage{atbegshi}[2007/09/09]
6165 \let\Hy@EveryPageHook\ltx@empty
6166 \let\Hy@EveryPageBoxHook\ltx@empty
6167 \let\Hy@FirstPageHook\ltx@empty
6168 \AtBeginShipout{%
6169   \Hy@EveryPageHook
6170   \ifx\Hy@EveryPageBoxHook\ltx@empty
6171     \else
6172     \setbox\AtBeginShipoutBox=\vbox{%
6173       \offinterlineskip
6174       \Hy@EveryPageBoxHook
6175       \box\AtBeginShipoutBox
6176     }%
6177   \fi
6178 }
6179 \AtBeginShipoutFirst{%
6180   \Hy@FirstPageHook
6181 }
6182 \g@addto@macro\Hy@FirstPageHook{%
6183   \PDF@FinishDoc
6184   \global\let\PDF@FinishDoc\ltx@empty
6185 }
```

27.1 PDF /PageLabels

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

```
6186 \ifHy@pagelabels
6187   \begingroup\expandafter\expandafter\expandafter\endgroup
6188   \expandafter\ifx\csname thepage\endcsname\relax
6189     \Hy@pagelabelsfalse
6190     \Hy@WarningNoLine{%
6191       Option 'pdfpagelabels' is turned off\MessageBreak
6192       because \string\thepage\space is undefined%
6193     }%
6194     \csname fi\endcsname
6195     \csname iffalse\expandafter\endcsname
6196   \fi
```

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

```
6197 \def\thispdfpagelabel#1{%
6198   \gdef\HyPL@thisLabel{#1}%
6199 }%
6200 \global\let\HyPL@thisLabel\relax
```

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

```
6201 \let\HyPL@Labels\ltx@empty
```

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

```
6202 \newcount\Hy@abspage
6203 \Hy@abspage=0 %
```

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

```
6204 \def\HyPL@LastType{init}%
6205 \def\HyPL@LastNumber{0}%
6206 \let\HyPL@LastPrefix\ltx@empty
```

Definitions for the PDF names of the \LaTeX pendants.

```
6207 \def\HyPL@arabic{D}%
6208 \def\HyPL@Roman{R}%
6209 \def\HyPL@roman{r}%
6210 \def\HyPL@Alph{A}%
6211 \def\HyPL@alph{a}%

6212 \let\HyPL@SlidesSetPage\ltx@empty
6213 \ltx@ifclassloaded{slides}{%
6214   \def\HyPL@SlidesSetPage{%
6215     \advance\c@page\ltx@one
6216     \ifnum\value{page}>\ltx@one
6217       \protected@edef\HyPL@SlidesOptionalPage{%
6218         \Hy@SlidesFormatOptionalPage{\thepage}%
6219       }%
6220     \else
6221       \let\HyPL@SlidesOptionalPage\ltx@empty
6222     \fi
6223     \advance\c@page-\ltx@one
6224     \def\HyPL@page{%
6225       \csname the\Hy@SlidesPage\endcsname
6226       \HyPL@SlidesOptionalPage
6227     }%
6228   }%
6229 }{}}%
```

`\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.

```
6230 \def\HyPL@EveryPage{%
6231   \begingroup
6232   \ifx\HyPL@thisLabel\relax
6233     \let\HyPL@page\thepage
6234     \HyPL@SlidesSetPage
6235   \else
6236     \let\HyPL@page\HyPL@thisLabel
6237     \global\let\HyPL@thisLabel\relax
6238   \fi
6239   \let\HyPL@Type\relax
6240   \ifnum\the\c@page>0 %
6241     \ifx\HyPL@SlidesSetPage\ltx@empty
6242       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6243     \fi
6244   \fi
6245   \let\Hy@temp Y%
6246   \ifx\HyPL@Type\HyPL@LastType
6247     \else
6248       \let\Hy@temp N%
6249   \fi
6250   \ifx\HyPL@Type\relax
```



```

6251     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6252   \else
6253     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6254   \fi
6255   \ifx\HyPL@Prefix\HyPL@LastPrefix
6256   \else
6257     \let\Hy@temp N%
6258   \fi
6259   \if Y\Hy@temp
6260     \advance\c@page by -1 %
6261     \ifnum\HyPL@LastNumber=\the\c@page\relax
6262     \else
6263       \let\Hy@temp N%
6264     \fi
6265     \Hy@StepCount\c@page
6266   \fi
6267   \if N\Hy@temp
6268     \ifx\HyPL@Type\relax
6269       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6270     \else
6271       \HyPL@StorePageLabel{%
6272         \ifx\HyPL@Prefix\@empty
6273         \else
6274           /P(\HyPL@Prefix)%
6275         \fi
6276         /S/\csname HyPL\HyPL@Type\endcsname
6277         \ifnum\the\c@page=1 %
6278         \else
6279           \space/St \the\c@page
6280         \fi
6281       }%
6282     \fi
6283   \fi
6284   \xdef\HyPL@LastNumber{\the\c@page}%
6285   \global\let\HyPL@LastType\HyPL@Type
6286   \global\let\HyPL@LastPrefix\HyPL@Prefix
6287 \endgroup
6288 \Hy@GlobalStepCount\Hy@abspage
6289 }%

```

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

```

6290 \def\HyPL@CheckThePage#1\@nil{%
6291   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6292 }%

```

`\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`.

```

6293 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6294   \def\Hy@tempa{#4}%
6295   \def\Hy@tempb{\csname\endcsname\c@page}%
6296   \ifx\Hy@tempa\Hy@tempb
6297     \expandafter\ifx\csname HyPL#3\endcsname\relax
6298   \else
6299     \def\HyPL@Type{#3}%

```

```

6300     \def\HyPL@Prefix{#2}%
6301     \fi
6302   \else
6303     \begingroup
6304     \let\Hy@next\endgroup
6305     \let\HyPL@found\@undefined
6306     \def\arabic{\HyPL@Format{arabic}}%
6307     \def\Roman{\HyPL@Format{Roman}}%
6308     \def\roman{\HyPL@Format{roman}}%
6309     \def\Alph{\HyPL@Format{Alph}}%
6310     \def\alph{\HyPL@Format{alph}}%
6311     \protected@edef\Hy@temp{#1}%
6312     \ifx\HyPL@found\relax
6313       \toks@\expandafter{\Hy@temp}%
6314     \edef\Hy@next{\endgroup
6315       \noexpand\HyPL@@@CheckThePage\the\toks@
6316       \noexpand\HyPL@found\relax\noexpand\@nil
6317     }%
6318     \fi
6319   \Hy@next
6320 \fi
6321 }%

```

`\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`.

```

6322 \def\HyPL@Format#1#2{%
6323   \ifx\HyPL@found\@undefined
6324     \expandafter\ifx\csname c@#2\endcsname\c@page
6325       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6326   \else
6327     \expandafter\noexpand\csname#1\endcsname{#2}%
6328   \fi
6329 \else
6330   \expandafter\noexpand\csname#1\endcsname{#2}%
6331 \fi
6332 }%

```

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

```

6333 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6334   \def\Hy@tempa{#3}%
6335   \def\Hy@tempb{\HyPL@found\relax}%
6336   \ifx\Hy@tempa\Hy@tempb
6337     \def\HyPL@Type{#2}%
6338     \def\HyPL@Prefix{#1}%
6339   \fi
6340 }%

```

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

```

6341 \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`.

```

6342 \def\HyPL@Useless{0<</S/D>>}%
6343 \@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.

```

6344 \def\HyPL@SetPageLabels{%
6345   \@onelevel@sanitize\HyPL@Labels
6346   \ifx\HyPL@Labels\@empty
6347   \else
6348     \ifx\HyPL@Labels\HyPL@Useless
6349     \else
6350       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6351     \fi
6352   \fi
6353 }%

6354 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6355 \fi

```

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

```

6356 \Hy@DisableOption{pdfpagelabels}
6357 \</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`

```

6358 <*\pdfTeX>
6359 \pdf@ifdraftmode{%
6360   \let\Hy@PutCatalog\ltx@gobble
6361 }{%
6362   \let\Hy@PutCatalog\pdfcatalog
6363 }
6364 </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.

```

6365 <*\vTeX>
6366 \providecommand*\XR@ext}{pdf}
6367 \edef\Hy@VTeXversion{%
6368   \ifx\VTeXversion\@undefined
6369     \z@
6370   \else
6371     \ifx\VTeXversion\relax
6372       \z@
6373     \else
6374       \VTeXversion
6375     \fi
6376   \fi
6377 }
6378 \begingroup
6379 \ifnum\Hy@VTeXversion<660 %
6380   \gdef\Hy@PutCatalog#1{%
6381     \Hy@WarningNoLine{%
6382       VTeX 6.59g or above required for pdfpagelabels%
6383     }%

```

```

6384 }%
6385 \else
6386 \gdef\Hy@PutCatalog#1{%
6387 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6388 }%
6389 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6390 \ifx\#2\%
6391 \else
6392 \immediate\special{!pdfpagelabels #2}%
6393 \fi
6394 }%
6395 \fi
6396 \endgroup
6397 </vtx>

6398 <*pdfTeX | vTeX>

```

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

```

6399 \ifHy@pagelabels
6400 \def\HyPL@StorePageLabel#1{%
6401 \toks@\expandafter{\HyPL@Labels}%
6402 \xdef\HyPL@Labels{%
6403 \the\toks@
6404 \the\Hy@abspage<<#1>>%
6405 }%
6406 }%

```

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.

```

6407 \RequirePackage{atveryend}[2009/12/07]%
6408 \AtVeryEndDocument{%
6409 \HyPL@SetPageLabels
6410 }%

6411 \fi
6412 </pdfTeX | vTeX>

```

27.1.2 xetex

```

6413 <*xetex>
6414 \HyPsd@LoadUnicode
6415 \Hy@unicodetrue
6416 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6417 \else
6418 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6419 \fi
6420 \HyPsd@LoadStringEncoding
6421 \define@key{Hyp}{unicode}[true]{%
6422 \Hy@boolkey{unicode}{#1}%
6423 \ifHy@unicode
6424 \else
6425 \Hy@Warning{%
6426 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6427 option setting 'unicode=false'%
6428 }%
6429 \Hy@unicodetrue
6430 \fi

```

```

6431 }
6432 \define@key{Hyp}{pdfencoding}{%
6433   \edef\HyPsd@temp{#1}%
6434   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6435     \let\HyPsd@pdfencoding\HyPsd@temp
6436   \else
6437     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6438       \let\HyPsd@pdfencoding\HyPsd@temp
6439     \else
6440       \Hy@Warning{%
6441         XeTeX driver only supports\MessageBreak
6442         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6443         setting 'pdfencoding=\HyPsd@temp'%
6444       }%
6445     \fi
6446   \fi
6447 }
6448 \let\HyXeTeX@CheckUnicode\relax
6449 \xetex

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6450 \langle *pdfmarkbase \rangle
6451 \begin{group}
6452   \ifundefined{headerps@out}{%
6453     \toks@\expandafter{\Hy@FirstPageHook}%
6454     \xdef\Hy@FirstPageHook{%
6455       \noexpand\headerps@out{%
6456         systemdict /pdfmark known%
6457         {%
6458           userdict /?pdfmark systemdict /exec get put%
6459         }{%
6460           userdict /?pdfmark systemdict /pop get put %
6461           userdict /pdfmark systemdict /cleartomark get put%
6462         }%
6463         ifelse%
6464       }%
6465     \the\toks@
6466   }%
6467 }%
6468 \end{group}
6469 \rangle pdfmarkbase \rangle

```

\Hy@PutCatalog

```

6470 \langle dvipdfm | xetex \rangle \def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6471 \langle *pdfmarkbase \rangle
6472 \def\Hy@PutCatalog#1{%
6473   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6474 }
6475 \rangle pdfmarkbase \rangle

```

```

6476 \langle *pdfmarkbase | dvipdfm | xetex \rangle
6477 \ifHy@pagelabels

```

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

```

6478 \def\HyPL@StorePageLabel#1{%
6479   \if@filesw
6480     \begin{group}
6481       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%

```

```

6482 \immediate\write\@mainaux{%
6483 \string\HyPL@Entry{\Hy@tempa}%
6484 }%
6485 \endgroup
6486 \fi
6487 }%

```

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.

```

6488 \Hy@AtBeginDocument{%
6489 \if@filesw
6490 \immediate\write\@mainaux{%
6491 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6492 }%
6493 \fi
6494 \ifx\HyPL@Labels\empty
6495 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6496 \else
6497 \HyPL@SetPageLabels
6498 \fi
6499 \let\HyPL@Entry\@gobble
6500 }%

```

`\HyPL@Entry`

```

6501 \def\HyPL@Entry#1{%
6502 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6503 \HyPL@Labels
6504 #1%
6505 }%
6506 }%

6507 \fi
6508 </pdfmarkbase | dvipdfm | xetex>
6509 <*package>

6510 \ifx\MaybeStopEarly\relax
6511 \else
6512 \Hy@stoppeearlytrue
6513 \expandafter\MaybeStopEarly
6514 \fi
6515 \Hy@stoppeearlyfalse

```

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```

6516 \def\Hy@CounterExists#1{%
6517 \begingroup\expandafter\expandafter\expandafter\endgroup
6518 \expandafter\ifx\csname c@#1\endcsname\relax
6519 \expandafter\@gobble
6520 \else
6521 \begingroup\expandafter\expandafter\expandafter\endgroup
6522 \expandafter\ifx\csname the#1\endcsname\relax
6523 \expandafter\expandafter\expandafter\@gobble
6524 \else
6525 \expandafter\expandafter\expandafter\@firstofone
6526 \fi
6527 \fi
6528 }
6529 \Hy@CounterExists{section}{%
6530 \newcommand\theHequation{\theHsection.\arabic{equation}}%
6531 }
6532 \Hy@CounterExists{part}{%
6533 \newcommand\theHpart{\arabic{part}}%
6534 }
6535 \ltx@ifundefined{thechapter}{%
6536 \newcommand\theHsection {\arabic{section}}%
6537 \newcommand\theHfigure {\arabic{figure}}%
6538 \newcommand\theHtable {\arabic{table}}%
6539 }{%
6540 \newcommand\theHchapter {\arabic{chapter}}%
6541 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
6542 \newcommand\theHtable {\theHchapter.\arabic{table}}%
6543 \newcommand\theHsection {\theHchapter.\arabic{section}}%
6544 }
6545 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
6546 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6547 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6548 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6549 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
6550 \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.

```

6551 \let\H@item\item
6552 \newcounter{Item}
6553 \def\theHItem{\arabic{Item}}
6554 \def\item{%
6555 \@hyper@itemfalse
6556 \if@nmbbrlist\@hyper@itemtrue\fi
6557 \H@item
6558 }
6559 \newcommand\theHenumi {\theHItem}
6560 \newcommand\theHenumii {\theHItem}
6561 \newcommand\theHenumiii {\theHItem}
6562 \newcommand\theHenumiv {\theHItem}
6563 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6564 \newcommand\theHmpfootnote{\arabic{mpfootnote}}

```

```
6565 \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.

```
6566 \let\H@refstepcounter\refstepcounter
6567 \edef\name@of@eq{equation}%
6568 \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.

```
6569 \newif\if@hyper@item
6570 \newif\if@skiphyperref
6571 \@hyper@itemfalse
6572 \@skiphyperreffalse
6573 \def\refstepcounter#1{%
6574   \ifHy@pdfstring
6575   \else
6576     \H@refstepcounter{#1}%
6577     \edef\This@name{#1}%
6578     \ifx\This@name\name@of@slide
6579     \else
6580       \if@skiphyperref
6581       \else
6582         \if@hyper@item
6583         \stepcounter{Item}%
6584         \hyper@refstepcounter{Item}%
6585         \@hyper@itemfalse
6586         \else
6587         \hyper@refstepcounter{#1}%
6588         \fi
6589         \fi
6590         \fi
6591         \fi
6592 }
6593 \let\Hy@saved@refstepcounter\refstepcounter
```

AMS^LTeX 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.

```
6594 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6595 \def\hyper@refstepcounter#1{%
6596   \edef\This@name{#1}%
6597   \ifx\This@name\name@of@eq
6598   \@ifundefined{theHequation}{%
6599     \make@stripped@name{\theequation}%
6600     \let\theHequation\newname
6601   }{}%
6602   \fi
6603   \@ifundefined{theH#1}{%
6604     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6605   }{}%
6606   \hyper@makecurrent{#1}%
6607   \ifmeasuring@
6608   \else
6609     \Hy@raisedlink{%
```



```

6610 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6611 }%
6612 \fi
6613 }

```

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`.

```

6614 \begingroup\expandafter\expandafter\expandafter\endgroup
6615 \expandafter\ifx\csname chapter\endcsname\relax
6616 \def\Hy@chapterstring{section}%
6617 \else
6618 \def\Hy@chapterstring{chapter}%
6619 \fi
6620 \def\Hy@appendixstring{appendix}
6621 \def\Hy@chapapp{\Hy@chapterstring}
6622 \ltx@ifundefined{appendix}{%
6623 }{%
6624 \let\HyOrg@appendix\appendix
6625 \def\appendix{%
6626 \ltx@ifundefined{chapter}%
6627 {\gdef\theHsection{\Alph{section}}}%
6628 {\gdef\theHchapter{\Alph{chapter}}}%
6629 \xdef\Hy@chapapp{\Hy@appendixstring}%
6630 \HyOrg@appendix
6631 }%
6632 }

```

`\Hy@Test@alph`

```

6633 \def\Hy@Test@alph#1{%
6634 \ifcase#1\or
6635 a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6636 k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6637 u\or v\or w\or x\or y\or z%
6638 \else
6639 \@ctrerr
6640 \fi
6641 }

```

`\Hy@Test@Alph`

```

6642 \def\Hy@Test@Alph#1{%
6643 \ifcase#1\or
6644 A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6645 K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6646 U\or V\or W\or X\or Y\or Z%
6647 \else
6648 \@ctrerr
6649 \fi
6650 }

```

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

```

6651 \def\hyper@makecurrent#1{%

```

```

6652 \begingroup
6653 \edef\Hy@param{#1}%
6654 \ifx\Hy@param\Hy@chapterstring
6655 \let\Hy@param\Hy@chapapp
6656 \fi
6657 \ifHy@hypertextnames
6658 \let\@number\@firstofone
6659 \def\@fnsymbol##1{fnsymbol\number##1}%
6660 \def\@arabic##1{\number##1}%
6661 \ifx\@alph\Hy@Test@alph
6662 \else
6663 \def\@alph{alph\number}%
6664 \fi
6665 \ifx\@Alph\Hy@Test@Alph
6666 \else
6667 \def\@Alph{Alph\number}%
6668 \fi
6669 \ifHy@naturalnames
6670 \let\textlatin\@firstofone
6671 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6672 \else
6673 \xdef\HyperGlobalCurrentHref{%
6674 \csname
6675 the%
6676 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6677 #1%
6678 \endcsname
6679 }%
6680 \fi
6681 \xdef\HyperGlobalCurrentHref{%
6682 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6683 }%
6684 \else
6685 \Hy@GlobalStepCount\Hy@linkcounter
6686 \xdef\HyperGlobalCurrentHref{\Hy@param.the\Hy@linkcounter}%
6687 \fi
6688 \endgroup
6689 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6690 \ifHy@localanchorname
6691 \let\@currentHref\HyperLocalCurrentHref
6692 \else
6693 \global\let\@currentHref\HyperGlobalCurrentHref
6694 \fi
6695 }

```

\Hy@MakeCurrentHref

```

6696 \def\Hy@MakeCurrentHref#1{%
6697 \edef\HyperLocalCurrentHref{#1}%
6698 \@onelevel@sanitize\HyperLocalCurrentHref
6699 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6700 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6701 \ifHy@localanchorname
6702 \let\@currentHref\HyperLocalCurrentHref
6703 \else
6704 \global\let\@currentHref\HyperGlobalCurrentHref
6705 \fi
6706 }

```

`\Hy@MakeCurrentHrefAuto`

```
6707 \def\Hy@MakeCurrentHrefAuto#1{%
6708   \Hy@GlobalStepCount\Hy@linkcounter
6709   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6710 }
```

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

```
6711 \def\@currentHlabel{\@currentHref}

6712 \@ifpackageloaded{fancyvrb}{%
6713   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
6714     \def\FV@StepLineNo{%
6715       \FV@SetLineNo
6716       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6717     \FV@StepLineNo
6718   }%
6719 }%
6720 }
```

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`

```
6721 \Hy@AtBeginDocument{%
6722   \@ifclassloaded{revtex4}{%
6723     \@namedef{ver@lastpage.sty}{1994/06/25}%
6724   }{}%
6725   \@ifpackageloaded{lastpage}{%
6726     \ifHy@pageanchor
6727     \else
6728       \Hy@WarningNoLine{%
6729         The \string\pageref{LastPage} link doesn't work\MessageBreak
6730         with disabled option 'pageanchor'%
6731       }%
6732     \fi
6733   \def\lastpage@putlabel{%
6734     \addtocounter{page}{-1}%
6735     \if@filesw
6736       \begingroup
6737       \let\@number\@firstofone
6738       \ifHy@pageanchor
6739         \ifHy@hypertextnames
6740         \ifHy@plainpages
6741           \def\Hy@temp{\arabic{page}}%
6742         \else
6743           \Hy@unicodefalse
6744           \pdfstringdef\Hy@temp{\thepage}%
6745         \fi
6746       \else
```

```

6747     \def\Hy@temp{\the\Hy@pagecounter}%
6748     \fi
6749     \fi
6750     \immediate\write\@auxout{%
6751     \string\newlabel
6752     {LastPage}{\the\page}{\the\page}{\the\page}{\the\page}}%
6753     \ifHy@pageanchor page.\Hy@temp\fi}}}%
6754   }%
6755 \endgroup
6756 \fi
6757 \addtocounter{page}{1}%
6758 }%
6759 \@ifclassloaded{revtex4}{%
6760 \begingroup
6761 \toks@\expandafter{\lastpage@putlabel}%
6762 \edef\x{\endgroup
6763 \def\noexpand\lastpage@putlabel{%
6764 \noexpand\stepcounter{page}%
6765 \the\toks@
6766 \noexpand\addtocounter{page}\noexpand\m@ne
6767 }%
6768 }%
6769 \x
6770 }{}%
6771 }{}%
6772 }
6773 </package>
6774 <*check>
6775 \checkpackage{lastpage}[1994/06/25]
6776 \checkcommand\def\lastpage@putlabel{%
6777 \addtocounter{page}{-1}%
6778 \immediate\write\@auxout{%
6779 \string\newlabel{LastPage}{\the\page}{\the\page}}%
6780 }%
6781 \addtocounter{page}{1}%
6782 }
6783 </check>
6784 <*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.

```

6785 \def\hypergetref#1{\getrefbykeydefault{#1}{\the\page}}
6786 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

6787 \@ifpackageloaded{titlesec}{%
6788 \def\ttl@Hy@steplink#1{%
6789 \Hy@MakeCurrentHrefAuto{#1*}%

```

```

6790 \edef\ttl@Hy@saveanchor{%
6791   \noexpand\Hy@raisedlink{%
6792     \noexpand\hyper@anchorstart{\@currentHref}%
6793     \noexpand\hyper@anchorend
6794     \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6795     \noexpand\ttl@Hy@PatchSaveWrite
6796   }%
6797 }%
6798 }%
6799 \def\ttl@Hy@PatchSaveWrite{%
6800   \begingroup
6801   \toks@\expandafter{\ttl@savewrite}%
6802   \edef\x{\endgroup
6803     \def\noexpand\ttl@savewrite{%
6804       \let\noexpand\@currentHref
6805         \noexpand\ttl@Hy@SavedCurrentHref
6806       \the\toks@
6807     }%
6808   }%
6809   \x
6810 }%
6811 \def\ttl@Hy@refstepcounter#1{%
6812   \let\ttl@b\Hy@raisedlink
6813   \def\Hy@raisedlink##1{%
6814     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6815   }%
6816   \refstepcounter{#1}%
6817   \let\Hy@raisedlink\ttl@b
6818 }%
6819 }{}

```

Package titletoc support:

```

6820 \@ifpackageloaded{titletoc}{%
6821   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6822 }{}

```

32 Package varioref support

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

```

6823 \def\Hy@varioref@undefined{???}{??}{-}{-}
6824 \@ifpackageloaded{varioref}{%
6825   \def\vref@pagenum#1#2{%
6826     \@ifundefined{r@#2}{%
6827       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6828     }{}%
6829     \edef#1{\getpagerefnnumber{#2}}%
6830   }%
6831 }{}

```

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

```

6832 \def\Hy@varioref@refstepcounter#1{%
6833   \stepcounter{#1}%
6834   \protected@edef\@currentlabel{%
6835     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6836   }%

```

```

6837 }
6838 \AtBeginDocument{%
6839   \ifx\refstepcounter\Hy@varioref@refstepcounter
6840     \let\H@refstepcounter\refstepcounter
6841     \let\refstepcounter\Hy@saved@refstepcounter
6842   \fi
6843 }

```

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

```

6844 \ifpackageloaded{longtable}{%
6845   \begingroup
6846   \def\y{\LT@array}%
6847   \@ifundefined{scr@LT@array}{%
6848     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6849   }{\def\y{\scr@LT@array}}%
6850   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6851     \expandafter\endgroup
6852     \expandafter\def\y[##1]##2{%
6853       \H@refstepcounter{#1}%
6854       \hyper@makecurrent{table}%
6855       \let\Hy@LT@currentHref\@currentHref
6856       #2\@sharp###3#4%
6857     }%
6858   }%
6859   \expandafter\expandafter\expandafter\x\y[##1][##2]\@nil

```

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

```

6860 \begingroup
6861 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6862   \endgroup
6863   \def\LT@start{%
6864     #1%
6865     \ifvoid\LT@foot#2\fi
6866     \let\@currentHref\Hy@LT@currentHref
6867     \Hy@raisedlink{%
6868       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6869     }%
6870     #3%
6871   }%
6872 }%
6873 \expandafter\x\LT@start\@nil
6874 }{}

```

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.

```

6875 \let\new@refstepcounter\refstepcounter
6876 \let\H@equation\equation
6877 \let\H@endequation\endequation

6878 \@ifpackageloaded{amsmath}{%
6879   \long\def\Hy@temp{%
6880     \incr@eqnum
6881     \mathdisplay@push
6882     \st@rredfalse \global\@eqnswtrue
6883     \mathdisplay{equation}%
6884   }%
6885   \ifx\Hy@temp\equation
6886     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6887       \csname iftrue\endcsname
6888     \else
6889       \long\def\equation{%
6890         \mathdisplay@push
6891         \st@rredfalse \global\@eqnswtrue
6892         \mathdisplay{equation}%
6893         \incr@eqnum
6894       }%
6895     \fi
6896   \fi
6897 }{%
6898 \def\equation{%
6899   \let\refstepcounter\H@refstepcounter
6900   \H@equation
6901   \@ifundefined{theHequation}{%
6902     \make@stripped@name{\theequation}%
6903     \let\theHequation\newname
6904   }{%
6905     \hyper@makecurrent{equation}%
6906     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6907     \let\refstepcounter\new@refstepcounter
6908   }%
6909   \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6910 }

```

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.

```

6911 \newif\if@eqnstar
6912 \@eqnstarfalse
6913 \let\H@eqnarray\eqnarray
6914 \let\H@endeqnarray\endeqnarray
6915 \def\eqnarray{%
6916   \let\Hy@reserved@a\relax
6917   \def\@currentHref{}%
6918   \H@eqnarray
6919   \if@eqnstar
6920   \else
6921     \ifx\\\@currentHref\\%
6922     \else
6923       \@ifundefined{theHequation}{%

```

```

6924     \make@stripped@name{\theequation}%
6925     \let\theHequation\newname
6926   }-{}%
6927   \hyper@makecurrent{equation}%
6928   \hyper@anchorstart{\@currentHref}-{} \hyper@anchorend
6929   \fi
6930 \fi
6931 }
6932 \def\endeqnarray{%
6933   \H@endeqnarray
6934 }

```

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.

```

6935 \@namedef{eqnarray*}{%
6936   \def\@eqnrcr{\nonumber\@seqnrcr}\@eqnstartrue\eqnarray
6937 }
6938 \@namedef{endeqnarray*}{%
6939   \nonumber\endeqnarray\@eqnstarfalse
6940 }

```

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

```

6941 \ltx@ifundefined{subeqnarray}-{}-%
6942 \let\H@subeqnarray\subeqnarray
6943 \let\H@endsubeqnarray\endsubeqnarray
6944 \def\subeqnarray{%
6945   \let\Hy@reserved@a\relax
6946   \H@subeqnarray
6947   \@ifundefined{theHequation}{%
6948     \make@stripped@name{\theequation}%
6949     \let\theHequation\newname
6950   }-{}%
6951   \hyper@makecurrent{equation}%
6952   \hyper@anchorstart{\@currentHref}-{} \hyper@anchorend
6953 }%
6954 \def\endsubeqnarray{%
6955   \H@endsubeqnarray
6956 }%
6957 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6958 }

```

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

```

6959 \def\make@stripped@name#1{%
6960   \begingroup
6961   \escapechar\m@ne
6962   \global\let\newname\@empty
6963   \protected@edef\Hy@tempa{#1}%
6964   \edef\@tempb{%
6965     \noexpand\@tfor\noexpand\Hy@tempa:=%
6966     \expandafter\strip@prefix\meaning\Hy@tempa
6967   }%
6968   \@tempb\do{%
6969     \if{\Hy@tempa\else
6970     \if}\Hy@tempa\else
6971     \xdef\newname{\newname\Hy@tempa}%
6972   \fi
6973   \fi
6974 }%

```



```
6975 \endgroup
6976 }
```

Support for amsmath's subequations:

```
6977 \begingroup\expandafter\expandafter\expandafter\endgroup
6978 \expandafter\ifx\csname subequations\endcsname\relax
6979 \else
6980 \let\HyOrg@subequations\subequations
6981 \def\subequations{%
6982 \stepcounter{equation}%
6983 \protected@edef\theHparentequation{%
6984 \ifundefined{theHequation}\theequation\theHequation
6985 }%
6986 \addtocounter{equation}{-1}%
6987 \HyOrg@subequations
6988 \def\theHequation{\theHparentequation\alph{equation}}%
6989 \ignorespaces
6990 }%
6991 \fi
```

Support for package amsthm (Daniel Müllner):

```
6992 \@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

6993 \def\Hy@temp#1#2#3{%
6994 \ifhmode\unskip\unskip\par\fi
6995 \normalfont
6996 \trivlist
6997 \let\thmheadnl\relax
6998 \let\thm@swap\@gobble
6999 \let\thm@indent\indent % indent
7000 \thm@headfont{\scshape}% heading font small caps
7001 \thm@notefont{\fontseries\mddefault\upshape}%
7002 \thm@headpunct{.}% add period after heading
7003 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7004 \thm@space@setup
7005 #1% style overrides
7006 \@topsep \thm@preskip % used by thm head
7007 \@topsepadd \thm@postskip % used by \@endparenv
7008 \def\@tempa{#2}\ifx\@empty\@tempa
7009 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7010 \else
7011 \refstepcounter{#2}%
7012 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7013 \fi
7014 \@tempa
7015 }%
7016 \ifx\Hy@temp\@thm
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 \let\thm@indent\indent % indent
7026 \thm@headfont{\scshape}% heading font small caps
7027 \thm@notefont{\fontseries\mddefault\upshape}%
7028 \thm@headpunct{.}% add period after heading
7029 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7030 \thm@space@setup
7031 #1% style overrides
7032 \@topsep \thm@preskip % used by thm head
7033 \@topsepadd \thm@postskip % used by \@endparenv
7034 \def\dth@counter{#2}%
7035 \ifx\@empty\dth@counter
7036 \def\@tempa{%
7037 \@oparg{\@begintheorem{#3}{}}[]%
7038 }%
7039 \else
7040 \H@refstepcounter{#2}%
7041 \hyper@makecurrent{#2}%
7042 \let\Hy@dth@currentHref\@currentHref
7043 \def\@tempa{%
7044 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7045 }%
7046 \fi
7047 \@tempa
7048 }%
7049 \else
7050 \def\@thm#1#2#3{%
7051 \ifhmode
7052 \unskip\unskip\par
7053 \fi
7054 \normalfont
7055 \trivlist
7056 \let\thmheadnl\relax
7057 \let\thm@swap\@gobble
7058 \thm@notefont{\fontseries\mddefault\upshape}%
7059 \thm@headpunct{.}% add period after heading
7060 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7061 \thm@space@setup
7062 #1% style overrides
7063 \@topsep \thm@preskip % used by thm head
7064 \@topsepadd \thm@postskip % used by \@endparenv
7065 \def\dth@counter{#2}%
7066 \ifx\@empty\dth@counter
7067 \def\@tempa{%
7068 \@oparg{\@begintheorem{#3}{}}[]%
7069 }%
7070 \else
7071 \H@refstepcounter{#2}%
7072 \hyper@makecurrent{#2}%
7073 \let\Hy@dth@currentHref\@currentHref
7074 \def\@tempa{%
7075 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7076 }%
7077 \fi
7078 \@tempa
7079 }%
7080 \fi

```

```

7081 \dth@everypar={%
7082 \@minipagefalse
7083 \global\@newlistfalse
7084 \@noparitemfalse
7085 \if@inlabel
7086 \global\@inlabelfalse
7087 \begingroup
7088 \setbox\z@\lastbox
7089 \ifvoid\z@
7090 \kern-\itemindent
7091 \fi
7092 \endgroup
7093 \ifx\@empty\dth@counter
7094 \else
7095 \Hy@raisedlink{%
7096 \hyper@anchorstart{%
7097 \ltx@ifundefined{Hy@dth@currentHref}%
7098 \@currentHref\Hy@dth@currentHref
7099 }\hyper@anchorend
7100 }%
7101 \fi
7102 \unhbox\@labels
7103 \fi
7104 \if@nobreak
7105 \@nobreakfalse \clubpenalty\@M
7106 \else
7107 \clubpenalty\@clubpenalty \everypar{}%
7108 \fi
7109 }%
7110 }-}

```

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.

```

7111 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}-}
7112 \ifHy@hyperfootnotes
7113 \newcounter{Hfootnote}%
7114 \let\H@@footnotetext\@footnotetext
7115 \let\H@@footnotemark\@footnotemark
7116 \def\@xfootnotenext[#1]{%
7117 \begingroup
7118 \csname c@\@mpfn\endcsname #1\relax
7119 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7120 \endgroup
7121 \ifx\@footnotetext\@mpfootnotetext
7122 \expandafter\H@@mpfootnotetext
7123 \else
7124 \expandafter\H@@footnotetext
7125 \fi
7126 }%
7127 \def\@xfootnotemark[#1]{%
7128 \begingroup

```

```

7129 \c@footnote #1\relax
7130 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7131 \endgroup
7132 \H@@footnotemark
7133 }%
7134 \let\H@@mpfootnotetext\@mpfootnotetext
7135 \long\def\@mpfootnotetext#1{%
7136 \H@@mpfootnotetext{%
7137 \ifHy@nesting
7138 \expandafter\hyper@@@anchor\expandafter{%
7139 \Hy@footnote@currentHref
7140 }{#1}%
7141 \else
7142 \Hy@raisedlink{%
7143 \expandafter\hyper@@@anchor\expandafter{%
7144 \Hy@footnote@currentHref
7145 }{\relax}%
7146 }#1%
7147 \fi
7148 }%
7149 }%
7150 \long\def\@footnotetext#1{%
7151 \H@@footnotetext{%
7152 \ifHy@nesting
7153 \expandafter\hyper@@@anchor\expandafter{%
7154 \Hy@footnote@currentHref
7155 }{#1}%
7156 \else
7157 \Hy@raisedlink{%
7158 \expandafter\hyper@@@anchor\expandafter{%
7159 \Hy@footnote@currentHref
7160 }{\relax}%
7161 }%
7162 \let\@currentHref\Hy@footnote@currentHref
7163 \let\@currentlabelname\@empty
7164 #1%
7165 \fi
7166 }%
7167 }%

```

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.

```

7168 \def\@footnotemark{%
7169 \leavevmode
7170 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7171 \stepcounter{Hfootnote}%
7172 \global\let\Hy@saved@currentHref\@currentHref
7173 \hyper@makecurrent{Hfootnote}%
7174 \global\let\Hy@footnote@currentHref\@currentHref
7175 \global\let\@currentHref\Hy@saved@currentHref
7176 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7177 \@makefnmark
7178 \hyper@linkend
7179 \ifhmode\spacefactor\@x@sf\fi
7180 \relax
7181 }%

```

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

```

7182 \@ifpackageloaded{longtable}{%
7183   \CheckCommand*{\LT@p@ftntext}[1]{%
7184     \edef\@tempa{%
7185       \the\LT@p@ftn
7186       \noexpand\footnotetext[\the\c@footnote]%
7187     }%
7188     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7189   }%
7190   \long\def\LT@p@ftntext#1{%
7191     \edef\@tempa{%
7192       \the\LT@p@ftn
7193       \begingroup
7194         \noexpand\c@footnote=\the\c@footnote\relax
7195         \noexpand\protected@xdef\noexpand\@thefnmark{%
7196           \noexpand\thempfn
7197         }%
7198         \noexpand\Hy@LT@footnotetext{%
7199           \Hy@footnote@currentHref
7200         }%
7201       }%
7202       \global\LT@p@ftn\expandafter{%
7203         \@tempa{#1}%
7204       }%
7205     }%
7206   }%
7207   \long\def\Hy@LT@footnotetext#1#2{%
7208     \H@@footnotetext{%
7209       \ifHy@nesting
7210         \hyper@@anchor{#1}{#2}%
7211       \else
7212         \Hy@raisedlink{%
7213           \hyper@@anchor{#1}{\relax}%
7214         }%
7215       \def\@currentHref{#1}%
7216       \let\@currentlabelname\@empty
7217       #2%
7218     }%
7219   }%
7220 }%
7221 }{}%

```

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

```

7222 \@ifpackageloaded{fancyvrb}{%
7223   \def\V@@footnotetext{%
7224     \insert\footins\bgroup
7225     \csname reset@font\endcsname
7226     \footnotesize
7227     \interlinepenalty\interfootnotelinepenalty
7228     \splittopskip\footnotesep
7229     \splitmaxdepth\dp\strutbox
7230     \floatingpenalty \@MM
7231     \hsize\columnwidth
7232     \@parboxrestore

```

```

7233 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7234 \@makefnmark{}%
7235 \rule{\z@}{\footnotesep}%
7236 \bgroup
7237 \aftergroup\V@@@footnotetext
7238 \Hy@raisedlink{%
7239 \expandafter\hyper@@anchor\expandafter{%
7240 \Hy@footnote@currentHref
7241 }{\relax}%
7242 }%
7243 \let\@currentHref\Hy@footnote@currentHref
7244 \let\@currentlabelname\@empty
7245 \ignorespaces
7246 }%
7247 }{}%

```

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

```

7248 \def\Hy@temp#1{%
7249 \begingroup
7250 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7251 \endgroup
7252 \@footnotemark
7253 }%
7254 \ifx\Hy@temp\footref
7255 \def\footref#1{%
7256 \begingroup
7257 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7258 \endgroup
7259 \H@@footnotemark
7260 }%
7261 \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.

