

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

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

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

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

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

Options This file provides a short option summary.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with `hyperref`, `pdfTeX` and `thumbpdf`” at Euro \TeX 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 \LaTeX ”

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3 File hycheck.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 }\typeout{\%
36 \space\space Loaded: '\HyC@package' \%
37 \csname ver@\HyC@package.sty\endcsname
38 }\%
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 L^AT_EX definition (number of arguments).

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

216 \x\)%
217 \x\[%
218 \x\l%
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 \let\pdf@ifdraftmode\pdf@draftmode}{%
240 \let\pdf@ifdraftmode\pdf@secondoftwo
241 }{%
242 \ifpdf
243 \def\pdf@ifdraftmode{%
244 \ifnum\pdfdraftmode=\pdf@one
245 \expandafter\pdf@firstoftwo
246 \else
247 \expandafter\pdf@secondoftwo
248 \fi
249 }%
250 \else
251 \let\pdf@ifdraftmode\pdf@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@stopppedearly
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@pdfcenterwindow
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@pdfescapeform
396 \newif\ifHy@hyperfigures
```

```

397 \newif\ifHy@pdffitwindow
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@pdfmenubar
406 \newif\ifHy@naturalnames
407 \newif\ifHy@nesting
408 \newif\ifHy@pdfnewwindowset
409 \newif\ifHy@pdfnewwindow
410 \newif\ifHy@ocgcolorlinks
411 \newif\ifHy@pageanchor
412 \newif\ifHy@pdfpagelabels
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@pdftoolbar
422 \newif\ifHy@unicode
423 \newif\ifHy@pdfusetitle
424 \newif\ifHy@verbose
425 \let\Hy@debugtrue\Hy@verbosetrue
426 \let\Hy@debugfalse\Hy@verbosefalse
427 \newif\ifHy@pdfwindowui
428 \newif\ifHy@pdfdisplaydoctitle
429 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

430 \Hy@backreffalse
431 \Hy@bookmarksnumberedfalse
432 \Hy@bookmarksopenfalse
433 \Hy@bookmarkstrue
434 \Hy@breaklinksfalse
435 \Hy@pdfcenterwindowfalse
436 \Hy@CJKbookmarksfalse
437 \Hy@pdfescapeformfalse
438 \Hy@hyperfiguresfalse
439 \Hy@pdffitwindowfalse
440 \Hy@hyperfootnotetrue
441 \Hy@hyperindextrue
442 \Hy@hypertextnametrue
443 \Hy@implicittrue
444 \Hy@linktopagefalse
445 \Hy@localanchornamefalse
446 \Hy@pdfmenubartrue
447 \Hy@naturalnamesfalse
448 \Hy@nestingfalse
449 \Hy@pdfnewwindowsetfalse
450 \Hy@pdfnewwindowfalse
451 \Hy@pageanchortrue
452 \Hy@pdfpagelabelstrue

```



```

453 \Hy@pdfpagehiddenfalse
454 \Hy@pdfstringfalse
455 \Hy@plainpagesfalse
456 \Hy@raiselinksfalse
457 \Hy@setpagesizetrue
458 \Hy@texhtfalse
459 \Hy@pdftoolbartrue
460 \Hy@typexmlfalse
461 \Hy@unicodedefalse
462 \Hy@pdfusetitlefalse
463 \Hy@verbosefalse
464 \Hy@pdfwindowuitrue
465 \Hy@pdfdisplaydoctitlefalse
466 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

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

```

5.1 Macros for recursions

```

476 \let\Hy@ReturnEnd\@empty
477 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
478 \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.

```

479 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
480 \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
481 \begingroup\expandafter\expandafter\expandafter\endgroup
482 \expandafter\ifx\csname dimexpr\endcsname\relax
483   \def\hypercalsbpdef#1#2{%
484     \begingroup
485       \toks@{%
486         \HyCal@scan#2\hypercalsbp\@nil
487       \expandafter\endgroup
488       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
489     }%
490   \def\HyCal@scan#1\hypercalsbp#2\@nil{%
491     \toks@\expandafter{\the\toks@ #1}%
492     \ifx\#2\%
493       \else
494         \ltx@ReturnAfterFi{%
495           \HyCal@do#2\@nil
496         }%
497       \fi
498     }%
499   \def\HyCal@do#1#2\@nil{%
500     \ifpackageloaded{calc}{}%
501     \Hy@Warning{%
502       For calculations \string\hypercalsbp\space needs\MessageBreak
503       package calc or e-TeX%
504     }%
505   }%
506   \setlength{\dimen@}{#1}%
507   \setlength{\dimen@}{0.99626401\dimen@}%
508   \edef\x{%
509     \toks@{%
510       \the\toks@
511       \strip@pt\dimen@
512     }%
513   }\x
514   \HyCal@scan#2\@nil
515 }%
516 \else
517   \def\hypercalsbp#1{%
518     \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
519   }%
520   \def\hypercalsbpdef\def}%
521 \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 ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

```
523 \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.

```
524 \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.

```
525 \edef\0{\string\0}%
526 \edef\1{\string\1}%
527 \edef\2{\string\2}%
528 \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.

```
529 \ifHy@unicode
530 \edef\8{\string\8}%
531 \edef\9{\string\9}%
532 \fontencoding{PU}%
533 \HyPsd@UTFviii
534 \def\ifpdfstringunicode###1##2{##1}%
535 \else
536 \fontencoding{PD1}%
537 \def\ifpdfstringunicode###1##2{##2}%
538 \fi
539 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
540 \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).

```
541 \@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).

```
542 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
543 \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.

```
544 \let\{\textbraceleft
545 \let\}\textbraceright
546 \let\\\textbackslash
547 \let\#\textnumbersign
548 \let\$\textdollar
549 \let\%\textpercent
550 \let\&\textampersand
551 % \let\~\textasciitilde
552 \let\_ \textunderscore
553 \let\textP\textparagraph
554 \let\ldots\textellipsis
555 \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.

```
556 \def\{\pdfstringdefWarn\}%
557 \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.

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

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

```

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

```

Environments.

```

615 \def\begin#1{\csname#1\endcsname}%
616 \def\end#1{\csname end#1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

618 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
619 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

620 \let\foreignlanguage\@secondoftwo
621 \let\textlatin\@firstofone
622 \let\IfUndefined\language@group\@firstofone
623 \csname HyPsd@babel@\language@group\endcsname
624 }%
625 \HyPsd@GreekPatch
626 \HyPsd@SpanishPatch
627 \HyPsd@RussianPatch
628 \HyPsd@BabelPatch
629 \let\@safe@activestrue\relax
630 \let\@safe@activesfalse\relax

```

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

```

631 \let\cyr\relax

```

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

```

632 \let\es@roman\@Roman

```

Package german.

```

633 \let\glqq\textglqq
634 \let\grqq\textgrqq
635 \let\glq\textglq
636 \let\grq\textgrq
637 \let\flqq\textflqq
638 \let\frqq\textfrqq
639 \let\flq\textflq
640 \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}

```

```

641 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

642 \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.

```

643 \let\hspace\HyPsd@hspace

```

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

```
644 \let\label\@gobble
645 \let\index\@gobble
646 \let\glossary\@gobble
647 \let\href\HyPsd@href
648 \let\@mkboth\@gobbletwo
```

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

```
649 \let\ref\HyPsd@ref
650 \let\pageref\HyPsd@pageref
651 \let\nameref\HyPsd@nameref
652 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
653 \let\leavevmode\@empty
654 \let\mbox\@empty
```

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

```
655 \def\halign{\pdfstringdefWarn\halign\@gobble}%
656 \let\ignorespaces\HyPsd@ignorespaces
657 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
658 \HyPsd@CJKhook
```

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

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

```
659 \Hy@pdfstringtrue
660 \pdfstringdefPreHook
```

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

```
661 \HyPsd@LetUnexpandableSpace\space
662 \HyPsd@LetUnexpandableSpace\ %
663 \HyPsd@LetUnexpandableSpace~%
664 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

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


Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
673 \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:

```
674 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
675 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
676 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
677 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
678 \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).

```
679 \begingroup
680 \let\GenericError\@gobblefour
681 \let\GenericWarning\@gobbletwo
682 \let\GenericInfo\@gobbletwo
```

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

```
683 \ifx\nofrenchguillemets\@undefined
684 \else
685 \nofrenchguillemets
686 \fi
```

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

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

6.2.3 Postprocessing

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

```
696 \ifx#1\@empty
697 \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 take the following into account, that makes things a little more complicate:

- \TeX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't found 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 a marker for the xspace support.
- \TeX silently removes the outermost 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.

```

698 \HyPsd@ProtectSpaces#1%
699 \let\HyPsd@String\@empty
700 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
701 \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.

```

702 \let\HyPsd@SPACEOPTI\relax
703 {%
704 \let\HyPsd@String\@empty
705 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
706 \global\let#1\HyPsd@String
707 }%
708 \expandafter\HyPsd@RemoveMask\expandafter
709 |\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.

```

710 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
711 \let\HyPsd@String\@empty
712 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
713 \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.

```
714 \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.

```

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

```

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

```

727 \ifHy@unicode
728 \HyPsd@StringSubst{\}){\80\051}#1%
729 \HyPsd@Subst){\80\051}#1%
730 \let\HyPsd@empty\relax
731 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
732 {\HyPsd@empty\80\051}#1%
733 \else
734 \HyPsd@StringSubst{\}){\051}#1%
735 \HyPsd@Subst){\051}#1%
736 \let\HyPsd@empty\relax
737 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
738 \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`.

```

739 \expandafter\HyPsd@Subst\expandafter{\/\}\HyPsd@empty#1%
740 \ltx@ifundefined{@xspace}{%
741 }{%
742 \let\HyPsd@xspace\relax
743 \expandafter\HyPsd@Subst\expandafter
744 {\HyPsd@XSPACE}\HyPsd@xspace#1%
745 \let\HyPsd@xspace\HyPsd@doxspace
746 }%
747 \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.

```

748 \HyPsd@Subst{---}\textendash#1%
749 \HyPsd@Subst{--}\textendash#1%
750 % \HyPsd@Subst{fi}\textfi#1%
751 % \HyPsd@Subst{fl}\textfl#1%
752 \HyPsd@Subst{!}\textexclamdown#1%
753 \HyPsd@Subst{?}\textquestiondown#1%
```

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

```

754 \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.

```

755 \ifHy@unicode
756 \HyPsd@StringSubst{\textparenleft#1%
757 \HyPsd@Subst(\textparenleft#1%
758 \else
759 \HyPsd@StringSubst\({\050}\#1%
760 \HyPsd@Subst({\050}\#1%
761 \HyPsd@StringSubst{\050}\string\{}\#1%
762 \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.