```

7262 \let\HyOrg@maketitle\maketitle
7263 \def\maketitle{%
7264 \let\Hy@saved@footnotemark\@footnotemark
7265 \let\Hy@saved@footnotetext\@footnotetext
7266 \let\@footnotemark\H@@footnotemark
7267 \let\@footnotetext\H@@footnotetext
7268 \@ifnextchar[\Hy@maketitle@optarg{% ]
7269 \HyOrg@maketitle
7270 \Hy@maketitle@end
7271 }%
7272 }%
7273 \def\Hy@maketitle@optarg[#1]{%
7274 \HyOrg@maketitle[#{#1}]%
7275 \Hy@maketitle@end
7276 }%
7277 \def\Hy@maketitle@end{%
7278 \ifx\@footnotemark\H@@footnotemark
7279 \let\@footnotemark\Hy@saved@footnotemark
7280 \fi
7281 \ifx\@footnotetext\H@@footnotetext
7282 \let\@footnotetext\Hy@saved@footnotetext
7283 \fi
7284 }%

```

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

```
7285 \def\realfootnote{%
7286   \@ifnextchar{\@xfootnote{%
7287     \stepcounter{\@mpfn}%
7288     \protected@xdef\@thefnmark{\thempfn}%
7289     \H@@footnotemark\H@@footnotetext
7290   }%
7291 }%

7292 \fi
7293 \Hy@DisableOption{hyperfootnotes}

7294 \</package>
7295 \<*check>
7296 \checklatex
7297 \checkcommand\def\@xfootnotenext[#1]{%
7298   \begingroup
7299   \csname c@\@mpfn\endcsname #1\relax
7300   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7301   \endgroup
7302   \@footnotetext
7303 }
7304 \checkcommand\def\@footnotemark[#1]{%
7305   \begingroup
7306   \c@footnote #1\relax
7307   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7308   \endgroup
7309   \@footnotemark
7310 }
7311 \checkcommand\def\@footnotemark{%
7312   \leavevmode
7313   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7314   \@makefnmark
7315   \ifhmode\spacefactor\@x@sf\fi
7316   \relax
7317 }
7318 \</check>
7319 \<*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.

```
7320 \def\caption{%
7321   \ifx\@capttype\@undefined
7322     \@latex@error{\noexpand\caption outside float}\@ehd
7323     \expandafter\@gobble
7324   \else
7325     \H@refstepcounter\@capttype
7326     \let\Hy@tempa\@caption
7327     \ifundefined{float@caption}{%
7328       }{%
7329         \expandafter\ifx\csname @float@c@\@capttype\endcsname
7330           \float@caption
7331         \let\Hy@tempa\Hy@float@caption
7332       }
7333     }%
```

```

7334 \expandafter\@firstofone
7335 \fi
7336 {\@dblarg{\Hy@tempa\@capttype}}%
7337 }
7338 \long\def\@caption#1[#2]#3{%
7339 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7340 \csname iftrue\endcsname
7341 \global\let\@currentHref\hc@currentHref
7342 \else
7343 \hyper@makecurrent{\@capttype}%
7344 \fi
7345 \@ifundefined{NR@gettitle}{%
7346 \def\@currentlabelname{#2}%
7347 }{%
7348 \NR@gettitle{#2}%
7349 }%
7350 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7351 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7352 }%
7353 \begingroup
7354 \@parboxrestore
7355 \if@minipage
7356 \@setminipage
7357 \fi
7358 \normalsize
7359 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7360 \csname iftrue\endcsname
7361 \global\@capstartfalse
7362 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7363 \else
7364 \@makecaption{\csname fnum@#1\endcsname}{%
7365 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7366 \ifHy@nesting
7367 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7368 \else
7369 \Hy@raisedlink{%
7370 \expandafter\hyper@@anchor\expandafter{%
7371 \@currentHref
7372 }{\relax}%
7373 }%
7374 #3%
7375 \fi
7376 }%
7377 \fi
7378 \par
7379 \endgroup
7380 }

```

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.

```

7381 \let\Hy@float@caption\@caption
7382 \@ifpackageloaded{float}{%
7383 \def\Hy@float@caption{%
7384 \ifx\Hy@float@currentHref\@undefined
7385 \hyper@makecurrent{\@capttype}%
7386 \global\let\Hy@float@currentHref\@currentHref

```



```

7387 \else
7388 \let\@currentHref\Hy@float@currentHref
7389 \fi
7390 \float@caption
7391 }%
7392 \let\HyOrg@float@makebox\float@makebox
7393 \renewcommand{\float@makebox}[1]{%
7394 \HyOrg@float@makebox{%
7395 #1\relax
7396 \ifx\Hy@float@currentHref\@undefined
7397 \else
7398 \expandafter\hyper@@anchor\expandafter{%
7399 \Hy@float@currentHref
7400 }{\relax}%
7401 \global\let\Hy@float@currentHref\@undefined
7402 \fi
7403 }%
7404 }%
7405 }{}

7406 </package>
7407 <*check>
7408 \checklatex[1999/06/01 - 2000/06/01]
7409 \checkcommand\def\caption{%
7410 \ifx\@capttype\@undefined
7411 \@latex@error{\noexpand\caption outside float}\@ehd
7412 \expandafter\@gobble
7413 \else
7414 \refstepcounter\@capttype
7415 \expandafter\@firstofone
7416 \fi
7417 {\@dblarg{\@caption\@capttype}}}%
7418 }
7419 \checkcommand\long\def\@caption#1[#2]#3{%
7420 \par
7421 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7422 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
7423 }%
7424 \begingroup
7425 \@parboxrestore
7426 \if@minipage
7427 \@setminipage
7428 \fi
7429 \normalsize
7430 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7431 \endgroup
7432 }
7433 </check>
7434 <*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.

```

7435 \def\hyper@natlinkstart#1{%
7436 \Hy@backout{#1}%
7437 \hyper@linkstart{cite}{cite.#1}%
7438 \def\hyper@nat@current{#1}%
7439 }
7440 \def\hyper@natlinkend{%
7441 \hyper@linkend
7442 }
7443 \def\hyper@natlinkbreak#1#2{%
7444 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7445 }
7446 \def\hyper@natanchorstart#1{%
7447 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7448 }
7449 \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.

```

7450 \ltx@ifundefined{NAT@parse}{%
7451 \providecommand*\@extra@binfo{}}%
7452 \providecommand*\@extra@b@citeb{}}%
7453 \def\bibcite#1#2{%
7454 \@newlabel{b}{#1\@extra@binfo}{%
7455 \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7456 }%
7457 }%
7458 \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.”.

```

7459 \let\Hy@bibcite\bibcite
7460 \begingroup
7461 \@ifundefined{bbl@cite@choice}{}{%
7462 \g@addto@macro\bbl@cite@choice{%
7463 \let\bibcite\Hy@bibcite
7464 }%
7465 }%
7466 \endgroup

```

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

```

7467 \providecommand*\@BIBLABEL{\@biblabel}%
7468 \def\@lbibitem[#1]#2{%
7469 \@skiphyperreftrue
7470 \H@item{%
7471 \ifx\Hy@raisedlink\@empty
7472 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7473 \@BIBLABEL{#1}%
7474 \hyper@anchorend
7475 \else
7476 \Hy@raisedlink{%
7477 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7478 }%
7479 \@BIBLABEL{#1}%

```

```

7480   \fi
7481   \hfill
7482 }%
7483 \@skiphyperreffalse
7484 \if@filesw
7485   \begingroup
7486     \let\protect\noexpand
7487     \immediate\write\@auxout{%
7488       \string\bibcite{#2}{#1}%
7489     }%
7490   \endgroup
7491   \fi
7492   \ignorespaces
7493 }%

```

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

```

7494 \def\@bibitem#1{%
7495   \@skiphyperrefftrue\H@item\@skiphyperreffalse
7496   \Hy@raisedlink{%
7497     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7498   }%
7499   \if@filesw
7500     \begingroup
7501       \let\protect\noexpand
7502       \immediate\write\@auxout{%
7503         \string\bibcite{#1}{\the\value{\@listctr}}%
7504       }%
7505     \endgroup
7506     \fi
7507     \ignorespaces
7508   }%
7509 }{}

7510 </package>
7511 <*check>
7512 \checklatex
7513 \checkcommand\def\@bibitem[#1]#2{%
7514   \item[\@biblabel{#1}\hfill]%
7515   \if@filesw
7516     {%
7517       \let\protect\noexpand
7518       \immediate\write\@auxout{%
7519         \string\bibcite{#2}{#1}%
7520       }%
7521     }%
7522   \fi
7523   \ignorespaces
7524 }
7525 \checkcommand\def\@bibitem#1{%
7526   \item
7527   \if@filesw
7528     \immediate\write\@auxout{%
7529       \string\bibcite{#1}{\the\value{\@listctr}}%
7530     }%
7531   \fi
7532   \ignorespaces
7533 }

```

```
7534 </check>
7535 <*package>
```

Revtex (bless its little heart) takes over `\bibtex` 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.

```
7536 \ifclassloaded{revtex}{%
7537 \Hy@Info{*** compatibility with revtex **** }%
7538 \def\revtex@checking#1#2{%
7539 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7540 \expandafter\def\csname b@#1\endcsname{#2}%
7541 \@SetMaxRnhfLabel{#1}%
7542 \expandafter\let\csname b@#1\endcsname\T@temp
7543 }%
```

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

```
7544 \ifundefined{CITE}{\def\CITE{\@cite}}{%
7545 \providecommand*{\extra@b@citeb}{}%
7546 \def\CITEX[#1]#2{%
7547 \let\@citea\@empty
7548 \leavevmode
7549 \unskip
7550 $~{%
7551 \scriptstyle
7552 \@CITE{%
7553 \@for\@citeb:=#2\do{%
7554 \@citea
7555 \def\@citea{,\penalty\@m }%
7556 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7557 \if@filesw
7558 \immediate\write\@auxout{\string\citation{\@citeb}}%
7559 \fi
7560 \ifundefined{b@\@citeb\extra@b@citeb}{%
7561 \mbox{\reset@font\bfseries ?}%
7562 \G@refundefinedtrue
7563 \@latex@warning{%
7564 Citation ‘\@citeb’ on page \thepage \space undefined%
7565 }%
7566 }{%
7567 {\csname b@\@citeb\extra@b@citeb\endcsname}%
7568 }%
7569 }%
7570 }{#1}%
7571 }$%
7572 }%
```

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.

```
7573 \def\@citex[#1]#2{%
7574 \let\@citea\@empty
7575 \@cite{%
7576 \@for\@citeb:=#2\do{%
7577 \@citea
7578 \def\@citea{,\penalty\@m }%
7579 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7580 \if@filesw
7581 \immediate\write\@auxout{\string\citation{\@citeb}}%
```

```

7582 \fi
7583 \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7584 \mbox{\reset@font\bfseries ?}%
7585 \G@refundefinedtrue
7586 \@latex@warning{%
7587 Citation '\@citeb' on page \thepage \space undefined%
7588 }%
7589 }{%
7590 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7591 }%
7592 }%
7593 }{#1}%
7594 }%
7595 }{}

```

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 pdf \TeX , then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7596 \@ifpackageloaded{harvard}{%
7597 \Hy@AtBeginDocument{%
7598 \Hy@Info{*** compatibility with harvard **** }%
7599 \Hy@raiselinksfalse
7600 \def\harvardcite#1#2#3#4{%
7601 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
7602 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
7603 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
7604 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7605 }%
7606 \def\HAR@citetoaux#1{%
7607 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7608 \ifHy@backref
7609 \ifx\@empty\@currentlabel
7610 \else
7611 \@bsphack
7612 \if@filesw
7613 \protected@write\@auxout{}{%
7614 \string\@writefile{brf}{%
7615 \string\backcite{#1}{%
7616 {\thepage}{\@currentlabel}{\@currentHref}}%
7617 }%
7618 }%
7619 }%
7620 \fi
7621 \@esphack
7622 \fi
7623 \fi
7624 }%
7625 \def\harvarditem{%
7626 \ifnextchar{\@harvarditem}{\@harvarditem[\null]}%
7627 }%
7628 \def\@harvarditem[#1]#2#3#4#5\par{%

```

```

7629 \item[]%
7630 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7631 \if@filesw
7632 \begingroup
7633 \def\protect##1{\string ##1\space}%
7634 \ifthenelse{\equal{#1}{\null}}%
7635 {\def\next{{#4}{#2}{#2}{#3}}}%
7636 {\def\next{{#4}{#2}{#1}{#3}}}%
7637 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7638 \endgroup
7639 \fi
7640 \protect\hspace*{-\labelwidth}%
7641 \protect\hspace*{-\labelsep}%
7642 \ignorespaces
7643 #5%
7644 \ifHy@backref
7645 \newblock
7646 \backref{\csname br@#4\endcsname}%
7647 \fi
7648 \par
7649 }%

```

\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:

```

7650 \long\def\HAR@checkcitations#1#2#3#4{%
7651 \def\HAR@tempa{\hyper@@link[cite]{#1}{#2}}%
7652 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7653 \def\HAR@tempa{\hyper@@link[cite]{#1}{#3}}%
7654 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7655 \def\HAR@tempa{\hyper@@link[cite]{#1}{#4}}%
7656 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7657 \else
7658 \@tempwatruel
7659 \fi
7660 \else
7661 \@tempwatruel
7662 \fi
7663 \else
7664 \@tempwatruel
7665 \fi
7666 }%
7667 }%
7668 }{}

```

37.2 Package chicago

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

```
7669 \@ifpackageloaded{chicago}{%
```

\citeN

```

7670 \def\citeN{%
7671 \def\@citeseppen{-1000}%
7672 \def\@cite##1##2{##1}%
7673 \def\citeauthor##1##2##3{##1 (##3\@cite@opt)}%
7674 \@citedata@opt

```

```

7675 }%

\shortciteN
7676 \def\shortciteN{%
7677 \def\@citesep{-1000}%
7678 \def\@cite##1##2{##1}%
7679 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7680 \@citedata@opt
7681 }%

\@citedata@opt
7682 \def\@citedata@opt{%
7683 \let\@cite@opt\@empty
7684 \@ifnextchar [{%
7685 \@tempswatruue
7686 \@citedatax@opt
7687 }{%
7688 \@tempswafalse
7689 \@citedatax[]%
7690 }%
7691 }%

\@citedatax@opt
7692 \def\@citedatax@opt[#1]{%
7693 \def\@cite@opt{, #1}%
7694 \@citedatax[{#1}]%
7695 }%

7696 }{}

```

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.

```

7697 \ltx@ifclassloaded{slides}{%
7698 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7699 \def\Hy@PageAnchorSlidesPlain{%
7700 \advance\c@page\ltx@one
7701 \edef\Hy@TempPageAnchor{%
7702 \noexpand\hyper@@anchor{%
7703 page.\the\c@slide.\the\c@overlay.\the\c@note%
7704 \ifnum\c@page=\ltx@one
7705 \else
7706 .\the\c@page
7707 \fi
7708 }%
7709 }%
7710 \advance\c@page-\ltx@one
7711 }%
7712 \def\Hy@PageAnchorSlide{%
7713 \advance\c@page\ltx@one
7714 \ifnum\c@page>\ltx@one

```

```

7715 \ltx@ifundefined{theHpage}{%
7716 \protected@edef\Hy@TheSlideOptionalPage{%
7717 \Hy@SlidesFormatOptionalPage{\thepage}%
7718 }%
7719 }{%
7720 \protected@edef\Hy@TheSlideOptionalPage{%
7721 \Hy@SlidesFormatOptionalPage{\theHpage}%
7722 }%
7723 }%
7724 \else
7725 \def\Hy@TheSlideOptionalPage{}%
7726 \fi
7727 \advance\c@page-\ltx@one
7728 \pdfstringdef\@the@H@page{%
7729 \csname
7730 the%
7731 \ltx@ifundefined{theH\Hy@SlidesPage}{}{H}%
7732 \Hy@SlidesPage
7733 \endcsname
7734 \Hy@TheSlideOptionalPage
7735 }%
7736 \ltx@gobblethree
7737 }%
7738 \def\Hy@SlidesPage{slide}%
7739 \g@addto@macro\slide{%
7740 \def\Hy@SlidesPage{slide}%
7741 }%
7742 \g@addto@macro\overlay{%
7743 \def\Hy@SlidesPage{overlay}%
7744 }%
7745 \g@addto@macro\note{%
7746 \def\Hy@SlidesPage{note}%
7747 }%
7748 }{%
7749 \def\Hy@PageAnchorSlidesPlain{}%
7750 \def\Hy@PageAnchorSlide{}%
7751 }
7752 \def\Hy@EveryPageAnchor{%
7753 \Hy@DistillerDestFix
7754 \ifHy@pageanchor
7755 \ifHy@hypertexnames
7756 \ifHy@plainpages
7757 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7758 \Hy@PageAnchorSlidesPlain
7759 \else
7760 \begingroup
7761 \let\@number\@firstofone
7762 \Hy@unicodedefalse
7763 \Hy@PageAnchorSlide
7764 \pdfstringdef\@the@H@page{\thepage}%
7765 \endgroup
7766 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7767 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7768 \fi
7769 \else
7770 \Hy@GlobalStepCount\Hy@pagecounter
7771 \def\Hy@TempPageAnchor{%

```



```

7772     \hyper@@anchor{page.\the\Hy@pagecounter}%
7773     }%
7774 \fi
7775 \vbox to Opt{%
7776   \kern\voffset
7777   \kern\topmargin
7778   \kern-1bp\relax
7779   \hbox to Opt{%
7780     \kern\hoffset
7781     \kern\ifodd\value{page}%
7782       \oddsidemargin
7783       \else
7784       \evensidemargin
7785     \fi
7786     \kern-1bp\relax
7787     \Hy@TempPageAnchor\relax
7788     \hss
7789     }%
7790   \vss
7791   }%
7792 \fi
7793 }
7794 \g@addto@macro\Hy@EveryPageBoxHook{%
7795   \Hy@EveryPageAnchor
7796 }

```

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.

```

7797 \def\addcontentsline#1#2#3{% toc extension, type, tag
7798   \begingroup
7799   \let\label\@gobble
7800   \ifx\@currentHref\@empty
7801     \Hy@Warning{%
7802       No destination for bookmark of \string\addcontentsline,%
7803       \MessageBreak destination is added%
7804     }%
7805     \phantomsection
7806   \fi
7807   \expandafter\ifx\csname toplevel@#2\endcsname\relax
7808     \begingroup
7809     \def\Hy@tempa{#1}%
7810     \ifx\Hy@tempa\Hy@bookmarkstype
7811       \Hy@WarningNoLine{%
7812         bookmark level for unknown #2 defaults to 0%
7813       }%
7814     \else
7815       \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7816     \fi
7817   \endgroup
7818   \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7819 \fi
7820 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7821 \Hy@writebookmark{\csname the#2\endcsname}%

```

```

7822     {#3}%
7823     {\@currentHref}%
7824     {\Hy@toclevel}%
7825     {#1}%
7826     \ifHy@verbose
7827     \begingroup
7828     \def\Hy@tempa{#3}%
7829     \@onelevel@sanitize\Hy@tempa
7830     \let\temp@online\on@line
7831     \let\on@line\@empty
7832     \Hy@Info{%
7833       bookmark\temp@online:\MessageBreak
7834       thecounter {\csname the#2\endcsname}\MessageBreak
7835       text {\Hy@tempa}\MessageBreak
7836       reference {\@currentHref}\MessageBreak
7837       toclevel {\Hy@toclevel}\MessageBreak
7838       type {#1}%
7839     }%
7840     \endgroup
7841     \fi
7842     \addtocontents{#1}{%
7843       \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7844     }%
7845     \endgroup
7846 }
7847 \def\contentsline#1#2#3#4{%
7848   \ifx\#4\%
7849     \csname l@#1\endcsname{#2}{#3}%
7850   \else
7851     \ifcase\Hy@linktoc % none
7852       \csname l@#1\endcsname{#2}{#3}%
7853     \or % section
7854       \csname l@#1\endcsname{%
7855         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7856       }{#3}%
7857     \or % page
7858       \csname l@#1\endcsname{#2}{#3}%
7859       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7860     }%
7861     \else % all
7862       \csname l@#1\endcsname{%
7863         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7864       }{%
7865         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7866       }%
7867     \fi
7868   \fi
7869 }
7870 \</package>
7871 \<*check>
7872 \checklatex
7873 \checkcommand\def\addcontentsline#1#2#3{%
7874   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7875 }
7876 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7877 \</check>
7878 \<*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.

```
7879 \let\H@definecounter\@definecounter
7880 \def\@definecounter#1{%
7881   \H@definecounter{#1}%
7882   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7883 }
```

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.

```
7884 \let\H@newctr\@newctr
7885 \def\@newctr#1[#2]{%
7886   \H@newctr#1[{#2}]%
7887   \expandafter\def\csname theH#1\endcsname{%
7888     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7889   }%
7890 }
```

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.

```
7891 \@ifpackageloaded{amsmath}{%
7892   \def\Hy@make@anchor{%
7893     \Hy@MakeCurrentHrefAuto{AMS}%
7894     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7895   }%
7896   \def\Hy@make@df@tag@@#1{%
7897     \gdef\df@tag{%
7898       \maketag@@@{\Hy@make@anchor#1}%
7899       \def\@currentlabel{#1}%
7900     }%
7901   }%
7902   \def\Hy@make@df@tag@@@#1{%
7903     \gdef\df@tag{%
7904       \tagform@{\Hy@make@anchor#1}%
7905       \toks@\@xp{\p@equation{#1}}%
7906       \edef\@currentlabel{\the\toks@}%
7907     }%
7908   }%
7909   \let\HyOrg@make@df@tag@@\make@df@tag@@
7910   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7911   \let\make@df@tag@@\Hy@make@df@tag@@
7912   \let\make@df@tag@@@\Hy@make@df@tag@@@
7913 }
```

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

```
7914 \@ifpackagewith{hyperref}{pdftex}{%
7915   \let\H@seteqlabel\@seteqlabel
```

```

7916 \def\@seteqlabel#1{%
7917   \H\@seteqlabel{#1}%
7918   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7919   \Hy@raisedlink{%
7920     \hyper@anchorstart{\@currentHref}\hyper@anchorend
7921   }%
7922 }%
7923 }{}

```

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.

```

7924 \let\HyOrg@addtoreset\@addtoreset
7925 \def\@addtoreset#1#2{%
7926   \HyOrg@addtoreset{#1}{#2}%
7927   \expandafter\xdef\csname theH#1\endcsname{%
7928     \expandafter\noexpand
7929     \csname the\@ifundefined{theH#2}{-}H#2\endcsname
7930     .\noexpand\the\noexpand\value{#1}%
7931   }%
7932 }

```

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

```

7933 </package>
7934 <*check>
7935 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7936 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7937   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7938     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7939       \@addtoreset{#2}{#3}%
7940       \exp\xdef\csname the#2\endcsname{%
7941         \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7942       }%
7943     }%
7944   }%
7945 }%
7946 </check>
7947 <*package>
7948 \@ifpackageloaded{amsmath}{%
7949   \@ifpackagelater{amsmath}{1999/12/14}{%
7950     \renewcommand*\numberwithin}[3][\arabic]{%
7951       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7952         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7953           \HyOrg@addtoreset{#2}{#3}%

```

```

7954     \@xp\xdef\csname the#2\endcsname{%
7955     \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7956     }%
7957     \@xp\xdef\csname theH#2\endcsname{%
7958     \@xp\@nx
7959     \csname the\@ifundefined{theH#3}{H#3\endcsname
7960     .\@nx#1{#2}%
7961     }%
7962     }%
7963     }%
7964     }%
7965     }{%
7966     \Hy@WarningNoLine{%
7967     \string\numberwithin\space of package ‘amsmath’ %
7968     only fixed\MessageBreak
7969     for version 2000/06/06 v2.12 or newer%
7970     }%
7971     }%
7972     }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7973 \ifHy@figures
7974 \let\Hy@Gin@setfile\Gin@setfile
7975 \def\Gin@setfile#1#2#3{%
7976 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7977 }%
7978 \fi
7979 \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 boldfening 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.

```

7980 \ifHy@hyperindex
7981 \def\HyInd@ParenLeft{()}%
7982 \def\HyInd@ParenRight{)}%
7983 \def\hyperindexformat#1#2{%
7984 \let\HyOrg@hyperpage\hyperpage
7985 \let\hyperpage\@firstofone
7986 #1{\HyOrg@hyperpage{#2}}%
7987 \let\hyperpage\HyOrg@hyperpage
7988 }%
7989 \Hy@nextfalse
7990 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7991 \@ifpackageloaded{index}{\Hy@nexttrue}{}%

```

```

7992 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7993 \begingroup
7994 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7995 \lccode'\/= '\relax
7996 \lowercase{\endgroup
7997 \ifHy@next
7998 \let\HyInd@org@wrindex\@wrindex
7999 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8000 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8001 \ifx\|#3\%
8002 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8003 \else
8004 \HyInd@@@wrindex{#1}{#2}#3\%
8005 \fi
8006 }%
8007 \def\HyInd@@@wrindex#1#2#3#4\{\%
8008 \def\Hy@temp@A{#3}%
8009 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8010 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8011 \relax
8012 \HyInd@org@wrindex{#1}{%
8013 #2|hyperindexformat{/#3#4}%
8014 }%
8015 \else
8016 \ifx\|#4\%
8017 \ifx\Hy@temp@A\HyInd@ParenRight
8018 \HyInd@org@wrindex{#1}{#2|#3}%
8019 \else
8020 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8021 \fi
8022 \else
8023 \HyInd@org@wrindex{#1}{%
8024 #2|#3hyperindexformat{/#4}%
8025 }%
8026 \fi
8027 \fi
8028 }%
8029 \else
8030 \def\@wrindex#1{\@@wrindex#1||\}%
8031 \def\@@wrindex#1|#2|#3\{\%
8032 \if@filesw
8033 \ifx\|#2\%
8034 \protected@write\@indexfile{}{%
8035 \string\indexentry{#1|hyperpage}{\thepage}%
8036 }%
8037 \else
8038 \HyInd@@@wrindex{#1}#2\%
8039 \fi
8040 \fi
8041 \endgroup
8042 \@esphack
8043 }%
8044 \def\HyInd@@@wrindex#1#2#3\{\%
8045 \def\Hy@temp@A{#2}%
8046 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8047 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8048 \relax

```

```

8049     \protected@write\@indexfile{}{%
8050       \string\indexentry{%
8051         #1|hyperindexformat{/#2#3}%
8052       }\thepage}%
8053     }%
8054   \else
8055     \ifx\#3\%
8056       \ifx\Hy@temp@A\HyInd@ParenRight
8057         \protected@write\@indexfile{}{%
8058           \string\indexentry{#1|#2}\thepage}%
8059         }%
8060       \else
8061         \protected@write\@indexfile{}{%
8062           \string\indexentry{#1|#2hyperpage}\thepage}%
8063         }%
8064       \fi
8065     \else
8066       \protected@write\@indexfile{}{%
8067         \string\indexentry{%
8068           #1|#2hyperindexformat{/#3}%
8069         }\thepage}%
8070       }%
8071     \fi
8072   \fi
8073 }%
8074 \fi
8075 }%
8076 \fi
8077 \Hy@DisableOption{hyperindex}
8078 \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.

```
8079 \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.

```

8080 \def\hyperpage#1{%
8081   \HyInd@hyperpage#1\nohyperpage{}\@nil
8082 }
8083 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8084   \HyInd@@hyperpage{#1}%
8085   #2%
8086   \def\Hy@temp{#3}%
8087   \ifx\Hy@temp\@empty
8088   \else
8089     \tx@ReturnAfterFi{%
8090       \HyInd@hyperpage#3\@nil
8091     }%
8092   \fi
8093 }
8094 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8095 \def\@hyperpage#1--#2--#3\{%
8096   \ifx\#2\%
8097     \@commahyperpage{#1}%
8098   \else
8099     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%

```

```

8100 \fi
8101 }
8102 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8103 \def\@commahyperpage#1, #2,#3\{\%
8104 \ifx\#2\%
8105   \HyInd@pagelink{#1}%
8106 \else
8107   \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8108 \fi
8109 }

```

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

```

8110 \def\HyInd@pagelink#1{%
8111   \begingroup
8112   \toks@={}%
8113   \HyInd@removespaces#1 \@nil
8114   \endgroup
8115 }
8116 \def\HyInd@removespaces#1 #2\@nil{%
8117   \toks@=\expandafter{\the\toks@#1}%
8118   \ifx\#2\%
8119     \edef\x{\the\toks@}%
8120     \ifx\x\@empty
8121       \else
8122         \hyperlink{page.\the\toks@}{\the\toks@}%
8123       \fi
8124     \else
8125       \ltx@ReturnAfterFi{%
8126         \HyInd@removespaces#2\@nil
8127       }%
8128     \fi
8129 }

```

44 Compatibility with foiltex

```

8130 \@ifclassloaded{foils}{%
8131   \providecommand*\ext@table{lot}%
8132   \providecommand*\ext@figure{lof}%
8133 }{}

```

45 Compatibility with seminar slide package

This requires `seminar.bg2`, version 1.6 or later. Contributions by Denis Girou (`denis.girou@idris.fr`).

```

8134 \@ifclassloaded{seminar}{%
8135   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
8136 }{%
8137   \Hy@seminarslidesfalse
8138 }
8139 \@ifpackageloaded{slidesec}{%
8140   \newcommand\theHslidesection {\arabic{slidesection}}%
8141   \newcommand\theHslidesubsection{%
8142     \theHslidesection.\arabic{slidesubsection}}%
8143   }%
8144   \def\slide@heading[#1]#2{%

```



```

8145 \H@refstepcounter{slidesection}%
8146 \@addtoreset{slidesubsection}{slidesection}%
8147 \addtocontents{los}{%
8148   \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8149   {\@SCTR}{slideheading.\theslidesection}%
8150 }%
8151 \def\Hy@tempa{#2}%
8152 \ifx\Hy@tempa\@empty
8153 \else
8154 {%
8155   \edef\@currentlabel{%
8156     \csname p@slidesection\endcsname\theslidesection
8157   }%
8158   \makeslideheading{#2}%
8159 }%
8160 \fi
8161 \gdef\theslideheading{#1}%
8162 \gdef\theslidesubheading{}%
8163 \ifHy@bookmarksnumbered
8164   \def\Hy@slidetitle{\theslidesection\space #1}%
8165 \else
8166   \def\Hy@slidetitle{#1}%
8167 \fi
8168 \ifHy@hypertextnames
8169   \ifHy@naturalnames
8170     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8171     \Hy@writebookmark
8172       {\theslidesection}%
8173       {\Hy@slidetitle}%
8174       {slideheading.\theslidesection}%
8175       {1}%
8176       {toc}%
8177   \else
8178     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8179     \Hy@writebookmark
8180       {\theslidesection}%
8181       {\Hy@slidetitle}%
8182       {slideheading.\theHslidesection}%
8183       {1}%
8184       {toc}%
8185   \fi
8186 \else
8187   \Hy@GlobalStepCount\Hy@linkcounter
8188   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8189   \Hy@writebookmark
8190     {\theslidesection}%
8191     {\Hy@slidetitle}%
8192     {slideheading.\the\Hy@linkcounter}%
8193     {1}%
8194     {toc}%
8195   \fi
8196 }%
8197 \def\slide@subheading[#1]#2{%
8198   \H@refstepcounter{slidesubsection}%
8199   \addtocontents{los}{%
8200     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8201     {\@SCTR}{slideheading.\theslidesubsection}%

```

```

8202 }%
8203 \def\Hy@tempa{#2}%
8204 \ifx\Hy@tempa\@empty
8205 \else
8206 {%
8207   \edef\@currentlabel{%
8208     \csname p@slidesubsection\endcsname\theslidesubsection
8209   }%
8210   \makeslidesubheading{#2}%
8211 }%
8212 \fi
8213 \gdef\theslidesubheading{#1}%
8214 \ifHy@bookmarksnumbered
8215   \def\Hy@slidetitle{\theslidesubsection\space #1}%
8216 \else
8217   \def\Hy@slidetitle{#1}%
8218 \fi
8219 \ifHy@hypertexnames
8220   \ifHy@naturalnames
8221     \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8222     \Hy@writebookmark
8223       {\theslidesubsection}%
8224       {\Hy@slidetitle}%
8225       {slideheading.\theslidesubsection}%
8226       {2}%
8227       {toc}%
8228   \else
8229     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8230     \Hy@writebookmark
8231       {\theslidesubsection}%
8232       {\Hy@slidetitle}%
8233       {slideheading.\theHslidesubsection}%
8234       {2}%
8235       {toc}%
8236   \fi
8237 \else
8238   \Hy@GlobalStepCount\Hy@linkcounter
8239   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8240   \Hy@writebookmark
8241     {\theslidesubsection}%
8242     {\Hy@slidetitle}%
8243     {slideheading.\the\Hy@linkcounter}%
8244     {1}%
8245     {toc}%
8246   \fi
8247 }%
8248 \providecommand*\listslidenamelist{List of Slides}%
8249 \def\listofslides{%
8250 \section*{%
8251   \listslidenamelist
8252   \@mkboth{%
8253     \expandafter\MakeUppercase\listslidenamelist
8254   }{%
8255     \expandafter\MakeUppercase\listslidenamelist
8256   }%
8257 }%
8258 \def\l@slide##1##2##3##4{%

```

```

8259 \slide@undottedcline{%
8260 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8261 }{%
8262 }%
8263 \let\l@subslide\l@slide
8264 \@startlos
8265 }%
8266 \def\slide@contents{%
8267 \def\l@slide##1##2##3##4{%
8268 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8269 }%
8270 \let\l@subslide\@gobblefour
8271 \@startlos
8272 }%
8273 \def\Slide@contents{%
8274 \def\l@slide##1##2##3##4{%
8275 \ifcase\lslide@flag
8276 \message{##1 ** \the\c@slidesection}%
8277 \ifnum##1>\c@slidesection
8278 \def\lslide@flag{1}%
8279 {%
8280 \large
8281 \slide@cline{%
8282 \slidenumberline{\$ \Rightarrow \bullet$}%
8283 {\hyperlink{##4}{##2}}%
8284 }{##3}%
8285 }%
8286 \else
8287 {%
8288 \large
8289 \slide@cline{%
8290 \slidenumberline{\$ \surd \; \bullet$}%
8291 {\hyperlink{##4}{##2}}%
8292 }{##3}%
8293 }%
8294 \fi
8295 \or
8296 \def\lslide@flag{2}%
8297 {%
8298 \large
8299 \slide@cline{%
8300 \slidenumberline{\$ \bullet$}%
8301 {\hyperlink{##4}{##2}}%
8302 }{##3}%
8303 }%
8304 \or
8305 {%
8306 \large
8307 \slide@cline{%
8308 \slidenumberline{\$ \bullet$}%
8309 {\hyperlink{##4}{##2}}%
8310 }{##3}%
8311 }%
8312 \fi
8313 }%
8314 \def\l@subslide##1##2##3##4{%
8315 \ifnum\lslide@flag=1 %

```

```

8316     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8317     \fi
8318   }%
8319   \def\lslide@flag{0}%
8320   \@startlos
8321 }%
8322 }-}

```

This breaks TeX4ht, so leave it to last. Emend \@setref to put out a hypertext link as well as its normal text (which is used as an anchor). (\endinput have to be on the same line like \fi, or you have to use \expandafter before.)

```

8323 \ifHy@texht
8324   \expandafter\endinput
8325 \fi
8326 \let\real@setref\@setref
8327 \def\@setref#1#2#3{% csname, extract group, refname
8328   \ifx#1\relax
8329     \protect\G@refundefinedtrue
8330     \nfss@text{\reset@font\bfseries ??}%
8331     \@latex@warning{%
8332       Reference '#3' on page \thepage \space undefined%
8333     }%
8334   \else
8335     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8336   \fi
8337 }

```

\Hy@setref@link extracts the reference information entries, because \hyper@@link does not expand arguments for the automatic link type detection.

```

8338 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8339   \begingroup
8340   \toks0={\hyper@@link{#5}{#4}}%
8341   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8342   \edef\x{\endgroup
8343     \the\toks0 {\the\toks1 }%
8344   }%
8345   \x
8346 }
8347 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8348   \ifx#1\relax
8349     \protect\G@refundefinedtrue
8350     \nfss@text{\reset@font\bfseries ??}%
8351     \@latex@warning{%
8352       Reference '#3' on page \thepage \space undefined%
8353     }%
8354   \else
8355     \protect\hyper@@link
8356     {\expandafter\@fifthoffive#1}%
8357     {page.\expandafter\@secondoffive#1}%
8358     {\expandafter\@secondoffive#1}%
8359   \fi
8360 }
8361 </package>
8362 <*check>
8363 \checklatex
8364 \checkcommand\def\@setref#1#2#3{%
8365   \ifx#1\relax
8366     \protect\G@refundefinedtrue

```

```

8367 \nfss@text{\reset@font\bfseries ??}%
8368 \@latex@warning{%
8369   Reference '#3' on page \thepage\space undefined%
8370 }%
8371 \else
8372   \expandafter#2#1\null
8373 \fi
8374 }
8375 </check>
8376 <*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8377 \def\HyRef@StarSetRef#1{%
8378   \begingroup
8379   \Hy@safe@activestrue
8380   \edef\x{#1}%
8381   \@onelevel@sanitize\x
8382   \edef\x{\endgroup
8383     \noexpand\HyRef@@StarSetRef
8384     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8385   }%
8386   \x
8387 }
8388 \def\HyRef@@StarSetRef#1#2#3{%
8389   \ifx#1\@undefined
8390     \let#1\relax
8391   \fi
8392   \real@setref#1#3{#2}%
8393 }
8394 \def\@refstar#1{%
8395   \HyRef@StarSetRef{#1}\@firstoffive
8396 }
8397 \def\@pagerefstar#1{%
8398   \HyRef@StarSetRef{#1}\@secondoffive
8399 }
8400 \def\@namerefstar#1{%
8401   \HyRef@StarSetRef{#1}\@thirdoffive
8402 }
8403 \Hy@AtBeginDocument{%
8404   \@ifpackageloaded{varioref}{%
8405     \def\@Refstar#1{%
8406       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8407     }%
8408     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8409       \MakeUppercase#1%
8410     }%
8411     \DeclareRobustCommand*\@Ref*{%
8412       \@ifstar\@Refstar\HyRef@Ref
8413     }%
8414     \def\HyRef@Ref#1{%
8415       \hyperref[#{1}]{\Ref*{#1}}%
8416     }%
8417     \def\Vr@f#1{%
8418       \leavevmode\unskip\vref@space
8419       \hyperref[#{1}]{%
8420         \Ref*{#1}%
8421         \let\vref@space\nobreakspace

```

```

8422     \@vpageref{\unskip}{#1}%
8423   }%
8424 }%
8425 \def\vr@f#1{%
8426   \leavevmode\unskip\vref@space
8427   \begingroup
8428   \let\T@pageref\@pagerefstar
8429   \hyperref[{#1}]{%
8430     \ref*{#1}%
8431     \vpageref{\unskip}{#1}%
8432   }%
8433   \endgroup
8434 }%
8435 }{}%
8436 }
8437 \DeclareRobustCommand*\@autopageref}{%
8438   \@ifstar{%
8439     \HyRef@autopagerefname\pageref*%
8440   }\HyRef@autopageref
8441 }
8442 \def\HyRef@autopageref#1{%
8443   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8444 }
8445 \def\HyRef@autopagerefname{%
8446   \ltx@ifundefined{pageautorefname}{%
8447     \ltx@ifundefined{pagename}{%
8448       \Hy@Warning{No autoref name for 'page'}%
8449     }{%
8450       \pagename\nobreakspace
8451     }%
8452   }{}%
8453   \pageautorefname\nobreakspace
8454 }%
8455 }
8456 \DeclareRobustCommand*\@autoref}{%
8457   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8458 }
8459 \def\HyRef@autoref#1#2{%
8460   \begingroup
8461   \Hy@safe@activetrue
8462   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8463   \endgroup
8464 }
8465 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8466   \HyRef@ShowKeysRef{#2}%
8467   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8468   \edef\HyRef@thisref{%
8469     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8470   }%
8471   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8472   \Hy@safe@activesfalse
8473   #3{%
8474     \expandafter\@fifthoffive#1\@empty\@empty\@empty
8475   }{}%
8476   \expandafter\@fourthoffive#1\@empty\@empty\@empty
8477   }{}%
8478   \HyRef@currentHtag

```

```

8479 \expandafter\@firstoffive#1\@empty\@empty\@empty
8480 \null
8481 }%
8482 \else
8483 \protect\G@refundefinedtrue
8484 \nfss@text{\reset@font\bfseries ??}%
8485 \@latex@warning{%
8486 Reference '#2' on page \thepage\space undefined%
8487 }%
8488 \fi
8489 }
8490 \def\HyRef@testreftype#1.#2\{\%
8491 \ltx@ifundefined{#1autorefname}{%
8492 \ltx@ifundefined{#1name}{%
8493 \HyRef@StripStar#1\*\@nil{#1}%
8494 \ltx@ifundefined{\HyRef@name autorefname}{%
8495 \ltx@ifundefined{\HyRef@name name}{%
8496 \def\HyRef@currentHtag{}%
8497 \Hy@Warning{No autoref name for '#1'}%
8498 }{%
8499 \edef\HyRef@currentHtag{%
8500 \expandafter\noexpand\csname\HyRef@name name\endcsname
8501 \noexpand~%
8502 }%
8503 }%
8504 }{%
8505 \edef\HyRef@currentHtag{%
8506 \expandafter\noexpand
8507 \csname\HyRef@name autorefname\endcsname
8508 \noexpand~%
8509 }%
8510 }%
8511 }{%
8512 \edef\HyRef@currentHtag{%
8513 \expandafter\noexpand\csname#1name\endcsname
8514 \noexpand~%
8515 }%
8516 }%
8517 }{%
8518 \edef\HyRef@currentHtag{%
8519 \expandafter\noexpand\csname#1autorefname\endcsname
8520 \noexpand~%
8521 }%
8522 }%
8523 }
8524 \def\HyRef@StripStar#1*\#2\@nil#3{%
8525 \def\HyRef@name{#2}%
8526 \ifx\HyRef@name\HyRef@CaseStar
8527 \def\HyRef@name{#1}%
8528 \else
8529 \def\HyRef@name{#3}%
8530 \fi
8531 }
8532 \def\HyRef@CaseStar{*\\}
8533 \def\HyRef@currentHtag{}

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```
8534 \let\HyRef@ShowKeysRef@gobble
8535 \def\HyRef@ShowKeysInit{%
8536   \begingroup\expandafter\expandafter\expandafter\endgroup
8537   \expandafter\ifx\csname SK@@label\endcsname\relax
8538   \else
8539     \ifx\SK@ref\@empty
8540     \else
8541       \def\HyRef@ShowKeysRef{%
8542         \SK@\SK@@ref
8543       }%
8544     \fi
8545   \fi
8546 }
8547 \@ifpackageloaded{showkeys}{%
8548   \HyRef@ShowKeysInit
8549 }{%
8550   \Hy@AtBeginDocument{%
8551     \@ifpackageloaded{showkeys}{%
8552       \HyRef@ShowKeysInit
8553     }{}%
8554   }%
8555 }
```