```

763 \ifHy@unicode
764 \edef\HyPsd@SPACEOPTI{\80\040}%
765 \else
766 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
767 \fi
768 \xdef#1{#1\@empty}%
769 \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.

```

770 \endgroup
771 \begingroup
772 \ifHy@unicode
773 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

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

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

```
802 \pdfstringdefPostHook#1%
803 \endgroup
804 }
```

`\Hy@pdfstringdef`

```
805 \def\Hy@pdfstringdef#1#2{%
806 \pdfstringdef\Hy@gtemp{#2}%
807 \let#1\Hy@gtemp
808 }
```

6.3 Encodings

6.3.1 XeTeX

```
809 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
810 \catcode\z@=12 %
811 \ifxetex
812 \expandafter\@firstofone
813 \else
814 \let\HyPsd@XeTeXBigCharstrue\@empty
815 \let\HyPsd@XeTeXBigCharsfalse\@empty
816 \expandafter\@gobble
817 \fi
818 {%
```

```

819 \newif\ifHyPsd@XeTeXBigChars
820 \def\HyPsd@XeTeXBigCharsfalse{%
821   \global\let\ifHyPsd@XeTeXBigChars\iffalse
822 }%
823 \def\HyPsd@XeTeXBigCharstrue{%
824   \global\let\ifHyPsd@XeTeXBigChars\iftrue
825 }%
826 \def\HyPsd@ToBigChars#1{%
827   \ifHyPsd@XeTeXBigChars
828     \EdefEscapeHex\HyPsd@UnescapedString{%
829       \expandafter\@gobbletwo\HyPsd@UnescapedString
830     }%
831     \begingroup
832     \toks@{%}%
833     \escapechar=92\relax
834     \let\x\HyPsd@ToBigChar
835     \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
836     \relax\relax\relax\relax\relax\relax\relax
837     \edef\x{%
838       \endgroup
839       \gdef\noexpand#1{\the\toks@}%
840     }%
841     \x
842   \fi
843 }%
844 \def\HyPsd@ToBigChar#1#2#3#4{%
845   \ifx\relax#1\relax
846     \let\x\relax
847   \else
848     \count@=#1#2#3#4\relax
849     \let\y\@empty
850     \lccode\z@=\count@
851     \ifnum\count@=40 % (
852       \let\y\@backslashchar
853     \else
854       \ifnum\count@=41 % )
855         \let\y\@backslashchar
856       \else
857         \ifnum\count@=92 % backslash
858           \let\y\@backslashchar
859         \else
860           \ifnum\count@=10 % newline
861             \edef\y##1{\string\n}%
862           \else
863             \ifnum\count@=13 % carriage return
864               \edef\y##1{\string\r}%
865             \fi
866           \fi
867         \fi
868       \fi
869     \fi
870   \lowercase{%
871     \toks@\expandafter{%
872       \the\expandafter\toks@
873       \y
874       ^^@%
875     }%

```

```

876 }%
877 \fi
878 \x
879 }%
880 }
881 \Hy@temp

```

6.3.2 Workaround for package linguex

```

882 \@ifpackageloaded{linguex}{%
883 \let\HyLinguex@OrgB\b
884 \let\HyLinguex@OrgC\c
885 \let\HyLinguex@OrgD\d
886 \def\HyLinguex@Restore{%
887 \let\b\HyLinguex@OrgB
888 \let\c\HyLinguex@OrgC
889 \let\d\HyLinguex@OrgD
890 }%
891 \Hy@AtEndOfPackage{%
892 \pdfstringdefDisableCommands{%
893 \tx@ifundefined{oldb}{\let\b\oldb}%
894 \tx@ifundefined{oldc}{\let\c\oldc}%
895 \tx@ifundefined{oldd}{\let\d\oldd}%
896 }%
897 }%
898 }{%
899 \let\HyLinguex@Restore\relax
900 }%

```

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.

```

901 \@ifundefined{T@PD1}{%
902 \input{pdlenc.def}%
903 \HyLinguex@Restore
904 }{}
905 \DeclareFontFamily{PD1}{pdf}{}
906 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
907 \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`.

```

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

```



```

912 }{}%
913 \DeclareFontFamily{PU}{pdf}{}%
914 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
915 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
916 \let\HyPsd@InitUnicode\relax
917 }

```

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.

```

918 \def\texorpdfstring{%
919   \ifHy@pdfstring
920     \expandafter\@secondoftwo
921   \else
922     \expandafter\@firstoftwo
923   \fi
924 }

```

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`.

```

925 \@ifundefined{pdfstringdefPreHook}{%
926   \let\pdfstringdefPreHook\@empty
927 }{}
928 \@ifundefined{pdfstringdefPostHook}{%
929   \let\pdfstringdefPostHook\@gobble
930 }{}

```

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

```

931 \def\pdfstringdefDisableCommands{%
932   \begingroup
933     \makeatletter
934     \HyPsd@DisableCommands
935 }

```

`\HyPsd@DisableCommands`

```
936 \long\def\HyPsd@DisableCommands#1{%
937   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
938   \endgroup
939 }
```

`\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`.

```
940 \def\pdfstringdefWarn#1{%
941   \expandafter\noexpand\csname\<>-string#1\endcsname
942 }
```

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.

```
943 \begingroup
944   \catcode0=12 %
945   \def\x{\endgroup
946     \def\HyPsd@ignorespaces{%
947       \romannumeral\expandafter'\expandafter^^@%
948       \romannumeral'^^@%
949     }%
950   }%
951 \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`.

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

```

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

  Nothing to do for english.
996 \ltx@ifundefined{danish@sh@.sel}{}{%
997   \def\HyPsd@babel@danish{%
998     \declare@shorthand{danish}{|}{|}%
999     \declare@shorthand{danish}{~}{-}%
1000   }%
1001 }
1002 \ltx@ifundefined{dutch@sh@.sel}{}{%
1003   \def\HyPsd@babel@dutch{%
1004     \declare@shorthand{dutch}{|}{|}%
1005     \declare@shorthand{dutch}{~}{-}%
1006   }%
1007 }
1008 \ltx@ifundefined{finnish@sh@.sel}{}{%
1009   \def\HyPsd@babel@finnish{%
1010     \declare@shorthand{finnish}{|}{|}%
1011   }%
1012 }
1013 \ltx@ifundefined{french@sh@.sel}{}{%

```

```

1014 \def\HyPsd@babel@frenchb{%
1015   \def\guill@spacing{ }%
1016 }%
1017 }
1018 \ltx@ifundefined{german@sh@"@sel}{ }{%
1019   \def\HyPsd@babel@german{%
1020     \declare@shorthand{german}{f}{f}%
1021     \declare@shorthand{german}{|}{|}%
1022     \declare@shorthand{german}{~}{-}%
1023   }%
1024 }
1025 \ltx@ifundefined{macedonian@sh@"@sel}{ }{%
1026   \def\HyPsd@babel@macedonian{%
1027     \declare@shorthand{macedonian}{|}{|}%
1028     \declare@shorthand{macedonian}{~}{-}%
1029   }%
1030 }{ }
1031 \ltx@ifundefined{ngerman@sh@"@sel}{ }{%
1032   \def\HyPsd@babel@ngerman{%
1033     \declare@shorthand{ngerman}{|}{|}%
1034     \declare@shorthand{ngerman}{~}{-}%
1035   }%
1036 }
1037 \ltx@ifundefined{portuges@sh@"@sel}{ }{%
1038   \def\HyPsd@babel@portuges{%
1039     \declare@shorthand{portuges}{|}{|}%
1040   }%
1041 }
1042 \ltx@ifundefined{russian@sh@"@sel}{ }{%
1043   \def\HyPsd@babel@russian{%
1044     \declare@shorthand{russian}{|}{|}%
1045     \declare@shorthand{russian}{~}{-}%
1046   }%
1047 }
1048 \ltx@ifundefined{slovene@sh@"@sel}{ }{%
1049   \def\HyPsd@babel@slovene{%
1050     \declare@shorthand{slovene}{|}{|}%
1051   }%
1052 }

```

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

```

1053 \ltx@ifundefined{spanish@sh@>@sel}{ }{%
1054   \def\HyPsd@babel@spanish{%
1055     \declare@shorthand{spanish}{<<}{\guillemotleft}%
1056     \declare@shorthand{spanish}{>>}{\guillemotright}%
1057     \declare@shorthand{spanish}{=}{-}%
1058     \declare@shorthand{spanish}{~}{-}%
1059     \declare@shorthand{spanish}{!}{\textexclamdown}%
1060     \declare@shorthand{spanish}{?}{\textquestiondown}%
1061   }%
1062 }
1063 \ltx@ifundefined{swedish@sh@"@sel}{ }{%
1064   \def\HyPsd@babel@swedish{%
1065     \declare@shorthand{swedish}{|}{|}%
1066     \declare@shorthand{swedish}{~}{-}%
1067   }%
1068 }
1069 \ltx@ifundefined{ukrainian@sh@"@sel}{ }{%

```

```

1070 \def\HyPsd@babel@ukrainian{%
1071   \declare@shorthand{ukrainian}{~}{~}%
1072   \declare@shorthand{ukrainian}{~}{~}%
1073 }%
1074 }
1075 \ltx@ifundefined{usorbian@sh@~}{~}{~}%
1076 \def\HyPsd@babel@usorbian{%
1077   \declare@shorthand{usorbian}{f}{f}%
1078   \declare@shorthand{usorbian}{f}{f}%
1079 }%
1080 }
1081 \ltx@ifundefined{greek@sh@~}{~}{~}%
1082 \let\HyPsd@GreekPatch\@empty
1083 }%
1084 \def\HyPsd@GreekPatch{%
1085   \let\greeknumeral\HyPsd@greeknumeral
1086   \let\Greeknumeral\HyPsd@Greeknumeral
1087 }%
1088 }
1089 \def\HyPsd@greeknumeral#1{%
1090   \HyPsd@GreekNum\@firstoftwo{#1}%
1091 }
1092 \def\HyPsd@Greeknumeral#1{%
1093   \HyPsd@GreekNum\@secondoftwo{#1}%
1094 }
1095 \def\HyPsd@GreekNum#1#2{%
1096   \ifHy@unicode
1097     \ifnum#2<\@ne
1098       \@arabic{#2}%
1099     \else
1100       \ifnum#2<1000000 %
1101         \HyPsd@@GreekNum#1{#2}%
1102       \else
1103         \@arabic{#2}%
1104       \fi
1105     \fi
1106   \else
1107     \@arabic{#2}%
1108   \fi
1109 }
1110 \def\HyPsd@@GreekNum#1#2{%
1111   \ifnum#2<\@m
1112     \ifnum#2<10 %
1113       \expandafter\HyPsd@GreekNumI
1114       \expandafter\@gobble\expandafter#1\number#2%
1115     \else
1116       \ifnum#2<100 %
1117         \expandafter\HyPsd@GreekNumII
1118         \expandafter\@gobble\expandafter#1\number#2%
1119       \else
1120         \expandafter\HyPsd@GreekNumIII
1121         \expandafter\@gobble\expandafter#1\number#2%
1122       \fi
1123     \fi
1124   \ifnum#2>\z@
1125     \textnumeralsigngreek
1126   \fi

```