Defaults for the names that `\autoref` uses.

```
8556 \providecommand*\AMSautorefname{\equationautorefname}
8557 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8558 \providecommand*\Itemautorefname{\itemautorefname}
8559 \providecommand*\itemautorefname{item}
8560 \providecommand*\equationautorefname{Equation}
8561 \providecommand*\footnoteautorefname{footnote}
8562 \providecommand*\itemautorefname{item}
8563 \providecommand*\figureautorefname{Figure}
8564 \providecommand*\tableautorefname{Table}
8565 \providecommand*\partautorefname{Part}
8566 \providecommand*\appendixautorefname{Appendix}
8567 \providecommand*\chapterautorefname{chapter}
8568 \providecommand*\sectionautorefname{section}
8569 \providecommand*\subsectionautorefname{subsection}
8570 \providecommand*\subsubsectionautorefname{subsubsection}
8571 \providecommand*\paragraphautorefname{paragraph}
8572 \providecommand*\subparagraphautorefname{subparagraph}
8573 \providecommand*\FancyVerbLineautorefname{line}
8574 \providecommand*\theoremautorefname{Theorem}
8575 \providecommand*\pageautorefname{page}
8576 \end{package}
```

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_TE_X offers `\pdfescapestring`.

```

8577 <*pdftex | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8578 \begingroup\expandafter\expandafter\expandafter\endgroup
8579 \expandafter\ifx\curname pdf@escapestring\endcurname\relax
8580 \begingroup
8581   \catcode'\|=0 %
8582   \@makeoother\| %
8583   |@firstofone{|endgroup
8584   |def|Hy@pstringdef#1#2{%
8585     |begingroup
8586     |edef~{|string~}%
8587     |xdef|Hy@gtemp{#2}%
8588     |endgroup
8589     |let#1|Hy@gtemp
8590     |@onelevel@sanitize#1%
8591     |edef#1{|expandafter|Hy@ExchangeBackslash#1|\@nil}%
8592     |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8593     |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8594   }%
8595   |def|Hy@ExchangeBackslash#1\#2|\@nil{%
8596     #1%
8597     |ifx|\#2|\| %
8598     |else
8599     \| %
8600     |ltx@ReturnAfterFi{%
8601       |Hy@ExchangeBackslash#2|\@nil
8602     }%
8603   |fi
8604 }%
8605 }%
8606 \def|Hy@ExchangeLeftParenthesis#1(#2|\@nil{%
8607   #1%
8608   \ifx\#2\| %
8609   \else
8610     \@backslashchar(%
8611     \ltx@ReturnAfterFi{%
8612       \Hy@ExchangeLeftParenthesis#2|\@nil
8613     }%
8614   \fi
8615 }%
8616 \def|Hy@ExchangeRightParenthesis#1)#2|\@nil{%
8617   #1%
8618   \ifx\#2\| %
8619   \else
8620     \@backslashchar)%
8621     \ltx@ReturnAfterFi{%
8622       \Hy@ExchangeRightParenthesis#2|\@nil
8623     }%
8624   \fi
8625 }%
8626 \else
8627 \def|Hy@pstringdef#1#2{%
8628   \begingroup
8629   \edef~{|string~}%
8630   \xdef|Hy@gtemp{\pdfescapestring{#2}}%

```

```

8631 \endgroup
8632 \let#1\Hy@gtemp
8633 }%
8634 \fi
8635 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)

```

46.2 pdfTeX

```

8636 (*pdfTeX)
8637 \providecommand*\XR@ext}{pdf}
8638 \Hy@setbreaklinks{true}
8639 \def\HyPat@ObjRef{%
8640 [0-9]*[1-9][0-9]* 0 R%
8641 }

```

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

```

8642 \let\Hy@pdfminorversion\relax
8643 \begingroup\expandafter\expandafter\expandafter\endgroup
8644 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8645 \begingroup\expandafter\expandafter\expandafter\endgroup
8646 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8647 \else
8648 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8649 \fi
8650 \else
8651 \def\Hy@pdfminorversion{\pdfminorversion}%
8652 \fi
8653 \@ifundefined{Hy@pdfminorversion}{%
8654 \PackageInfo{hyperref}{%
8655 PDF version is not set, because pdfTeX is too old (<1.10a)%
8656 }%
8657 }{%
8658 \ifHy@ocgcolorlinks
8659 \ifnum\Hy@pdfminorversion<5 %
8660 \kvsetkeys{Hyp}{pdfversion=1.5}%
8661 \fi
8662 \fi
8663 \ifHy@setpdfversion
8664 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8665 \else
8666 \Hy@pdfminorversion=\Hy@pdfversion\relax
8667 \fi
8668 \PackageInfo{hyperref}{%
8669 \expandafter\string\Hy@pdfminorversion
8670 :=\number\Hy@pdfversion\space
8671 }%
8672 \fi
8673 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8674 }
8675 \Hy@DisableOption{pdfversion}%

```

```

8676 \ifHy@ocgcolorlinks
8677 \pdf@ifdraftmode{ }{ %
8678 \immediate\pdfobj{ %
8679 <<%
8680 /Type/OCG%
8681 /Name(View)%
8682 /Usage<<%
8683 /Print<<%
8684 /PrintState/OFF%
8685 >>%
8686 /View<<%
8687 /ViewState/ON%
8688 >>%
8689 >>%
8690 >>%
8691 }%
8692 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8693 \immediate\pdfobj{ %
8694 <<%
8695 /Type/OCG%
8696 /Name(Print)%
8697 /Usage<<%
8698 /Print<<%
8699 /PrintState/ON%
8700 >>%
8701 /View<<%
8702 /ViewState/OFF%
8703 >>%
8704 >>%
8705 >>%
8706 }%
8707 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8708 \immediate\pdfobj{ %
8709 [%
8710 \OBJ@OCG@view\space\OBJ@OCG@print
8711 ]%
8712 }%
8713 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8714 \pdfcatalog{ %
8715 /OCProperties<<%
8716 /OCGs \OBJ@OCGs
8717 /D<<%
8718 /OFF[\OBJ@OCG@print]%
8719 /AS[%
8720 <<%
8721 /Event/View%
8722 /OCGs \OBJ@OCGs
8723 /Category[/View]%
8724 >>%
8725 <<%
8726 /Event/Print%
8727 /OCGs \OBJ@OCGs
8728 /Category[/Print]%
8729 >>%
8730 <<%
8731 /Event/Export%
8732 /OCGs \OBJ@OCGs

```

```

8733         /Category[/Print]%
8734         >>%
8735     1%
8736     >>%
8737     >>%
8738     }%
8739     \begingroup
8740     \edef\x{\endgroup
8741     \pdfpageresources{%
8742     /Properties<<%
8743     /OCView \OBJ@OCG@view
8744     /OCPrint \OBJ@OCG@print
8745     >>%
8746     }%
8747     }%
8748     \x
8749     }%
8750     \Hy@AtBeginDocument{%
8751     \def\Hy@colorlink#1{%
8752     \begingroup
8753     \ifHy@ocgcolorlinks
8754     \def\Hy@ocgcolor{#1}%
8755     \setbox0=\hbox\bgroup\color@begingroup
8756     \else
8757     \HyColor@UseColor#1%
8758     \fi
8759     }%
8760     \def\Hy@endcolorlink{%
8761     \ifHy@ocgcolorlinks
8762     \color@endgroup\egroup
8763     \mbox{%
8764     \pdfliteral page{/OC/OCPrint BDC}%
8765     \rlap{\copy0}%
8766     \pdfliteral page{EMC/OC/OCView BDC}%
8767     \begingroup
8768     \expandafter\HyColor@UseColor\Hy@ocgcolor
8769     \box0 %
8770     \endgroup
8771     \pdfliteral page{EMC}%
8772     }%
8773     \fi
8774     \endgroup
8775     }%
8776     }%
8777     \else
8778     \Hy@DisableOption{ocgcolorlinks}%
8779     \fi

```

First, allow for some changes and additions to pdftex syntax:

```

8780 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8781 \ifx\pdfstartlink\@undefined% less than version 14
8782 \let\pdfstartlink\pdfannotlink
8783 \let\pdfinkmargin\@tempdima
8784 \let\pdfxform\pdfform
8785 \let\pdflastxform\pdfastform
8786 \let\pdfrefxform\pdfrefform
8787 \else
8788 \pdfinkmargin1pt %

```

8789 \fi

First set up the default linking

```
8790 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```
8791 \Hy@WrapperDef\new@pdfink#1{%
8792   \ifhmode
8793     \@savs\spacefactor
8794   \fi
8795   \Hy@SaveLastskip
8796   \Hy@VerboseAnchor{#1}%
8797   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8798   \Hy@DestName\Hy@pstringDest\@pdfview
8799   \Hy@RestoreLastskip
8800   \ifhmode
8801     \spacefactor\@savs
8802   \fi
8803 }
8804 \let\pdf@endanchor\@empty
```

`\Hy@DestName` Wrap the call of `\pdfdest` name in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```
8805 \def\Hy@DestName#1#2{%
8806   \pdfdest name{#1}#2\relax
8807 }
```

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.

```
8808 \providecommand*\@pdfborder{0 0 1}
8809 \providecommand*\@pdfborderstyle{}
8810 \def\Hy@undefinedname{UNDEFINED}
8811 \def\find@pdfink#1#2{%
8812   \leavevmode
8813   \protected@edef\Hy@testname{#2}%
8814   \ifx\Hy@testname\@empty
8815     \Hy@Warning{%
8816       Empty destination name,\MessageBreak
8817       using '\Hy@undefinedname'%
8818     }%
8819   \let\Hy@testname\Hy@undefinedname
8820   \else
8821     \Hy@pstringdef\Hy@testname{%
8822       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8823     }%
8824   \fi
8825   \Hy@StartlinkName{%
8826     \ifHy@pdfa /F 4\fi
8827     \Hy@setpdfborder
8828     \ifx\@pdfhighlight\@empty
8829     \else
8830       /H\@pdfhighlight
8831     \fi
8832     \ifx\CurrentBorderColor\relax
8833     \else
8834       /C[\CurrentBorderColor]%

```

```

8835 \fi
8836 }\Hy@testname
8837 \expandafter\Hy@colorlink\csname @#1color\endcsname
8838 }
8839 \def\Hy@StartlinkName#1#2{%
8840 \pdfstartlink attr{#1}goto name{#2}\relax
8841 }
8842 \def\close@pdfink{%
8843 \Hy@endcolorlink
8844 \Hy@VerboseLinkStop
8845 \pdfendlink
8846 }
8847 \def\hyper@anchor#1{%
8848 \new@pdfink{#1}\anchor@spot\pdf@endanchor
8849 }
8850 \def\hyper@anchorstart#1{%
8851 \new@pdfink{#1}%
8852 \Hy@activeanchortrue
8853 }
8854 \def\hyper@anchorend{%
8855 \pdf@endanchor
8856 \Hy@activeanchorfalse
8857 }
8858 \def\hyper@linkstart#1#2{%
8859 \Hy@VerboseLinkStart{#1}{#2}%
8860 \ltx@ifundefined{@#1bordercolor}{%
8861 \let\CurrentBorderColor\relax
8862 }{%
8863 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8864 }%
8865 \find@pdfink{#1}{#2}%
8866 }
8867 \def\hyper@linkend{\close@pdfink}
8868 \def\hyper@link#1#2#3{%
8869 \Hy@VerboseLinkStart{#1}{#2}%
8870 \ltx@ifundefined{@#1bordercolor}{%
8871 \let\CurrentBorderColor\relax
8872 }{%
8873 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8874 }%
8875 \find@pdfink{#1}{#2}#3\Hy@xspace@end
8876 \close@pdfink
8877 }
8878 \let\CurrentBorderColor\@linkbordercolor
8879 \def\hyper@linkurl#1#2{%
8880 \begingroup
8881 \Hy@pstringdef\Hy@pstringURI{#2}%
8882 \hyper@chars
8883 \leavevmode
8884 \pdfstartlink
8885 attr{%
8886 \Hy@setpdfborder
8887 \ifx\@pdfhighlight\@empty
8888 \else
8889 /H\@pdfhighlight
8890 \fi
8891 \ifx\@urlbordercolor\relax

```

```

8892     \else
8893       /C[\@urlbordercolor]%
8894     \fi
8895   }%
8896   user{%
8897     /Subtype/Link%
8898     \ifHy@pdfa /F 4\fi
8899     /A<<%
8900     /Type/Action%
8901     /S/URI%
8902     /URI(\Hy@pstringURI)%
8903     \ifHy@href@ismap
8904     /IsMap true%
8905     \fi
8906     \Hy@href@nextactionraw
8907     >>%
8908   }%
8909   \relax
8910   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8911   \close@pdflink
8912 \endgroup
8913 }
8914 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8915   \begingroup
8916   \def\Hy@pstringF{#2}%
8917   \Hy@CleanupFile\Hy@pstringF
8918   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8919   \Hy@pstringdef\Hy@pstringD{#3}%
8920   \Hy@MakeRemoteAction
8921   \leavevmode
8922   \pdfstartlink
8923   attr{%
8924     \Hy@setpdfborder
8925     \ifx\@pdfhighlight\@empty
8926     \else
8927       /H\@pdfhighlight
8928     \fi
8929     \ifx\@filebordercolor\relax
8930     \else
8931       /C[\@filebordercolor]%
8932     \fi
8933   }%
8934   user {%
8935     /Subtype/Link%
8936     \ifHy@pdfa /F 4\fi
8937     /A<<%
8938     /F(\Hy@pstringF)%
8939     /S/GoToR.%
8940     \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}

8941 \ifx\#3\%
8942 /D[\Hy@href@page\@pdfremotestartview]%
8943 \else
8944 /D(\Hy@pstringD)%
8945 \fi
8946 \Hy@href@nextactionraw
8947 >>%
8948 }%
8949 \relax
8950 \Hy@colorlink\@filecolor#1\Hy@xspace@end
8951 \close@pdflink
8952 \endgroup
8953 }
8954 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8955 \begingroup
8956 \Hy@pstringdef\Hy@pstringF{#1}%
8957 \Hy@pstringdef\Hy@pstringP{#3}%
8958 \leavevmode
8959 \pdfstartlink
8960 attr{%
8961 \Hy@setpdfborder
8962 \ifx\@pdfhighlight\@empty
8963 \else
8964 /H\@pdfhighlight
8965 \fi
8966 \ifx\@runbordercolor\relax
8967 \else
8968 /C[\@runbordercolor]%
8969 \fi
8970 }%
8971 user {%
8972 /Subtype/Link%
8973 \ifHy@pdfa /F 4\fi
8974 /A<<%
8975 /F(\Hy@pstringF)%
8976 /S/Launch%
8977 \Hy@SetNewWindow
8978 \ifx\#3\%
8979 \else
8980 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8981 \fi
8982 \Hy@href@nextactionraw
8983 >>%
8984 }%
8985 \relax
8986 \Hy@colorlink\@runcolor#2\Hy@xspace@end
8987 \close@pdflink
8988 \endgroup
8989 }

```

\@pdfproducer

```

8990 \ifx\@pdfproducer\relax
8991 \begingroup\expandafter\expandafter\expandafter\endgroup
8992 \expandafter\ifx\csname luatexversion\endcsname\relax
8993 \def\@pdfproducer{pdfTeX}%

```



```

8994 \ifx\eTeXversion\@undefined
8995 \else
8996 \ifx\eTeXversion\relax
8997 \else
8998 \ifnum\eTeXversion>0 %
8999 \def\@pdfproducer{pdfTeX}%
9000 \fi
9001 \fi
9002 \fi
9003 \ifx\pdftexversion\@undefined
9004 \else
9005 \ifnum\pdftexversion<100 %
9006 \edef\@pdfproducer{%
9007 \@pdfproducer
9008 \the\pdftexversion.\pdftexrevision
9009 }%
9010 \else
9011 \ifnum\pdftexversion<130 %
9012 \edef\@pdfproducer{%
9013 \@pdfproducer-%
9014 \expandafter\@car\the\pdftexversion\@empty\@nil.%
9015 \expandafter\@cdr\the\pdftexversion\@empty\@nil
9016 \pdftexrevision
9017 }%
9018 \else
9019 \ifnum\pdftexversion<140 %
9020 \else
9021 \def\@pdfproducer{pdfTeX}%
9022 \fi
9023 \edef\@pdfproducer{%
9024 \@pdfproducer-%
9025 \expandafter\@car\the\pdftexversion\@empty\@nil.%
9026 \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
9027 \pdftexrevision
9028 }%
9029 \fi
9030 \fi
9031 \fi
9032 \else
9033 \begingroup
9034 \count@=\luatexversion
9035 \divide\count@ by 100 %
9036 \edef\x{\the\count@}%
9037 \count@=-\x\relax
9038 \multiply\count@ by 100 %
9039 \advance\count@ by \luatexversion
9040 \edef\x{\endgroup
9041 \def\noexpand\@pdfproducer{%
9042 LuaTeX-\x.\the\count@.\luatexrevision
9043 }%
9044 }%
9045 \x
9046 \fi
9047 \fi

```

\PDF@SetupDox

```

9048 \def\PDF@SetupDoc{%
9049 \ifx\@pdfpagescrop\@empty

```

```

9050 \else
9051 \edef\process@me{%
9052 \pdfpagesattr={%
9053 /CropBox[\@pdfpagescrop]%
9054 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9055 \else
9056 ^^J\the\pdfpagesattr
9057 \fi
9058 }%
9059 }%
9060 \process@me
9061 \fi
9062 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9063 \pdfcatalog{%
9064 /PageMode/\@pdfpagemode
9065 \ifx\@baseurl\@empty
9066 \else
9067 /URI<</Base(\Hy@pstringB)>>%
9068 \fi
9069 }%
9070 \ifx\@pdfstartpage\@empty
9071 \else
9072 \ifx\@pdfstartview\@empty
9073 \else
9074 operation goto page\@pdfstartpage{\@pdfstartview}%
9075 \fi
9076 \fi
9077 \edef\Hy@temp{%
9078 \ifHy@toolbar\else /HideToolbar true\fi
9079 \ifHy@menubar\else /HideMenubar true\fi
9080 \ifHy>windowui\else /HideWindowUI true\fi
9081 \ifHy@fitwindow /FitWindow true\fi
9082 \ifHy@centerwindow /CenterWindow true\fi
9083 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9084 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9085 \Hy@UseNameKey{Direction}\@pdfdirection
9086 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9087 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9088 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9089 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9090 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9091 \Hy@UseNameKey{Duplex}\@pdfduplex
9092 \ifx\@pdfpicktraybypdfsize\@empty
9093 \else
9094 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9095 \fi
9096 \ifx\@pdfprintpagerange\@empty
9097 \else
9098 /PrintPageRange[\@pdfprintpagerange]%
9099 \fi
9100 \ifx\@pdfnumcopies\@empty
9101 \else
9102 /NumCopies \@pdfnumcopies
9103 \fi
9104 }%
9105 \pdfcatalog{%
9106 \ifx\Hy@temp\@empty

```

```

9107 \else
9108 /ViewerPreferences<<\Hy@temp>>%
9109 \fi
9110 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9111 \ifx\@pdflang\@empty
9112 \else
9113 /Lang(\@pdflang)%
9114 \fi
9115 }%
9116 }

```

\PDF@FinishDoc

```

9117 \def\PDF@FinishDoc{%
9118 \pdf@ifdraftmode{}{%
9119 \Hy@UseMaketitleInfos
9120 \HyInfo@GenerateAddons
9121 \pdfinfo{%
9122 /Author(\@pdfauthor)%
9123 /Title(\@pdftitle)%
9124 /Subject(\@pdfsubject)%
9125 /Creator(\@pdfcreator)%
9126 \ifx\@pdfcreationdate\@empty
9127 \else
9128 /CreationDate(\@pdfcreationdate)%
9129 \fi
9130 \ifx\@pdfmoddate\@empty
9131 \else
9132 /ModDate(\@pdfmoddate)%
9133 \fi
9134 \ifx\@pdfproducer\relax
9135 \else
9136 /Producer(\@pdfproducer)%
9137 \fi
9138 /Keywords(\@pdfkeywords)%
9139 \ifx\@pdftrapped\@empty
9140 \else
9141 /Trapped/\@pdftrapped
9142 \fi
9143 \HyInfo@Addons
9144 }%
9145 }%
9146 \Hy@DisableOption{pdfauthor}%
9147 \Hy@DisableOption{pdftitle}%
9148 \Hy@DisableOption{pdfsubject}%
9149 \Hy@DisableOption{pdfcreator}%
9150 \Hy@DisableOption{pdfcreationdate}%
9151 \Hy@DisableOption{pdfmoddate}%
9152 \Hy@DisableOption{pdfproducer}%
9153 \Hy@DisableOption{pdfkeywords}%
9154 \Hy@DisableOption{pdftrapped}%
9155 \Hy@DisableOption{pdfinfo}%
9156 }

```

\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.

```

9157 \def\hyper@pagetransition{%

```

```

9158 \ifx\@pdfpagetransition\relax
9159 \else
9160 \expandafter\Hy@RemoveTransPageAttr
9161 \the\pdfpageattr^^J/Trans{}}>>\END
9162 \ifx\@pdfpagetransition\@empty
9163 \else
9164 \edef\@processme{%
9165 \global\pdfpageattr{%
9166 \the\pdfpageattr
9167 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9168 }%
9169 }%
9170 \@processme
9171 \fi
9172 \fi
9173 }

```

`\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.

```

9174 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9175 \ifx\#2\%
9176 \global\pdfpageattr{#1}%
9177 \else
9178 \Hy@RemoveTransPageAttr#1#4\END
9179 \fi
9180 }

```

`\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`.

```

9181 \def\hyper@pageduration{%
9182 \ifx\@pdfpageduration\relax
9183 \else
9184 \expandafter
9185 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{}} \END
9186 \ifx\@pdfpageduration\@empty
9187 \else
9188 \edef\@processme{%
9189 \global\pdfpageattr{%
9190 \the\pdfpageattr
9191 ^^J/Dur \@pdfpageduration\space
9192 }%
9193 }%
9194 \@processme
9195 \fi
9196 \fi
9197 }

```

`\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.

```

9198 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9199 \ifx\#2\%

```

```

9200 \global\pdfpageattr{#1}%
9201 \else
9202 \Hy@RemoveDurPageAttr#1#4\END
9203 \fi
9204 }

```

`\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).

```

9205 \def\hyper@pagehidden{%
9206 \ifHy@useHidKey
9207 \expandafter
9208 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9209 \ifHy@pdfpagehidden
9210 \edef\@processme{%
9211 \global\pdfpageattr{%
9212 \the\pdfpageattr
9213 ^^J/Hid true % SPACE
9214 }%
9215 }%
9216 \@processme
9217 \fi
9218 \fi
9219 }

```

`\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.

```

9220 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9221 \ifx\#2\%
9222 \global\pdfpageattr{#1}%
9223 \else
9224 \Hy@RemoveHidPageAttr#1#4\END
9225 \fi
9226 }

9227 \pdf@ifdraftmode{ }{%
9228 \g@addto@macro\Hy@EveryPageHook{%
9229 \hyper@pagetransition
9230 \hyper@pageduration
9231 \hyper@pagehidden
9232 }%
9233 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9234 </pdfTeX>
9235 <*pdfTeX | xetex>
9236 \Hy@AtBeginDocument{%
9237 \ifHy@setpagesize
9238 \expandafter\@firstofone
9239 \else
9240 \expandafter\@gobble
9241 \fi
9242 }%
9243 \@ifclassloaded{seminar}{%

```

```

9244 <*pdftex>
9245   \setlength{\pdfhorigin}{1truein}%
9246   \setlength{\pdfvorigin}{1truein}%
9247 </pdftex>
9248   \ifportrait
9249     \ifdim\paperwidth=\z@
9250     \else
9251       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9252     \fi
9253     \ifdim\paperheight=\z@
9254     \else
9255       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9256     \fi
9257   \else
9258     \ifdim\paperheight=\z@
9259     \else
9260       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9261     \fi
9262     \ifdim\paperwidth=\z@
9263     \else
9264       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9265     \fi
9266   \fi
9267 }{%
9268   \ltx@ifundefined{stockwidth}{%
9269     \ifdim\paperwidth>\z@
9270     \setlength{\pdfpagewidth}{\paperwidth}%
9271     \fi
9272     \ifdim\paperheight>\z@
9273     \setlength{\pdfpageheight}{\paperheight}%
9274     \fi
9275   }{%
9276     \ifdim\stockwidth>\z@
9277     \setlength{\pdfpagewidth}{\stockwidth}%
9278     \fi
9279     \ifdim\stockheight>\z@
9280     \setlength{\pdfpageheight}{\stockheight}%
9281     \fi
9282   }%
9283 }%
9284 }%
9285 \Hy@DisableOption{setpagesize}%
9286 }
9287 </pdftex | xetex>
9288 <*pdftex>
9289 \def\Acrobatmenu#1#2{%
9290 \Hy@Acrobatmenu{#1}{#2}{%
9291   \pdfstartlink
9292   attr{%
9293     \Hy@setpdfborder
9294     \ifx\@pdfhighlight\@empty
9295     \else
9296       /H\@pdfhighlight
9297     \fi
9298     \ifx\@menubordercolor\relax
9299     \else
9300       /C[\@menubordercolor]%

```

```

9301     \fi
9302   }%
9303   user{%
9304     /Subtype/Link%
9305     \ifHy@pdfa /F 4\fi
9306     /A<<%
9307     /S/Named%
9308     /N/#1%
9309     \Hy@href@nextactionraw
9310     >>%
9311   }%
9312   \relax
9313   \Hy@colorlink\@menucolor#2%
9314   \close@pdflink
9315 }%
9316 }

```

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`.

```

9317 \def\Hy@FixNotFirstPage{%
9318   \gdef\Hy@FixNotFirstPage{%
9319     \setbox\AtBeginShipoutBox=\hbox{%
9320       \copy\AtBeginShipoutBox
9321     }%
9322   }%
9323 }
9324 \AtBeginShipout{\Hy@FixNotFirstPage}
9325 \</pdfTeX>

```

46.3 hypertex

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

href: `html:`

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 T_EX file — the T_EX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the *name* command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9326 (*hypertext)
9327 \providecommand*{\XR@ext}{dvi}
9328 \let\PDF@FinishDoc\ltx@empty
9329 \def\PDF@SetupDoc{%
9330   \ifx\@baseurl\@empty
9331   \else
9332     \special{html:<base href="\@baseurl">}%
9333   \fi
9334 }
9335 \Hy@WrapperDef\hyper@anchor#1{%
9336   \Hy@SaveLastskip
9337   \Hy@VerboseAnchor{#1}%
9338   \begingroup
9339     \let\protect=\string
9340     \hyper@chars
9341     \special{html:<a name=%
9342       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9343   \endgroup
9344   \Hy@activeanchortrue
9345   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9346   \special{html:</a>}%
9347   \Hy@activeanchorfalse
9348   \Hy@RestoreLastskip
9349 }
9350 \Hy@WrapperDef\hyper@anchorstart#1{%
9351   \Hy@SaveLastskip
9352   \Hy@VerboseAnchor{#1}%
9353   \begingroup
9354     \hyper@chars
9355     \special{html:<a name=%
9356       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9357   \endgroup
9358   \Hy@activeanchortrue
9359 }
9360 \def\hyper@anchorend{%
9361   \special{html:</a>}%
9362   \Hy@activeanchorfalse
9363   \Hy@RestoreLastskip
9364 }
9365 \def\@urltype{url}
9366 \def\hyper@linkstart#1#2{%
9367   \Hy@VerboseLinkStart{#1}{#2}%
9368   \expandafter\Hy@colorlink\csname @#1color\endcsname
9369   \def\Hy@tempa{#1}%
9370   \ifx\Hy@tempa\@urltype

```



```

9371 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9372 \else
9373 \begingroup
9374 \hyper@chars
9375 \special{html:<a href=%
9376 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9377 \endgroup
9378 \fi
9379 }
9380 \def\hyper@linkend{%
9381 \special{html:</a>}%
9382 \Hy@endcolorlink
9383 }
9384 \def\hyper@linkfile#1#2#3{%
9385 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\else\##3\fi}%
9386 }
9387 \def\hyper@linkurl#1#2{%

```

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.

```

9388 \leavevmode
9389 \ifHy@raiselinks
9390 \Hy@SaveSpaceFactor
9391 \Hy@SaveSavedSpaceFactor
9392 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9393 \Hy@RestoreSavedSpaceFactor
9394 \@linkdim\dp\@tempboxa
9395 \lower\@linkdim\hbox{%
9396 \hyper@chars
9397 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9398 }%
9399 \Hy@colorlink\@urlcolor
9400 \Hy@RestoreSpaceFactor
9401 #1%
9402 \Hy@SaveSpaceFactor
9403 \@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).

```

9404 \advance\@linkdim by -6.5\p@
9405 \raise\@linkdim\hbox{\special{html:</a>}}%
9406 \Hy@endcolorlink
9407 \Hy@RestoreSpaceFactor
9408 \else
9409 \begingroup
9410 \hyper@chars
9411 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9412 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9413 \special{html:</a>}%
9414 \Hy@endcolorlink
9415 \endgroup
9416 \fi
9417 }

```

Very poor implementation of `\hyper@link` without considering `#1`.

```

9418 \def\hyper@link#1#2#3{%
9419 \Hy@VerboseLinkStart{#1}{#2}%

```

```

9420 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9421 }
9422 \def\hyper@image#1#2{%
9423 \begingroup
9424 \hyper@chars
9425 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9426 \endgroup
9427 }
9428 </hypertex>
9429 <*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 10000000sp wide by \baselineskip high is used.

```

9430 \providecommand*\XR@ext}{dvi}
9431 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9432 \Hy@WrapperDef\hyper@anchor#1{%
9433 \Hy@SaveLastskip
9434 \Hy@VerboseAnchor{#1}%
9435 \begingroup
9436 \let\protect=\string
9437 \special{mark: #1}%
9438 \endgroup
9439 \Hy@activeanchortrue
9440 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9441 \Hy@activeanchorfalse
9442 \Hy@RestoreLastskip
9443 }
9444 \Hy@WrapperDef\hyper@anchorstart#1{%
9445 \Hy@SaveLastskip
9446 \Hy@VerboseAnchor{#1}%
9447 \special{mark: #1}%
9448 \Hy@activeanchortrue
9449 }
9450 \def\hyper@anchorend{%
9451 \Hy@activeanchorfalse
9452 \Hy@RestoreLastskip
9453 }
9454 \def\hyper@linkstart#1#2{%
9455 \Hy@VerboseLinkStart{#1}{#2}%
9456 \expandafter\Hy@colorlink\csname @#1color\endcsname
9457 \special{button: %
9458 10000000 %
9459 \number\baselineskip\space
9460 #2%
9461 }%
9462 }

```

```

9463 \def\hyper@linkend{%
9464 \Hy@endcolorlink
9465 }
9466 \def\hyper@link#1#2#3{%
9467 \Hy@VerboseLinkStart{#1}{#2}%
9468 \leavevmode
9469 \ifHy@raiselinks
9470 \Hy@SaveSpaceFactor
9471 \Hy@SaveSavedSpaceFactor
9472 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9473 \Hy@RestoreSavedSpaceFactor
9474 \@linkdim\dp\@tempboxa
9475 \lower\@linkdim\hbox{%
9476 \special{button: %
9477 \number\wd\@tempboxa\space
9478 \number\ht\@tempboxa\space
9479 #2%
9480 }%
9481 \expandafter\Hy@colorlink\csname @#1color\endcsname
9482 \Hy@RestoreSpaceFactor
9483 #3\Hy@xspace@end
9484 \Hy@SaveSpaceFactor
9485 \Hy@endcolorlink
9486 }%
9487 \@linkdim\ht\@tempboxa
9488 \advance\@linkdim by -6.5\p@
9489 \raise\@linkdim\hbox{}%
9490 \Hy@RestoreSpaceFactor
9491 \else
9492 \special{button: %
9493 \number\wd\@tempboxa\space
9494 \number\ht\@tempboxa\space
9495 #2%
9496 }%
9497 \expandafter\Hy@colorlink\csname @#1color\endcsname
9498 #3\Hy@xspace@end
9499 \Hy@endcolorlink
9500 \fi
9501 }
9502 \def\hyper@linkurl#1#2{%
9503 \begingroup
9504 \hyper@chars
9505 \leavevmode
9506 \ifHy@raiselinks
9507 \Hy@SaveSpaceFactor
9508 \Hy@SaveSavedSpaceFactor
9509 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9510 \Hy@RestoreSavedSpaceFactor
9511 \@linkdim\dp\@tempboxa
9512 \lower\@linkdim\hbox{%
9513 \special{button: %
9514 \number\wd\@tempboxa\space
9515 \number\ht\@tempboxa\space
9516 launch: \wwwbrowser\space
9517 #2%
9518 }%
9519 \Hy@colorlink\@urlcolor

```

```

9520     \Hy@RestoreSpaceFactor
9521     #1\Hy@xspace@end
9522     \Hy@SaveSpaceFactor
9523     \Hy@endcolorlink
9524   }%
9525   \@linkdim\ht\@tempboxa
9526   \advance\@linkdim by -6.5\p@
9527   \raise\@linkdim\hbox{}%
9528   \Hy@RestoreSpaceFactor
9529 \else
9530 \special{button: %
9531   \number\wd\@tempboxa\space
9532   \number\ht\@tempboxa\space
9533   launch: \wwwbrowser\space
9534   #2%
9535 }%
9536 \Hy@colorlink\@urlcolor
9537   #1\Hy@xspace@end
9538   \Hy@endcolorlink
9539 \fi
9540 \endgroup
9541 }
9542 \def\hyper@linkfile#1#2#3{%
9543 \begingroup
9544 \hyper@chars
9545 \leavevmode
9546 \ifHy@raiselinks
9547   \Hy@SaveSpaceFactor
9548   \Hy@SaveSavedSpaceFactor
9549   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9550   \Hy@RestoreSavedSpaceFactor
9551   \@linkdim\dp\@tempboxa
9552   \lower\@linkdim\hbox{%
9553     \special{button: %
9554       \number\wd\@tempboxa\space
9555       \number\ht\@tempboxa\space
9556       #3,%
9557       file: #2%
9558     }%
9559     \Hy@colorlink\@filecolor
9560     \Hy@RestoreSpaceFactor
9561     #1\Hy@xspace@end
9562     \Hy@SaveSpaceFactor
9563     \Hy@endcolorlink
9564   }%
9565   \@linkdim\ht\@tempboxa
9566   \advance\@linkdim by -6.5\p@
9567   \raise\@linkdim\hbox{}%
9568   \Hy@RestoreSpaceFactor
9569 \else
9570 \special{button: %
9571   \number\wd\@tempboxa\space
9572   \number\ht\@tempboxa\space
9573   #3,%
9574   file: #2%
9575 }%
9576 \Hy@colorlink\@filecolor

```

```

9577      #1\Hy@xspace@end
9578      \Hy@endcolorlink
9579      \fi
9580 \endgroup
9581 }
9582 \ifx\@pdfproducer\relax
9583 \def\@pdfproducer{dviwindo + Distiller}%
9584 \fi
9585 \HyInfo@AddonUnsupportedtrue
9586 \def\PDF@FinishDoc{%
9587 \Hy@UseMaketitleInfos
9588 \HyInfo@TrappedUnsupported
9589 \special{PDF: Keywords \@pdfkeywords}%
9590 \special{PDF: Title \@pdftitle}%
9591 \special{PDF: Creator \@pdfcreator}%
9592 \ifx\@pdfcreationdate\@empty
9593 \else
9594 \special{PDF: CreationDate \@pdfcreationdate}%
9595 \fi
9596 \ifx\@pdfmoddate\@empty
9597 \else
9598 \special{PDF: ModDate \@pdfmoddate}%
9599 \fi
9600 \special{PDF: Author \@pdfauthor}%
9601 \ifx\@pdfproducer\relax
9602 \else
9603 \special{PDF: Producer \@pdfproducer}%
9604 \fi
9605 \special{PDF: Subject \@pdfsubject}%
9606 \Hy@DisableOption{pdfauthor}%
9607 \Hy@DisableOption{pdftitle}%
9608 \Hy@DisableOption{pdfsubject}%
9609 \Hy@DisableOption{pdfcreator}%
9610 \Hy@DisableOption{pdfcreationdate}%
9611 \Hy@DisableOption{pdfmoddate}%
9612 \Hy@DisableOption{pdfproducer}%
9613 \Hy@DisableOption{pdfkeywords}%
9614 \Hy@DisableOption{pdftrapped}%
9615 \Hy@DisableOption{pdfinfo}%
9616 }
9617 \def\PDF@SetupDoc{%
9618 \ifx\@baseurl\@empty
9619 \else
9620 \special{PDF: Base \@baseurl}%
9621 \fi
9622 \ifx\@pdfpagescrop\@empty\else
9623 \special{PDF: BBox \@pdfpagescrop}%
9624 \fi
9625 \def\Hy@temp{}%
9626 \ifx\@pdfstartpage\@empty
9627 \else
9628 \ifx\@pdfstartview\@empty
9629 \else
9630 \edef\Hy@temp{%
9631     ,Page=\@pdfstartpage
9632     ,View=\@pdfstartview
9633     }%

```

```

9634 \fi
9635 \fi
9636 \edef\Hy@temp{%
9637 \noexpand\pdfmark{%
9638 pdfmark=/DOCVIEW,%
9639 PageMode=/\@pdfpagemode
9640 \Hy@temp
9641 }%
9642 }%
9643 \Hy@temp
9644 \ifx\@pdfpagescrop\@empty
9645 \else
9646 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9647 \fi
9648 \edef\Hy@temp{%
9649 \ifHy@toolbar\else /HideToolbar true\fi
9650 \ifHy@menubar\else /HideMenubar true\fi
9651 \ifHy>windowui\else /HideWindowUI true\fi
9652 \ifHy@fitwindow /FitWindow true\fi
9653 \ifHy@centerwindow /CenterWindow true\fi
9654 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9655 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9656 \Hy@UseNameKey{Direction}\@pdfdirection
9657 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9658 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9659 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9660 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9661 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9662 \Hy@UseNameKey{Duplex}\@pdfduplex
9663 \ifx\@pdfpicktraybypdfsize\@empty
9664 \else
9665 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9666 \fi
9667 \ifx\@pdfprintpagerange\@empty
9668 \else
9669 /PrintPageRange\@pdfprintpagerange}%
9670 \fi
9671 \ifx\@pdfnumcopies\@empty
9672 \else
9673 /NumCopies \@pdfnumcopies
9674 \fi
9675 }%
9676 \pdfmark{pdfmark=/PUT,%
9677 Raw={%
9678 \string{Catalog\string}<<%
9679 \ifx\Hy@temp\@empty
9680 \else
9681 /ViewerPreferences<<\Hy@temp>>%
9682 \fi
9683 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9684 \ifx\@pdflang\@empty
9685 \else
9686 /Lang(\@pdflang)%
9687 \fi
9688 >>%
9689 }%
9690 }%

```

```

9691 }
9692 </dviwindo>
9693 <*dviPDFm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9694 \providecommand*{\XR@ext}{pdf}
9695 \Hy@setbreaklinks{true}
9696 \def\HyPat@ObjRef{%
9697   @[- ]+%
9698 }
9699 \newsavebox{\pdfm@box}
9700 \def\@pdfm@mark#1{\special{pdf:#1}}
9701 \Hy@WrapperDef\@pdfm@dest#1{%
9702   \Hy@SaveLastskip
9703   \Hy@VerboseAnchor{#1}%
9704   \begingroup
9705   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9706   \def\x{XYZ}%
9707   \ifx\x\@pdfview
9708     \def\x{XYZ @xpos @ypos null}%
9709   \else
9710     \def\x{FitH}%
9711     \ifx\x\@pdfview
9712       \def\x{FitH @ypos}%
9713     \else
9714       \def\x{FitBH}%
9715       \ifx\x\@pdfview
9716         \def\x{FitBH @ypos}%
9717       \else
9718         \def\x{FitV}%
9719         \ifx\x\@pdfview
9720           \def\x{FitV @xpos}%
9721         \else
9722           \def\x{FitBV}%
9723           \ifx\x\@pdfview
9724             \def\x{FitBV @xpos}%
9725           \else
9726             \def\x{Fit}%
9727             \ifx\x\@pdfview
9728               \let\x\@pdfview
9729             \else
9730               \def\x{FitB}%
9731               \ifx\x\@pdfview
9732                 \let\x\@pdfview
9733               \else
9734                 \def\x{FitR}%
9735                 \ifx\x\@pdfview
9736                   \Hy@Warning{'pdfview=FitR' is not supported}%
9737                   \def\x{XYZ @xpos @ypos null}%
9738                 \else
9739                   \@onelevel@sanitize\@pdfview
9740                   \Hy@Warning{%
9741                     Unknown value '\@pdfview' for pdfview%
9742                   }%
9743                   \def\x{XYZ @xpos @ypos null}%

```

```

9744         \fi
9745         \fi
9746     \fi
9747     \fi
9748     \fi
9749     \fi
9750     \fi
9751     \fi
9752     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9753 \endgroup
9754 \Hy@RestoreLastskip
9755 }
9756 \providecommand*\@pdfview{XYZ}
9757 \providecommand*\@pdfborder{0 0 1}
9758 \providecommand*\@pdfborderstyle{}
9759 \def\hyper@anchor#1{%
9760     \@pdfm@dest{#1}%
9761 }
9762 \def\hyper@anchorstart#1{%
9763     \Hy@activeanchortrue
9764     \@pdfm@dest{#1}%
9765 }
9766 \def\hyper@anchorend{%
9767     \Hy@activeanchorfalse
9768 }
9769 \newcounter{Hy@AnnotLevel}
9770 \ifHy@ocgcolorlinks
9771     \def\OBJ@OCG@view{@OCG@view}%
9772     \@pdfm@mark{%
9773     obj \OBJ@OCG@view <<%
9774         /Type/OCG%
9775         /Name(View)%
9776         /Usage<<%
9777         /Print<<%
9778         /PrintState/OFF%
9779         >>%
9780         /View<<%
9781         /ViewState/ON%
9782         >>%
9783         >>%
9784         >>%
9785     }%
9786     \@pdfm@mark{close \OBJ@OCG@view}%
9787     \def\OBJ@OCG@print{@OCG@print}%
9788     \@pdfm@mark{%
9789     obj \OBJ@OCG@print <<%
9790         /Type/OCG%
9791         /Name(Print)%
9792         /Usage<<%
9793         /Print<<%
9794         /PrintState/ON%
9795         >>%
9796         /View<<%
9797         /ViewState/OFF%
9798         >>%
9799         >>%
9800         >>%

```



```

9801 }%
9802 \@pdfm@mark{close \OBJ@OCG@print}%
9803 \def\OBJ@OCGs{@OCGs}%
9804 \@pdfm@mark{%
9805   obj \OBJ@OCGs [%
9806     \OBJ@OCG@view\space\OBJ@OCG@print
9807   ]%
9808 }%
9809 \@pdfm@mark{close \OBJ@OCGs}%
9810 \@pdfm@mark{%
9811   put @catalog <<%
9812     /OCProperties<<%
9813     /OCGs \OBJ@OCGs
9814     /D<<%
9815     /OFF[\OBJ@OCG@print]%
9816     /AS[%
9817       <<%
9818         /Event/View%
9819         /OCGs \OBJ@OCGs
9820         /Category[/View]%
9821       >>%
9822       <<%
9823         /Event/Print%
9824         /OCGs \OBJ@OCGs
9825         /Category[/Print]%
9826       >>%
9827       <<%
9828         /Event/Export%
9829         /OCGs \OBJ@OCGs
9830         /Category[/Print]%
9831       >>%
9832     ]%
9833     >>%
9834     >>%
9835     >>%
9836 }%
9837 \AtBeginShipout{%
9838   \setbox\AtBeginShipoutBox=\hbox{%
9839     \copy\AtBeginShipoutBox
9840     \@pdfm@mark{%
9841       put @resources <<%
9842         /Properties<<%
9843         /OCView \OBJ@OCG@view
9844         /OCPrint \OBJ@OCG@print
9845       >>%
9846       >>%
9847     }%
9848   }%
9849 }%
9850 \Hy@AtBeginDocument{%
9851   \def\Hy@colorlink#1{%
9852     \begingroup
9853     \ifHy@ocgcolorlinks
9854       \def\Hy@ocgcolor{#1}%
9855       \setbox0=\hbox\bgroup\color@begingroup
9856     \else
9857       \HyColor@UseColor#1%

```

```

9858     \fi
9859   }%
9860 \def\Hy@endcolorlink{%
9861   \ifHy@ocgcolorlinks
9862     \color@endgroup\egroup
9863     \mbox{%
9864       \@pdfm@mark{content /OC/OCPrint BDC}%
9865       \rlap{\copy0}%
9866       \@pdfm@mark{content EMC/OC/OCView BDC}%
9867     \begingroup
9868       \expandafter\HyColor@UseColor\Hy@ocgcolor
9869     \box0 %
9870     \endgroup
9871     \@pdfm@mark{content EMC}%
9872   }%
9873   \fi
9874 \endgroup
9875 }%
9876 }%
9877 \else
9878 \Hy@DisableOption{ocgcolorlinks}%
9879 \fi

9880 \def\Hy@BeginAnnot#1{%
9881   \stepcounter{Hy@AnnotLevel}%
9882   \ifnum\value{Hy@AnnotLevel}=\@ne
9883     #1%
9884   \fi
9885 }
9886 \def\Hy@EndAnnot{%
9887   \ifnum\value{Hy@AnnotLevel}=\@ne
9888     \Hy@endcolorlink
9889     \@pdfm@mark{eann}%
9890   \fi
9891   \addtocounter{Hy@AnnotLevel}\m@ne
9892 }

9893 \def\Hy@undefinedname{UNDEFINED}
9894 \def\hyper@linkstart#1#2{%
9895   \Hy@VerboseLinkStart{#1}{#2}%
9896   \leavevmode
9897   \Hy@BeginAnnot{%
9898     \protected@edef\Hy@testname{#2}%
9899     \ifx\Hy@testname\@empty
9900       \Hy@Warning{%
9901         Empty destination name,\MessageBreak
9902         using '\Hy@undefinedname'%
9903       }%
9904     \let\Hy@testname\Hy@undefinedname
9905   \else
9906     \Hy@pstringdef\Hy@testname{%
9907       \expandafter\HyperDestNameFilter\expandafter{%
9908         \Hy@testname
9909       }%
9910     }%
9911   \fi
9912   \@pdfm@mark{%
9913     bann<<%
9914     /Type/Annot%

```

```

9915 /Subtype/Link%
9916 \ifHy@pdfa /F 4\fi
9917 \Hy@setpdfborder
9918 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9919 \else
9920 /C[\csname @#1bordercolor\endcsname]%
9921 \fi
9922 /A<<%
9923 /S/GoTo%
9924 /D(\Hy@testname)%
9925 \Hy@href@nextactionraw
9926 >>%
9927 >>%
9928 }%
9929 \expandafter\Hy@colorlink\csname @#1color\endcsname
9930 }%
9931 }
9932 \def\hyper@linkend{\Hy@EndAnnot}%
9933 \def\hyper@link#1#2#3{%
9934 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9935 }
9936 \def\hyper@linkfile#1#2#3{%
9937 \leavevmode
9938 \Hy@BeginAnnot{%
9939 \def\Hy@pstringF{#2}%
9940 \Hy@CleanupFile\Hy@pstringF
9941 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9942 \Hy@pstringdef\Hy@pstringD{#3}%
9943 \Hy@MakeRemoteAction
9944 \@pdfm@mark{%
9945 bann<<%
9946 /Type/Annot%
9947 /Subtype/Link%
9948 \ifHy@pdfa /F 4\fi
9949 \Hy@setpdfborder
9950 \ifx\@filebordercolor\relax
9951 \else
9952 /C[\@filebordercolor]%
9953 \fi
9954 /A<<%
9955 /S/GoToR%
9956 /F(\Hy@pstringF)%
9957 /D%
9958 \ifx\#3\%
9959 [\Hy@href@page\@pdfremotestartview]%
9960 \else
9961 (\Hy@pstringD)%
9962 \fi
9963 \Hy@SetNewWindow
9964 \Hy@href@nextactionraw
9965 >>%
9966 >>%
9967 }%
9968 \Hy@colorlink\@filecolor
9969 }%
9970 #1\Hy@xspace@end
9971 \Hy@EndAnnot

```

```

9972 }
9973 \def\hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9974 \leavevmode
9975 \Hy@BeginAnnot{%
9976 \Hy@pstringdef\Hy@pstringF{#1}%
9977 \Hy@pstringdef\Hy@pstringP{#3}%
9978 \@pdfm@mark{%
9979 bann<<%
9980 /Type/Annot%
9981 /Subtype/Link%
9982 \ifHy@pdfa /F 4\fi
9983 \Hy@setpdfborder
9984 \ifx\@runbordercolor\relax
9985 \else
9986 /C[\@runbordercolor]%
9987 \fi
9988 /A<<%
9989 /F(\Hy@pstringF)%
9990 /S/Launch%
9991 \Hy@SetNewWindow
9992 \ifx\|#3\|%
9993 \else
9994 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9995 \fi
9996 \Hy@href@nextactionraw
9997 >>%
9998 >>%
9999 }%
10000 \Hy@colorlink\@runcolor
10001 }%
10002 #2\Hy@xspace@end
10003 \Hy@endAnnot
10004 }
10005 \def\hyper@linkurl#1#2{%
10006 \leavevmode
10007 \Hy@BeginAnnot{%
10008 \Hy@pstringdef\Hy@pstringURI{#2}%
10009 \@pdfm@mark{%
10010 bann<<%
10011 /Type/Annot%
10012 /Subtype/Link%
10013 \ifHy@pdfa /F 4\fi
10014 \Hy@setpdfborder
10015 \ifx\@urlbordercolor\relax
10016 \else
10017 /C[\@urlbordercolor]%
10018 \fi
10019 /A<<%
10020 /S/URI%
10021 /URI(\Hy@pstringURI)%
10022 \ifHy@href@ismap
10023 /IsMap true%
10024 \fi
10025 \Hy@href@nextactionraw
10026 >>%
10027 >>%
10028 }%

```

```

10029 \Hy@colorlink \@urlcolor
10030 }%
10031 #1\Hy@xspace@end
10032 \Hy@endAnnot
10033 }
10034 \def\Acrobatmenu#1#2{%
10035 \Hy@Acrobatmenu{#1}{#2}{%
10036 \Hy@BeginAnnot{%
10037 \@pdfm@mark{%
10038 bann<<%
10039 /Type/Annot%
10040 /Subtype/Link%
10041 \ifHy@pdfa /F 4\fi
10042 /A<<%
10043 /S/Named%
10044 /N/#1%
10045 \Hy@href@nextactionraw
10046 >>%
10047 \Hy@setpdfborder
10048 \ifx\@menubordercolor\relax
10049 \relax
10050 /C[\@menubordercolor]%
10051 \fi
10052 >>%
10053 }%
10054 \Hy@colorlink \@menucolor
10055 }%
10056 #2\Hy@xspace@end
10057 \Hy@endAnnot
10058 }%
10059 }
10060 \ifx\@pdfproducer\relax
10061 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10062 \begingroup\expandafter\expandafter\expandafter\endgroup
10063 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10064 \else
10065 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10066 \fi
10067 \fi
10068 \def\PDF@FinishDoc{%
10069 \Hy@UseMaketitleInfos
10070 \Hy@Info@GenerateAddons
10071 \@pdfm@mark{%
10072 docinfo<<%
10073 /Title(\@pdftitle)%
10074 /Subject(\@pdfsubject)%
10075 /Creator(\@pdfcreator)%
10076 \ifx\@pdfcreationdate\@empty
10077 \else
10078 /CreationDate(\@pdfcreationdate)%
10079 \fi
10080 \ifx\@pdfmoddate\@empty
10081 \else
10082 /ModDate(\@pdfmoddate)%
10083 \fi
10084 /Author(\@pdfauthor)%

```

```

10085 \ifx\@pdfproducer\relax
10086 \else
10087 /Producer(\@pdfproducer)%
10088 \fi
10089 /Keywords(\@pdfkeywords)%
10090 \ifx\@pdftrapped\@empty
10091 \else
10092 /Trapped/\@pdftrapped
10093 \fi
10094 \HyInfo@Addons
10095 >>%
10096 }%
10097 \Hy@DisableOption{pdfauthor}%
10098 \Hy@DisableOption{pdftitle}%
10099 \Hy@DisableOption{pdfsubject}%
10100 \Hy@DisableOption{pdfcreator}%
10101 \Hy@DisableOption{pdfcreationdate}%
10102 \Hy@DisableOption{pdfmoddate}%
10103 \Hy@DisableOption{pdfproducer}%
10104 \Hy@DisableOption{pdfkeywords}%
10105 \Hy@DisableOption{pdftrapped}%
10106 \Hy@DisableOption{pdfinfo}%
10107 }

10108 \def\PDF@SetupDoc{%
10109 \edef\Hy@temp{%
10110 \ifHy@toolbar\else /HideToolbar true\fi
10111 \ifHy@menubar\else /HideMenubar true\fi
10112 \ifHy>windowui\else /HideWindowUI true\fi
10113 \ifHy@fitwindow /FitWindow true\fi
10114 \ifHy@centerwindow /CenterWindow true\fi
10115 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10116 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10117 \Hy@UseNameKey{Direction}\@pdfdirection
10118 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10119 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10120 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10121 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10122 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10123 \Hy@UseNameKey{Duplex}\@pdfduplex
10124 \ifx\@pdfpicktraybypdfsize\@empty
10125 \else
10126 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10127 \fi
10128 \ifx\@pdfprintpagerange\@empty
10129 \else
10130 /PrintPageRange[\@pdfprintpagerange]%
10131 \fi
10132 \ifx\@pdfnumcopies\@empty
10133 \else
10134 /NumCopies \@pdfnumcopies
10135 \fi
10136 }%
10137 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10138 \@pdfm@mark{%
10139 docview<<%
10140 \ifx\@pdfstartpage\@empty
10141 \else

```

```

10142 \ifx\@pdfstartview\@empty
10143 \else
10144 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10145 \fi
10146 \fi
10147 \ifx\@baseurl\@empty
10148 \else
10149 /URI<</Base(\Hy@pstringB)>>%
10150 \fi
10151 /PageMode/\@pdfpagemode
10152 \ifx\Hy@temp\@empty
10153 \else
10154 /ViewerPreferences<<\Hy@temp>>%
10155 \fi
10156 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10157 \ifx\@pdflang\@empty
10158 \else
10159 /Lang(\@pdflang)%
10160 \fi
10161 >>%
10162 }%
10163 \ifx\@pdfpagescrop\@empty
10164 \else
10165 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10166 \fi
10167 }
10168 </dvi-pdfm | xetex>
10169 < *dvi-pdfm | xetex>

```

`\hyper@pagetransition`

```

10170 \def\hyper@pagetransition{%
10171 \ifx\@pdfpagetransition\relax
10172 \else
10173 \ifx\@pdfpagetransition\@empty
10174 \else
10175 \special{pdf:put @thispage %
10176 <</Trans<</S/\@pdfpagetransition>>>>%
10177 }%
10178 \fi
10179 \fi
10180 }

```

`\hyper@pageduration`

```

10181 \def\hyper@pageduration{%
10182 \ifx\@pdfpageduration\relax
10183 \else
10184 \ifx\@pdfpageduration\@empty
10185 \else
10186 \special{pdf:put @thispage %
10187 <</Dur \@pdfpageduration>>%
10188 }%
10189 \fi
10190 \fi
10191 }

```

`\hyper@pagehidden`

```

10192 \def\hyper@pagehidden{%

```

```

10193 \ifHy@useHidKey
10194   \special{pdf:put @thispage %
10195     <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10196   }%
10197 \fi
10198 }

```

```

10199 \g@addto@macro\Hy@EveryPageBoxHook{%
10200   \hyper@pagetransition
10201   \hyper@pageduration
10202   \hyper@pagehidden
10203 }
10204 </dvipdfm | xetex>

```

X_εT_εX uses pdf_εT_εX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10205 <*dvipdfm>
10206 \AtBeginShipoutFirst{%
10207   \ifHy@setpagesize
10208     \begingroup
10209     \@ifundefined{stockwidth}{%
10210       \ifdim\paperwidth>\z@
10211         \ifdim\paperheight>\z@
10212           \special{papersize=\the\paperwidth,\the\paperheight}%
10213         \fi
10214       \fi
10215     }{%
10216       \ifdim\stockwidth>\z@
10217         \ifdim\stockheight>\z@
10218           \special{papersize=\the\stockwidth,\the\stockheight}%
10219         \fi
10220       \fi
10221     }%
10222   \endgroup
10223 \fi
10224 \Hy@DisableOption{setpagesize}%
10225 }
10226 </dvipdfm>

```

46.6 V_εT_εX typesetting system

Provided by MicroPress, May 1998. They require V_εT_εX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10227 <*vtexhtml>
10228 \providecommand*\XR@ext}{htm}
10229 \RequirePackage{vtexhtml}
10230 \newif\if@Localurl
10231 \let\PDF@FinishDoc\ltx@empty
10232 \def\PDF@SetupDoc{%
10233   \ifx\@baseurl\@empty
10234     \else
10235     \special{!direct <base href="\@baseurl">}%
10236   \fi
10237 }
10238 \def\@urltype{url}
10239 \def\hyper@link#1#2#3{%
10240   \Hy@VerboseLinkStart{#1}{#2}%

```



```

10241 \leavevmode
10242 \special{!direct <a href=%
10243   \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10244 #3\Hy@xspace@end
10245 \special{!direct </a>}%
10246 }
10247 \def\hyper@linkurl#1#2{%
10248   \begingroup
10249   \hyper@chars
10250   \leavevmode
10251   \MathBSuppress=1\relax
10252   \special{!direct <a href=%
10253     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10254   #1\Hy@xspace@end
10255   \MathBSuppress=0\relax
10256   \special{!direct </a>}%
10257   \endgroup
10258 }
10259 \def\hyper@linkfile#1#2#3{%
10260   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\else\##3\fi}%
10261 }
10262 \def\hyper@linkstart#1#2{%
10263   \Hy@VerboseLinkStart{#1}{#2}%
10264   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlytype
10265     \@Localurltrue
10266     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10267   \else
10268     \@Localurlfalse
10269   \begingroup
10270     \hyper@chars
10271     \special{!aref \HyperDestNameFilter{#2}}%
10272   \endgroup
10273   \fi
10274 }
10275 \def\hyper@linkend{%
10276   \if@Localurl
10277     \special{!endaref}%
10278   \else
10279     \special{!direct </a>}%
10280   \fi
10281 }
10282 \Hy@WrapperDef\hyper@anchorstart#1{%
10283   \Hy@SaveLastskip
10284   \Hy@VerboseAnchor{#1}%
10285   \begingroup
10286   \hyper@chars
10287   \special{!aname #1}%
10288   \special{!direct <a name=%
10289     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10290   \endgroup
10291   \Hy@activeanchortrue
10292 }
10293 \def\hyper@anchorend{%
10294   \special{!direct </a>}%
10295   \Hy@activeanchorfalse
10296   \Hy@RestoreLastskip
10297 }

```

```

10298 \Hy@WrapperDef\hyper@anchor#1{%
10299 \Hy@SaveLastskip
10300 \Hy@VerboseAnchor{#1}%
10301 \begingroup
10302 \let\protect=\string
10303 \hyper@chars
10304 \leavevmode
10305 \special{!aname #1}%
10306 \special{!direct <a name=%
10307 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10308 \endgroup
10309 \Hy@activeanchortrue
10310 \bgroup\anchor@spot\egroup
10311 \special{!direct </a>}%
10312 \Hy@activeanchorfalse
10313 \Hy@RestoreLastskip
10314 }
10315 \def\@Form[#1]{%
10316 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10317 }
10318 \let\@endForm\ltx@empty
10319 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10320 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10321 }
10322 \def\@TextField[#1]#2{% parameters, label
10323 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10324 }
10325 \def\@CheckBox[#1]#2{% parameters, label
10326 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10327 }
10328 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10329 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10330 }
10331 \def\@PushButton[#1]#2{% parameters, label
10332 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10333 }
10334 \def\@Reset[#1]#2{%
10335 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10336 }
10337 \def\@Submit[#1]#2{%
10338 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10339 }
10340 \end{vtxhtml}
10341 \end{vtx}

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

10342 \ifx\mediaheight\@undefined
10343 \else
10344 \ifx\mediaheight\relax
10345 \else
10346 \ifHy@setpagesize
10347 \providecommand*\VTeXInitMediaSize{%
10348 \ltx@ifundefined{stockwidth}{%
10349 \ifdim\paperheight>0pt %
10350 \setlength\mediaheight\paperheight

```

```

10351     \fi
10352     \ifdim\paperheight>0pt %
10353         \setlength\mediawidth\paperwidth
10354     \fi
10355 }{%
10356     \ifdim\stockheight>0pt %
10357         \setlength\mediaheight\stockheight
10358     \fi
10359     \ifdim\stockwidth>0pt %
10360         \setlength\mediawidth\stockwidth
10361     \fi
10362 }%
10363 }%
10364 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10365 \fi
10366 \Hy@DisableOption{setpagesize}%
10367 \fi
10368 \fi

```

Older versions of VTeX require xyz in lower case.

```

10369 \providecommand*\@pdfview{xyz}
10370 \providecommand*\@pdfborder{0 0 1}
10371 \providecommand*\@pdfborderstyle{}
10372 \let\CurrentBorderColor\@linkbordercolor
10373 \Hy@WrapperDef\hyper@anchor#1{%
10374     \Hy@SaveLastskip
10375     \Hy@VerboseAnchor{#1}%
10376     \begingroup
10377         \let\protect=\string
10378         \hyper@chars
10379         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10380     \endgroup
10381     \Hy@activeanchortrue
10382     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10383     \Hy@activeanchorfalse
10384     \Hy@RestoreLastskip
10385 }
10386 \Hy@WrapperDef\hyper@anchorstart#1{%
10387     \Hy@SaveLastskip
10388     \Hy@VerboseAnchor{#1}%
10389     \begingroup
10390         \hyper@chars
10391         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10392     \endgroup
10393     \Hy@activeanchortrue
10394 }
10395 \def\hyper@anchorend{%
10396     \Hy@activeanchorfalse
10397     \Hy@RestoreLastskip
10398 }
10399 \def\@urltype{url}
10400 \def\Hy@undefinedname{UNDEFINED}
10401 \def\hyper@linkstart#1#2{%
10402     \Hy@VerboseLinkStart{#1}{#2}%
10403     \Hy@pstringdef\Hy@pstringURI{#2}%
10404     \expandafter\Hy@colorlink\csname @#1color\endcsname
10405     \ltx@ifundefined{@#1bordercolor}{%
10406         \let\CurrentBorderColor\relax

```

```

10407 }{%
10408   \edef\CurrentBorderColor{%
10409     \csname @#1bordercolor\endcsname
10410   }%
10411 }%
10412 \def\Hy@tempa{#1}%
10413 \ifx\Hy@tempa\@uratype
10414   \special{!%
10415     aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10416     \ifHy@href@ismap
10417       /IsMap true%
10418     \fi
10419     \Hy@href@nextactionraw
10420     >;%
10421     a=<%
10422     \ifHy@pdfa /F 4\fi
10423     \Hy@setpdfborder
10424     \ifx\CurrentBorderColor\relax
10425     \else
10426       /C [\CurrentBorderColor]%
10427     \fi
10428     >%
10429   }%
10430 \else
10431   \protected@edef\Hy@testname{#2}%
10432   \ifx\Hy@testname\@empty
10433     \Hy@Warning{%
10434       Empty destination name,\MessageBreak
10435       using '\Hy@undefinedname'%
10436     }%
10437     \let\Hy@testname\Hy@undefinedname
10438   \fi
10439   \special{!%
10440     aref \expandafter\HyperDestNameFilter
10441     \expandafter{\Hy@testname};%
10442     a=<%
10443     \ifHy@pdfa /F 4\fi
10444     \Hy@setpdfborder
10445     \ifx\CurrentBorderColor\relax
10446     \else
10447       /C [\CurrentBorderColor]%
10448     \fi
10449     >%
10450   }%
10451   \fi
10452 }
10453 \def\hyper@linkend{%
10454   \special{!endaref}%
10455   \Hy@endcolorlink
10456 }
10457 \def\hyper@linkfile#1#2#3{%
10458   \leavevmode
10459   \def\Hy@pstringF{#2}%
10460   \Hy@CleanupFile\Hy@pstringF
10461   \special{!%
10462     aref <%
10463     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi

```

```

10464 f=\Hy@pstringF>#3;%
10465 a=<%
10466 \ifHy@pdfa /F 4\fi
10467 \Hy@setpdfborder
10468 \ifx\@filebordercolor\relax
10469 \else
10470 /C [\@filebordercolor]%
10471 \fi
10472 >%
10473 }%
10474 \Hy@colorlink\@filecolor
10475 #1\Hy@xspace@end
10476 \Hy@endcolorlink
10477 \special{!endaref}%
10478 }
10479 \def\hyper@linkurl#1#2{%
10480 \begingroup
10481 \Hy@pstringdef\Hy@pstringURI{#2}%
10482 \hyper@chars
10483 \leavevmode
10484 \special{!%
10485 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10486 \ifHy@href@ismap
10487 /IsMap true%
10488 \fi
10489 \Hy@href@nextactionraw
10490 >;%
10491 a=<%
10492 \ifHy@pdfa /F 4\fi
10493 \Hy@setpdfborder
10494 \ifx\@urlbordercolor\relax
10495 \else
10496 /C [\@urlbordercolor]%
10497 \fi
10498 >%
10499 }%
10500 \Hy@colorlink\@urlcolor
10501 #1\Hy@xspace@end
10502 \Hy@endcolorlink
10503 \special{!endaref}%
10504 \endgroup
10505 }
10506 \def\hyper@link#1#2#3{%
10507 \Hy@VerboseLinkStart{#1}{#2}%
10508 \ltx@ifundefined{@#1bordercolor}{%
10509 \let\CurrentBorderColor\relax
10510 }{%
10511 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10512 }%
10513 \leavevmode
10514 \protected@edef\Hy@testname{#2}%
10515 \ifx\Hy@testname\@empty
10516 \Hy@Warning{%
10517 Empty destination name,\MessageBreak
10518 using '\Hy@undefinedname'%
10519 }%
10520 \let\Hy@testname\Hy@undefinedname

```

```

10521 \fi
10522 \special{!%
10523   aref \expandafter\HyperDestNameFilter
10524     \expandafter{\Hy@testname};%
10525   a=<%
10526     \ifHy@pdfa /F 4\fi
10527     \Hy@setpdfborder
10528     \ifx\CurrentBorderColor\relax
10529     \else
10530       /C [\CurrentBorderColor]%
10531     \fi
10532   >%
10533 }%
10534 \expandafter
10535 \Hy@colorlink\csname @#1color\endcsname
10536   #3\Hy@xspace@end
10537 \Hy@endcolorlink
10538 \special{!endaref}%
10539 }
10540 \def\hyper@image#1#2{%
10541 \hyper@linkurl{#2}{#1}%
10542 }
10543 \def\@hyper@launch run:#1\#2#3{%
10544 \Hy@pstringdef\Hy@pstringF{#1}%
10545 \Hy@pstringdef\Hy@pstringP{#3}%
10546 \leavevmode
10547 \special{!aref %
10548 <u=%
10549 /Type/Action%
10550 /S/Launch%
10551 /F(\Hy@pstringF)%
10552 \Hy@SetNewWindow
10553 \ifx\#3\%
10554 \else
10555 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10556 \fi
10557 \Hy@href@nextactionraw
10558 >;%
10559 a=<%
10560 \ifHy@pdfa /F 4\fi
10561 \Hy@setpdfborder
10562 \ifx\@runbordercolor\relax
10563 \else
10564 /C[\@runbordercolor]%
10565 \fi
10566 >%
10567 }%
10568 \Hy@colorlink\@runcolor
10569 #2\Hy@xspace@end
10570 \Hy@endcolorlink
10571 \special{!endaref}%
10572 }
10573 \def\Acrobatmenu#1#2{%
10574 \Hy@Acrobatmenu{#1}{#2}{%
10575 \special{!%
10576   aref <u=/S /Named /N /#1>;%
10577   a=<%

```

```

10578 \ifHy@pdfa /F 4\fi
10579 \Hy@setpdfborder
10580 \ifx\@menubordercolor\relax
10581 \else
10582 /C[\@menubordercolor]%
10583 \fi
10584 >%
10585 }%
10586 \Hy@colorlink\@menucolor
10587 #2\Hy@xspace@end
10588 \Hy@endcolorlink
10589 \special{!endaref}%
10590 }%
10591 }

```

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.

```

10592 \ifnum\Hy@VTeXversion<702 %
10593 \else
10594 \def\hyper@pagetransition{%
10595 \ifx\@pdfpagetransition\relax
10596 \else
10597 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10598 \else
10599 \hvtex@parse@trans\@pdfpagetransition
10600 \fi
10601 \fi
10602 }%

```

I have to write an “honest” parser to convert raw PDF code into $\text{V}\text{T}\text{E}\text{X}$ `\special`.

(AVK)

Syntax of $\text{V}\text{T}\text{E}\text{X}$ `\special{!trans <transition_effect>}`:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                    <Dissolve_effect> | <Glitter_effect> |
                    <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

10603 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10604 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10605 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10606 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10607 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%

```

```

10608 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}}%
10609 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}}%

```

Optional parameters:

```

10610 \def\hvtex@par@dimension{/Dm}%
10611 \def\hvtex@par@direction{/Di}%
10612 \def\hvtex@par@duration{/D}%
10613 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10614 \def\hvtex@gettoken{%
10615   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10616 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10617 \def\hvtex@gettoken@#1 #2\@nil{%
10618   \edef\hvtex@token{#1}%
10619   \edef\hvtex@buffer{#2}%
10620 }%
10621 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10622 \let\hvtex@trans@code\@empty
10623 \let\hvtex@param@dimension\@empty
10624 \let\hvtex@param@direction\@empty
10625 \let\hvtex@param@duration\@empty
10626 \let\hvtex@param@motion\@empty
10627 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10628 \hvtex@gettoken
10629 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10630   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10631     \else
10632       \hvtex@gettoken
10633     \fi
10634 \fi
10635 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10636 \hvtex@trans@params
10637 }%

```

Reentrant macro to parse optional parameters.

```

10638 \def\hvtex@trans@params{%
10639   \ifx\hvtex@buffer\@empty
10640   \else
10641     \hvtex@gettoken
10642     \let\hvtex@trans@par\hvtex@token
10643     \ifx\hvtex@buffer\@empty
10644     \else
10645       \hvtex@gettoken
10646       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. \TeX special takes it in milliseconds.

```

10647         \let\hvtex@param@duration\hvtex@token
10648       \else \ifx\hvtex@trans@par\hvtex@par@motion

```


/M can be either /I or /O

```
10649     \expandafter\edef\expandafter\hvtex@param@motion
10650     \expandafter{\expandafter\@gobble\hvtex@token}%
10651     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10652     \expandafter\edef\expandafter\hvtex@param@dimension
10653     \expandafter{\expandafter\@gobble\hvtex@token}%
10654     \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).

```
10655     \let\hvtex@param@direction\hvtex@token
10656     \fi\fi\fi\fi
10657     \fi
10658     \fi
10659     \ifx\hvtex@buffer\@empty
10660     \let\next\hvtex@produce@trans
10661     \else
10662     \let\next\hvtex@trans@params
10663     \fi
10664     \next
10665 }%
```

Merge <transition__effect> and issue the special when possible. Too lazy to validate optional parameters.

```
10666 \def\hvtex@produce@trans{%
10667 \let\vtex@trans@special\@empty
10668 \if S\hvtex@trans@code
10669 \edef\vtex@trans@special{\hvtex@trans@code
10670 \hvtex@param@dimension\hvtex@param@motion}%
10671 \else\if B\hvtex@trans@code
10672 \edef\vtex@trans@special{%
10673 \hvtex@trans@code\hvtex@param@dimension
10674 }%
10675 \else\if X\hvtex@trans@code
10676 \edef\vtex@trans@special{%
10677 \hvtex@trans@code\hvtex@param@motion
10678 }%
10679 \else\if W\hvtex@trans@code
10680 \edef\vtex@trans@special{%
10681 \hvtex@trans@code\hvtex@param@direction
10682 }%
10683 \else\if D\hvtex@trans@code
10684 \let\vtex@trans@special\hvtex@trans@code
10685 \else\if R\hvtex@trans@code
10686 \let\vtex@trans@special\hvtex@trans@code
10687 \else\if G\hvtex@trans@code
10688 \edef\vtex@trans@special{%
10689 \hvtex@trans@code\hvtex@param@direction
10690 }%
10691 \fi\fi\fi\fi\fi\fi
10692 \ifx\vtex@trans@special\@empty
10693 \else
10694 \ifx\hvtex@param@duration\@empty
10695 \else
10696 \setlength{\dimen@}{\hvtex@param@duration\p}%
```

I'm not guilty of possible overflow.

```

10697 \multiply\dimen@\@m
10698 \edef\vtex@trans@special{%
10699 \vtex@trans@special,\strip@pt\dimen@
10700 }%
10701 \fi

```

And all the mess is just for this.

```

10702 \special{!trans \vtex@trans@special}%
10703 \fi
10704 }%
10705 \def\hyper@pageduration{%
10706 \ifx\@pdfpageduration\relax
10707 \else
10708 \ifx\@pdfpageduration\@empty
10709 \special{!duration-}%
10710 \else
10711 \special{!duration \@pdfpageduration}%
10712 \fi
10713 \fi
10714 }%
10715 \def\hyper@pagehidden{%
10716 \ifHy@useHidKey
10717 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10718 \fi
10719 }%
10720 \g@addto@macro\Hy@EveryPageBoxHook{%
10721 \hyper@pagetransition
10722 \hyper@pageduration
10723 \hyper@pagehidden
10724 }%
10725 \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

```

10726 \ifx\@pdfproducer\relax
10727 \def\@pdfproducer{VTeX}%
10728 \ifnum\Hy@VTeXversion>\z@
10729 \count@\VTeXversion
10730 \divide\count@ 100 %
10731 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10732 \multiply\count@ -100 %
10733 \advance\count@\VTeXversion
10734 \edef\@pdfproducer{%
10735 \@pdfproducer
10736 .\ifnum\count@<10 0\fi\the\count@
10737 \ifx\VTeXOS\@undefined\else
10738 \ifnum\VTeXOS>0 %
10739 \ifnum\VTeXOS<6 %
10740 \space(%
10741 \ifcase\VTeXOS

```

```

10742     \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10743     \fi
10744     )%
10745     \fi
10746     \fi
10747     \fi
10748     ,\space
10749     \ifnum\OpMode=\@one PDF\else PS\fi
10750     \space backend%
10751     \ifx\gexmode\@undefined\else
10752     \ifnum\gexmode>\z@\space with GeX\fi
10753     \fi
10754     }%
10755     \fi
10756     \fi

```

Current !pdfinfo key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<<...>> (yuck; no choice).

```

10757 \def\PDF@SetupDoc{%
10758 \ifx\@pdfpagescrop\@empty
10759 \else
10760 \special{!pdfinfo b=<\@pdfpagescrop>}%
10761 \fi
10762 \ifx\@pdfstartpage\@empty
10763 \else
10764 \ifx\@pdfstartview\@empty
10765 \else
10766 \special{!onopen Page\@pdfstartpage}%
10767 \fi
10768 \fi
10769 \special{!pdfinfo p=<\/\@pdfpagemode>}%
10770 \ifx\@baseurl\@empty
10771 \else
10772 \special{!pdfinfo u=<<<\/Base (\@baseurl)>>>}%
10773 \fi
10774 \special{!pdfinfo v=<<<%
10775 \ifHy@toolbar\else /HideToolbar true\fi
10776 \ifHy@menubar\else /HideMenubar true\fi
10777 \ifHy>windowui\else /HideWindowUI true\fi
10778 \ifHy@fitwindow /FitWindow true\fi
10779 \ifHy@centerwindow /CenterWindow true\fi
10780 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10781 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10782 \Hy@UseNameKey{Direction}\@pdfdirection
10783 \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10784 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10785 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10786 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10787 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10788 \Hy@UseNameKey{Duplex}\@pdfduplex
10789 \ifx\@pdfpicktraybypdfsize\@empty
10790 \else
10791 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10792 \fi
10793 \ifx\@pdfprintpagerange\@empty
10794 \else
10795 /PrintPageRange\@pdfprintpagerange\%
10796 \fi
10797 \ifx\@pdfnumcopies\@empty
10798 \else
10799 /NumCopies \@pdfnumcopies
10800 \fi
10801 >>>}%
10802 \ifx\@pdfpagelayout\@empty
10803 \else
10804 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
10805 \fi
10806 }%
10807 \HyInfo@AddonUnsupportedtrue
10808 \def\PDF@FinishDoc{%
10809 \Hy@UseMaketitleInfos
10810 \HyInfo@TrappedUnsupported
10811 \special{!pdfinfo a=<\@pdfauthor>}%
10812 \special{!pdfinfo t=<\@pdftitle>}%
10813 \special{!pdfinfo s=<\@pdfsubject>}%
10814 \special{!pdfinfo c=<\@pdfcreator>}%
10815 \ifx\@pdfproducer\relax
10816 \else
10817 \special{!pdfinfo r=<\@pdfproducer>}%
10818 \fi
10819 \special{!pdfinfo k=<\@pdfkeywords>}%
10820 \Hy@DisableOption{pdfauthor}%
10821 \Hy@DisableOption{pdftitle}%
10822 \Hy@DisableOption{pdfsubject}%
10823 \Hy@DisableOption{pdfcreator}%
10824 \Hy@DisableOption{pdfcreationdate}%
10825 \Hy@DisableOption{pdfmoddate}%
10826 \Hy@DisableOption{pdfproducer}%
10827 \Hy@DisableOption{pdfkeywords}%
10828 \Hy@DisableOption{pdftrapped}%
10829 \Hy@DisableOption{pdfinfo}%
10830 }
10831 </vtx>

```

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.

```

10832 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10833 <package>\providecommand*\Hy@DistillerDestFix{}
10834 <*pdfmark | dviwindo>
10835 \def\Hy@DistillerDestFix{%
10836   \begingroup
10837   \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10838   \ifnum \@ifundefined{OpMode}{0}{%
10839     \@ifundefined{gexmode}{0}{%
10840       \ifnum\gexmode>0 \OpMode\else 0\fi
10841     }>1 %
10842   \def\x##1{%
10843     \immediate\special{!##1}%
10844   }%
10845   \fi
10846   \x{%
10847     /product where{%
10848       pop %
10849       product(Distiller)search{%
10850         pop pop pop %
10851         version(.)search{%
10852           exch pop exch pop%
10853           (3011)eq{%
10854             gsave %
10855             newpath 0 0 moveto closepath clip%
10856             /Courier findfont 10 scalefont setfont %
10857             72 72 moveto(.)show %
10858             grestore%
10859           }if%
10860         }{pop}ifelse%
10861       }{pop}ifelse%
10862     }if%
10863   }%
10864   \endgroup
10865 }
10866 </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

```

```

10867 <*pdfmark>
10868 \Hy@breaklinks@unsupported
10869 \def\HyPat@ObjRef{%
10870 \[{}+\\}%
10871 }
10872 \Hy@WrapperDef\hyper@anchor#1{%
10873 \Hy@SaveLastskip
10874 \Hy@VerboseAnchor{#1}%
10875 \begingroup
10876 \pdfmark[\anchor@spot]{%
10877 pdfmark=/DEST,%
10878 linktype=anchor,%
10879 View=/\@pdfview \@pdfviewparams,%
10880 DestAnchor={#1}%
10881 }%
10882 \endgroup
10883 \Hy@RestoreLastskip
10884 }
10885 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10886 \Hy@WrapperDef\hyper@anchorstart#1{%
10887 \Hy@SaveLastskip
10888 \Hy@VerboseAnchor{#1}%
10889 \literalps@out{H.S}%
10890 \Hy@AllowHyphens
10891 \xdef\hyper@currentanchor{#1}%
10892 \Hy@activeanchortrue
10893 }
10894 \def\hyper@anchorend{%
10895 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10896 \pdfmark{%
10897 pdfmark=/DEST,%
10898 linktype=anchor,%
10899 View=/\@pdfview \@pdfviewparams,%
10900 DestAnchor=\hyper@currentanchor,%
10901 }%
10902 \Hy@activeanchorfalse
10903 \Hy@RestoreLastskip
10904 }
10905 \def\hyper@linkstart#1#2{%
10906 \Hy@VerboseLinkStart{#1}{#2}%
10907 \ifHy@breaklinks
10908 \else
10909 \leavevmode
10910 \ifmmode
10911 \def\Hy@LinkMath{$}%
10912 \else
10913 \let\Hy@LinkMath\ltx@empty
10914 \fi
10915 \Hy@SaveSpaceFactor
10916 \hbox\bgroup
10917 \Hy@RestoreSpaceFactor
10918 \Hy@LinkMath
10919 \fi
10920 \expandafter\Hy@colorlink\csname @#1color\endcsname
10921 \literalps@out{H.S}%
10922 \Hy@AllowHyphens
10923 \xdef\hyper@currentanchor{#2}%

```

```

10924 \gdef\hyper@currentlinktype{#1}%
10925 }
10926 \def\hyper@linkend{%
10927 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L.}%
10928 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10929 \let\Hy@tempcolor\relax
10930 }{%
10931 \edef\Hy@tempcolor{%
10932 \csname @\hyper@currentlinktype bordercolor\endcsname
10933 }%
10934 }%
10935 \pdfmark{%
10936 pdfmark=/ANN,%
10937 linktype=link,%
10938 Subtype=/Link,%
10939 PDFAFlags=4,%
10940 Dest=\hyper@currentanchor,%
10941 AcroHighlight=\@pdfhighlight,%
10942 Border=\@pdfborder,%
10943 BorderStyle=\@pdfborderstyle,%
10944 Color=\Hy@tempcolor,%
10945 Raw=H.B%
10946 }%
10947 \Hy@endcolorlink
10948 \ifHy@breaklinks
10949 \else
10950 \Hy@LinkMath
10951 \Hy@SaveSpaceFactor
10952 \egroup
10953 \Hy@RestoreSpaceFactor
10954 \fi
10955 }