```

1127 \else
1128   \ifnum#2<\@M
1129     \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1130   \else
1131     \ifnum#2<100000 %
1132       \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1133     \else
1134       \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1135     \fi
1136   \fi
1137 \fi
1138 }
1139 \def\HyPsd@GreekNumI#1#2#3{%
1140   #1{%
1141     \ifnum#3>\z@
1142       \textnumeralsignlowergreek
1143     \fi
1144   }%
1145   \expandafter#2%
1146   \ifcase#3 %
1147     {}{}%
1148   \or\textalpha\textAlpha
1149   \or\textbeta\textBeta
1150   \or\textgamma\textGamma
1151   \or\textdelta\textDelta
1152   \or\textepsilon\textEpsilon
1153   \or\textstigmagreek\textStigmagreek
1154   \or\textzeta\textZeta
1155   \or\texteta\textEta
1156   \or\texttheta\textTheta
1157   \else
1158     {}{}%
1159   \fi
1160 }
1161 \def\HyPsd@GreekNumII#1#2#3#4{%
1162   #1{%
1163     \ifnum#3>\z@
1164       \textnumeralsignlowergreek
1165     \fi
1166   }%
1167   \expandafter#2%
1168   \ifcase#3 %
1169     {}{}%
1170   \or\textiota\textIota
1171   \or\textkappa\textKappa
1172   \or\textlambda\textLambda
1173   \or\textmu\textMu
1174   \or\textnu\textNu
1175   \or\textxi\textXi
1176   \or\textomicron\textOmicron
1177   \or\textpi\textPi
1178   \or\textkoppagreek\textKoppagreek
1179   \else
1180     {}{}%
1181   \fi
1182   \HyPsd@GreekNumI#1#2#4%
1183 }

```

```

1184 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1185   #1{%
1186     \ifnum#3>\z@
1187       \textnumeralsignlowergreek
1188       \fi
1189   }%
1190   \expandafter#2%
1191   \ifcase#3 %
1192     {}{}%
1193   \or\textrho\textRho
1194   \or\textsigma\textSigma
1195   \or\texttau\textTau
1196   \or\textupsilon\textUpsilon
1197   \or\textphi\textPhi
1198   \or\textchi\textChi
1199   \or\textpsi\textPsi
1200   \or\textomega\textOmega
1201   \or\textsampigreek\textSampigreek
1202   \else
1203     {}{}%
1204   \fi
1205   \HyPsd@GreekNumII#1#2#4#5%
1206 }
1207 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1208   \HyPsd@GreekNumI\@firstofone#1#2%
1209   \HyPsd@@GreekNum#1{#3#4#5}%
1210 }
1211 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1212   \HyPsd@GreekNumII\@firstofone#1#2#3%
1213   \HyPsd@@GreekNum#1{#4#5#6}%
1214 }
1215 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1216   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1217   \HyPsd@@GreekNum#1{#5#6#7}%
1218 }
1219 \def\HyPsd@SpanishPatch{%
1220   \ltx@ifundefined{es@save@dot}{%
1221     }{%
1222       \let\.\es@save@dot
1223     }%
1224 }

```

Shorthand "-" of 'russianb.1df' is not expandable, therefore it is disabled and replaced by

~.

```

1225 \def\HyPsd@RussianPatch{%
1226   \ltx@ifundefined{russian@sh@"@-@}{%
1227     }{%
1228       \@namedef{russian@sh@"@-@}{~}%
1229     }%
1230 }

```

6.5.3 CJK patch

```

1231 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1232 \def\HyPsd@CJKhook{%

```

```

1233 \ltx@ifpackageloaded{CJK}{%
1234   \let\CJK@kern\relax
1235   \let\CJKkern\relax
1236   \let\CJK@CJK\relax
1237   \ifHy@CJKbookmarks
1238     \HyPsd@CJKhook@bookmarks
1239   \fi
1240   \HyPsd@CJKhook@unicode
1241 }{}%
1242 }

```

6.5.4 CJK bookmarks

`\HyPsd@CJKhook` Some internal commands of package `cjk` are redefined to avoid error messages. For a rudimental support of CJK bookmarks the active characters are redefined so that they print themselves.

After preprocessing of Big5 encoded data the following string for a double-byte character is emitted:

```
^^7f<arg1>^^7f<arg2>^^7f
```

`<arg1>` is the first byte in the range (always $> 0x80$); `<arg2>` is the second byte in decimal notation ($\geq 0x40$).