```

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.

```

10956 \begingroup
10957 \catcode'P=12 %
10958 \catcode'T=12 %
10959 \lowercase{\endgroup
10960 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10961 }
10962 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10963 \def\hyper@pagetransition{%
10964 \ifx\@pdfpagetransition\relax
10965 \else
10966 \ifx\@pdfpagetransition\@empty
10967 % 1. Does an old entry have to be deleted?
10968 % 2. If 1=yes, how to delete?
10969 \else
10970 \pdfmark{%
10971 pdfmark=/PUT,%
10972 Raw={%
10973 \string{ThisPage\string}%
10974 <</Trans << /S /\@pdfpagetransition\space >> >>%

```

```

10975     }%
10976     }%
10977     \fi
10978     \fi
10979 }

```

\hyper@pageduration

```

10980 \def\hyper@pageduration{%
10981   \ifx\@pdfpageduration\relax
10982   \else
10983     \ifx\@pdfpageduration\@empty
10984       % 1. Does an old entry have to be deleted?
10985       % 2. If 1=yes, how to delete?
10986     \else
10987       \pdfmark{%
10988         pdfmark=/PUT,%
10989         Raw={%
10990           \string{ThisPage\string}%
10991           <</Dur \@pdfpageduration>>%
10992         }%
10993       }%
10994     \fi
10995   \fi
10996 }

```

\hyper@pagehidden

```

10997 \def\hyper@pagehidden{%
10998   \ifHy@useHidKey
10999   \pdfmark{%
11000     pdfmark=/PUT,%
11001     Raw={%
11002       \string{ThisPage\string}%
11003       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11004     }%
11005   }%
11006   \fi
11007 }

11008 \g@addto@macro\Hy@EveryPageBoxHook{%
11009   \hyper@pagetransition
11010   \hyper@pageduration
11011   \hyper@pagehidden
11012 }

11013 \def\hyper@image#1#2{%
11014   \hyper@linkurl{#2}{#1}%
11015 }

11016 \def\Hy@undefinedname{UNDEFINED}
11017 \def\hyper@link#1#2#3{%
11018   \Hy@VerboseLinkStart{#1}{#2}%
11019   \ltx@ifundefined{@#1bordercolor}{%
11020     \let\Hy@tempcolor\relax
11021   }{%
11022     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11023   }%
11024   \begingroup
11025   \protected@edef\Hy@testname{#2}%
11026   \ifx\Hy@testname\@empty

```



```

11027 \Hy@Warning{%
11028   Empty destination name,\MessageBreak
11029   using '\Hy@undefinedname'%
11030 }%
11031 \let\Hy@testname\Hy@undefinedname
11032 \fi
11033 \pdfmark[#{#3}]{%
11034   Color=\Hy@tempcolor,%
11035   linktype={#1},%
11036   AcroHighlight=\@pdfhighlight,%
11037   Border=\@pdfborder,%
11038   BorderStyle=\@pdfborderstyle,%
11039   pdfmark=/ANN,%
11040   Subtype=/Link,%
11041   PDFAFlags=4,%
11042   Dest=\Hy@testname
11043 }%
11044 \endgroup
11045 }
11046 \newtoks\pdf@docset
11047 \def\PDF@FinishDoc{%
11048   \Hy@UseMaketitleInfos
11049   \HyInfo@GenerateAddons
11050   \let\Hy@temp\@empty
11051   \ifx\@pdfcreationdate\@empty
11052   \else
11053     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11054   \fi
11055   \ifx\@pdfmoddate\@empty
11056   \else
11057     \expandafter\def\expandafter\Hy@temp\expandafter{%
11058       \Hy@temp
11059       ModDate=\@pdfmoddate,%
11060     }%
11061   \fi
11062   \ifx\@pdfproducer\relax
11063   \else
11064     \expandafter\def\expandafter\Hy@temp\expandafter{%
11065       \Hy@temp
11066       Producer=\@pdfproducer,%
11067     }%
11068   \fi
11069   \expandafter
11070   \pdfmark\expandafter{%
11071     \Hy@temp
11072     pdfmark=/DOCINFO,%
11073     Title=\@pdftitle,%
11074     Subject=\@pdfsubject,%
11075     Creator=\@pdfcreator,%
11076     Author=\@pdfauthor,%
11077     Keywords=\@pdfkeywords,%
11078     Trapped=\@pdftrapped
11079   }%
11080   \ifx\HyInfo@Addons\@empty
11081   \else
11082     \pdfmark{%
11083       pdfmark=/DOCINFO,%

```

```

11084     Raw={\HyInfo@Addons}%
11085   }%
11086 \fi
11087 \Hy@DisableOption{pdfauthor}%
11088 \Hy@DisableOption{pdftitle}%
11089 \Hy@DisableOption{pdfsubject}%
11090 \Hy@DisableOption{pdfcreator}%
11091 \Hy@DisableOption{pdfcreationdate}%
11092 \Hy@DisableOption{pdfmoddate}%
11093 \Hy@DisableOption{pdfproducer}%
11094 \Hy@DisableOption{pdfkeywords}%
11095 \Hy@DisableOption{pdftrapped}%
11096 \Hy@DisableOption{pdfinfo}%
11097 }
11098 \def\PDF@SetupDoc{%
11099   \def\Hy@temp{%
11100     \ifx\@pdfstartpage\@empty
11101     \else
11102       \ifx\@pdfstartview\@empty
11103       \else
11104         \edef\Hy@temp{%
11105           ,Page=\@pdfstartpage
11106           ,View=\@pdfstartview
11107         }%
11108       \fi
11109     \fi
11110     \edef\Hy@temp{%
11111       \noexpand\pdfmark{%
11112         pdfmark=/DOCVIEW,%
11113         PageMode=/\@pdfpagemode
11114       }\Hy@temp
11115     }%
11116   }%
11117   \Hy@temp
11118   \ifx\@pdfpagescrop\@empty
11119   \else
11120     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11121   \fi
11122   \edef\Hy@temp{%
11123     \ifHy@toolbar\else /HideToolbar true\fi
11124     \ifHy@menubar\else /HideMenubar true\fi
11125     \ifHy@windowui\else /HideWindowUI true\fi
11126     \ifHy@fitwindow /FitWindow true\fi
11127     \ifHy@centerwindow /CenterWindow true\fi
11128     \ifHy@displaydoctitle /DisplayDocTitle true\fi
11129     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11130     \Hy@UseNameKey{Direction}\@pdfdirection
11131     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11132     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11133     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11134     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11135     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11136     \Hy@UseNameKey{Duplex}\@pdfduplex
11137     \ifx\@pdfpicktraybypdfsize\@empty
11138     \else
11139       /PickTrayByPDFSize \@pdfpicktraybypdfsize
11140     \fi

```

```

11141 \ifx\@pdfprintpagerange\@empty
11142 \else
11143   /PrintPageRange[\@pdfprintpagerange]%
11144 \fi
11145 \ifx\@pdfnumcopies\@empty
11146 \else
11147   /NumCopies \@pdfnumcopies
11148 \fi
11149 }%
11150 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11151 \pdfmark{%
11152   pdfmark=/PUT,%
11153   Raw={%
11154     \string{Catalog\string}<<%
11155     \ifx\Hy@temp\@empty
11156     \else
11157       /ViewerPreferences<<\Hy@temp>>%
11158     \fi
11159     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11160     \ifx\@pdflang\@empty
11161     \else
11162       /Lang(\@pdflang)%
11163     \fi
11164     \ifx\@baseurl\@empty
11165     \else
11166       /URI<</Base(\Hy@pstringB)>>%
11167     \fi
11168     >>%
11169   }%
11170 }%
11171 }
11172 </pdfmark>
11173 <*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.

```

11174 \newif\ifHy@pdfmarkerror
11175 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11176 \def\pdfmark@[#1]#2{%
11177   \Hy@pdfmarkerrorfalse
11178   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11179   \@processme
11180   \let\pdf@type\relax
11181   \kvsetkeys{PDF}{#2}%
11182   \ifHy@pdfmarkerror
11183   \else
11184     \ifx\pdf@type\relax
11185       \Hy@WarningNoLine{no pdfmark type specified in #2!}%
11186       \ifx\#1\%
11187       \else
11188         \pdf@rect{#1}%
11189       \fi
11190     \else
11191       \ifx\#1\%

```

```

11192     \literalps@out{%
11193       [\the\pdf@toks\space\pdf@type\space pdfmark%
11194     ]%
11195   \else
11196     \ltx@ifundefined{@\pdf@linktype color}{%
11197       \Hy@colorlink\@linkcolor
11198     }{%
11199       \expandafter\Hy@colorlink
11200         \csname @\pdf@linktype color\endcsname
11201     }%
11202     \pdf@rect{#1}%
11203     \literalps@out{%
11204       [\the\pdf@toks\space\pdf@type\space pdfmark%
11205     ]%
11206     \Hy@endcolorlink
11207   \fi
11208 \fi
11209 \fi
11210 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (toby@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

11211 \newsavebox{\pdf@box}
11212 \providecommand*{\Hy@setouterhbox}{\sbox}
11213 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11214 \def\Hy@DEST{/DEST}
11215 \def\pdf@rect#1{%
11216   \begingroup
11217   \chardef\x=1 %
11218   \def\Hy@temp{#1}%
11219   \ifx\Hy@temp\ltx@empty
11220     \chardef\x=0 %
11221   \else
11222     \def\y{\anchor@spot}%
11223     \ifx\Hy@temp\y
11224       \def\y{\relax}%
11225     \ifx\anchor@spot\y
11226       \chardef\x=0 %
11227     \fi
11228   \fi
11229 \fi
11230 \expandafter\endgroup
11231 \ifcase\x
11232   \literalps@out{H.S}%
11233   \literalps@out{H.R}%
11234 \else
11235   \leavevmode
11236   \Hy@SaveSpaceFactor
11237 \ifmmode

```

```

11238   \def\Hy@LinkMath{${}%
11239   \else
11240   \let\Hy@LinkMath\ltx@empty
11241   \fi
11242   \ifHy@breaklinks
11243   \Hy@setouterhbox\pdf@box{%
11244   \Hy@RestoreSpaceFactor
11245   \Hy@LinkMath
11246   \Hy@AllowHyphens#1\Hy@xspace@end
11247   \Hy@LinkMath
11248   \Hy@SaveSpaceFactor
11249   }%
11250   \else
11251   \sbox\pdf@box{%
11252   \Hy@RestoreSpaceFactor
11253   \Hy@LinkMath
11254   #1\Hy@xspace@end
11255   \Hy@LinkMath
11256   \Hy@SaveSpaceFactor
11257   }%
11258   \fi
11259   \dimen@ht\pdf@box
11260   \ifdim\dp\pdf@box=\z@
11261   \literalps@out{H.S}%
11262   \else
11263   \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11264   \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...).

```

11265   \ifHy@breaklinks
11266   \ifhmode
11267   \Hy@breaklinksunhbox\pdf@box
11268   \else
11269   \box\pdf@box
11270   \fi
11271   \else
11272   \expandafter\box\pdf@box
11273   \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

11274   \ifdim\dimen@=\z@
11275   \literalps@out{H.R}%
11276   \else
11277   \raise\dimen@\hbox{\literalps@out{H.R}}%
11278   \fi
11279   \Hy@RestoreSpaceFactor
11280   \fi
11281   \ifx\pdf@type\Hy@DEST
11282   \else
11283   \pdf@addtoksx{H.B}%
11284   \fi
11285 }

```

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.

```

11286 \newtoks\pdf@toks
11287 \newtoks\pdf@defaulttoks
11288 \pdf@defaulttoks={}%
11289 \def\pdf@addtoks#1#2{%
11290 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11291 \@processme
11292 }
11293 \def\pdf@addtoksx#1{%
11294 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11295 \@processme
11296 }
11297 \def\PDFdefaults#1{%
11298 \pdf@defaulttoks={#1}%
11299 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11300 % what is the type of pdfmark?
11301 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11302 % what is the link type?
11303 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11304 \def\pdf@linktype{link}
11305 % parameter is a stream of PDF
11306 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11307 % parameter is a name
11308 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11309 % parameter is a array
11310 \define@key{PDF}{Border}{%
11311 \edef\Hy@temp{#1}%
11312 \ifx\Hy@temp\@empty
11313 \else
11314 \pdf@addtoks{#1}\Hy@BorderArrayPatch}{Border}% hash-ok
11315 \fi
11316 }
11317 \let\Hy@BorderArrayPatch\@empty
11318 % parameter is a dictionary
11319 \define@key{PDF}{BorderStyle}{%
11320 \edef\Hy@temp{#1}%
11321 \ifx\Hy@temp\@empty
11322 \else
11323 \pdf@addtoks{<<#1>>}{BS}%
11324 \fi
11325 }
11326 % parameter is a array
11327 \define@key{PDF}{Color}{%
11328 \ifx\relax#1\relax
11329 \else
11330 \pdf@addtoks{#1}{Color}% hash-ok
11331 \fi
11332 }
11333 % parameter is a string
11334 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11335 % parameter is a integer
11336 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11337 % parameter is a array
11338 \define@key{PDF}{CropBox}{\pdf@addtoks{#1}{CropBox}}% hash-ok
11339 % parameter is a string

```

```

11340 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11341 % parameter is a string or file
11342 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11343 % parameter is a destination
11344 \define@key{PDF}{Dest}{%
11345   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11346   \ifx\Hy@pstringDest\@empty
11347     \Hy@pdfmarkerrortrue
11348     \Hy@Warning{Destination with empty name ignored}%
11349   \else
11350     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11351   \fi
11352 }
11353 \define@key{PDF}{DestAnchor}{%
11354   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11355   \ifx\Hy@pstringDest\@empty
11356     \Hy@pdfmarkerrortrue
11357     \Hy@Warning{Destination with empty name ignored}%
11358   \else
11359     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11360   \fi
11361 }
11362 % parameter is a string
11363 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11364 % parameter is a string
11365 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11366 % parameter is a int
11367 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11368 \define@key{PDF}{PDFAFlags}{%
11369   \ifHy@pdfa
11370     \pdf@addtoks{#1}{F}%
11371   \fi
11372 }
11373 % parameter is a name
11374 \define@key{PDF}{AcroHighlight}{%
11375   \begingroup
11376   \edef\x{#1}%
11377   \expandafter\endgroup\ifx\x\@empty
11378   \else
11379     \pdf@addtoks{#1}{H}%
11380   \fi
11381 }
11382 % parameter is a string
11383 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11384 % parameter is a string
11385 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11386 % parameter is a string
11387 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11388 % parameter is a string
11389 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11390 % parameter is a Boolean
11391 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11392 % parameter is a integer or name
11393 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11394 % parameter is a name
11395 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11396 % parameter is a string

```

```

11397 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11398 % parameter is a array
11399 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11400 % parameter is a integer
11401 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11402 % parameter is a name
11403 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11404 % parameter is a string
11405 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11406 % parameter is a string
11407 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11408 % parameter is a string
11409 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11410 % parameter is an array
11411 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11412 % parameter is a string
11413 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11414 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11415 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11416 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11417 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11418 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11419 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11420 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11421 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11422 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11423 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11424 \define@key{PDF}{Trapped}{%
11425   \edef\Hy@temp{#1}%
11426   \ifx\Hy@temp\@empty
11427     \else
11428       \pdf@addtoks{/#1}{Trapped}%
11429   \fi
11430 }
11431
11432 </pdfmarkbase>
11433 <*pdfmark>
11434 \def\Acrobatmenu#1#2{%
11435   \Hy@Acrobatmenu{#1}{#2}{%
11436     \pdfmark[{#2}]{%
11437       linktype=menu,%
11438       pdfmark=/ANN,%
11439       AcroHighlight=\@pdfhighlight,%
11440       Border=\@pdfborder,%
11441       BorderStyle=\@pdfborderstyle,%
11442       Action={<< /Subtype /Named /N /#1 >>},%
11443       Subtype=/Link,%
11444       PDFAFlags=4%
11445     }%
11446   }%
11447 }

```

And now for some useful examples:

```

11448 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11449 \def\PDFNextPage@[#1]#2{%
11450   \pdfmark[{#2}]%

```



```

11451   #1,%
11452   Border=\@pdfborder,%
11453   BorderStyle=\@pdfborderstyle,%
11454   Color=.2 .1 .5,%
11455   pdfmark=/ANN,%
11456   Subtype=/Link,%
11457   PDFAFlags=4,%
11458   Page=/Next%
11459 }%
11460 }
11461 \def\PDFPreviousPage{%
11462   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11463 }
11464 \def\PDFPreviousPage@[#1]#2{%
11465   \pdfmark[{#2}]{%
11466     #1,%
11467     Border=\@pdfborder,%
11468     BorderStyle=\@pdfborderstyle,%
11469     Color=.4 .4 .1,%
11470     pdfmark=/ANN,%
11471     Subtype=/Link,%
11472     PDFAFlags=4,%
11473     Page=/Prev%
11474   }%
11475 }
11476 \def\PDFOpen#1{%
11477   \pdfmark{#1,pdfmark=/DOCVIEW}%
11478 }

```

This will only work if you use Distiller 2.1 or higher.

```

11479 \def\hyper@linkurl#1#2{%
11480   \begingroup
11481   \Hy@pstringdef\Hy@pstringURI{#2}%
11482   \hyper@chars
11483   \leavevmode
11484   \pdfmark[{#1}]{%
11485     pdfmark=/ANN,%
11486     linktype=url,%
11487     AcroHighlight=\@pdfhighlight,%
11488     Border=\@pdfborder,%
11489     BorderStyle=\@pdfborderstyle,%
11490     Color=\@urlbordercolor,%
11491     Action={<<%
11492       /Subtype/URI%
11493       /URI(\Hy@pstringURI)%
11494       \ifHy@href@ismap
11495         /IsMap true%
11496       \fi
11497     >>},%
11498     Subtype=/Link,%
11499     PDFAFlags=4%
11500   }%
11501   \endgroup
11502 }
11503 \def\hyper@linkfile#1#2#3{%
11504   \begingroup
11505   \def\Hy@pstringF{#2}%
11506   \Hy@CleanupFile\Hy@pstringF

```

```

11507 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11508 \Hy@pstringdef\Hy@pstringD{#3}%
11509 \Hy@MakeRemoteAction
11510 \leavevmode
11511 \pdfmark[{#1}]{%
11512   pdfmark=/ANN,%
11513   Subtype=/Link,%
11514   PDFAFlags=4,%
11515   AcroHighlight=\@pdfhighlight,%
11516   Border=\@pdfborder,%
11517   BorderStyle=\@pdfborderstyle,%
11518   linktype=file,%
11519   Color=\@filebordercolor,%
11520   Action={%
11521     <<%
11522       /S/GoToR%
11523       \Hy@SetNewWindow
11524       /F(\Hy@pstringF)%
11525       /D%
11526       \ifx\#3\%
11527         [\Hy@href@page\@pdfremotestartview]%
11528       \else
11529         (\Hy@pstringD)cvn%
11530       \fi
11531       \Hy@href@nextactionraw
11532     >>%
11533   }%
11534 }%
11535 \endgroup
11536 }
11537 \def\@hyper@launch run:#1\#2#3{%
11538 \begingroup
11539 \Hy@pstringdef\Hy@pstringF{#1}%
11540 \Hy@pstringdef\Hy@pstringP{#3}%
11541 \leavevmode
11542 \pdfmark[{#2}]{%
11543   pdfmark=/ANN,%
11544   Subtype=/Link,%
11545   PDFAFlags=4,%
11546   AcroHighlight=\@pdfhighlight,%
11547   Border=\@pdfborder,%
11548   BorderStyle=\@pdfborderstyle,%
11549   linktype=run,%
11550   Color=\@runbordercolor,%
11551   Action={%
11552     <<%
11553       /S/Launch%
11554       \Hy@SetNewWindow
11555       /F(\Hy@pstringF)%
11556       \ifx\#3\%
11557       \else
11558         /Win<<P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11559       \fi
11560       \Hy@href@nextactionraw
11561     >>%
11562   }%
11563 }%

```

```

11564 \endgroup
11565 }
11566 \pdfmark)

```

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.

```

11567 <*dvips>
11568 \providecommand*\XR@ext}{pdf}
11569 \let\Hy@raisedlink\tx@empty
11570 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11571 \def\headerps@out#1{\special{! #1}}%
11572 \input{pdfmark.def}%
11573 \ifx\@pdfproducer\relax
11574 \def\@pdfproducer{dvips + Distiller}%
11575 \fi
11576 \providecommand*\@pdfborder{0 0 1}
11577 \providecommand*\@pdfborderstyle{}
11578 \providecommand*\@pdfview{XYZ}
11579 \providecommand*\@pdfviewparams{ H.V}
11580 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11581 \g@addto@macro\Hy@FirstPageHook{%
11582 \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.

```

11583 /DvipsToPDF{72.27 mul Resolution div} def%
11584 /PDFToDvips{72.27 div Resolution mul} def%
11585 /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.

```

11586 /BorderArrayPatch{%
11587 [exch{%
11588 dup dup type/integertype eq exch type/realttype eq or%
11589 {BPToDvips}if%
11590 }forall]%
11591 }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.

```

11592 /HyperBorder {1 PDFToDvips} def%
11593 /H.V {pdf@hoff pdf@voff null} def%
11594 /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

```

11595 /H.S {%
11596   currentpoint %
11597   HyperBorder add /pdf@lly exch def %
11598   dup DvipsToPDF 72 add /pdf@hoff exch def %
11599   HyperBorder sub /pdf@llx exch def%
11600 } 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

```

11601 /H.L {%
11602   2 sub dup%
11603   /HyperBasePt exch def %
11604   PDFToDvips /HyperBaseDvips exch def %
11605   currentpoint %
11606   HyperBaseDvips sub /pdf@ury exch def%
11607   /pdf@urx exch def%
11608 } def%
11609 /H.A {%
11610   H.L %
11611 % |pdf@voff| = the distance from the top of the page to a point
11612 % |\baselineskip| above the current point in PDF coordinates
11613   currentpoint exch pop %
11614   vsize 72 sub exch DvipsToPDF %
11615   HyperBasePt sub % baseline skip
11616   sub /pdf@voff exch def%
11617 } def%
11618 /H.R {%
11619   currentpoint %
11620   HyperBorder sub /pdf@ury exch def %
11621   HyperBorder add /pdf@urx exch def %
11622 % |pdf@voff| = the distance from the top of the page to the current point, in
11623 % PDF coordinates
11624   currentpoint exch pop vsize 72 sub %
11625   exch DvipsToPDF sub /pdf@voff exch def%
11626 } def%
11627 }%
11628 }
11629 \AtBeginShipoutFirst{%
11630   \ifHy@setpagesize
11631     \begingroup
11632     \@ifundefined{stockwidth}{%
11633       \ifdim\paperwidth>\z@
11634         \ifdim\paperheight>\z@
11635           \special{papersize=\the\paperwidth,\the\paperheight}%
11636         \fi
11637       \fi
11638     }{%

```

```

11639     \ifdim\stockwidth>\z@
11640     \ifdim\stockheight>\z@
11641     \special{papersize=\the\stockwidth,\the\stockheight}%
11642     \fi
11643     \fi
11644   }%
11645 \endgroup
11646 \fi
11647 \Hy@DisableOption{setpagesize}%
11648 }
11649 </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.

```

11650 <*vtexpdfmark>
11651 \providecommand*\XR@ext{-pdf}
11652 \let\Hy@raisedlink\tx@empty
11653 \def\literalps@out#1{\special{pS:#1}}%
11654 \def\headerps@out#1{\immediate\special{pS:#1}}%
11655 \input{pdfmark.def}%
11656 \ifx\@pdfproducer\relax
11657   \ifnum\OpMode=\@ne
11658     \def\@pdfproducer{VTeX}%
11659   \else
11660     \def\@pdfproducer{VTeX + Distiller}%
11661   \fi
11662 \fi
11663 \providecommand*\@pdfborder{0 0 1}
11664 \providecommand*\@pdfborderstyle{}
11665 \providecommand*\@pdfview{XYZ}
11666 \providecommand*\@pdfviewparams{ H.V}
11667 \g@addto@macro\Hy@FirstPageHook{%
11668   \headerps@out{%
11669     /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.

```

11670   /HyperBorder {1} def%
11671   /H.V {pdf@hoff pdf@voff null} def%
11672   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11673   /H.S {%
11674     currentpoint %
11675     HyperBorder sub%
11676     /pdf@lly exch def %
11677     dup 72 add /pdf@hoff exch def %
11678     HyperBorder sub%
11679     /pdf@llx exch def%
11680   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: `pdf@ury = Yc + HyperBasePt + HyperBorder`, `pdf@urx = Xc + HyperBorder`

```

11681 /H.L {%
11682 2 sub%
11683 /HyperBasePt exch def %
11684 currentpoint %
11685 HyperBasePt add HyperBorder add%
11686 /pdf@ury exch def %
11687 HyperBorder add%
11688 /pdf@urx exch def%
11689 } def%
11690 /H.A {%
11691 H.L %
11692 currentpoint exch pop %
11693 vsize 72 sub exch %
11694 HyperBasePt add add%
11695 /pdf@voff exch def%
11696 } def%

```

`pdf@ury = Yc + HyperBorder`, `pdf@urx = Xc + HyperBorder`

```

11697 /H.R {%
11698 currentpoint %
11699 HyperBorder add%
11700 /pdf@ury exch def %
11701 HyperBorder add%
11702 /pdf@urx exch def %
11703 currentpoint exch pop vsize 72 sub add%
11704 /pdf@voff exch def%
11705 } def%
11706 }%
11707 }
11708 </vtexpdfmark>

```

46.11 Textures

```

11709 <*textures>
11710 \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.

```

11711 \begingroup
11712 \obeylines %
11713 \gdef\Hy@ps@CR{\noexpand
11714 }%
11715 \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`.

```
11716 \def\literalps@out#1{%
11717   \special{postscript 0 0 transform}%
11718   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11719 }%
11720 %
```

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.

```
11721 \def\headerps@out#1{%
11722   \special{%
11723     prepostscript TeXdict begin\Hy@ps@CR
11724       #1\Hy@ps@CR
11725     end%
11726   }%
11727 }%
11728 %
```

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.

```
11729 \g@addto@macro\Hy@FirstPageHook{%
11730   \headerps@out{%
11731     /betterpdfmark {%
11732       systemdict begin %
11733         dup /BP eq%
11734         {cleartomark gsave nulldevice []%
11735         {dup /EP eq%
11736           {cleartomark cleartomark grestore}%
11737           {cleartomark}%
11738         ifelse%
11739       }ifelse %
11740     end%
11741   }def\Hy@ps@CR
11742   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11743 }% end of \headerps@out
11744 }% end of \AtBeginShipoutFirst
11745 %
11746 \input{pdfmark.def}%
11747 %
11748 \ifx\@pdfproducer\relax
11749   \def\@pdfproducer{Textures + Distiller}%
11750 \fi
11751 \providecommand*\@pdfborder{0 0 1}
11752 \providecommand*\@pdfborderstyle{}
11753 \providecommand*\@pdfview{XYZ}
11754 \providecommand*\@pdfviewparams{ H.V}
11755 %
```

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 .

```
11756 \Hy@AtBeginDocument{%
```

```

11757 \headerps@out{%
Textures lives in normal points, I think. So conversion from one coordinate system to
another involves doing nothing.
11758 /vsize {\Hy@pageheight} def%
11759 /DvipsToPDF {} def%
11760 /PDFToDvips {} def%
11761 /BPToDvips {} def%
11762 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11763 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11764 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11765 /H.S {%
11766 currentpoint %
11767 HyperBorder add /pdf@lly exch def %
11768 dup DvipsToPDF 72 add /pdf@hoff exch def %
11769 HyperBorder sub /pdf@llx exch def%
11770 } def\Hy@ps@CR
11771 /H.L {%
11772 2 sub %
11773 PDFToDvips /HyperBase exch def %
11774 currentpoint %
11775 HyperBase sub /pdf@ury exch def%
11776 /pdf@urx exch def%
11777 } def\Hy@ps@CR
11778 /H.A {%
11779 H.L %
11780 currentpoint exch pop %
11781 vsize 72 sub exch DvipsToPDF %
11782 HyperBase sub % baseline skip
11783 sub /pdf@voff exch def%
11784 } def\Hy@ps@CR
11785 /H.R {%
11786 currentpoint %
11787 HyperBorder sub /pdf@ury exch def %
11788 HyperBorder add /pdf@urx exch def %
11789 currentpoint exch pop vsize 72 sub %
11790 exch DvipsToPDF sub /pdf@voff exch def%
11791 } def\Hy@ps@CR
11792 }%
11793 }

11794 \Hy@AtBeginDocument{%
11795 \ifHy@colorlinks
11796 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11797 \fi
11798 }

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.
11799 \expandafter\let\expandafter\keepPDF@SetupDoc
11800 \csname PDF@SetupDoc\endcsname
11801 \def\PDF@SetupDoc{%
11802 \ifx\@baseurl\@empty
11803 \else
11804 \special{html:<base href="\@baseurl">}%
11805 \fi
11806 \keepPDF@SetupDoc
11807 }

```



```

11808 \Hy@WrapperDef\hyper@anchor#1{%
11809 \Hy@SaveLastskip
11810 \Hy@VerboseAnchor{#1}%
11811 \begingroup
11812 \let\protect=\string
11813 \special{html:<a name=%
11814 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11815 \endgroup
11816 \Hy@activeanchortrue
11817 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11818 \special{html:</a>}%
11819 \Hy@activeanchorfalse
11820 \Hy@RestoreLastskip
11821 }
11822 \Hy@WrapperDef\hyper@anchorstart#1{%
11823 \Hy@SaveLastskip
11824 \Hy@VerboseAnchor{#1}%
11825 \begingroup
11826 \hyper@chars
11827 \special{html:<a name=%
11828 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11829 \endgroup
11830 \Hy@activeanchortrue
11831 }
11832 \def\hyper@anchorend{%
11833 \special{html:</a>}%
11834 \Hy@activeanchorfalse
11835 \Hy@RestoreLastskip
11836 }
11837 \def\@urlltype{url}
11838 \def\hyper@linkstart#1#2{%
11839 \Hy@VerboseLinkStart{#1}{#2}%
11840 \expandafter\Hy@colorlink\csname @#1color\endcsname
11841 \def\Hy@tempa{#1}%
11842 \ifx\Hy@tempa\@urlltype
11843 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11844 \else
11845 \begingroup
11846 \hyper@chars
11847 \special{%
11848 html:<a href=%
11849 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11850 }%
11851 \endgroup
11852 \fi
11853 }
11854 \def\hyper@linkend{%
11855 \special{html:</a>}%
11856 \Hy@endcolorlink
11857 }
11858 \def\hyper@linkfile#1#2#3{%
11859 \hyper@linkurl{#1}{%
11860 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11861 }%
11862 }
11863 \def\hyper@linkurl#1#2{%
11864 \leavevmode

```

```

11865 \ifHy@raiselinks
11866   \Hy@SaveSpaceFactor
11867   \Hy@SaveSavedSpaceFactor
11868   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11869   \Hy@RestoreSavedSpaceFactor
11870   \@linkdim\dp\@tempboxa
11871   \lower\@linkdim\hbox{%
11872     \hyper@chars
11873     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11874   }%
11875   \Hy@colorlink\@urlcolor
11876   \Hy@RestoreSpaceFactor
11877   #1\Hy@xspace@end
11878   \Hy@SaveSpaceFactor
11879   \@linkdim\ht\@tempboxa
11880   \advance\@linkdim by -6.5\p@
11881   \raise\@linkdim\hbox{\special{html:</a>}}%
11882   \Hy@endcolorlink
11883   \Hy@RestoreSpaceFactor
11884 \else
11885   \begingroup
11886     \hyper@chars
11887     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11888     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11889     \special{html:</a>}%
11890     \Hy@endcolorlink
11891   \endgroup
11892 \fi
11893 }

```

Very poor implementation of \hyper@link without considering #1.

```

11894 \def\hyper@link#1#2#3{%
11895   \Hy@VerboseLinkStart{#1}{#2}%
11896   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
11897 }
11898 \def\hyper@image#1#2{%
11899   \begingroup
11900     \hyper@chars
11901     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11902   \endgroup
11903 }
11904 </textures>

```

46.12 dvipsone

```

11905 % \subsection{dvipsone driver}
11906 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11907 % |\special| commands.
11908 <*dvipsone>
11909 \providecommand*\XR@ext}{pdf}
11910 \let\Hy@raisedlink\tx@empty
11911 \providecommand*\@pdfborder{0 0 1}
11912 \providecommand*\@pdfborderstyle{}
11913 \def\literalps@out#1{\special{ps:#1}}%
11914 \def\headerps@out#1{\special{headertext=#1}}%
11915 \input{pdfmark.def}%
11916 \ifx\@pdfproducer\relax
11917   \def\@pdfproducer{dvipsone + Distiller}%

```

```

11918 \fi
11919 \HyInfo@AddonUnsupportedtrue
11920 \def\PDF@FinishDoc{%
11921   \Hy@UseMaketitleInfos
11922   \HyInfo@TrappedUnsupported
11923   \special{PDF: Keywords \@pdfkeywords}%
11924   \special{PDF: Title \@pdftitle}%
11925   \special{PDF: Creator \@pdfcreator}%
11926   \ifx\@pdfcreationdate\@empty
11927   \else
11928     \special{PDF: CreationDate \@pdfcreationdate}%
11929   \fi
11930   \ifx\@pdfmoddate\@empty
11931   \else
11932     \special{PDF: ModDate \@pdfmoddate}%
11933   \fi
11934   \special{PDF: Author \@pdfauthor}%
11935   \ifx\@pdfproducer\relax
11936   \else
11937     \special{PDF: Producer \@pdfproducer}%
11938   \fi
11939   \special{PDF: Subject \@pdfsubject}%
11940   \Hy@DisableOption{pdfauthor}%
11941   \Hy@DisableOption{pdftitle}%
11942   \Hy@DisableOption{pdfsubject}%
11943   \Hy@DisableOption{pdfcreator}%
11944   \Hy@DisableOption{pdfcreationdate}%
11945   \Hy@DisableOption{pdfmoddate}%
11946   \Hy@DisableOption{pdfproducer}%
11947   \Hy@DisableOption{pdfkeywords}%
11948   \Hy@DisableOption{pdftrapped}%
11949   \Hy@DisableOption{pdfinfo}%
11950 }
11951 \def\PDF@SetupDoc{%
11952   \def\Hy@temp{ }%
11953   \ifx\@pdfstartpage\@empty
11954   \else
11955     \ifx\@pdfstartview\@empty
11956     \else
11957       \edef\Hy@temp{%
11958         ,Page=\@pdfstartpage
11959         ,View=\@pdfstartview
11960       }%
11961     \fi
11962   \fi
11963   \edef\Hy@temp{%
11964     \noexpand\pdfmark{%
11965       pdfmark=/DOCVIEW,%
11966       PageMode=/\@pdfpagemode
11967     }\Hy@temp
11968   }%
11969 }%
11970 \Hy@temp
11971 \ifx\@pdfpagescrop\@empty
11972 \else
11973   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11974 \fi

```

```

11975 \edef\Hy@temp{%
11976   \ifHy@toolbar\else /HideToolbar true\fi
11977   \ifHy@menubar\else /HideMenubar true\fi
11978   \ifHy>windowui\else /HideWindowUI true\fi
11979   \ifHy@fitwindow /FitWindow true\fi
11980   \ifHy@centerwindow /CenterWindow true\fi
11981   \ifHy@displaydoctitle /DisplayDocTitle true\fi
11982   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11983   \Hy@UseNameKey{Direction}\@pdfdirection
11984   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11985   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11986   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11987   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11988   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11989   \Hy@UseNameKey{Duplex}\@pdfduplex
11990   \ifx\@pdfpicktraybypdfsize\@empty
11991   \else
11992     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11993   \fi
11994   \ifx\@pdfprintpagerange\@empty
11995   \else
11996     /PrintPageRange[\@pdfprintpagerange]%
11997   \fi
11998   \ifx\@pdfnumcopies\@empty
11999   \else
12000     /NumCopies \@pdfnumcopies
12001   \fi
12002 }%
12003 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12004 \pdfmark{%
12005   pdfmark=/PUT,%
12006   Raw={%
12007     \string{Catalog\string}<<%
12008     \ifx\Hy@temp\@empty
12009     \else
12010       /ViewerPreferences<<\Hy@temp>>%
12011     \fi
12012     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12013     \ifx\@pdflang\@empty
12014     \else
12015       /Lang(\@pdflang)%
12016     \fi
12017     \ifx\@baseurl\@empty
12018     \else
12019       /URI<</Base(\Hy@pstringB)>>%
12020     \fi
12021     >>%
12022   }%
12023 }%
12024 }
12025 \providecommand*\@pdfview{XYZ}
12026 \providecommand*\@pdfviewparams{ %
12027   gsave revscl currentpoint grestore %
12028   72 add exch pop null exch null%
12029 }
12030 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS

variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```
12031 \g@addto@macro\Hy@FirstPageHook{%
12032 \headerps@out{%
```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```
12033 /DvipsToPDF { 65781 div } def%
12034 /PDFToDvips { 65781 mul } def%
12035 /BPToDvips{65781 mul}def%
12036 /HyperBorder { 1 PDFToDvips } def%
12037 /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.

```
12038 /BorderArrayPatch{%
12039   [exch{%
12040     dup dup type/integertype eq exch type/realttype eq or%
12041     {BPToDvips}if%
12042   }forall]%
12043 }def%
12044 /H.S {%
12045   currentpoint %
12046   HyperBorder add /pdf@lly exch def %
12047   dup DvipsToPDF 72 add /pdf@hoff exch def %
12048   HyperBorder sub /pdf@llx exch def%
12049 } def%
12050 /H.L {%
12051   2 sub %
12052   PDFToDvips /HyperBase exch def %
12053   currentpoint %
12054   HyperBase sub /pdf@ury exch def%
12055   /pdf@urx exch def%
12056 } def%
12057 /H.A {%
12058   H.L %
12059   currentpoint exch pop %
12060   HyperBase sub % baseline skip
12061   DvipsToPDF /pdf@voff exch def%
12062 } def%
12063 /H.R {%
12064   currentpoint %
12065   HyperBorder sub /pdf@ury exch def %
12066   HyperBorder add /pdf@urx exch def %
12067   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12068 } def%
12069 }%
12070 }
12071 </dvipsone>
```

46.13 TeX4ht

```
12072 <*tex4ht>
12073 \providecommand*\XR@ext}{html}
12074 \let\Hy@raisedlink\ltx@empty
12075 \@ifpackageloaded{tex4ht}{%
12076 \Hy@InfoNoLine{tex4ht is already loaded}%
```

```

12077 }{%
12078   \RequirePackage[htex4ht]{tex4ht}%
12079 }
12080 \hyperlinkfileprefix{}
12081 \let\PDF@FinishDoc\ltx@empty
12082 \def\PDF@SetupDoc{%
12083   \ifx\@baseurl\@empty
12084     \else
12085     \special{t4ht=<base href="\@baseurl">}%
12086   \fi
12087 }
12088 \Hy@WrapperDef\hyper@anchor#1{%
12089   \Hy@SaveLastskip
12090   \Hy@VerboseAnchor{#1}%
12091   \begingroup
12092     \let\protect=\string
12093     \special{t4ht=<a name=%
12094       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12095   \endgroup
12096   \Hy@activeanchortrue
12097   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12098   \special{t4ht=</a>}%
12099   \Hy@activeanchorfalse
12100   \Hy@RestoreLastskip
12101 }
12102 \Hy@WrapperDef\hyper@anchorstart#1{%
12103   \Hy@SaveLastskip
12104   \Hy@VerboseAnchor{#1}%
12105   \begingroup
12106     \hyper@chars\special{t4ht=<a name=%
12107       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12108   \endgroup
12109   \Hy@activeanchortrue
12110 }
12111 \def\hyper@anchorend{%
12112   \special{t4ht=</a>}%
12113   \Hy@activeanchorfalse
12114   \Hy@RestoreLastskip
12115 }
12116 \def\@urltype{url}
12117 \def\hyper@linkstart#1#2{%
12118   \Hy@VerboseLinkStart{#1}{#2}%
12119   \expandafter\Hy@colorlink\csname @#1color\endcsname
12120   \def\Hy@tempa{#1}%
12121   \ifx\Hy@tempa\@urltype
12122     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12123   \else
12124     \begingroup
12125       \hyper@chars
12126       \special{t4ht=<a href=%
12127         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12128     \endgroup
12129   \fi
12130 }
12131 \def\hyper@linkend{%
12132   \special{t4ht=</a>}%
12133   \Hy@endcolorlink