```

1243 \begingroup
1244   \catcode"7F=\active
1245   \toks@{}%
1246   \let\CJK@ignorespaces\empty
1247   \def\CJK@char#1{\@gobbletwo}%
1248   \let\CJK@charx\@gobblefour
1249   \let\CJK@punctchar\@gobblefour
1250   \def\CJK@punctcharx#1{\@gobblefour}%
1251   \catcode"7F=\active
1252   \def^^7f#1^^7f#2^^7f{%
1253     \string #1\HyPsd@DecimalToOctal{#2}%
1254   }%
1255   % ... ?
1256   \ifHy@unicode
1257     \def\Hy@cjkpu{\80}%
1258   \else
1259     \let\Hy@cjkpu\@empty
1260   \fi
1261   \HyPsd@CJKActiveChars
1262 }%
1263 \count@=127 %
1264 \@whilenum\count@<255 \do{%
1265   \advance\count@ by 1 %
1266   \lccode'\~=\count@
1267   \lowercase{%
1268     \toks@\expandafter{\the\toks@ ~}%
1269   }%
1270 }%
1271 \toks@\expandafter{\the\toks@ !}%
1272 \xdef\HyPsd@CJKhook@bookmarks{%
1273   \the\toks@
1274 }%
1275 \endgroup

```


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

```
1276 \def\HyPsd@CJKActiveChars#1{%
1277   \ifx#1!%
1278     \let\HyPsd@CJKActiveChars\relax
1279   \else
1280     \edef#1{\noexpand\Hy@cjku\string#1}%
1281   \fi
1282   \HyPsd@CJKActiveChars
1283 }
```

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

```
1284 \def\HyPsd@DecimalToOctal#1{%
1285   \ifcase #1 %
1286     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1287     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1288     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1289     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1290     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1291     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1292     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1293     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1294     \or @\or A\or B\or C\or D\or E\or F\or G%
1295     \or H\or I\or J\or K\or L\or M\or N\or O%
1296     \or P\or Q\or R\or S\or T\or U\or V\or W%
1297     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1298     \or \140\or a\or b\or c\or d\or e\or f\or g%
1299     \or h\or i\or j\or k\or l\or m\or n\or o%
1300     \or p\or q\or r\or s\or t\or u\or v\or w%
1301     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1302     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1303     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1304     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1305     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1306     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1307     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1308     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1309     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1310     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1311     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1312     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1313     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1314     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1315     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1316     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1317     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1318   \fi
1319 }
```

6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```
1320 \def\HyPsd@CJKhook@unicode{%
1321   \let\Unicode\HyPsd@CJK@Unicode
1322   \let\CJKnumber\HyPsd@CJKnumber
1323   \let\CJKdigits\HyPsd@CJKdigits
1324 }
```

\HyPsd@CJK@Unicode

```
1325 \def\HyPsd@CJK@Unicode#1#2{%
1326   \ifnum#1<256 %
1327     \HyPsd@DecimalToOctalFirst{#1}%
1328     \HyPsd@DecimalToOctalSecond{#2}%
1329   \else
1330     \933%
1331     \expandafter\expandafter\expandafter\HyPsd@HighA
1332     \intcalcDiv{#1}{4}!%
1333     \933%
1334     \ifcase\intcalcMod{#1}{4} %
1335       4\or 5\or 6\or 7%
1336     \fi
1337     \HyPsd@DecimalToOctalSecond{#2}%
1338   \fi
1339 }

1340 \def\HyPsd@HighA#1!{%
1341   \expandafter\expandafter\expandafter\HyPsd@HighB
1342   \IntCalcDiv#1!64!!%
1343   \expandafter\expandafter\expandafter\HyPsd@HighD
1344   \IntCalcMod#1!64!!%
1345 }

1346 \def\HyPsd@HighB#1!{%
1347   \expandafter\expandafter\expandafter\HyPsd@HighC
1348   \IntCalcDec#1!!%
1349 }

1350 \def\HyPsd@HighC#1!{%
1351   \IntCalcDiv#1!4!%
1352   \@backslashchar
1353   \IntCalcMod#1!4!%
1354 }

1355 \def\HyPsd@HighD#1!{%
1356   \ifcase\IntCalcDiv#1!8! %
1357     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1358   \fi
1359   \ifcase\IntCalcMod#1!8! %
1360     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1361   \fi
1362 }

1363 \def\HyPsd@DecimalToOctalFirst#1{%
1364   \9%
1365   \ifcase#1 %
1366     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1367     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1368     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1369     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1370     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1371     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1372     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1373     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1374     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1375     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1376     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1377     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1378     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1379     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1380     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
```

```

1381 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1382 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1383 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1384 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1385 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1386 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1387 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1388 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1389 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1390 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1391 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1392 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1393 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1394 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1395 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1396 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1397 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1398 \fi
1399 }
1400 \def\HyPsd@DecimalToOctalSecond#1{%
1401 \ifcase #1 %
1402 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1403 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1404 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1405 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1406 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1407 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1408 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1409 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1410 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1411 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1412 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1413 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1414 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1415 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1416 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1417 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1418 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1419 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1420 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1421 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1422 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1423 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1424 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1425 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1426 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1427 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1428 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1429 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1430 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1431 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1432 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1433 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1434 \fi
1435 }
1436 \def\HyPsd@CJKnumber#1{%
1437 \ifnum#1<\z@