```

```

12134 }
12135 \def\hyper@linkfile#1#2#3{%
12136 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
12137 }
12138 \def\hyper@linkurl#1#2{%
12139 \leavevmode
12140 \ifHy@raiselinks
12141 \Hy@SaveSpaceFactor
12142 \Hy@SaveSavedSpaceFactor
12143 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12144 \Hy@RestoreSavedSpaceFactor
12145 \@linkdim\dp\@tempboxa
12146 \lower\@linkdim\hbox{%
12147 \begingroup
12148 \hyper@chars
12149 \special{%
12150 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12151 }%
12152 \endgroup
12153 }%
12154 \Hy@colorlink\@urlcolor
12155 \Hy@RestoreSpaceFactor
12156 #1\Hy@xspace@end
12157 \Hy@SaveSpaceFactor
12158 \Hy@endcolorlink
12159 \@linkdim\ht\@tempboxa
12160 \advance\@linkdim by -6.5\p@
12161 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12162 \Hy@RestoreSpaceFactor
12163 \else
12164 \begingroup
12165 \hyper@chars
12166 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12167 \Hy@colorlink\@urlcolor
12168 #1\Hy@xspace@end
12169 \Hy@endcolorlink
12170 \special{t4ht=</a>}%
12171 \endgroup
12172 \fi
12173 }

```

Poor implementation of \hyper@link without considering #1.

```

12174 \def\hyper@link#1#2#3{%
12175 \Hy@VerboseLinkStart{#1}{#2}%
12176 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
12177 }
12178 \def\hyper@image#1#2{%
12179 \begingroup
12180 \hyper@chars
12181 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12182 \endgroup
12183 }
12184 \let\autoref\ref
12185 \ifx\rEfLiNK\UnDef
12186 \def\rEfLiNK #1#2{#2}%
12187 \fi
12188 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12189 \AtBeginDocument{%
12190 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12191 \expandafter\def\csname Make:Label\endcsname#1#2{%
12192   \ifhmode
12193     \Hy@SaveSpaceFactor
12194   \else
12195     \global\Hy@SavedSpaceFactor=1000 %
12196   \fi
12197   \Hy@OrgMakeLabel{#1}{%
12198     \Hy@RestoreSpaceFactor
12199     #2\Hy@xspace@end%
12200     \Hy@SaveSpaceFactor
12201   }%
12202   \Hy@RestoreSpaceFactor
12203 }%
12204 }
12205 </tex4ht>
12206 <*tex4htcfg>
12207 \IfFileExists{\jobname.cfg}{\endinput}{}
12208 \Preamble{html}
12209 \begin{document}%
12210 \EndPreamble
12211 \def\TeX{TeX}
12212 \def\OMEGA{Omega}
12213 \def\LaTeX{LaTeX}
12214 \def\LaTeXe{LaTeX2e}
12215 \def\TeX{e-TeX}
12216 \def\MF{Metafont}
12217 \def\MP{MetaPost}
12218 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12219 <*pdfmark>
12220 \long\def\@Form[#1]{%
12221 \g@addto@macro\Hy@FirstPageHook{%
12222 \headerps@out{%
12223 [%
12224 /_objdef{pdfDocEncoding}%
12225 /type/dict%
12226 /OBJ pdfmark%
12227 [%
12228 {pdfDocEncoding}%
12229 <<%
12230 /Type/Encoding%
12231 /Differences[%
12232 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12233 /tilde %
12234 39/quotesingle %
12235 96/grave %
12236 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12237 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12238 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12239 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12240 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12241 164/currency %

```


12242 166/brokenbar %
12243 168/dieresis/copyright/ordfeminine %
12244 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12245 /twosuperior/threesuperior/acute/mu %
12246 183/periodcentered/cedilla/onesuperior/ordmasculine %
12247 188/onequarter/onehalf/threequarters %
12248 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12249 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12250 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12251 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12252 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12253 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12254 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12255 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12256 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12257 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12258]%
12259 >>%
12260 /PUT pdfmark%
12261 [%
12262 /_objdef{ZaDb}%
12263 /type/dict%
12264 /OBJ pdfmark%
12265 [%
12266 {ZaDb}%
12267 <<%
12268 /Type/Font%
12269 /Subtype/Type1%
12270 /Name/ZaDb%
12271 /BaseFont/ZapfDingbats%
12272 >>%
12273 /PUT pdfmark%
12274 [%
12275 /_objdef{Helv}%
12276 /type/dict%
12277 /OBJ pdfmark%
12278 [%
12279 {Helv}%
12280 <<%
12281 /Type/Font%
12282 /Subtype/Type1%
12283 /Name/Helv%
12284 /BaseFont/Helvetica%
12285 /Encoding{pdfDocEncoding}%
12286 >>%
12287 /PUT pdfmark%
12288 [%
12289 /_objdef{aform}%
12290 /type/dict%
12291 /OBJ pdfmark%
12292 [%
12293 /_objdef{afields}%
12294 /type/array%
12295 /OBJ pdfmark%
12296 {%
12297 [%
12298 /BBox[0 0 100 100]%

12299 /_objdef{Check}%
12300 /BP pdfmark %
12301 1 0 0 setrgbcolor%
12302 /ZapfDingbats 80 selectfont %
12303 20 20 moveto%
12304 (4)show%
12305 [/EP pdfmark%
12306 [%
12307 /BBox[0 0 100 100]%
12308 /_objdef{Cross}%
12309 /BP pdfmark %
12310 1 0 0 setrgbcolor%
12311 /ZapfDingbats 80 selectfont %
12312 20 20 moveto%
12313 (8)show%
12314 [/EP pdfmark%
12315 [%
12316 /BBox[0 0 250 100]%
12317 /_objdef{Submit}%
12318 /BP pdfmark %
12319 0.6 setgray %
12320 0 0 250 100 rectfill %
12321 1 setgray %
12322 2 2 moveto %
12323 2 98 lineto %
12324 248 98 lineto %
12325 246 96 lineto %
12326 4 96 lineto %
12327 4 4 lineto %
12328 fill %
12329 0.34 setgray %
12330 248 98 moveto %
12331 248 2 lineto %
12332 2 2 lineto %
12333 4 4 lineto %
12334 246 4 lineto %
12335 246 96 lineto %
12336 fill%
12337 /Helvetica 76 selectfont %
12338 0 setgray %
12339 8 22.5 moveto%
12340 (Submit)show%
12341 [/EP pdfmark%
12342 [%
12343 /BBox[0 0 250 100]%
12344 /_objdef{SubmitP}%
12345 /BP pdfmark %
12346 0.6 setgray %
12347 0 0 250 100 rectfill %
12348 0.34 setgray %
12349 2 2 moveto %
12350 2 98 lineto %
12351 248 98 lineto %
12352 246 96 lineto %
12353 4 96 lineto %
12354 4 4 lineto %
12355 fill %

```

12356 1 setgray %
12357 248 98 moveto %
12358 248 2 lineto %
12359 2 2 lineto %
12360 4 4 lineto %
12361 246 4 lineto %
12362 246 96 lineto %
12363 fill%
12364 /Helvetica 76 selectfont %
12365 0 setgray %
12366 10 20.5 moveto%
12367 (Submit)show%
12368 [/EP pdfmark%
12369 }?pdfmark%
12370 [%
12371 {aform}%
12372 <<%
12373 /Fields{afields}%
12374 /DR<<%
12375 /Font<<%
12376 /ZaDb{ZaDb}%
12377 /Helv{Helv}%
12378 >>%
12379 >>%
12380 /DA(/Helv 10 Tf 0 g)%
12381 /CO{corder}%
12382 \ifHy@pdfa
12383 \else
12384 \ifHyField@NeedAppearances
12385 /NeedAppearances true%
12386 \fi
12387 \fi
12388 >>%
12389 /PUT pdfmark%
12390 [%
12391 {Catalog}%
12392 <<%
12393 /AcroForm{aform}%
12394 >>%
12395 /PUT pdfmark%
12396 [%
12397 /__objdef{corder}%
12398 /type/array%
12399 /OBJ pdfmark% dps
12400 }}%
12401 \kvsetkeys{Form}{#1}%
12402 }
12403 \let\@endForm\ltx@empty
12404 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12405 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12406 }
12407 \def\@TextField[#1]#2{% parameters, label
12408 \def\Fld@name{#2}%
12409 \let\Fld@default\ltx@empty
12410 \let\Fld@value\@empty
12411 \def\Fld@width{\DefaultWidthofText}%
12412 \def\Fld@height{%

```

```

12413 \ifFld@multiline
12414 \DefaultHeightofTextMultiline
12415 \else
12416 \DefaultHeightofText
12417 \fi
12418 }%
12419 \begingroup
12420 \expandafter\HyField@SetKeys\expandafter{%
12421 \DefaultOptionsofText,#1%
12422 }%
12423 \HyField@FlagsText
12424 \ifFld@hidden\def\Fld@width{1sp}\fi
12425 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12426 \LayoutTextField{#2}{%
12427 \Hy@escapeform\PDFForm@Text
12428 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12429 pdfmark=/ANN,Raw={\PDFForm@Text}%
12430 }%
12431 }%
12432 \endgroup
12433 }
12434 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12435 \def\Fld@name{#2}%
12436 \let\Fld@default\relax
12437 \let\Fld@value\relax
12438 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12439 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12440 \begingroup
12441 \Fld@menulength=0 %
12442 \@tempdima\z@
12443 \@for\@curropt=#3\do{%
12444 \expandafter\Fld@checkequals\@curropt==\%
12445 \Hy@StepCount\Fld@menulength
12446 \settowidth{\@tempdimb}{\@currDisplay}%
12447 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12448 }%
12449 \advance\@tempdima by 15\p@
12450 \begingroup
12451 \HyField@SetKeys{#1}%
12452 \edef\x{\endgroup
12453 \noexpand\expandafter
12454 \noexpand\HyField@SetKeys
12455 \noexpand\expandafter{%
12456 \expandafter\noexpand\curname DefaultOptionsof%
12457 \ifFld@radio
12458 Radio%
12459 \else
12460 \ifFld@combo
12461 \ifFld@popdown
12462 PopdownBox%
12463 \else
12464 ComboBox%
12465 \fi
12466 \else
12467 ListBox%
12468 \fi
12469 \fi

```

```

12470     \endcsname
12471   }%
12472 } \x
12473 \HyField@SetKeys{#1}%
12474 \ifFld@hidden\def\Fld@width{1sp}\fi
12475 \ifx\Fld@value\relax
12476   \let\Fld@value\Fld@default
12477 \fi
12478 \LayoutChoiceField{#2}{%
12479   \ifFld@radio
12480     \HyField@FlagsRadioButton
12481     \@@Radio{#3}%
12482   \else
12483     \beginngroup
12484     \HyField@FlagsChoice
12485     \ifdim\Fld@width<\@tempdima
12486       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12487       \edef\Fld@width{\the\@tempdima}%
12488     \fi
12489     \ifFld@combo
12490     \else
12491       \@tempdima=\the\Fld@menulength\Fld@charsize
12492       \advance\@tempdima by \Fld@borderwidth bp %
12493       \advance\@tempdima by \Fld@borderwidth bp %
12494       \edef\Fld@height{\the\@tempdima}%
12495     \fi
12496     \@@ListBox{#3}%
12497   \endgroup
12498 \fi
12499 }%
12500 \endgroup
12501 }
12502 \def\@@Radio#1{%
12503   \Fld@listcount=0 %
12504   \EdefEscapeName\Fld@default{\Fld@default}%
12505   \@for\@curropt:=#1\do{%
12506     \expandafter\Fld@checkequals\@curropt==\%
12507     \EdefEscapeName\@currValue{\@currValue}%
12508     \Hy@StepCount\Fld@listcount
12509     \@currDisplay\space
12510     \Hy@escapeform\PDFForm@Radio
12511     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12512       pdfmark=/ANN,%
12513       Raw={%
12514         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12515       }%
12516     } % deliberate space between radio buttons
12517   }%
12518 }
12519 \newcount\Fld@listcount
12520 \def\@@ListBox#1{%
12521   \HyField@PDFChoices{#1}%
12522   \Hy@escapeform\PDFForm@List
12523   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12524     pdfmark=/ANN,Raw={\PDFForm@List}%
12525   }%
12526 }

```

```

12527 \def\@PushButton[#1]#2{% parameters, label
12528   \def\Fld@name{#2}%
12529   \begingroup
12530   \expandafter\HyField@SetKeys\expandafter{%
12531     \DefaultOptionsofPushButton,#1%
12532   }%
12533   \ifHy@pdfa
12534     \Hy@Error{%
12535       PDF/A: Push button with JavaScript is prohibited%
12536     }\@ehc
12537     \LayoutPushButtonField{%
12538       \leavevmode
12539       \MakeButtonField{#2}%
12540     }%
12541   \else
12542     \HyField@FlagsPushButton
12543     \ifFld@hidden\def\Fld@width{1sp}\fi
12544     \LayoutPushButtonField{%
12545       \leavevmode
12546       \Hy@escapeform\PDFForm@Push
12547       \pdfmark[\MakeButtonField{#2}]{%
12548         pdfmark=/ANN,Raw={\PDFForm@Push}%
12549       }%
12550     }%
12551   \fi
12552 \endgroup
12553 }
12554 \def\@Submit[#1]#2{%
12555   \def\Fld@width{\DefaultWidthofSubmit}%
12556   \def\Fld@height{\DefaultHeightofSubmit}%
12557   \begingroup
12558   \expandafter\HyField@SetKeys\expandafter{%
12559     \DefaultOptionsofSubmit,#1%
12560   }%
12561   \HyField@FlagsPushButton
12562   \HyField@FlagsSubmit
12563   \ifFld@hidden\def\Fld@width{1sp}\fi
12564   \Hy@escapeform\PDFForm@Submit
12565   \pdfmark[\MakeButtonField{#2}]{%
12566     pdfmark=/ANN,%
12567     Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12568   }%
12569 \endgroup
12570 }
12571 \def\@Reset[#1]#2{%
12572   \def\Fld@width{\DefaultWidthofReset}%
12573   \def\Fld@height{\DefaultHeightofReset}%
12574   \begingroup
12575   \expandafter\HyField@SetKeys\expandafter{%
12576     \DefaultOptionsofReset,#1%
12577   }%
12578   \leavevmode
12579   \ifHy@pdfa
12580     \Hy@Error{%
12581       PDF/A: Reset action is prohibited%
12582     }\@ehc
12583     \MakeButtonField{#2}%

```

```

12584 \else
12585 \HyField@FlagsPushButton
12586 \ifFld@hidden\def\Fld@width{1sp}\fi
12587 \Hy@escapeform\PDFForm@Reset
12588 \pdfmark[\MakeButtonField{#2}]{%
12589 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12590 }%
12591 \fi
12592 \endgroup
12593 }%
12594 \def\@CheckBox[#1]#2{% parameters, label
12595 \def\Fld@name{#2}%
12596 \def\Fld@default{0}%
12597 \begingroup
12598 \def\Fld@width{\DefaultWidthofCheckBox}%
12599 \def\Fld@height{\DefaultHeightofCheckBox}%
12600 \expandafter\HyField@SetKeys\expandafter{%
12601 \DefaultOptionsofCheckBox,#1%
12602 }%
12603 \HyField@FlagsCheckBox
12604 \ifFld@hidden\def\Fld@width{1sp}\fi
12605 \LayoutCheckField{#2}{%
12606 \Hy@escapeform\PDFForm@Check
12607 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12608 pdfmark=/ANN,Raw={\PDFForm@Check}%
12609 }%
12610 }%
12611 \endgroup
12612 }
12613 </pdfmark>

```

47.2 HyperTeX

```

12614 <*hypertex>
12615 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12616 \let\@endForm\ltx@empty
12617 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12618 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12619 }
12620 \def\@TextField[#1]#2{% parameters, label
12621 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12622 }
12623 \def\@CheckBox[#1]#2{% parameters, label
12624 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12625 }
12626 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12627 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12628 }
12629 \def\@PushButton[#1]#2{% parameters, label
12630 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12631 }
12632 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12633 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12634 </hypertex>

```

47.3 TeX4ht

```

12635 <*tex4ht>
12636 \def\@Form[#1]{%

```

```

12637 \kvsetkeys{Form}{#1}%
12638 \HCode{<form action="\Form@action" method="\Form@method">}%
12639 }
12640 \def\@endForm{\HCode{</form>}}
12641 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12642 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12643 }
12644 \def\@TextField[#1]#2{% parameters, label
12645 \let\Hy@reserved@a\@empty
12646 \def\Fld@name{#2}%
12647 \let\Fld@default\tx@empty
12648 \bgroup
12649 \Field@toks={ }%
12650 \kvsetkeys{Field}{#1}%
12651 \HCode{<label for="\Fld@name">#2</label>}%
12652 \ifFld@password
12653 \@@PasswordField
12654 \else
12655 \@@TextField
12656 \fi
12657 \egroup
12658 }
12659 \def\@@PasswordField{%
12660 \HCode{%
12661 <input type="password" %
12662 id="\Fld@name" %
12663 name="\Fld@name" %
12664 \ifFld@hidden type="hidden" \fi
12665 value="\Fld@default" %
12666 \the\Field@toks
12667 >%
12668 }%
12669 }
12670 \def\@@TextField{%
12671 \ifFld@multiline
12672 \HCode{<textarea %
12673 \ifFld@readonly readonly \fi
12674 id="\Fld@name" %
12675 name="\Fld@name" %
12676 \ifFld@hidden type="hidden" \fi
12677 \the\Field@toks>%
12678 }%
12679 \Fld@default
12680 \HCode{</textarea>}%
12681 \else
12682 \HCode{<input type="text" %
12683 \ifFld@readonly readonly \fi
12684 id="\Fld@name" %
12685 name="\Fld@name" %
12686 \ifFld@hidden type="hidden" \fi
12687 value="\Fld@default" %
12688 \the\Field@toks>%
12689 }%
12690 \fi
12691 }
12692 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12693 \def\Fld@name{#2}%

```



```

12694 \let\Fld@default\ltx@empty
12695 \let\Hy@reserved@a\relax
12696 \begingroup
12697 \expandafter\Fld@findlength#3\\%
12698 \Field@toks={ }%
12699 \kvsetkeys{Field}{#1}%
12700 #2%
12701 \ifFld@radio
12702 \expandafter\@@Radio#3\\%
12703 \else
12704 \expandafter\@@Menu#3\\%
12705 \fi
12706 \endgroup
12707 }
12708 \def\Fld@findlength#1\\{%
12709 \Fld@menulength=0 %
12710 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12711 }
12712 \def\@@Menu#1\\{%
12713 \HCode{<select size="\the\Fld@menulength" %
12714 name="\Fld@name" %
12715 \the\Field@toks>%
12716 }%
12717 \@for\@curropt:=#1\do{%
12718 \expandafter\Fld@checkequals\@curropt==\\%
12719 \HCode{<option %
12720 \ifx\@curropt\Fld@default selected \fi
12721 value="\@currValue">\@currDisplay</option>%
12722 }%
12723 }%
12724 \HCode{</select>}%
12725 }
12726 \def\@@Radio#1\\{%
12727 \@for\@curropt:=#1\do{%
12728 \expandafter\Fld@checkequals\@curropt==\\%
12729 \HCode{<input type="radio" %
12730 \ifx\@curropt\Fld@default checked \fi
12731 name="\Fld@name" %
12732 value="\@currValue" %
12733 \the\Field@toks>%
12734 }%
12735 \@currDisplay
12736 }%
12737 }
12738 \def\@PushButton[#1]#2{% parameters, label
12739 \def\Fld@name{#2}%
12740 \bgroup
12741 \Field@toks={ }%
12742 \kvsetkeys{Field}{#1}%
12743 \HCode{<input type="button" %
12744 name="\Fld@name" %
12745 value="#2" %
12746 \the\Field@toks>%
12747 }%
12748 \HCode{</button>}%
12749 \egroup
12750 }

```

```

12751 \def\@Submit[#1]#2{%
12752   \HCode{<button type="submit">#2</button>}%
12753 }
12754 \def\@Reset[#1]#2{%
12755   \HCode{<button type="reset">#2</button>}%
12756 }
12757 \def\@CheckBox[#1]#2{% parameters, label
12758   \let\Hy@reserved@a\@empty
12759   \def\Fld@name{#2}%
12760   \def\Fld@default{0}%
12761   \bgroup
12762     \Field@toks={ }%
12763     \kvsetkeys{Field}{#1}%
12764     \HCode{<input type="checkbox" %
12765       \ifFld@checked checked \fi
12766       \ifFld@disabled disabled \fi
12767       \ifFld@readonly readonly \fi
12768       name="\Fld@name" %
12769       \ifFld@hidden type="hidden" \fi
12770       value="\Fld@default" %
12771       \the\Field@toks>}%
12772     #2%
12773   }%
12774   \egroup
12775 }
12776 \</tex4ht>

```

47.4 pdfTeX

```

12777 \<*pdftex>
12778 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12779   \Hy@Message{Sorry, pdftex does not support FORM gauges}%
12780 }
12781 \def\MakeFieldObject#1#2{\sbox0{#1}%
12782   \immediate\pdfxform0 %
12783   \expandafter\edef\csname #2Object\endcsname{%
12784     \the\pdfastxform\space 0 R.%
12785   }%
12786   % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12787 }%
12788 \let\HyField@afields\ltx@empty
12789 \begingroup\expandafter\expandafter\expandafter\endgroup
12790 \expandafter\ifx\csname pdfastlink\endcsname\relax
12791   \let\HyField@AddToFields\relax
12792   \PackageInfo{hyperref}{%
12793     You need pdfTeX 1.40.0 for setting the /Fields entry.%
12794     \MessageBreak
12795     Adobe Reader/Acrobat accepts an empty /Field array,%
12796     \MessageBreak
12797     but other PDF viewers might complain%
12798   }%
12799 \else
12800   \let\HyField@AuxAddToFields\ltx@gobble
12801   \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12802   \Hy@AtBeginDocument{%
12803     \if@filesw
12804       \immediate\write\@mainaux{%
12805         \string\providecommand\string\HyField@AuxAddToFields[1]{}%

```

```

12806 }%
12807 \fi
12808 \let\HyField@AfterAuxOpen\@firstofone
12809 \def\HyField@AuxAddToFields#1{%
12810 \xdef\HyField@afields{%
12811 \ifx\HyField@afields\@empty
12812 \else
12813 \HyField@afields
12814 \space
12815 \fi
12816 #1 0 R%
12817 }%
12818 }%
12819 }%
12820 \def\HyField@AddToFields{%
12821 \expandafter\HyField@@AddToFields\expandafter{%
12822 \the\pdfastlink
12823 }%
12824 }%
12825 \def\HyField@@AddToFields#1{%
12826 \HyField@AfterAuxOpen{%
12827 \if@filesw
12828 \write\@mainaux{%
12829 \string\HyField@AuxAddToFields{#1}%
12830 }%
12831 \fi
12832 }%
12833 }%
12834 \fi
12835 \def\@Form[#1]{%
12836 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12837 \kvsetkeys{Form}{#1}%
12838 \pdf@ifdraftmode{}{%
12839 \Hy@FormObjects
12840 \ifnum\pdfTeXversion>13 %
12841 \pdfrefobj\OBJ@pdfdocencoding
12842 \pdfrefobj\OBJ@ZaDb
12843 \pdfrefobj\OBJ@Helv
12844 \fi
12845 \AtVeryEndDocument{%
12846 \immediate\pdfobj{%
12847 <<%
12848 /Fields[\HyField@afields]%
12849 /DR<<%
12850 /Font<<%
12851 /ZaDb \OBJ@ZaDb\space 0 R%
12852 /Helv \OBJ@Helv\space 0 R%
12853 >>%
12854 >>%
12855 /DA(/Helv 10 Tf 0 g)%
12856 \ifHy@pdfa
12857 \else
12858 \ifHyField@NeedAppearances
12859 /NeedAppearances true%
12860 \fi
12861 \fi
12862 >>%

```

```

12863 }%
12864 \edef\OBJ@acroform{\the\pdfastobj}%
12865 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12866 }%
12867 }%
12868 \MakeFieldObject{%

Same as \ding{123} of package pifont.
12869 \begingroup
12870 \fontfamily{pzd}%
12871 \fontencoding{U}%
12872 \fontseries{m}%
12873 \fontshape{n}%
12874 \selectfont
12875 \char123 %
12876 \endgroup
12877 }{Ding}%
12878 \MakeFieldObject{%
12879 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12880 }{Submit}%
12881 \MakeFieldObject{%
12882 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12883 }{SubmitP}%
12884 }
12885 \let\@endForm\ltx@empty
12886 \def\@TextField[#1]#2{% parameters, label
12887 \def\Fld@name{#2}%
12888 \let\Fld@default\ltx@empty
12889 \let\Fld@value\@empty
12890 \def\Fld@width{\DefaultWidthofText}%
12891 \def\Fld@height{%
12892 \ifFld@multiline
12893 \DefaultHeightofTextMultiline
12894 \else
12895 \DefaultHeightofText
12896 \fi
12897 }%
12898 \begingroup
12899 \expandafter\HyField@SetKeys\expandafter{%
12900 \DefaultOptionsofText,#1%
12901 }%
12902 \PDFForm@Name
12903 \HyField@FlagsText
12904 \ifFld@hidden\def\Fld@width{1sp}\fi
12905 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12906 \LayoutTextField{#2}{%
12907 \Hy@escapeform\PDFForm@Text
12908 \pdfstartlink user {\PDFForm@Text}\relax
12909 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12910 \HyField@AddToFields
12911 }%
12912 \endgroup
12913 }
12914 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12915 \def\Fld@name{#2}%
12916 \let\Fld@default\relax
12917 \let\Fld@value\relax
12918 \def\Fld@width{\DefaultWidthofChoiceMenu}%

```

```

12919 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12920 \begingroup
12921 \Fld@menulength=0 %
12922 \@tempdima\z@
12923 \@for\@curropt:=#3\do{%
12924 \expandafter\Fld@checkequals\@curropt==\\%
12925 \Hy@StepCount\Fld@menulength
12926 \settowidth{\@tempdimb}{\@currDisplay}%
12927 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12928 }%
12929 \advance\@tempdima by 15\p@
12930 \begingroup
12931 \HyField@SetKeys{#1}%
12932 \edef\x{\endgroup
12933 \noexpand\expandafter
12934 \noexpand\HyField@SetKeys
12935 \noexpand\expandafter{%
12936 \expandafter\noexpand\csname DefaultOptionsof%
12937 \ifFld@radio
12938 Radio%
12939 \else
12940 \ifFld@combo
12941 \ifFld@popdown
12942 PopdownBox%
12943 \else
12944 ComboBox%
12945 \fi
12946 \else
12947 ListBox%
12948 \fi
12949 \fi
12950 \endcsname
12951 }%
12952 } \x
12953 \HyField@SetKeys{#1}%
12954 \PDFForm@Name
12955 \ifFld@hidden\def\Fld@width{1sp}\fi
12956 \ifx\Fld@value\relax
12957 \let\Fld@value\Fld@default
12958 \fi
12959 \LayoutChoiceField{#2}{%
12960 \ifFld@radio
12961 \HyField@FlagsRadioButton
12962 \@@Radio{#3}%
12963 \else
12964 \begingroup
12965 \HyField@FlagsChoice
12966 \ifdim\Fld@width<\@tempdima
12967 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12968 \edef\Fld@width{\the\@tempdima}%
12969 \fi
12970 \ifFld@combo
12971 \else
12972 \@tempdima=\the\Fld@menulength\Fld@charsize
12973 \advance\@tempdima by \Fld@borderwidth bp %
12974 \advance\@tempdima by \Fld@borderwidth bp %
12975 \edef\Fld@height{\the\@tempdima}%

```

```

12976     \fi
12977     \@@ListBox{#3}%
12978     \endgroup
12979     \fi
12980 }%
12981 \endgroup
12982 }
12983 \def\@@Radio#1{%
12984   \Fld@listcount=0 %
12985   \EdefEscapeName\Fld@default{\Fld@default}%
12986   \@for\@curropt:=#1\do{%
12987     \expandafter\Fld@checkequals\@curropt==\%
12988     \EdefEscapeName\@currValue{\@currValue}%
12989     \Hy@StepCount\Fld@listcount
12990     \@currDisplay\space
12991     \leavevmode
12992     \Hy@escapeform\PDFForm@Radio
12993     \pdfstartlink user {%
12994       \PDFForm@Radio
12995       /AP<<%
12996       /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.

```

12997     /\@currValue\space \DingObject
12998     >>%
12999     >>%
13000 }%
13001 \relax
13002 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13003 \ifnum\Fld@listcount=1 %
13004   \HyField@AddToFields
13005   \fi
13006   \space % deliberate space between radio buttons
13007 }%
13008 }
13009 \newcount\Fld@listcount
13010 \def\@@ListBox#1{%
13011   \HyField@PDFChoices{#1}%
13012   \leavevmode
13013   \Hy@escapeform\PDFForm@List
13014   \pdfstartlink user {\PDFForm@List}\relax
13015   \MakeChoiceField{\Fld@width}{\Fld@height}%
13016   \pdfendlink
13017   \HyField@AddToFields
13018 }
13019 \def\@PushButton[#1]#2{% parameters, label
13020   \def\Fld@name{#2}%
13021   \begingroup
13022     \expandafter\HyField@SetKeys\expandafter{%
13023       \DefaultOptionsofPushButton,#1%
13024     }%
13025     \PDFForm@Name
13026     \ifHy@pdfa
13027       \Hy@Error{%
13028         PDF/A: Push button with JavaScript is prohibited%
13029       }\@ehc

```

```

13030 \LayoutPushButtonField{%
13031 \leavevmode
13032 \MakeButtonField{#2}%
13033 }%
13034 \else
13035 \HyField@FlagsPushButton
13036 \ifFld@hidden\def\Fld@width{1sp}\fi
13037 \LayoutPushButtonField{%
13038 \leavevmode
13039 \Hy@escapeform\PDFForm@Push
13040 \pdfstartlink user {\PDFForm@Push}\relax
13041 \MakeButtonField{#2}%
13042 \pdfendlink
13043 \HyField@AddToFields
13044 }%
13045 \fi
13046 \endgroup
13047 }
13048 \def\@Submit[#1]#2{%
13049 \def\Fld@width{\DefaultWidthofSubmit}%
13050 \def\Fld@height{\DefaultHeightofSubmit}%
13051 \begingroup
13052 \expandafter\HyField@SetKeys\expandafter{%
13053 \DefaultOptionsofSubmit,#1%
13054 }%
13055 \HyField@FlagsPushButton
13056 \HyField@FlagsSubmit
13057 \ifFld@hidden\def\Fld@width{1sp}\fi
13058 \leavevmode
13059 \Hy@escapeform\PDFForm@Submit
13060 \pdfstartlink user {%
13061 \PDFForm@Submit
13062 /AP<</N \SubmitObject/D \SubmitPObject>>%
13063 }%
13064 \relax
13065 \MakeButtonField{#2}%
13066 \pdfendlink
13067 \HyField@AddToFields
13068 \endgroup
13069 }
13070 \def\@Reset[#1]#2{%
13071 \def\Fld@width{\DefaultWidthofReset}%
13072 \def\Fld@height{\DefaultHeightofReset}%
13073 \begingroup
13074 \expandafter\HyField@SetKeys\expandafter{%
13075 \DefaultOptionsofReset,#1%
13076 }%
13077 \leavevmode
13078 \ifHy@pdfa
13079 \Hy@Error{%
13080 PDF/A: Reset action is prohibited%
13081 }\@ehc
13082 \MakeButtonField{#2}%
13083 \else
13084 \HyField@FlagsPushButton
13085 \ifFld@hidden\def\Fld@width{1sp}\fi
13086 \Hy@escapeform\PDFForm@Reset

```

```

13087 \pdfstartlink user {\PDFForm@Reset}\relax
13088 \MakeButtonField{#2}%
13089 \pdfendlink
13090 \HyField@AddToFields
13091 \fi
13092 \endgroup
13093 }
13094 \def\@CheckBox[#1]#2{% parameters, label
13095 \def\Fld@name{#2}%
13096 \def\Fld@default{0}%
13097 \begingroup
13098 \def\Fld@width{\DefaultWidthofCheckBox}%
13099 \def\Fld@height{\DefaultHeightofCheckBox}%
13100 \expandafter\HyField@SetKeys\expandafter{%
13101 \DefaultOptionsofCheckBox,#1%
13102 }%
13103 \PDFForm@Name
13104 \HyField@FlagsCheckBox
13105 \ifFld@hidden\def\Fld@width{1sp}\fi
13106 \LayoutCheckField{#2}{%
13107 \Hy@escapeform\PDFForm@Check
13108 \pdfstartlink user {\PDFForm@Check}\relax
13109 \MakeCheckField{\Fld@width}{\Fld@height}%
13110 \pdfendlink
13111 \HyField@AddToFields
13112 }%
13113 \endgroup
13114 }
13115 \def\Hy@FormObjects{%
13116 \pdfobj {%
13117 <<%
13118 /Type/Encoding%
13119 /Differences[%
13120 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13121 /ring/tilde %
13122 39/quotesingle %
13123 96/grave %
13124 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13125 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13126 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13127 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13128 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13129 164/currency %
13130 166/brokenbar %
13131 168/dieresis/copyright/ordfeminine %
13132 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13133 /twosuperior/threesuperior/acute/mu %
13134 183/periodcentered/cedilla/onesuperior/ordmasculine %
13135 188/onequarter/onehalf/threequarters %
13136 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13137 /Cedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13138 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13139 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13140 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13141 /grave/aacute/acircumflex/atilde/adieresis/aring/ae%
13142 /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13143 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%

```



```

13144      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13145      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13146    ]%
13147  >>%
13148 }%
13149 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13150 \pdfobj{%
13151  <<%
13152    /Type/Font%
13153    /Subtype/Type1%
13154    /Name/ZaDb%
13155    /BaseFont/ZapfDingbats%
13156  >>%
13157 }%
13158 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13159 \pdfobj{%
13160  <<%
13161    /Type/Font%
13162    /Subtype/Type1%
13163    /Name/Helv%
13164    /BaseFont/Helvetica%
13165    /Encoding \OBJ@pdfdocencoding\space 0 R%
13166  >>%
13167 }%
13168 \xdef\OBJ@Helv{\the\pdflastobj}%
13169 \global\let\Hy@FormObjects\relax
13170 }
13171 </pdfTeX>

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13172 < *dvipdfm | xetex>
```

\@Gauge

```

13173 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13174 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13175 }

```

\@Form

```

13176 \def\@Form[#1]{%
13177 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13178 \kvsetkeys{Form}{#1}%
13179 \Hy@FormObjects
13180 \@pdfm@mark{obj @afields []}%
13181 \@pdfm@mark{obj @corder []}%
13182 \@pdfm@mark{%
13183   obj @aform <<%
13184     /Fields @afields%
13185     /DR<<%
13186     /Font<<%
13187     /ZaDb @OBJZaDb%
13188     /Helv @OBJHelv%
13189   >>%
13190   >>%
13191   /DA(/Helv 10 Tf 0 g)%
13192   /CO @corder%

```

```

13193 \ifHy@pdfa
13194 \else
13195 \ifHyField@NeedAppearances
13196 /NeedAppearances true%
13197 \fi
13198 \fi
13199 >>%
13200 }%
13201 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13202 }

```

\@endForm

```
13203 \let\@endForm\ltx@empty
```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13204 \def\dvipdfm@setdim{%
13205 height \the\ht\pdfm@box\space
13206 width \the\wd\pdfm@box\space
13207 depth \the\dp\pdfm@box\space
13208 }

```

\HyField@AnnotCount

```

13209 \newcount\HyField@AnnotCount
13210 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13211 \def\HyField@AdvanceAnnotCount{%
13212 \global\advance\HyField@AnnotCount\@ne
13213 }

```

\HyField@TheAnnotCount

```

13214 \def\HyField@TheAnnotCount{%
13215 \the\HyField@AnnotCount
13216 }

```

\@TextField

```

13217 \def\@TextField[#1]#2{% parameters, label
13218 \def\Fld@name{#2}%
13219 \let\Fld@default\ltx@empty
13220 \let\Fld@value\@empty
13221 \def\Fld@width{\DefaultWidthofText}%
13222 \def\Fld@height{%
13223 \ifFld@multiline
13224 \DefaultHeightofTextMultiline
13225 \else
13226 \DefaultHeightofText
13227 \fi
13228 }%
13229 \begingroup
13230 \expandafter\HyField@SetKeys\expandafter{%
13231 \DefaultOptionsofText,#1%
13232 }%
13233 \PDFForm@Name
13234 \HyField@FlagsText
13235 \ifFld@hidden\def\Fld@width{1sp}\fi
13236 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13237 \setbox\pdfm@box=\hbox{%

```

```

13238   \MakeTextField{\Fld@width}{\Fld@height}%
13239 }%
13240 \HyField@AdvanceAnnotCount
13241 \LayoutTextField{#2}{%
13242   \Hy@escapeform\PDFForm@Text
13243   \@pdfm@mark{%
13244     ann @text\HyField@TheAnnotCount\space
13245     \dvipdfm@setdim << \PDFForm@Text >>%
13246   }%
13247 }%
13248 \unhbox\pdfm@box
13249 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13250 % record in @afields array
13251 \endgroup
13252 }

```

\@ChoiceMenu

```

13253 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13254   \def\Fld@name{#2}%
13255   \let\Fld@default\relax
13256   \let\Fld@value\relax
13257   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13258   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13259   \begingroup
13260     \Fld@menulength=0 %
13261     \@tempdima\z@
13262     \@for\@curropt:=#3\do{%
13263       \expandafter\Fld@checkequals\@curropt==\%
13264       \Hy@StepCount\Fld@menulength
13265       \settowidth{\@tempdimb}{\@currDisplay}%
13266       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13267     }%
13268     \advance\@tempdima by 15\p@
13269     \begingroup
13270       \HyField@SetKeys{#1}%
13271     \edef\x{\endgroup
13272       \noexpand\expandafter
13273       \noexpand\HyField@SetKeys
13274       \noexpand\expandafter{%
13275         \expandafter\noexpand\csname DefaultOptionsof%
13276           \ifFld@radio
13277             Radio%
13278           \else
13279             \ifFld@combo
13280               \ifFld@popdown
13281                 PopdownBox%
13282               \else
13283                 ComboBox%
13284               \fi
13285             \else
13286               ListBox%
13287             \fi
13288           \fi
13289         \endcsname
13290       }%
13291     }\x
13292     \HyField@SetKeys{#1}%
13293     \PDFForm@Name

```

```

13294 \ifFld@hidden\def\Fld@width{1sp}\fi
13295 \ifx\Fld@value\relax
13296 \let\Fld@value\Fld@default
13297 \fi
13298 \LayoutChoiceField{#2}{%
13299 \ifFld@radio
13300 \HyField@FlagsRadioButton
13301 \@@Radio{#3}%
13302 \else
13303 \beginngroup
13304 \HyField@FlagsChoice
13305 \ifdim\Fld@width<\@tempdima
13306 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13307 \edef\Fld@width{\the\@tempdima}%
13308 \fi
13309 \ifFld@combo
13310 \else
13311 \@tempdima=\the\Fld@menulength\Fld@charsize
13312 \advance\@tempdima by \Fld@borderwidth bp %
13313 \advance\@tempdima by \Fld@borderwidth bp %
13314 \edef\Fld@height{\the\@tempdima}%
13315 \fi
13316 \@@ListBox{#3}%
13317 \endgroup
13318 \fi
13319 }%
13320 \endgroup
13321 }

```

\@@Radio

```

13322 \def\@@Radio#1{%
13323 \Fld@listcount=0 %
13324 \EdefEscapeName\Fld@default{\Fld@default}%
13325 \setbox\pdfm@box=\hbox{%
13326 \MakeRadioField{\Fld@width}{\Fld@height}%
13327 }%
13328 \@for\@curropt:=#1\do{%
13329 \expandafter\Fld@checkequals\@curropt==\%
13330 \EdefEscapeName\@currValue{\@currValue}%
13331 \Hy@StepCount\Fld@listcount
13332 \@currDisplay\space
13333 \leavevmode
13334 \Hy@escapeform\PDFForm@Radio
13335 \ifnum\Fld@listcount=1 %
13336 \HyField@AdvanceAnnotCount
13337 \fi
13338 \@pdfm@mark{%
13339 ann %
13340 \ifnum\Fld@listcount=1 %
13341 @radio\HyField@TheAnnotCount%
13342 \space
13343 \fi
13344 \dviPDFm@setdim
13345 <<%
13346 \PDFForm@Radio
13347 /AP<</N<</\@currValue /null>>>>%
13348 >>%
13349 }%

```

```

13350 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13351 \ifnum\Fld@listcount=1 %
13352 \@pdfm@mark{%
13353     put @afields @radio\HyField@TheAnnotCount
13354 }%
13355 \fi
13356 }%
13357 }

```

\Fld@listcount

```

13358 \newcount\Fld@listcount

```

\@@ListBox

```

13359 \def\@@ListBox#1{%
13360 \HyField@PDFChoices{#1}%
13361 \setbox\pdfm@box=\hbox{%
13362 \MakeChoiceField{\Fld@width}{\Fld@height}%
13363 }%
13364 \leavevmode
13365 \Hy@escapeform\PDFForm@List
13366 \HyField@AdvanceAnnotCount
13367 \@pdfm@mark{%
13368 ann @list\HyField@TheAnnotCount\space
13369 \dvipdfm@setdim
13370 <<\PDFForm@List>>%
13371 }%
13372 \unhbox\pdfm@box
13373 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13374 }