```

```

1438 \CJK@minus
1439 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1440 \else
1441 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1442 \fi
1443 }
1444 \def\HyPsd@@CJKnumber#1{%
1445 \ifcase#1 %
1446 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1447 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1448 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1449 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1450 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1451 \CJK@ten\CJK@nine
1452 \else
1453 \ifnum#1<10000 %
1454 \HyPsd@CJKnumberFour#1!\@empty{20}%
1455 \@empty
1456 \else
1457 \ifnum#1<100000000 %
1458 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1459 \IntCalcDiv#1!10000!%
1460 !\{20}%
1461 \CJK@tenthousand
1462 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1463 \IntCalcMod#1!10000!%
1464 !\CJK@zero{10}%
1465 \@empty
1466 \else
1467 \expandafter\HyPsd@CJKnumberLarge
1468 \number\IntCalcDiv#1!100000000!\expandafter!%
1469 \number\IntCalcMod#1!100000000!!%
1470 \fi
1471 \fi
1472 \fi
1473 }
1474 \def\HyPsd@CJKnumberLarge#1!#2!{%
1475 \HyPsd@CJKnumberFour#1!\{20}%
1476 \CJK@hundredmillion
1477 \ifnum#2=\z@
1478 \else
1479 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1480 \IntCalcDiv#2!10000!%
1481 !\CJK@zero{10}%
1482 \CJK@tenthousand
1483 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1484 \IntCalcMod#2!10000!%
1485 !\CJK@zero{10}%
1486 \@empty
1487 \fi
1488 }
1489 \def\HyPsd@CJKnumberFour#1!#2#3{%
1490 \ifnum#1=\z@
1491 \expandafter\@gobble
1492 \else
1493 \ifnum#1<1000 %
1494 #2%

```

```

1495 \HyPsd@CJKnumberThree#1!#{#3}%
1496 \else
1497 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1498 \CJK@thousand
1499 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1500 \IntCalcMod#1!1000!%
1501 !\CJK@zero{10}%
1502 \fi
1503 \fi
1504 }
1505 \def\HyPsd@CJKnumberThree#1!#2#3{%
1506 \ifnum#1=\z@
1507 \else
1508 \ifnum#1<100 %
1509 #2%
1510 \HyPsd@CJKnumberTwo#1!#{#3}%
1511 \else
1512 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1513 \CJK@hundred
1514 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1515 \IntCalcMod#1!100!%
1516 !\CJK@zero{10}%
1517 \fi
1518 \fi
1519 }
1520 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1521 \ifnum#1=\z@
1522 \else
1523 \ifnum#1<#3 %
1524 #2%
1525 \HyPsd@@CJKnumber{#1}%
1526 \else
1527 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1528 \CJK@ten
1529 \ifnum\IntCalcMod#1!10!=\z@
1530 \else
1531 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1532 \fi
1533 \fi
1534 \fi
1535 }
1536 \def\HyPsd@CJKdigits#1{%
1537 \ifx*#1\relax
1538 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1539 \else
1540 \HyPsd@@CJKdigits\CJK@null{#1}%
1541 \fi
1542 }
1543 \def\HyPsd@@CJKdigits#1#2{%
1544 \ifx\#2\%
1545 \else
1546 \HyPsd@@@CJKdigits#1#2\@nil
1547 \fi
1548 }%
1549 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1550 \HyPsd@CJKdigit#1{#2}%
1551 \ifx\#3\%

```

```

1552 \expandafter\@gobble
1553 \else
1554 \expandafter\@firstofone
1555 \fi
1556 {%
1557 \HyPsd@@@CJKdigits#1#3\@nil
1558 }%
1559 }
1560 \def\HyPsd@CJKdigit#1#2{%
1561 \ifcase#2 %
1562 #1\or
1563 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1564 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1565 \fi
1566 }

```

6.5.6 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with \LaTeX 2_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 (\LaTeX 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\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}
1567 \def\HyPsd@inmathwarn#1#2{%
1568   \ifx#2\expandafter
1569     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1570       \HyPsd@GLYPHERR
1571       \expandafter\@gobble\string#1%
1572     >%
1573     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1574   \else
1575     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1576   \fi
1577 \else
1578   \expandafter#2%
1579 \fi
1580 }
1581 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1582 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1583 \def\HyPsd@add@accent#1#2{%
1584   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1585   #2%
1586 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1587 \def\HyPsd@LetUnexpandableSpace#1{%
1588   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1589 }

```

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

```

1590 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```

1591 \edef\HyPsd@XSPACE{\string#\string X}
1592 \edef\HyPsd@ITALCORR{\string#\string I}
1593 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 \hspace fix

\HyPsd@hspace

```
1594 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1595 \def\HyPsd@@hspace#1*#2\END{%
1596   \ifx\#2\%
1597     \HyPsd@hspacetest{#1}%
1598   \else
1599     \expandafter\HyPsd@hspacetest
1600   \fi
1601 }
```

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

```
1602 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1603 \ltx@ifundefined{tocsection}{%
1604   \let\HyPsd@AMSclassfix\relax
1605 }{%
1606   \def\HyPsd@AMSclassfix{%
1607     \let\tocpart\HyPsd@tocsection
1608     \let\tocchapter\HyPsd@tocsection
1609     \let\tocappendix\HyPsd@tocsection
1610     \let\tocsection\HyPsd@tocsection
1611     \let\tocsubsection\HyPsd@tocsection
1612     \let\tocsubsubsection\HyPsd@tocsection
1613     \let\tocparagraph\HyPsd@tocsection
1614   }%
1615   \def\HyPsd@tocsection#1#2#3{%
1616     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1617     #3%
1618   }%
1619 }
```

6.5.11 Reference commands

\HyPsd@href

```
1620 \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.