```

\@PushButton

```

13375 \def\@PushButton[#1]#2{% parameters, label
13376 \def\Fld@name{#2}%
13377 \begingroup
13378 \expandafter\HyField@SetKeys\expandafter{%
13379 \DefaultOptionsofPushButton,#1%
13380 }%
13381 \PDFForm@Name
13382 \ifHy@pdfa
13383 \Hy@Error{%
13384 PDF/A: Push button with JavaScript is prohibited%
13385 }\@ehc
13386 \LayoutPushButtonField{%
13387 \leavevmode
13388 \MakeButtonField{#2}%
13389 }%
13390 \else
13391 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13392 \HyField@FlagsPushButton
13393 \ifFld@hidden\def\Fld@width{1sp}\fi
13394 \HyField@AdvanceAnnotCount
13395 \LayoutPushButtonField{%
13396 \leavevmode
13397 \Hy@escapeform\PDFForm@Push
13398 \@pdfm@mark{%
13399 ann @push\HyField@TheAnnotCount\space
13400 \dvipdfm@setdim

```

```

13401     <<\PDFForm@Push>>%
13402     }%
13403   }%
13404   \unhbox\pdfm@box
13405   \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13406   \fi
13407 \endgroup
13408 }

```

\@Submit

```

13409 \def\@Submit[#1]#2{%
13410   \def\Fld@width{\DefaultWidthofSubmit}%
13411   \def\Fld@height{\DefaultHeightofSubmit}%
13412   \begingroup
13413   \expandafter\HyField@SetKeys\expandafter{%
13414     \DefaultOptionsofSubmit,#1%
13415   }%
13416   \HyField@FlagsPushButton
13417   \HyField@FlagsSubmit
13418   \ifFld@hidden\def\Fld@width{1sp}\fi
13419   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13420   \leavevmode
13421   \Hy@escapeform\PDFForm@Submit
13422   \HyField@AdvanceAnnotCount
13423   \@pdfm@mark{%
13424     ann @submit\HyField@TheAnnotCount\space
13425     \dvipdfm@setdim
13426     <<\PDFForm@Submit>>%
13427   }%
13428   \unhbox\pdfm@box%
13429   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13430 \endgroup
13431 }

```

\@Reset

```

13432 \def\@Reset[#1]#2{%
13433   \def\Fld@width{\DefaultWidthofReset}%
13434   \def\Fld@height{\DefaultHeightofReset}%
13435   \begingroup
13436   \expandafter\HyField@SetKeys\expandafter{%
13437     \DefaultOptionsofReset,#1%
13438   }%
13439   \leavevmode
13440   \ifHy@pdfa
13441     \Hy@Error{%
13442       PDF/A: Reset action is prohibited%
13443     }\@ehc
13444     \MakeButtonField{#2}%
13445   \else
13446     \HyField@FlagsPushButton
13447     \ifFld@hidden\def\Fld@width{1sp}\fi
13448     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13449     \Hy@escapeform\PDFForm@Reset
13450     \HyField@AdvanceAnnotCount
13451     \@pdfm@mark{%
13452       ann @reset\HyField@TheAnnotCount\space
13453     \dvipdfm@setdim

```

```

13454     <<\PDFForm@Reset>>%
13455     }%
13456     \unhbox\pdfm@box
13457     \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13458     \fi
13459 \endgroup
13460 }

```

\@CheckBox

```

13461 \def\@CheckBox[#1]#2{% parameters, label
13462 \def\Fld@name{#2}%
13463 \def\Fld@default{0}%
13464 \begingroup
13465 \def\Fld@width{\DefaultWidthofCheckBox}%
13466 \def\Fld@height{\DefaultHeightofCheckBox}%
13467 \expandafter\HyField@SetKeys\expandafter{%
13468 \DefaultOptionsofCheckBox,#1%
13469 }%
13470 \PDFForm@Name
13471 \HyField@FlagsCheckBox
13472 \ifFld@hidden\def\Fld@width{1sp}\fi
13473 \setbox\pdfm@box=\hbox{%
13474 \MakeCheckField{\Fld@width}{\Fld@height}%
13475 }%
13476 \HyField@AdvanceAnnotCount
13477 \LayoutCheckField{#2}{%
13478 \Hy@escapeform\PDFForm@Check
13479 \@pdfm@mark{%
13480 ann @check\HyField@TheAnnotCount\space
13481 \dvipdfm@setdim
13482 <<\PDFForm@Check>>%
13483 }%
13484 \unhbox\pdfm@box
13485 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13486 }%
13487 \endgroup
13488 }

13489 \def\Hy@FormObjects{%
13490 \@pdfm@mark{obj @OBJpdfdocencoding%
13491 <<%
13492 /Type/Encoding%
13493 /Differences[%
13494 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13495 39/quotesingle %
13496 96/grave %
13497 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13498 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13499 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13500 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13501 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13502 164/currency %
13503 166/brokenbar %
13504 168/dieresis/copyright/ordfeminine %
13505 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13506 /twosuperior/threesuperior/acute/mu %
13507 183/periodcentered/cedilla/onesuperior/ordmasculine %
13508 188/onequarter/onehalf/threequarters %

```

```

13509      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13510      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13511      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13512      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13513      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13514      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13515      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13516      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13517      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13518      /thorn/ydieresis%
13519      ]%
13520      >>%
13521      }%
13522      \@pdfm@mark{obj @OBJZaDb%
13523      <<%
13524      /Type/Font%
13525      /Subtype/Type1%
13526      /Name/ZaDb%
13527      /BaseFont/ZapfDingbats%
13528      >>%
13529      }%
13530      \@pdfm@mark{obj @OBJHelv%
13531      <<%
13532      /Type/Font%
13533      /Subtype/Type1%
13534      /Name/Helv%
13535      /BaseFont/Helvetica%
13536      /Encoding @OBJpdfdocencoding%
13537      >>%
13538      }%
13539      \global\let\Hy@FormObjects\relax
13540      }
13541      </dvi-pdfm | xetex>

```

47.6 Common forms part

```
13542 <*pdfmform>
```

```
\Hy@escapestring
```

```

13543 \begingroup\expandafter\expandafter\expandafter\endgroup
13544 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13545   \let\Hy@escapestring\@firstofone
13546   \def\Hy@escapeform##1{%
13547     \ifHy@escapeform
13548       \def\Hy@escapestring##1{%
13549         \noexpand\Hy@escapestring{\noexpand##1}%
13550       }%
13551     \edef\Hy@temp{##1}%
13552     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13553     \def\Hy@escapestring##1{%
13554       \@ifundefined{Hy@esc@\string##1}{%
13555         ##1%
13556         \ThisShouldNotHappen
13557       }{%
13558         \csname Hy@esc@\string##1\endcsname
13559       }%
13560     }%
13561   \else

```



```

13562   \let\Hy@escapestring\@firstofone
13563   \fi
13564 }%
13565 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13566   \ifx\|#3\|
13567   \else
13568     \expandafter
13569     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13570     \tx@ReturnAfterFi{%
13571       \Hy@@escapeform#3\@nil
13572     }%
13573   \fi
13574 }%
13575 \else
13576 \def\Hy@escapeform#1{%
13577   \ifHy@escapeform
13578     \let\Hy@escapestring\pdfescapestring
13579   \else
13580     \let\Hy@escapestring\@firstofone
13581   \fi
13582 }%
13583 \Hy@escapeform{}%
13584 \fi

```

\PDFForm@Name

```

13585 \def\PDFForm@Name{%
13586   \PDFForm@@Name\Fld@name
13587   \ifx\Fld@altname\relax
13588   \else
13589     \PDFForm@@Name\Fld@altname
13590   \fi
13591   \ifx\Fld@mappingname\relax
13592   \else
13593     \PDFForm@@Name\Fld@mappingname
13594   \fi
13595 }

```

\PDFForm@@Name

```

13596 \def\PDFForm@@Name#1{%
13597   \begingroup
13598   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13599     \ifHy@unicode
13600       \Hy@unicodedefalse
13601     \fi
13602   \fi
13603   \HyPsd@XeTeXBigCharstrue
13604   \pdfstringdef\Hy@gtemp#1%
13605   \endgroup
13606   \let#1\Hy@gtemp
13607 }

```

\Fld@additionalactions

```

13608 \def\Fld@@additionalactions{%
K input (keystroke) format
13609   \ifx\Fld@keystroke@code\@empty
13610   \else
13611     /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%

```

```

13612 \fi
F display format
13613 \ifx\Fld@format@code\@empty
13614 \else
13615 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13616 \fi
V validation
13617 \ifx\Fld@validate@code\@empty
13618 \else
13619 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13620 \fi
C calculation
13621 \ifx\Fld@calculate@code\@empty
13622 \else
13623 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13624 \fi
Fo receiving the input focus
13625 \ifx\Fld@onfocus@code\@empty
13626 \else
13627 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13628 \fi
Bl loosing the input focus (blurred)
13629 \ifx\Fld@onblur@code\@empty
13630 \else
13631 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13632 \fi
D pressing the mouse button (down)
13633 \ifx\Fld@onmousedown@code\@empty
13634 \else
13635 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13636 \fi
U releasing the mouse button (up)
13637 \ifx\Fld@onmouseup@code\@empty
13638 \else
13639 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13640 \fi
E cursor enters the annotation's active area.
13641 \ifx\Fld@onenter@code\@empty
13642 \else
13643 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13644 \fi
X cursor exits the annotation's active area.
13645 \ifx\Fld@onexit@code\@empty
13646 \else
13647 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13648 \fi
13649 }
13650 \def\Fld@additionalactions{%
13651 \if\Fld@@additionalactions-%
13652 \else
13653 \ifHy@pdfa
13654 \else

```

```

13655 /AA<<\Fld@@additionalactions>>%
13656 \fi
13657 \fi
13658 }

```

\Fld@annotnames

```

13659 \def\Fld@annotnames{%
13660 /T(\Fld@name)%
13661 \ifx\Fld@altname\relax
13662 \else
13663 /TU(\Fld@altname)%
13664 \fi
13665 \ifx\Fld@mappingname\relax
13666 \else
13667 /TM(\Fld@mappingname)%
13668 \fi
13669 }

```

\PDFForm@Check

```

13670 \def\PDFForm@Check{%
13671 /Subtype/Widget%
13672 \Fld@annotflags
13673 \Fld@annotnames
13674 /FT/Btn%
13675 \Fld@flags
13676 /Q \Fld@align
13677 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13678 /MK<<%
13679 \ifnum\Fld@rotation=\z@
13680 \else
13681 /R \Fld@rotation
13682 \fi
13683 \ifx\Fld@bordercolor\relax
13684 \else
13685 /BC[\Fld@bordercolor]%
13686 \fi
13687 \ifx\Fld@bcolor\relax
13688 \else
13689 /BG[\Fld@bcolor]%
13690 \fi
13691 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13692 >>%
13693 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13694 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13695 /H/P%
13696 \ifFld@checked /V/Yes\else /V/Off\fi
13697 \Fld@additionalactions
13698 }

```

\PDFForm@Push

```

13699 \ifHy@pdfa
13700 \else
13701 \def\PDFForm@Push{%
13702 /Subtype/Widget%
13703 \Fld@annotflags
13704 \Fld@annotnames
13705 /FT/Btn%

```

```

13706 \Fld@flags
13707 /H/P%
13708 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13709 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13710 \ifx\Fld@bordercolor\relax\else 1\fi
13711 \space
13712 \else
13713 /MK<<%
13714 \ifnum\Fld@rotation=\z@
13715 \else
13716 /R \Fld@rotation
13717 \fi
13718 \ifx\Fld@bordercolor\relax
13719 \else
13720 /BC[\Fld@bordercolor]%
13721 \fi
13722 >>%
13723 \fi
13724 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13725 \Fld@additionalactions
13726 }%
13727 \fi

```

\PDFForm@List

```

13728 \def\PDFForm@List{%
13729 /Subtype/Widget%
13730 \Fld@annotflags
13731 \Fld@annotnames
13732 /FT/Ch%
13733 \Fld@flags
13734 /Q \Fld@align
13735 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13736 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13737 \ifx\Fld@bordercolor\relax\else 1\fi
13738 \ifx\Fld@bcolor\relax \else 1\fi
13739 \space
13740 \else
13741 /MK<<%
13742 \ifnum\Fld@rotation=\z@
13743 \else
13744 /R \Fld@rotation
13745 \fi
13746 \ifx\Fld@bordercolor\relax
13747 \else
13748 /BC[\Fld@bordercolor]%
13749 \fi
13750 \ifx\Fld@bcolor\relax
13751 \else
13752 /BG[\Fld@bcolor]%
13753 \fi
13754 >>%
13755 \fi
13756 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13757 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13758 \Fld@choices
13759 \Fld@additionalactions
13760 }

```

\PDFForm@Radio

```
13761 \def\PDFForm@Radio{%
13762 /Subtype/Widget%
13763 \Fld@annotflags
13764 \Fld@annotnames
13765 /FT/Btn%
13766 \Fld@flags
13767 /H/P%
13768 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13769 /MK<<%
13770 \ifnum\Fld@rotation=\z@
13771 \else
13772 /R \Fld@rotation
13773 \fi
13774 \ifx\Fld@bordercolor\relax
13775 \else
13776 /BC[\Fld@bordercolor]%
13777 \fi
13778 \ifx\Fld@bcolor\relax
13779 \else
13780 /BG[\Fld@bcolor]%
13781 \fi
13782 /CA(\Fld@radiosymbol)%
13783 >>%
13784 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13785 \ifx\Fld@color@empty\else\space\Fld@color\fi)%
13786 \ifx\@currValue\Fld@default
13787 /V/\Fld@default
13788 /DV/\Fld@default
13789 \else
13790 /V/Off%
13791 /DV/Off%
13792 \fi
13793 \Fld@additionalactions
13794 }
```

\PDFForm@Text

```
13795 \def\PDFForm@Text{%
13796 /Subtype/Widget%
13797 \Fld@annotflags
13798 \Fld@annotnames
13799 /FT/Tx%
13800 \Fld@flags
13801 /Q \Fld@align
13802 /BS<</W \Fld@borderwidth\space /S / \Fld@borderstyle>>%
13803 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13804 \ifx\Fld@bordercolor\relax\else 1\fi
13805 \ifx\Fld@bcolor\relax \else 1\fi
13806 \space
13807 \else
13808 /MK<<%
13809 \ifnum\Fld@rotation=\z@
13810 \else
13811 /R \Fld@rotation
13812 \fi
13813 \ifx\Fld@bordercolor\relax
13814 \else
```

```

13815     /BC[\Fld@bordercolor]%
13816     \fi
13817     \ifx\Fld@bcolor\relax
13818     \else
13819     /BG[\Fld@bcolor]%
13820     \fi
13821     >>%
13822 \fi
13823 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13824     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13825 /DV(\Hy@escapestring{\Fld@default})%
13826 /V(\Hy@escapestring{\Fld@value})%
13827 \Fld@additionalactions
13828 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13829 }

```

\PDFForm@Submit

```

13830 \def\PDFForm@Submit{%
13831 /Subtype/Widget%
13832 \Fld@annotflags
13833 \Fld@annotnames
13834 /FT/Btn%
13835 \Fld@flags
13836 /H/P%
13837 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13838 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13839     \ifx\Fld@bordercolor\relax\else 1\fi
13840     \space
13841 \else
13842 /MK<<%
13843     \ifnum\Fld@rotation=\z@
13844     \else
13845     /R \Fld@rotation
13846     \fi
13847     \ifx\Fld@bordercolor\relax
13848     \else
13849     /BC[\Fld@bordercolor]%
13850     \fi
13851     >>%
13852 \fi
13853 /A<<%
13854 /S/SubmitForm%
13855 /F<<%
13856     /FS/URL%
13857     /F(\Hy@escapestring{\Form@action})%
13858     >>%
13859 \Fld@submitflags
13860 >>%
13861 \Fld@additionalactions
13862 }

```

\PDFForm@Reset

```

13863 \ifHy@pdfa
13864 \else
13865 \def\PDFForm@Reset{%
13866 /Subtype/Widget%
13867 \Fld@annotflags

```

```

13868 \Fld@annotnames
13869 /FT/Btn%
13870 \Fld@flags
13871 /H/P%
13872 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13873 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13874 \ifx\Fld@bordercolor\relax\else 1\fi
13875 \space
13876 \else
13877 /MK<<%
13878 \ifnum\Fld@rotation=\z@
13879 \else
13880 /R \Fld@rotation
13881 \fi
13882 \ifx\Fld@bordercolor\relax
13883 \else
13884 /BC[\Fld@bordercolor]%
13885 \fi
13886 % /CA (Clear)
13887 % /AC (Done)
13888 >>%
13889 \fi
13890 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13891 /A<</S/ResetForm>>%
13892 \Fld@additionalactions
13893 }%
13894 \fi

13895 </pdfform>
13896 <*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`

```

13897 \def\phantomsection{%
13898 \Hy@MakeCurrentHrefAuto{section*}%
13899 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13900 }
13901 </package>

```

48.1 Bookmarks

```
13902 <*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 ε -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of ε -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.

```

13903 \def\Hy@writebookmark#1#2#3#4#5{%
13904   % section number, text, label, level, file
13905   \ifx\WriteBookmarks\relax%
13906   \else
13907     \ifnum#4>\Hy@bookmarksdepth\relax
13908     \else
13909       \@writetorep{#1}{#2}{#3}{#4}{#5}%
13910     \fi
13911   \fi
13912 }
13913 \def\Hy@currentbookmarklevel{0}
13914 \def\Hy@numberline#1{#1 }
13915 \def\@writetorep#1#2#3#4#5{%
13916   \begingroup
13917   \edef\Hy@tempa{#5}%
13918   \ifx\Hy@tempa\Hy@bookmarkstype
13919     \edef\Hy@level{#4}%
13920     \ifx\Hy@levelcheck Y%
13921       \@tempcnta\Hy@level\relax
13922       \advance\@tempcnta by -1 %
13923       \ifnum\Hy@currentbookmarklevel<\@tempcnta
13924         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13925       \advance\@tempcnta by 1 %
13926       \Hy@Warning{%
13927         Difference (\the\@tempcnta) between bookmark levels is %
13928         greater \MessageBreak than one, level fixed%
13929       }%
13930       \@tempcnta\Hy@currentbookmarklevel
13931       \advance\@tempcnta by 1 %
13932       \edef\Hy@level{\the\@tempcnta}%
13933     \fi
13934   \else
13935     \global\let\Hy@levelcheck Y%
13936   \fi
13937   \global\let\Hy@currentbookmarklevel\Hy@level
13938   \@tempcnta\Hy@level\relax
13939   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13940   \advance\@tempcnta by -1 %
13941   \edef\Hy@tempa{#3}%
13942   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13943   \ifx\Hy@tempa\Hy@tempb
13944     \Hy@Warning{%
13945       The anchor of a bookmark and its parent's must not%
13946       \MessageBreak be the same. Added a new anchor%
13947     }%
13948   \phantomsection
13949   \fi
13950   \ifHy@bookmarksnumbered

```



```

13951 \let\numberline\Hy@numberline
13952 \let\booknumberline\Hy@numberline
13953 \let\partnumberline\Hy@numberline
13954 \let\chapternumberline\Hy@numberline
13955 \else
13956 \let\numberline@gobble
13957 \let\booknumberline@gobble
13958 \let\partnumberline@gobble
13959 \let\chapternumberline@gobble
13960 \fi
13961 \HyPsd@XeTeXBigCharstrue
13962 \pdfstringdef\Hy@tempa{#2}%
13963 \HyPsd@SanitizeForOutFile\Hy@tempa
13964 \if@filesw
13965 \stepcounter{bookmark@seq@number}%
13966 \@ifundefined{@outlinefile}{%
13967 }{%
13968 \protected@write\@outlinefile{}{%
13969 \protect\BOOKMARK
13970 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13971 {\Hy@tempa}\Hy@tempb}%
13972 \@percentchar\space\thebookmark@seq@number
13973 }%
13974 }%
13975 \fi
13976 \fi
13977 \endgroup
13978 }
13979 \newcounter{bookmark@seq@number}

13980 \begingroup
13981 \lccode'='{%
13982 \lccode'}='}%
13983 \lccode'1=\z@
13984 \lccode'2=\z@
13985 \lccode'3=\z@
13986 \lccode'5=\z@
13987 \lccode'7=\z@
13988 \lccode'\#=\z@
13989 \lccode'\'=\z@
13990 \lccode'\{=\z@
13991 \lccode'\}=\z@
13992 \lowercase{%
13993 \endgroup
13994 \def\HyPsd@SanitizeForOutFile#1{%
13995 \@onelevel@sanitize\Hy@tempa
13996 \escapechar'\%
13997 \edef\Hy@tempa{%
13998 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13999 }%
14000 \edef\Hy@tempa{%
14001 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14002 }%
14003 }%
14004 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14005 #1%
14006 \ifx\#2\%
14007 \expandafter\ltx@gobble

```

```

14008 \else
14009 \expandafter\ltx@firstofone
14010 \fi
14011 {%
14012 \string\173%
14013 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14014 }%
14015 }%
14016 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14017 #1%
14018 \ifx\#2\%
14019 \expandafter\ltx@gobble
14020 \else
14021 \expandafter\ltx@firstofone
14022 \fi
14023 {%
14024 \string\175%
14025 \HyPsd@SanitizeOut@BraceRight#2\@nil
14026 }%
14027 }%
14028 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14029 \newcommand{\currentpdfbookmark}{%
14030 \pdfbookmark{\Hy@currentbookmarklevel}%
14031 }
14032 \newcommand{\subpdfbookmark}{%
14033 \@tempcnta\Hy@currentbookmarklevel
14034 \Hy@StepCount\@tempcnta
14035 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14036 }
14037 \newcommand{\belowpdfbookmark}[2]{%
14038 \@tempcnta\Hy@currentbookmarklevel
14039 \Hy@StepCount\@tempcnta
14040 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14041 \advance\@tempcnta by -1 %
14042 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14043 }

```

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.

```

14044 \renewcommand\pdfbookmark[3][0]{%
14045 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14046 \hyper@anchorstart{#3.#1}\hyper@anchorend
14047 }
14048 \def\BOOKMARK{%
14049 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14050 }
14051 \def\@BOOKMARK[#1]{%
14052 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
14053 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfopdf` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14054 \RequirePackage{rerunfilecheck}[2009/12/10]
14055 \def\Hy@OutlineRerunCheck{%
14056   \RerunFileCheck{\jobname.out}{%
14057     \immediate\closeout\@outlinefile
14058   }{%
14059     Rerun to get outlines right\MessageBreak
14060     or use package 'bookmark'%
14061   }%
14062 }

```

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.

```

14063 \langle*vtex\rangle
14064 \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.

```

14065 \begingroup
14066   \catcode'\'=12 %
14067   \ifnum\Hy@VTeXversion<650 %
14068     \catcode'\ "=12 %
14069     \gdef\hv@pdf@char#1#2#3{%
14070       \char
14071       \ifcase'#1#2#3 %
14072         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14073         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14074         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14075         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14076         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14077         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14078         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14079         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14080         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14081         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14082         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14083         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14084         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14085         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14086         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14087         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14088         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14089         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14090         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14091         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14092         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14093         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14094         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14095         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14096         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14097         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14098         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%

```

```

14099 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14100 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14101 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14102 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14103 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14104 \fi
14105 }%
14106 \else
14107 \gdef\hv@pdf@char{\char'}%
14108 \fi
14109 \endgroup

```

\@@BOOKMARK

```

14110 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14111 \expandafter\edef\csname @count@#3\endcsname{%
14112 \the\@serial@counter
14113 }%
14114 \edef\@mycount{\the\@serial@counter}%
14115 \Hy@StepCount\@serial@counter
14116 \edef\@parcount{%
14117 \expandafter\ifx\csname @count@#5\endcsname\relax
14118 0%
14119 \else
14120 \csname @count@#5\endcsname
14121 \fi
14122 }%
14123 \immediate\special{%
14124 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14125 s=\ifx#2-c\else o\fi,t=#4%
14126 }%
14127 }%

```

\ReadBookmarks

```

14128 \def\ReadBookmarks{%
14129 \begingroup
14130 \def\0{\hv@pdf@char 0}%
14131 \def\1{\hv@pdf@char 1}%
14132 \def\2{\hv@pdf@char 2}%
14133 \def\3{\hv@pdf@char 3}%
14134 \def\{({}%
14135 \def\)}{)%
14136 \def\do##1{%
14137 \ifnum\catcode'##1=\active
14138 \@makeother##1%
14139 \else
14140 \ifnum\catcode'##1=6 %
14141 \@makeother##1%
14142 \fi
14143 \fi
14144 }%
14145 \dospecials
14146 \Hy@safe@activetrue
14147 \InputIfFileExists{\jobname.out}{-}{-}%
14148 \endgroup
14149 \ifx\WriteBookmarks\relax
14150 \else
14151 \if@filesw

```

```

14152 \newwrite\@outlinefile
14153 \Hy@OutlineRerunCheck
14154 \immediate\openout\@outlinefile=\jobname.out\relax
14155 \iffHy@typexml
14156 \immediate\write\@outlinefile{<relaxxml>\relax}%
14157 \fi
14158 \fi
14159 \fi
14160 }

14161 </vtex>
14162 <!*vtex>
14163 \def\ReadBookmarks{%
14164 \pdf@ifdraftmode{ }{%
14165 \begingroup
14166 \def\do##1{%
14167 \ifnum\catcode'##1=\active
14168 \@makeother##1%
14169 \else
14170 \ifnum\catcode'##1=6 %
14171 \@makeother##1%
14172 \fi
14173 \fi
14174 }%
14175 \dospecials
14176 \Hy@safe@activetrue
14177 \escapechar='\%
14178 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14179 \calc@bm@number{##5}%
14180 }%
14181 \InputIfFileExists{\jobname.out}{ }{%
14182 \ifx\WriteBookmarks\relax
14183 \global\let\WriteBookmarks\relax
14184 \fi
14185 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14186 \def\Hy@temp{##4}%
14187 <*pdftex>
14188 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14189 \Hy@OutlineName{ }\Hy@pstringName{%
14190 ##2\check@bm@number{##3}}%
14191 }{%
14192 \expandafter\strip@prefix\meaning\Hy@temp
14193 }%
14194 </pdftex>
14195 <*pdfmark>
14196 \pdfmark{%
14197 pdfmark=/OUT,%
14198 Count={##2\check@bm@number{##3}},%
14199 Dest={##3},%
14200 Title=\expandafter\strip@prefix\meaning\Hy@temp
14201 }%
14202 </pdfmark>
14203 <*dvipdfm|xetex>
14204 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14205 \@pdfm@mark{%
14206 outline \iffHy@DvipdfmxOutlineOpen
14207 [%
14208 \ifnum##21>\z@

```

```

14209         \else
14210         -%
14211         \fi
14212         ] %
14213         \fi
14214         ###1<<%
14215         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14216         /A<<%
14217         /S/GoTo%
14218         /D(\Hy@pstringName)%
14219         >>%
14220         >>%
14221         }%
14222 </dviptfm | xetex>
14223 }%
14224 \begingroup
14225 \def\WriteBookmarks{0}%
14226 \InputIfFileExists{\jobname.out}{-}{-}%
14227 \endgroup
14228 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14229 \endgroup
14230 }%
14231 \ifx\WriteBookmarks\relax
14232 \else
14233 \if@filesw
14234 \newwrite\@outlinefile
14235 \Hy@OutlineRerunCheck
14236 \immediate\openout\@outlinefile=\jobname.out\relax
14237 \ifHy@typexml
14238 \immediate\write\@outlinefile{<relaxxml>\relax}%
14239 \fi
14240 \fi
14241 \fi
14242 }
14243 <*pdftex>
14244 \def\Hy@OutlineName#1#2#3#4{%
14245 \pdfoutline goto name{#2}count#3{#4}%
14246 }
14247 </pdftex>
14248 \def\check@bm@number#1{%
14249 \expandafter\ifx\csname B_#1\endcsname\relax
14250 0%
14251 \else
14252 \csname B_#1\endcsname
14253 \fi
14254 }
14255 \def\calc@bm@number#1{%
14256 \@tempcnta=\check@bm@number{#1}\relax
14257 \advance\@tempcnta by 1 %
14258 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14259 }
14260 </!vtex>
14261 \ifHy@implicit
14262 \else
14263 \expandafter\endinput
14264 \fi
14265 </outlines>

```

```

14266 (*outlines | hypertex)
14267 \newlength\Hy@SectionHShift
14268 \def\Hy@SectionAnchorHref#1{%
14269   \ifx\protect\@typeset@protect
14270     \Hy@@@SectionAnchor{#1}%
14271   \fi
14272 }
14273 \DeclareRobustCommand*\Hy@@@SectionAnchor}[1]{%
14274   \leavevmode
14275   \hbox to 0pt{%
14276     \kern-\Hy@SectionHShift
14277     \Hy@raisedlink{%
14278       \hyper@anchorstart{#1}\hyper@anchorend
14279     }%
14280     \hss
14281   }%
14282 }
14283 \let\H@old@ssect\@ssect
14284 \def\@ssect#1#2#3#4#5{%
14285   \Hy@MakeCurrentHrefAuto{section*}%
14286   \setlength\Hy@SectionHShift{#1}%
14287   \begingroup
14288   \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14289   \toks\tw@\expandafter{%
14290     \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14291     #5%
14292   }%
14293   \edef\x{\endgroup
14294     \the\toks@\the\toks\tw@}%
14295   }\x
14296 }
14297 \let\H@old@schapter\@schapter
14298 \def\@schapter#1{%
14299   \begingroup
14300   \let\@mkboth\@gobbletwo
14301   \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14302   \Hy@raisedlink{%
14303     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14304   }%
14305   \endgroup
14306   \H@old@schapter{#1}%
14307 }

```

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:

```

14308 \ltx@ifundefined{@chapter}{-}{%
14309   \let\Hy@org@chapter\@chapter
14310   \def\@chapter{%
14311     \def\Hy@next{%
14312       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14313       \Hy@raisedlink{%
14314         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14315       }%
14316     }%
14317     \ifnum\c@secnumdepth>\m@ne
14318       \ltx@ifundefined{if@mainmatter}%

```

```

14319 \iftrue{\csname if@mainmatter\endcsname}%
14320 \let\Hy@next\relax
14321 \fi
14322 \fi
14323 \Hy@next
14324 \Hy@org@chapter
14325 }%
14326 }

14327 \let\H@old@part\@part
14328 \begingroup\expandafter\expandafter\expandafter\endgroup
14329 \expandafter\ifx\csname chapter\endcsname\relax
14330 \let\Hy@secnum@part\z@
14331 \else
14332 \let\Hy@secnum@part\m@ne
14333 \fi
14334 \def\@part{%
14335 \ifnum\Hy@secnum@part>\c@secnumdepth
14336 \phantomsection
14337 \fi
14338 \H@old@part
14339 }

14340 \let\H@old@spart\@spart
14341 \def\@spart#1{%
14342 \Hy@MakeCurrentHrefAuto{part*}%
14343 \Hy@raisedlink{%
14344 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14345 }%
14346 \H@old@spart{#1}%
14347 }

14348 \let\H@old@sect\@sect
14349 \def\@sect#1#2#3#4#5#6[#7]#8{%
14350 \ifnum #2>\c@secnumdepth
14351 \expandafter\@firstoftwo
14352 \else
14353 \expandafter\@secondoftwo
14354 \fi
14355 {%
14356 \Hy@MakeCurrentHrefAuto{section*}%
14357 \setlength{\Hy@SectionHShift}{#3}%
14358 \begingroup
14359 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14360 \toks\tw@\expandafter{%
14361 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14362 #8%
14363 }%
14364 \edef\x{\endgroup
14365 \the\toks@\the\toks\tw@}%
14366 }\x
14367 }{%
14368 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14369 }%
14370 }

14371 </outlines | hypertex>
14372 <*outlines>

14373 \expandafter\def\csname Parent-4\endcsname{}
14374 \expandafter\def\csname Parent-3\endcsname{}

```



```

14375 \expandafter\def\csname Parent-2\endcsname{}
14376 \expandafter\def\csname Parent-1\endcsname{}
14377 \expandafter\def\csname Parent0\endcsname{}
14378 \expandafter\def\csname Parent1\endcsname{}
14379 \expandafter\def\csname Parent2\endcsname{}
14380 \expandafter\def\csname Parent3\endcsname{}
14381 \expandafter\def\csname Parent4\endcsname{}
14382 </outlines>

```

49 Compatibility with koma-script classes

```
14383 <*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.

```

14384 \def\Hy@tempa{%
14385   \def\@addchap{##1}##2{%
14386     \typeout{##2}%
14387     \if@twoside
14388       \@mkboth{##1}{}%
14389     \else
14390       \@mkboth{}{##1}%
14391     \fi
14392     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14393     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14394     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14395     \Hy@raisedlink{%
14396       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14397     }%
14398     \if@twocolumn
14399       \@topnewpage[\@makeschapterhead{##2}]%
14400     \else
14401       \@makeschapterhead{##2}%
14402       \@afterheading
14403     \fi
14404     \addcontentsline{toc}{chapter}{##1}%
14405   }%
14406 }
14407 \ifclassloaded{scrbook}{%
14408   \ifclasslater{scrbook}{2001/01/01}{%
14409     \let\Hy@tempa\@empty
14410   }{}%
14411 }{}%
14412 \ifclassloaded{scrreprt}{%
14413   \ifclasslater{scrreprt}{2001/01/01}{%
14414     \let\Hy@tempa\@empty
14415   }{}%
14416 }{}%
14417 \let\Hy@tempa\@empty
14418 }%
14419 }%
14420 \Hy@tempa
14421 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
14422 (*pd1enc)
14423 \DeclareFontEncoding{PD1}{-}{-}

Accents
14424 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14425 \DeclareTextAccent{\'}{PD1}{\textacute}
14426 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14427 \DeclareTextAccent{\~}{PD1}{\texttilde}
14428 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14429 \DeclareTextAccent{\r}{PD1}{\textring}
14430 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14431 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14432 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14433 \DeclareTextAccent{\=} {PD1}{\textasciimacron}
14434 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14435 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14436 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14437 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14438 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14439 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14440 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14441 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14442 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14443 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14444 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14445 \DeclareTextCompositeCommand{\=} {PD1}{\@empty}{\textasciimacron}
14446 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14447 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14448 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14449 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14450 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14451 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14452 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14453 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14454 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14455 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14456 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14457 \DeclareTextCompositeCommand{\=} {PD1}{\ }{\textasciimacron}
14458 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14459 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14460 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14461 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14462 \DeclareTextCommand{\newtie}{PD1}[1]{%
14463 \TextSymbolUnavailable{\newtie{#1}}#1%
14464 }
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14465 % U+0009 (CHARACTER TABULATION)
14466 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14467 % U+000A (LINE FEED)
14468 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14469 % U+000D (CARRIAGE RETURN)
```

14470 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

14471 % U+02D8 BREVE; breve

14472 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8

14473 % U+02C7 CARON; caron

14474 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7

14475 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex

14476 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

14477 % U+02D9 DOT ABOVE; dotaccent

14478 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9

14479 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

14480 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD

14481 % U+02DB OGONEK; ogonek

14482 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB

14483 % U+02DA RING ABOVE; ring

14484 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

14485 % U+02DC SMALL TILDE; ilde, *tilde

14486 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14487 % U+0022 QUOTATION MARK; quotedbl

14488 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

14489 % U+0023 NUMBER SIGN; numbersign

14490 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14491 % U+0024 DOLLAR SIGN; dollar

14492 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14493 % U+0025 PERCENT SIGN; percent

14494 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14495 % U+0026 AMPERSAND; ampersand

14496 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14497 % U+0028 LEFT PARENTHESIS; parenleft

14498 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028

14499 % U+0029 RIGHT PARENTHESIS; parenright

14500 \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

14501 % U+002E FULL STOP; period

14502 \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

14503 % U+003C LESS-THAN SIGN; less

14504 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal

14505 % U+003E GREATER-THAN SIGN; greater

14506 \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
14507 % U+005C REVERSE SOLIDUS; backslash
14508 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
\135: U+005D RIGHT SQUARE BRACKET; bracketright
14509 % U+005E CIRCUMFLEX ACCENT; asciicircum
14510 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
14511 % U+005F LOW LINE; underscore
14512 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
14513 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
14514 % U+0060 GRAVE ACCENT; grave
14515 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
\141: U+0061 LATIN SMALL LETTER A; a
...
\150: U+0068 LATIN SMALL LETTER H; h
14516 % U+0069 LATIN SMALL LETTER I; i
14517 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
\152: U+006A LATIN SMALL LETTER J; j
...
\172: U+007A LATIN SMALL LETTER Z; z
14518 % U+007B LEFT CURLY BRACKET; braceleft
14519 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
14520 % U+007C VERTICAL LINE; *bar, verticalbar
14521 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
14522 % U+007D RIGHT CURLY BRACKET; braceright
14523 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
14524 % U+007E TILDE; asciitilde
14525 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
Slot \177 (0x7F) is undefined in PDFDocEncoding.
14526 % U+2022 BULLET; bullet
14527 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
14528 % U+2020 DAGGER; dagger
14529 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
14530 % U+2021 DOUBLE DAGGER; daggerdbl
14531 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
14532 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
14533 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
14534 % U+2014 EM DASH; emdash
14535 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
14536 % U+2013 EN DASH; endash
14537 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
14538 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
14539 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
14540 % U+2044 FRACTION SLASH; fraction
14541 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
14542 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
ingleft
14543 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
14544 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
ingright
14545 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A

14546 % U+2212 MINUS SIGN; minus
14547 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14548 % U+2030 PER MILLE SIGN; perthousand
14549 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14550 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14551 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14552 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14553 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14554 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14555 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14556 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14557 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14558 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14559 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14560 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14561 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14562 % U+2122 TRADE MARK SIGN; trademark
14563 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14564 % U+FB01 LATIN SMALL LIGATURE FI; fi
14565 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14566 % U+FB02 LATIN SMALL LIGATURE FL; fl
14567 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14568 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14569 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14570 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14571 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14572 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14573 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14574 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14575 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
14576 \DeclareTextCommand{\IJ}{PD1}{\230}
14577 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14578 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14579 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14580 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14581 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14582 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14583 % U+0153 LATIN SMALL LIGATURE OE; oe
14584 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14585 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14586 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14587 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14588 \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.
14589 % U+20AC EURO SIGN; *Euro, euro
14590 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14591 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14592 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14593 % U+00A2 CENT SIGN; cent
14594 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14595 % U+00A3 POUND SIGN; sterling
14596 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14597 % U+00A4 CURRENCY SIGN; currency
14598 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14599 % U+00A5 YEN SIGN; yen
14600 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5

14601 % U+00A6 BROKEN BAR; brokenbar
14602 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14603 % U+00A7 SECTION SIGN; section
14604 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14605 % U+00A8 DIAERESIS; dieresis
14606 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14607 % U+00A9 COPYRIGHT SIGN; copyright
14608 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14609 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14610 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14611 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14612 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14613 % U+00AC NOT SIGN; logicalnot
14614 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14615 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14616 % U+00AE REGISTERED SIGN; registered
14617 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14618 % U+00AF MACRON; *macron, overscore
14619 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14620 % U+00B0 DEGREE SIGN; degree
14621 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14622 % U+00B1 PLUS-MINUS SIGN; plusminus
14623 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14624 % U+00B2 SUPERSCRIP T TWO; twosuperior
14625 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14626 % U+00B3 SUPERSCRIP T THREE; threesuperior
14627 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14628 % U+00B4 ACUTE ACCENT; acute
14629 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14630 % U+00B5 MICRO SIGN; mu, mu1
14631 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14632 % U+00B6 PILCROW SIGN; paragraph
14633 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14634 % U+00B7 MIDDLE DOT; middot, *periodcentered
14635 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14636 % U+00B8 CEDILLA; cedilla
14637 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14638 % U+00B9 SUPERSCRIP T ONE; onesuperior
14639 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14640 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14641 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14642 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
14643 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14644 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14645 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14646 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14647 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14648 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14649 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14650 % U+00BF INVERTED QUESTION MARK; questiondown
14651 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14652 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14653 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14654 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute

14655 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14656 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14657 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14658 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14659 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14660 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14661 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14662 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14663 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14664 % U+00C6 LATIN CAPITAL LETTER AE; AE
14665 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14666 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14667 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14668 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14669 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14670 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14671 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14672 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14673 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14674 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14675 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14676 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14677 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14678 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14679 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14680 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14681 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14682 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14683 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14684 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14685 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14686 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14687 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14688 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14689 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14690 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14691 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14692 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14693 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14694 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14695 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14696 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14697 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14698 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14699 % U+00D7 MULTIPLICATION SIGN; multiply
14700 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14701 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14702 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14703 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14704 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14705 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14706 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14707 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14708 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14709 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14710 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14711 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute

14712 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14713 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14714 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14715 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14716 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14717 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14718 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0
14719 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute
14720 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14721 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14722 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14723 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14724 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14725 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14726 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14727 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14728 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14729 % U+00E6 LATIN SMALL LETTER AE; ae
14730 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14731 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14732 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14733 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14734 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8
14735 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14736 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14737 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14738 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14739 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14740 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14741 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14742 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14743 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14744 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14745 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14746 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14747 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14748 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14749 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14750 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14751 \DeclareTextCompositeCommand{\'}{PD1}{i}{\357}% U+00EF
14752 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14753 % U+00F0 LATIN SMALL LETTER ETH; eth
14754 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14755 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14756 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14757 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14758 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2
14759 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14760 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14761 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14762 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
14763 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14764 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14765 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14766 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14767 % U+00F7 DIVISION SIGN; divide
14768 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7

14769 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14770 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14771 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14772 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9
14773 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14774 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14775 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14776 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
14777 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14778 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
14779 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14780 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14781 % U+00FE LATIN SMALL LETTER THORN; thorn
14782 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14783 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14784 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
14785 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14786 \DeclareTextCommand{\SS}{PD1}{SS}
14787 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

14788 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14789 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14790 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14791 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14792 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14793 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14794 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14795 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

14796 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14797 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14798 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14799 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14800 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14801 \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).

14802 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14803 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
14804 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14805 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
14806 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
14807 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
14808 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14809 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14810 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
14811 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14812 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
14813 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
14814 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
14815 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

14816 \langle /pdlenc)

50.2 PU encoding

```
14817 <*puenc>
14818 \DeclareFontEncoding{PU}{-}{-}
```

50.2.1 NFSS2 accents

```
14819 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14820 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
14821 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14822 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
14823 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14824 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
14825 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14826 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14827 % U+0304 COMBINING MACRON; macroncmb
14828 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14829 % U+0306 COMBINING BREVE; brevecmb
14830 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14831 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14832 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14833 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14834 % U+0308 COMBINING DIAERESIS; dieresiscmb
14835 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14836 % U+030A COMBINING RING ABOVE; ringcmb
14837 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14838 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14839 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14840 % U+030C COMBINING CARON; caroncmb
14841 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14842 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14843 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14844 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14845 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14846 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14847 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
14848 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14849 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14850 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14851 % U+0327 COMBINING CEDILLA; cedillacmb
14852 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14853 % U+0328 COMBINING OGONEK; ogonekcmb
14854 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14855 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14856 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14857 % U+20DD COMBINING ENCLOSING CIRCLE
14858 \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.

```
14859 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
14860 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14861 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
14862 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciitilde}
14863 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14864 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textasciiring}
14865 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14866 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textasciidotaccent}
14867 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textasciicedilla}
```

```

14868 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14869 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14870 \DeclareTextCompositeCommand{\=} {PU}{\@empty}{\textasciimacron}
14871 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14872 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14873 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14874 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14875 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14876 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14877 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

14878 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
14879 \DeclareTextCompositeCommand{\' }{PU}{\ }{\textacute}
14880 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
14881 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
14882 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14883 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14884 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14885 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14886 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14887 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14888 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14889 \DeclareTextCompositeCommand{\=} {PU}{\ }{\textasciimacron}
14890 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14891 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14892 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14893 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14894 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14895 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14896 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14897 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14898 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14899 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14900 \DeclareTextCommand{\capitalacute}{PU}[1]{\\'{#1}}
14901 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14902 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14903 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\\"{#1}}
14904 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14905 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14906 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14907 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14908 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14909 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14910 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14911 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

14912 % U+0009 (CHARACTER TABULATION)
14913 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14914 % U+000A (LINE FEED)
14915 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14916 % U+000D (CARRIAGE RETURN)
14917 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

```

14918 % U+0022 QUOTATION MARK; quotedbl
14919 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14920 % U+0023 NUMBER SIGN; numbersign
14921 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14922 % U+0024 DOLLAR SIGN; dollar
14923 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14924 % U+0025 PERCENT SIGN; percent
14925 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14926 % U+0026 AMPERSAND; ampersand
14927 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14928 % U+0027 APOSTROPHE; quotesingle
14929 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14930 % U+0028 LEFT PARENTHESIS; parenleft
14931 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14932 % U+0029 RIGHT PARENTHESIS; parenright
14933 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14934 % U+002A ASTERISK; asterisk
14935 \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
14936 % U+003C LESS-THAN SIGN; less
14937 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal
14938 % U+003E GREATER-THAN SIGN; greater
14939 \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
14940 % U+005C REVERSE SOLIDUS; backslash
14941 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C

\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
14942 % U+005E CIRCUMFLEX ACCENT; asciicircum
14943 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
14944 % U+005F LOW LINE; underscore
14945 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
14946 % U+0060 GRAVE ACCENT; grave
14947 \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
14948 % U+0069 LATIN SMALL LETTER I; i
14949 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069

14950 \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
 14951 % U+007B LEFT CURLY BRACKET; braceleft
 14952 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14953 % U+007C VERTICAL LINE; *bar, verticalbar
 14954 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14955 % U+007D RIGHT CURLY BRACKET; braceright
 14956 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14957 % U+007E TILDE; asciitilde
 14958 \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
 14959 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14960 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14961 % U+00A2 CENT SIGN; cent
 14962 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14963 % U+00A3 POUND SIGN; sterling
 14964 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14965 % U+00A4 CURRENCY SIGN; currency
 14966 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14967 % U+00A5 YEN SIGN; yen
 14968 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14969 % U+00A6 BROKEN BAR; brokenbar
 14970 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14971 % U+00A7 SECTION SIGN; section
 14972 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14973 % U+00A8 DIAERESIS; diaeresis
 14974 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14975 % U+00A9 COPYRIGHT SIGN; copyright
 14976 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14977 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14978 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14979 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 14980 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14981 % U+00AC NOT SIGN; logicalnot
 14982 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14983 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14984 % U+00AE REGISTERED SIGN; registered
 14985 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 14986 % U+00AF MACRON; *macron, overscore
 14987 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 14988 % U+00B0 DEGREE SIGN; degree
 14989 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 14990 % U+00B1 PLUS-MINUS SIGN; plusminus
 14991 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 14992 % U+00B2 SUPERSCRRIPT TWO; twosuperior
 14993 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 14994 % U+00B3 SUPERSCRRIPT THREE; threesuperior
 14995 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 14996 % U+00B4 ACUTE ACCENT; acute

14997 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14998 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
14999 % U+00B5 MICRO SIGN; mu, mu1
15000 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15001 % U+00B6 PILCROW SIGN; paragraph
15002 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15003 % U+00B7 MIDDLE DOT; middot, *periodcentered
15004 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15005 % U+00B8 CEDILLA; cedilla
15006 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15007 % U+00B9 SUPERSCRIPT ONE; onesuperior
15008 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
15009 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15010 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15011 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
15012 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15013 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15014 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15015 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15016 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15017 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15018 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15019 % U+00BF INVERTED QUESTION MARK; questiondown
15020 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15021 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15022 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15023 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Acute
15024 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15025 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15026 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15027 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15028 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15029 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15030 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4
15031 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15032 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15033 % U+00C6 LATIN CAPITAL LETTER AE; AE
15034 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15035 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15036 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15037 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15038 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15039 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15040 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15041 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15042 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15043 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15044 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB
15045 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15046 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15047 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15048 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15049 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15050 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15051 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15052 \DeclareTextCompositeCommand{\\"}{PU}{I}{\80\317}% U+00CF

15053 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15054 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15055 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15056 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15057 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15058 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15059 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15060 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15061 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15062 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15063 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15064 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5
15065 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15066 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6
15067 % U+00D7 MULTIPLICATION SIGN; multiply
15068 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15069 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15070 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15071 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15072 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15073 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15074 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15075 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15076 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15077 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15078 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC
15079 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15080 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15081 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
15082 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15083 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15084 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15085 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15086 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15087 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15088 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15089 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15090 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15091 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15092 \DeclareTextCompositeCommand{\-}{PU}{a}{\80\343}% U+00E3
15093 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15094 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15095 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15096 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15097 % U+00E6 LATIN SMALL LETTER AE; ae
15098 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15099 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15100 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15101 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15102 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15103 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15104 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15105 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15106 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15107 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15108 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15109 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

15110 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15111 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15112 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15113 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15114 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15115 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15116 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15117 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15118 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15119 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15120 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15121 % U+00F0 LATIN SMALL LETTER ETH; eth
15122 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15123 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15124 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
15125 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15126 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
15127 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15128 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
15129 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15130 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
15131 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15132 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
15133 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15134 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
15135 % U+00F7 DIVISION SIGN; divide
15136 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15137 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15138 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15139 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15140 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
15141 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15142 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
15143 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15144 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
15145 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15146 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC
15147 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15148 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
15149 % U+00FE LATIN SMALL LETTER THORN; thorn
15150 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
15151 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15152 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15153 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
15154 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
15155 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
15156 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
15157 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
15158 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
15159 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
15160 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
15161 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
15162 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
15163 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

15164 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15165 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15166 \DeclareTextCompositeCommand{\`}{PU}{C}{\81\006}% U+0106
15167 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15168 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107
15169 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15170 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15171 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15172 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15173 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
15174 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15175 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15176 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15177 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15178 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15179 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15180 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15181 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15182 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15183 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15184 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15185 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15186 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15187 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15188 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15189 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15190 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15191 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15192 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15193 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15194 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15195 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15196 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15197 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15198 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15199 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15200 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15201 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15202 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15203 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15204 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15205 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15206 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15207 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15208 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15209 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15210 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15211 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15212 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15213 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15214 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15215 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15216 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15217 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
15218 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15219 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15220 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

15221 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
15222 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15223 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15224 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15225 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15226 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15227 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15228 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15229 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15230 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15231 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
15232 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
15233 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15234 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15235 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15236 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15237 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15238 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15239 \DeclareTextCompositeCommand{\=} {PU}{I}{\81\052}% U+012A
15240 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15241 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
15242 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
15243 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15244 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15245 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15246 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15247 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15248 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15249 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15250 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15251 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15252 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15253 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15254 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15255 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15256 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15257 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15258 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15259 % U+0133 LATIN SMALL LIGATURE IJ; ij
15260 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15261 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15262 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15263 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15264 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15265 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15266 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
15267 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15268 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15269 \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`.

15270 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15271 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15272 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute

15273 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15274 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15275 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15276 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15277 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15278 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15279 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15280 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15281 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15282 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15283 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E
There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). There-
fore the \. accent is reused instead of making a separate accent macro \textmiddledot.
15284 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
15285 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15286 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15287 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15288 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15289 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15290 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15291 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15292 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15293 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15294 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15295 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15296 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15297 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15298 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15299 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15300 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15301 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15302 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15303 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15304 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15305 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15306 % U+014A LATIN CAPITAL LETTER ENG; Eng
15307 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15308 % U+014B LATIN SMALL LETTER ENG; eng
15309 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15310 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15311 \DeclareTextCompositeCommand{\=} {PU}{O}{\81\114}% U+014C
15312 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15313 \DeclareTextCompositeCommand{\=} {PU}{o}{\81\115}% U+014D
15314 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15315 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15316 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15317 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15318 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-
cute, Ohungarumlaut
15319 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15320 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohun-
garumlaut
15321 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15322 % U+0152 LATIN CAPITAL LIGATURE OE; OE

15323 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15324 % U+0153 LATIN SMALL LIGATURE OE; oe
15325 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15326 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15327 \DeclareTextCompositeCommand{\`}{PU}{R}{\81\124}% U+0154
15328 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15329 \DeclareTextCompositeCommand{\`}{PU}{r}{\81\125}% U+0155
15330 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
cent
15331 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15332 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15333 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15334 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15335 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15336 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15337 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15338 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15339 \DeclareTextCompositeCommand{\`}{PU}{S}{\81\132}% U+015A
15340 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15341 \DeclareTextCompositeCommand{\`}{PU}{s}{\81\133}% U+015B
15342 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15343 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
15344 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15345 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
15346 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15347 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15348 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15349 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15350 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15351 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15352 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15353 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15354 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
15355 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15356 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15357 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15358 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15359 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15360 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15361 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15362 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15363 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15364 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15365 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15366 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15367 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15368 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15369 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15370 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15371 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15372 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15373 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15374 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15375 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15376 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15377 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D

15378 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15379 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15380 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15381 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15382 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
15383 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15384 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
15385 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15386 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15387 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15388 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15389 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15390 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15391 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15392 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15393 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15394 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15395 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
15396 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
15397 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
15398 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
15399 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178
15400 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
15401 \DeclareTextCompositeCommand{'}{PU}{Z}{\81\171}% U+0179
15402 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
15403 \DeclareTextCompositeCommand{'}{PU}{z}{\81\172}% U+017A
15404 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
15405 \DeclareTextCompositeCommand{.}{PU}{Z}{\81\173}% U+017B
15406 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
15407 \DeclareTextCompositeCommand{.}{PU}{z}{\81\174}% U+017C
15408 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
15409 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
15410 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
15411 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
15412 % U+017F LATIN SMALL LETTER LONG S; longs, slong
15413 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15414 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
15415 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
15416 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
15417 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
15418 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
15419 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
15420 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
15421 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
15422 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
15423 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15424 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15425 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15426 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15427 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15428 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15429 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15430 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3

15431 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15432 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15433 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15434 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15435 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15436 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15437 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15438 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15439 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15440 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15441 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15442 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15443 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15444 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15445 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15446 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15447 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15448 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15449 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15450 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15451 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15452 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15453 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15454 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15455 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15456 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15457 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
15458 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15459 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15460 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15461 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15462 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15463 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15464 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
15465 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15466 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
15467 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15468 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15469 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15470 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15471 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15472 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15473 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15474 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15475 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15476 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15477 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15478 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15479 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15480 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15481 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15482 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15483 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15484 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15485 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave

15486 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15487 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15488 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15489 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15490 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15491 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15492 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15493 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15494 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15495 % U+021F LATIN SMALL LETTER H WITH CARON
 15496 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15497 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15498 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15499 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15500 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15501 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15502 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15503 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15504 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15505 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15506 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15507 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15508 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15509 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15510 \DeclareTextCompositeCommand{\=} {PU}{Y}{\82\062}% U+0232
 15511 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15512 \DeclareTextCompositeCommand{\=} {PU}{y}{\82\063}% U+0233
 15513 % U+0237 LATIN SMALL LETTER DOTLESS J
 15514 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15515 % U+02C7 CARON; caron
 15516 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15517 % U+02D8 BREVE; breve
 15518 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15519 % U+02D9 DOT ABOVE; dotaccent
 15520 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15521 % U+02DA RING ABOVE; ring
 15522 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15523 % U+02DB OGONEK; ogonek
 15524 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15525 % U+02DC SMALL TILDE; ilde, *tilde
 15526 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15527 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15528 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15529 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15530 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15531 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15532 % U+02F7 MODIFIER LETTER LOW TILDE
 15533 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15534 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15535 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15536 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15537 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15538 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb

15539 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15540 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15541 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15542 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15543 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15544 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15545 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15546 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15547 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15548 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanotos
 15549 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15550 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15551 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15552 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15553 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15554 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15555 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 15556 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 15557 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 15558 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
 15559 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 15560 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15561 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 15562 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadiesistonos
 15563 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesesis}{\83\220}% U+0390
 15564 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15565 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15566 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15567 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15568 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15569 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15570 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15571 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15572 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15573 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15574 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15575 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15576 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15577 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15578 % U+0398 GREEK CAPITAL LETTER THETA; Theta
 15579 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
 15580 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 15581 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 15582 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 15583 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 15584 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
 15585 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
 15586 % U+039C GREEK CAPITAL LETTER MU; Mu
 15587 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
 15588 % U+039D GREEK CAPITAL LETTER NU; Nu
 15589 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
 15590 % U+039E GREEK CAPITAL LETTER XI; Xi
 15591 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E

15592 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15593 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15594 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15595 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15596 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15597 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15598 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15599 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15600 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15601 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15602 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15603 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15604 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15605 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15606 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15607 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15608 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15609 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15610 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15611 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15612 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15613 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15614 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
15615 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilon
dieresis
15616 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
15617 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15618 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
15619 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
nos
15620 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
15621 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15622 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
15623 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15624 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
15625 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silondieresis
15626 \DeclareTextCompositeCommand{\'}{PU}{\textupsilonacute}{\83\260}% U+03B0
15627 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15628 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15629 % U+03B2 GREEK SMALL LETTER BETA; beta
15630 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15631 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15632 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15633 % U+03B4 GREEK SMALL LETTER DELTA; delta
15634 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15635 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15636 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15637 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15638 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15639 % U+03B7 GREEK SMALL LETTER ETA; eta
15640 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15641 % U+03B8 GREEK SMALL LETTER THETA; theta
15642 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15643 % U+03B9 GREEK SMALL LETTER IOTA; iota
15644 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15645 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15646 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA

15647 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15648 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15649 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15650 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15651 % U+03BD GREEK SMALL LETTER NU; nu
15652 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15653 % U+03BE GREEK SMALL LETTER XI; xi
15654 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15655 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15656 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15657 % U+03C0 GREEK SMALL LETTER PI; pi
15658 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15659 % U+03C1 GREEK SMALL LETTER RHO; rho
15660 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15661 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15662 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15663 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15664 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15665 % U+03C4 GREEK SMALL LETTER TAU; tau
15666 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15667 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15668 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15669 % U+03C6 GREEK SMALL LETTER PHI; phi
15670 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15671 % U+03C7 GREEK SMALL LETTER CHI; chi
15672 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15673 % U+03C8 GREEK SMALL LETTER PSI; psi
15674 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15675 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15676 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15677 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
15678 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
15679 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silonadieresis
15680 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
15681 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15682 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
15683 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15684 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15685 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
15686 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15687 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
15688 % U+03DA GREEK LETTER STIGMA; Stigmagreek
15689 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
15690 % U+03DB GREEK SMALL LETTER STIGMA
15691 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
15692 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
15693 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
15694 % U+03DD GREEK SMALL LETTER DIGAMMA
15695 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
15696 % U+03DE GREEK LETTER KOPPA; Koppagreek
15697 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
15698 % U+03DF GREEK SMALL LETTER KOPPA
15699 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
15700 % U+03E0 GREEK LETTER SAMPI; Sampigreek
15701 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
15702 % U+03E1 GREEK SMALL LETTER SAMPI

15703 \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.

15704 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
15705 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
15706 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
15707 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
15708 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
15709 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15710 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15711 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15712 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
15713 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
15714 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15715 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15716 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
15717 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
15718 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15719 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
15720 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15721 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
15722 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15723 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15724 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15725 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15726 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15727 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15728 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15729 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15730 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15731 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15732 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15733 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
15734 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
15735 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15736 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15737 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15738 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15739 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15740 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15741 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15742 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15743 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15744 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15745 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15746 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15747 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15748 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15749 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15750 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15751 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15752 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15753 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15754 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417

15755 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15756 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15757 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15758 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15759 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15760 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15761 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15762 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15763 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15764 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15765 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15766 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15767 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15768 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15769 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15770 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15771 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15772 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15773 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15774 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15775 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15776 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15777 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15778 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15779 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15780 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15781 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15782 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15783 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15784 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15785 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15786 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15787 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15788 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15789 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15790 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15791 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15792 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15793 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15794 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15795 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15796 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15797 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15798 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15799 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15800 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15801 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15802 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15803 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15804 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15805 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15806 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15807 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15808 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15809 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15810 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15811 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433

15812 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15813 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15814 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15815 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15816 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15817 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15818 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15819 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15820 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15821 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15822 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15823 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15824 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15825 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15826 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15827 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15828 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
15829 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15830 \DeclareTextCommand{\cyr}{PU}{\84\074}% U+043C
15831 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15832 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15833 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15834 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15835 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15836 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15837 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15838 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440
15839 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15840 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441
15841 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15842 \DeclareTextCommand{\cyr}{PU}{\84\102}% U+0442
15843 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15844 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443
15845 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15846 \DeclareTextCommand{\cyr}{PU}{\84\104}% U+0444
15847 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15848 \DeclareTextCommand{\cyr}{PU}{\84\105}% U+0445
15849 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15850 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446
15851 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15852 \DeclareTextCommand{\cyr}{PU}{\84\107}% U+0447
15853 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15854 \DeclareTextCommand{\cyr}{PU}{\84\110}% U+0448
15855 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15856 \DeclareTextCommand{\cyr}{PU}{\84\111}% U+0449
15857 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15858 \DeclareTextCommand{\cyr}{PU}{\84\112}% U+044A
15859 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15860 \DeclareTextCommand{\cyr}{PU}{\84\113}% U+044B
15861 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15862 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C
15863 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15864 \DeclareTextCommand{\cyr}{PU}{\84\115}% U+044D
15865 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15866 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E
15867 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15868 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F

15869 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15870 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
15871 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrrilic
15872 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
15873 \DeclareTextCompositeCommand{"}{PU}{\cyre}{\84\121}% U+0451
15874 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15875 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
15876 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15877 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
15878 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrrillic
15879 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
15880 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
15881 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
15882 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
lic
15883 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
15884 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrrillic
15885 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
15886 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
15887 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15888 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
15889 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15890 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
15891 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15892 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
15893 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15894 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
15895 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15896 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
15897 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15898 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
15899 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrrillic
15900 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
15901 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
15902 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15903 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
15904 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrrillic
15905 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15906 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrrillic
15907 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15908 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrrillic, *afii10146
15909 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15910 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrrillic
15911 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
15912 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrrillic
15913 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
15914 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrrillic
15915 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
15916 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrrillic
15917 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
15918 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrrillic
15919 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
15920 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitleio-
tifiedcyrrillic
15921 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
15922 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
fiedcyrrillic

15923 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
15924 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
15925 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
15926 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
15927 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
15928 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
15929 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
15930 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
15931 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
15932 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
15933 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
15934 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
15935 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
15936 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
15937 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
15938 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
15939 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
15940 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
15941 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
15942 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
15943 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
15944 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
15945 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
15946 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
15947 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
15948 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; Izhitsadblgravecyrillic
15949 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
15950 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; izhitsadblgravecyrillic
15951 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
15952 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
15953 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
15954 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
15955 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
15956 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
lic
15957 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
15958 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
15959 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
15960 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
cyrillic
15961 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
15962 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
cyrillic
15963 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
15964 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
15965 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
15966 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
15967 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
15968 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
15969 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
15970 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
15971 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
15972 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

15973 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
15974 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
15975 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
15976 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
15977 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
15978 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
15979 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
15980 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
15981 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
15982 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
15983 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
15984 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
15985 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
15986 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
15987 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
15988 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
15989 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
15990 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
15991 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
15992 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
15993 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
15994 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
15995 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
15996 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
15997 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
15998 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
15999 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
16000 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
16001 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
16002 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
16003 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
16004 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
16005 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
16006 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499
16007 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
16008 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic

16009 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
16010 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-cyrillic
16011 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
16012 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
16013 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
16014 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic
16015 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
16016 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
16017 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
16018 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
16019 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
16020 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
16021 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
16022 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
16023 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
16024 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-dercyrillic
16025 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
16026 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-cyrillic
16027 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
16028 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
16029 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
16030 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
16031 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
16032 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-dlehookcyrillic
16033 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
16034 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemid-dlehookcyrillic
16035 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
16036 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-lic
16037 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
16038 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
16039 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
16040 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-dercyrillic
16041 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
16042 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
16043 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-cyrillic
16044 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
16045 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
16046 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-dercyrillic
16047 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
16048 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-cyrillic
16049 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
16050 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
16051 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
16052 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
16053 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF

16054 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
16055 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
16056 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
16057 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
16058 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
16059 \DeclareTextCommand{\CYRHDS}{PU}{\84\262}% U+04B2
16060 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
16061 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
16062 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
16063 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
16064 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
16065 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
16066 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
16067 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
16068 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
16069 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
16070 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chevverticalstrokecyrillic
16071 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
16072 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chevverticalstrokecyrillic
16073 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
16074 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
16075 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
16076 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
16077 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
16078 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
16079 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
16080 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
16081 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
16082 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
16083 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
16084 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
16085 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
16086 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
16087 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16088 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
16089 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16090 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
16091 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16092 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
16093 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
16094 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16095 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16096 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16097 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
16098 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL

16099 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16100 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16101 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
16102 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16103 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16104 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16105 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
16106 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-cyrillic
16107 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16108 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic
16109 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
16110 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16111 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16112 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16113 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
16114 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevcyrillic
16115 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16116 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevcyrillic
16117 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16118 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
16119 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
16120 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
16121 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
16122 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
16123 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16124 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
16125 \DeclareTextCommand{\cyrcae}{PU}{\84\325}% U+04D5
16126 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic
16127 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16128 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic
16129 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16130 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
16131 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16132 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
16133 \DeclareTextCommand{\cyrschw}{PU}{\84\331}% U+04D9
16134 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic
16135 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16136 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic
16137 \DeclareTextCompositeCommand{\U}{PU}{\cyrschw}{\84\333}% U+04DB
16138 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic
16139 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
16140 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic
16141 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
16142 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic
16143 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
16144 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
16145 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

16146 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
16147 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16148 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
16149 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16150 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
16151 \DeclareTextCompositeCommand{\=} {PU}{\CYRI}{\84\342}% U+04E2
16152 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
16153 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3
16154 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
16155 \DeclareTextCompositeCommand{\"} {PU}{\CYRI}{\84\344}% U+04E4
16156 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
16157 \DeclareTextCompositeCommand{\"} {PU}{\cyri}{\84\345}% U+04E5
16158 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
16159 \DeclareTextCompositeCommand{\"} {PU}{\CYRO}{\84\346}% U+04E6
16160 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
16161 \DeclareTextCompositeCommand{\"} {PU}{\cyro}{\84\347}% U+04E7
16162 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
16163 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16164 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
16165 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16166 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
16167 \DeclareTextCompositeCommand{\"} {PU}{\CYROTLD}{\84\352}% U+04EA
16168 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
16169 \DeclareTextCompositeCommand{\"} {PU}{\cyrotld}{\84\353}% U+04EB
16170 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16171 \DeclareTextCompositeCommand{\"} {PU}{\CYREREV}{\84\354}% U+04EC
16172 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16173 \DeclareTextCompositeCommand{\"} {PU}{\cyreref}{\84\355}% U+04ED
16174 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16175 \DeclareTextCompositeCommand{\=} {PU}{\CYRU}{\84\356}% U+04EE
16176 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16177 \DeclareTextCompositeCommand{\=} {PU}{\cyru}{\84\357}% U+04EF
16178 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
16179 \DeclareTextCompositeCommand{\"} {PU}{\CYRU}{\84\360}% U+04F0
16180 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
16181 \DeclareTextCompositeCommand{\"} {PU}{\cyru}{\84\361}% U+04F1
16182 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
16183 \DeclareTextCompositeCommand{\H} {PU}{\CYRU}{\84\362}% U+04F2
16184 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
16185 \DeclareTextCompositeCommand{\H} {PU}{\cyru}{\84\363}% U+04F3
16186 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
16187 \DeclareTextCompositeCommand{\"} {PU}{\CYRCH}{\84\364}% U+04F4
16188 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
16189 \DeclareTextCompositeCommand{\"} {PU}{\cyrch}{\84\365}% U+04F5
16190 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
16191 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
16192 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
16193 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7

16194 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
16195 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
16196 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
16197 \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
16198 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
16199 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
16200 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
16201 \DeclareTextCommand{\cyrhhk}{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

16202 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
16203 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16204 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
16205 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
16206 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
16207 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
16208 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
16209 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
16210 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
16211 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
16212 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
16213 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
16214 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
16215 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
16216 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
16217 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
16218 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
16219 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
16220 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
16221 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
16222 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
16223 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
16224 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
16225 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
16226 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16227 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
16228 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16229 \DeclareTextCompositeCommand{\=} {PU}{G}{\9036\040}% U+1E20
16230 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16231 \DeclareTextCompositeCommand{\=} {PU}{g}{\9036\041}% U+1E21
16232 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16233 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
16234 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16235 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23
16236 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16237 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
16238 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis

16239 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
16240 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16241 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
16242 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16243 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
16244 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16245 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
16246 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16247 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
16248 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16249 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
16250 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16251 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
16252 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16253 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
16254 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16255 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
16256 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16257 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
16258 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16259 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
16260 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16261 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40
16262 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16263 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41
16264 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16265 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44
16266 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16267 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45
16268 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16269 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48
16270 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16271 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49
16272 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16273 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
16274 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16275 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
16276 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16277 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56
16278 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16279 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57
16280 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16281 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58
16282 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
16283 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59
16284 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16285 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E
16286 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16287 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F
16288 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16289 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60
16290 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16291 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61
16292 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16293 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E
16294 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16295 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F

16296 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16297 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16298 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16299 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16300 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16301 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16302 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16303 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16304 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16305 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
16306 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16307 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
16308 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16309 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84
16310 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16311 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85
16312 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16313 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
16314 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16315 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
16316 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16317 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A
16318 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16319 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B
16320 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16321 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
16322 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16323 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
16324 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16325 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E
16326 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16327 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F
16328 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16329 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90
16330 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16331 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91
16332 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16333 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16334 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16335 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16336 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16337 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16338 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16339 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
16340 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
16341 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
16342 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
16343 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
16344 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
cent
16345 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B
16346 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
16347 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
16348 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
16349 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
16350 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
16351 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

16352 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
16353 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
16354 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
16355 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
16356 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
16357 \DeclareTextCompositeCommand{\-}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16358 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
16359 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
16360 % U+2013 EN DASH; endash
16361 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
16362 % U+2014 EM DASH; emdash
16363 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
16364 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
16365 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
16366 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
16367 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
16368 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
16369 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
16370 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
16371 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
16372 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
16373 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
16374 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
16375 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
16376 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
16377 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
16378 % U+2020 DAGGER; dagger
16379 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
16380 % U+2021 DOUBLE DAGGER; daggerdbl
16381 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
16382 % U+2022 BULLET; bullet
16383 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
16384 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
16385 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
16386 % U+2030 PER MILLE SIGN; perthousand
16387 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
16388 % U+2031 PER TEN THOUSAND SIGN
16389 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
16390 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
ingleft
16391 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
16392 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
ingright
16393 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
16394 % U+203B REFERENCE MARK; referencemark
16395 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
16396 % U+203D INTERROBANG
16397 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
16398 % U+2044 FRACTION SLASH; fraction
16399 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
16400 % U+2045 LEFT SQUARE BRACKET WITH QUILL
16401 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
16402 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
16403 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
16404 % U+2052 COMMERCIAL MINUS SIGN

16405 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16406 % U+2070 SUPERSCRIPT ZERO; zerosuperior
16407 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
16408 % U+2074 SUPERSCRIPT FOUR; foursuperior
16409 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
16410 % U+2075 SUPERSCRIPT FIVE; fivesuperior
16411 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
16412 % U+2076 SUPERSCRIPT SIX; sixsuperior
16413 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
16414 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
16415 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
16416 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
16417 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
16418 % U+2079 SUPERSCRIPT NINE; ninesuperior
16419 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
16420 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
16421 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
16422 % U+207B SUPERSCRIPT MINUS
16423 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
16424 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
16425 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
16426 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
16427 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
16428 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
16429 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
16430 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
16431 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
16432 % U+2080 SUBSCRIPT ZERO; zeroinferior
16433 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
16434 % U+2081 SUBSCRIPT ONE; oneinferior
16435 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
16436 % U+2082 SUBSCRIPT TWO; twoinferior
16437 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
16438 % U+2083 SUBSCRIPT THREE; threeinferior
16439 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
16440 % U+2084 SUBSCRIPT FOUR; fourinferior
16441 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
16442 % U+2085 SUBSCRIPT FIVE; fiveinferior
16443 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
16444 % U+2086 SUBSCRIPT SIX; sixinferior
16445 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
16446 % U+2087 SUBSCRIPT SEVEN; seveninferior
16447 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
16448 % U+2088 SUBSCRIPT EIGHT; eightinferior
16449 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
16450 % U+2089 SUBSCRIPT NINE; nineinferior
16451 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
16452 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
16453 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
16454 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
16455 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16456 % U+20A1 COLON SIGN; *colonmonetary, colonsign
16457 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

16458 % U+20A4 LIRA SIGN; afii08941, *lira
16459 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
16460 % U+20A6 NAIRA SIGN
16461 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
16462 % U+20A7 PESETA SIGN; peseta
16463 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
16464 % U+20A9 WON SIGN; won
16465 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
16466 % U+20AB DONG SIGN; dong
16467 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
16468 % U+20AC EURO SIGN; *Euro, euro
16469 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
16470 % U+20B1 PESO SIGN
16471 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
16472 % U+20B2 GUARANI SIGN
16473 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16474 % U+2103 DEGREE CELSIUS; centigrade
16475 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
16476 % U+2116 NUMERO SIGN; *afii61352, numero
16477 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
16478 % U+2117 SOUND RECORDING COPYRIGHT
16479 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
16480 % U+211E PRESCRIPTION TAKE; prescription
16481 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
16482 % U+2120 SERVICE MARK
16483 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
16484 % U+2122 TRADE MARK SIGN; trademark
16485 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
16486 % U+2126 OHM SIGN; Ohm, Omega
16487 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
16488 % U+2127 INVERTED OHM SIGN
16489 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
16490 % U+212B ANGSTROM SIGN; angstrom
16491 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
16492 % U+212E ESTIMATED SYMBOL; estimated
16493 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
16494 % U+2135 ALEF SYMBOL; aleph
16495 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16496 % U+2190 LEFTWARDS ARROW; arrowleft
16497 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
16498 % U+2191 UPWARDS ARROW; arrowup
16499 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
16500 % U+2192 RIGHTWARDS ARROW; arrowright
16501 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
16502 % U+2193 DOWNWARDS ARROW; arrowdown
16503 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16504 % U+2212 MINUS SIGN; minus
16505 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
16506 % U+221A SQUARE ROOT; radical
16507 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16508 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
16509 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
16510 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
16511 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16512 % U+2422 BLANK SYMBOL
16513 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
16514 % U+2423 OPEN BOX; blank
16515 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16516 % U+2460 CIRCLED DIGIT ONE; onecircle
16517 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
16518 % U+2461 CIRCLED DIGIT TWO; twocircle
16519 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
16520 % U+2462 CIRCLED DIGIT THREE; threecircle
16521 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
16522 % U+2463 CIRCLED DIGIT FOUR; fourcircle
16523 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
16524 % U+2464 CIRCLED DIGIT FIVE; fivecircle
16525 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
16526 % U+2465 CIRCLED DIGIT SIX; sixcircle
16527 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
16528 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
16529 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
16530 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
16531 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
16532 % U+2468 CIRCLED DIGIT NINE; ninecircle
16533 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
16534 % U+2469 CIRCLED NUMBER TEN; tencircle
16535 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
16536 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
16537 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
16538 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
16539 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
16540 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
16541 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
16542 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
16543 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
16544 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
16545 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
16546 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
16547 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
16548 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
16549 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
16550 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
16551 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
16552 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
16553 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
16554 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
16555 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
16556 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
16557 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
16558 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
16559 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

16560 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
16561 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
16562 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
16563 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
16564 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
16565 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
16566 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
16567 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
16568 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
16569 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
16570 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
16571 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
16572 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
16573 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
16574 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
16575 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
16576 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
16577 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
16578 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
16579 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
16580 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
16581 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
16582 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
16583 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
16584 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
16585 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
16586 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
16587 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
16588 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
16589 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
16590 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
16591 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
16592 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
16593 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
16594 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
16595 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
16596 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
16597 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
16598 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
16599 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
16600 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
16601 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
16602 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
16603 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16604 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16605 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16606 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16607 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16608 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16609 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16610 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16611 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16612 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16613 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16614 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16615 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16616 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

16617 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16618 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16619 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16620 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16621 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16622 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16623 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16624 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16625 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16626 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16627 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16628 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16629 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16630 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16631 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16632 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16633 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16634 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16635 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16636 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16637 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
16638 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16639 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16640 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16641 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16642 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16643 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16644 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16645 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16646 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16647 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16648 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16649 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16650 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16651 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16652 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16653 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16654 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16655 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16656 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16657 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16658 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16659 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
16660 % U+24EA CIRCLED DIGIT ZERO
16661 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16662 % U+25E6 WHITE BULLET; *openbullet, whitebullet
16663 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
16664 % U+25EF LARGE CIRCLE; largecircle
16665 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16666 % U+266A EIGHTH NOTE; musicalnote
16667 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
16668 % U+26AD MARRIAGE SYMBOL
16669 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD

16670 % U+26AE DIVORCE SYMBOL
 16671 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16672 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16673 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16674 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16675 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16676 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16677 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16678 % U+FB02 LATIN SMALL LIGATURE FL; fl
 16679 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16680 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

16681 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
 16682 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
 16683 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
 16684 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
 16685 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
 16686 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
 16687 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
 16688 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16689 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
 16690 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
 16691 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
 16692 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
 16693 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
 16694 </puenc>

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

16695 <*puvnenc>
 16696 \DeclareTextCommand{\abreve}{PU}{\81\003}
 16697 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
 16698 \DeclareTextCommand{\dj}{PU}{\81\021}
 16699 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
 16700 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
 16701 \DeclareTextCommand{\ohorn}{PU}{\81\241}
 16702 \DeclareTextCommand{\uhorn}{PU}{\81\260}
 16703 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
 16704 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
 16705 \DeclareTextCommand{\DJ}{PU}{\81\020}
 16706 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
 16707 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
 16708 \DeclareTextCommand{\OHORN}{PU}{\81\240}
 16709 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16710 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}
16711 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}
16712 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}
16713 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}
16714 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}
16715 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\257}
16716 \DeclareTextCompositeCommand{d}{PU}{\abreve}{\9036\267}
16717 \DeclareTextCompositeCommand{'}{PU}{\abreve}{\9036\261}
16718 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}
16719 \DeclareTextCompositeCommand{~}{PU}{\abreve}{\9036\265}
16720 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\245}
16721 \DeclareTextCompositeCommand{d}{PU}{\acircumflex}{\9036\255}
16722 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}
16723 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
16724 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}
16725 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}
16726 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}
16727 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}
16728 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
16729 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}
16730 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}
16731 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}
16732 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}
16733 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
16734 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}
16735 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}
16736 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}
16737 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}
16738 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
16739 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}
16740 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}
16741 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}
16742 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}
16743 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
16744 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}
16745 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}
16746 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}
16747 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}
16748 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
16749 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}
16750 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}
16751 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}
16752 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}
16753 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}
16754 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}
16755 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}
16756 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}
16757 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}
16758 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}
16759 \DeclareTextCompositeCommand{~}{PU}{u}{\81\151}
16760 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\351}
16761 \DeclareTextCompositeCommand{d}{PU}{\uhorn}{\9036\361}
16762 \DeclareTextCompositeCommand{'}{PU}{\uhorn}{\9036\353}
16763 \DeclareTextCompositeCommand{h}{PU}{\uhorn}{\9036\355}
16764 \DeclareTextCompositeCommand{~}{PU}{\uhorn}{\9036\357}
16765 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}
16766 \DeclareTextCompositeCommand{d}{PU}{y}{\9036\365}

16767 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16768 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16769 \DeclareTextCompositeCommand{\-}{PU}{y}{\9036\371}
16770 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16771 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16772 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16773 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16774 \DeclareTextCompositeCommand{\-}{PU}{A}{\80\303}
16775 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16776 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16777 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16778 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16779 \DeclareTextCompositeCommand{\-}{PU}{\ABREVE}{\9036\264}
16780 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16781 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16782 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16783 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16784 \DeclareTextCompositeCommand{\-}{PU}{\ACIRCUMFLEX}{\9036\252}
16785 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
16786 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16787 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
16788 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16789 \DeclareTextCompositeCommand{\-}{PU}{E}{\9036\274}
16790 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
16791 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16792 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
16793 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16794 \DeclareTextCompositeCommand{\-}{PU}{\ECIRCUMFLEX}{\9036\304}
16795 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
16796 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16797 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
16798 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16799 \DeclareTextCompositeCommand{\-}{PU}{I}{\81\050}
16800 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
16801 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16802 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
16803 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16804 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}
16805 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
16806 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16807 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
16808 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16809 \DeclareTextCompositeCommand{\-}{PU}{\OCIRCUMFLEX}{\9036\326}
16810 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
16811 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
16812 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
16813 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
16814 \DeclareTextCompositeCommand{\-}{PU}{\OHORN}{\9036\340}
16815 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
16816 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
16817 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
16818 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
16819 \DeclareTextCompositeCommand{\-}{PU}{U}{\81\150}
16820 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
16821 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
16822 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
16823 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}


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16824 \DeclareTextCompositeCommand{\-}{PU}{\UHORN}{\9036\356}
16825 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
16826 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16827 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
16828 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16829 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}
16830 </puvnenc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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16831 <*puarenc>
16832 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16833 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16834 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16835 \DeclareTextCommand{\wawhamza}{PU}{\86\044} % 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16836 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
16837 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16838 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16839 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16840 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16841 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16842 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16843 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16844 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
16845 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
16846 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16847 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL
16848 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16849 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16850 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN
16851 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
TER SHEEN
16852 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16853 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16854 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16855 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16856 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16857 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16858 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16859 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16860 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16861 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16862 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16863 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
16864 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON

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16865 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16866 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
16867 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
16868 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16869 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16870 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16871 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
16872 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
16873 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
16874 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
16875 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
16876 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

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Farsi

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16877 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16878 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
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16879 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16880 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16881 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16882 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH
16883 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16884 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16885 \end{puarenc}

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16887 \typeout{}
16888 \begin{document}
16889 \end{document}
16890 \end{check}

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