```
1621 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1622 \def\HyPsd@@ref#1*#2\END{%
1623   \ifx\#2\%
1624     \HyPsd@@@ref{#1}%
1625   \else
1626     \expandafter\HyPsd@@@ref
1627   \fi
1628 }
```


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

```
1629 \def\HyPsd@@@ref#1{%
1630   \expandafter\ifx\csname r@#1\endcsname\relax
1631     ??%
1632   \else
1633     \expandafter\expandafter\expandafter
1634     \@car\csname r@#1\endcsname\@nil
1635   \fi
1636 }
```

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

```
1637 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1638 \def\HyPsd@@pageref#1*#2\END{%
1639   \ifx\#2\%
1640     \HyPsd@@@pageref{#1}%
1641   \else
1642     \expandafter\HyPsd@@@pageref
1643   \fi
1644 }
```

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

```
1645 \def\HyPsd@@@pageref#1{%
1646   \expandafter\ifx\csname r@#1\endcsname\relax
1647     ??%
1648   \else
1649     \expandafter\expandafter\expandafter\expandafter
1650     \expandafter\expandafter\expandafter\@car
1651     \expandafter\expandafter\expandafter\@gobble
1652     \csname r@#1\endcsname{}\@nil
1653   \fi
1654 }
```

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

```
1655 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1656 \def\HyPsd@@nameref#1*#2\END{%
1657   \ifx\#2\%
1658     \HyPsd@@@nameref{#1}%
1659   \else
1660     \expandafter\HyPsd@@@nameref
1661   \fi
1662 }
```

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

```
1663 \def\HyPsd@@@nameref#1{%
1664   \expandafter\ifx\csname r@#1\endcsname\relax
1665     ??%
1666   \else
1667     \expandafter\expandafter\expandafter\expandafter
1668     \expandafter\expandafter\expandafter\@car
1669     \expandafter\expandafter\expandafter\@gobbletwo
```

```

1670 \csname r@#1\endcsname{}{}\@nil
1671 \fi
1672 }

```

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

```

1673 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1674 \def\HyPsd@@autoref#1*#2\END{%
1675 \ifx\#2\%
1676 \HyPsd@@@autoref{#1}%
1677 \else
1678 \expandafter\HyPsd@@@autoref
1679 \fi
1680 }

```

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

```

1681 \def\HyPsd@@@autoref#1{%
1682 \expandafter\ifx\csname r@#1\endcsname\relax
1683 ??%
1684 \else
1685 \expandafter\expandafter\expandafter\HyPsd@autorefname
1686 \csname r@#1\endcsname{}{}\@nil
1687 \expandafter\expandafter\expandafter
1688 \@car\csname r@#1\endcsname\@nil
1689 \fi
1690 }

```

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

```

1691 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1692 \ifx\#4\%
1693 \else
1694 \HyPsd@@autorefname#4.\@nil
1695 \fi
1696 }

```

`\HyPsd@@autorefname`

```

1697 \def\HyPsd@@autorefname#1.#2\@nil{%
1698 \ltx@ifundefined{#1autorefname}{%
1699 \ltx@ifundefined{#1name}{%
1700 }{%
1701 \csname#1name\endcsname\space
1702 }%
1703 }{%
1704 \csname#1autorefname\endcsname\space
1705 }%
1706 }

```

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 1707 \begingroup
1708 \def\x#1#2{%
1709 \endgroup
1710 \let#1\def
1711 \def\HyPsd@DefCommand##1##2##{%
1712 #1%
1713 \expandafter\noexpand
1714 \csname\expandafter\@gobble\string##1\@empty\endcsname
1715 \@gobble
1716 }%
1717 \let#2\let
1718 \def\HyPsd@@LetCommand##1{%
1719 \expandafter\ifx\csname##1\expandafter\endcsname
1720 \csname iftrue\endcsname
1721 \pdfstringdefWarn\let
1722 \expandafter\@gobble
1723 \else
1724 \expandafter\ifx\csname##1\expandafter\endcsname
1725 \csname iffalse\endcsname
1726 \pdfstringdefWarn\let
1727 \expandafter\expandafter\expandafter\@gobble
1728 \else
1729 #2%
1730 \expandafter\noexpand
1731 \csname##1\expandafter\expandafter\expandafter\endcsname
1732 \fi
1733 \fi
1734 }%
1735 }%
1736 \expandafter\x\csname <def>-command\expandafter\endcsname
1737 \csname <let>-command\endcsname
1738 \def\HyPsd@LetCommand#1{%
1739 \expandafter\expandafter\expandafter\HyPsd@@LetCommand

```

```

1740 \expandafter\expandafter\expandafter{%
1741 \expandafter\@gobble\string#1\@empty
1742 }%
1743 }

```

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).

```

1744 \def\HyPsd@ifnextchar#1{%
1745 \pdfstringdefWarn#1%
1746 \expandafter\@gobbletwo\@gobble
1747 }

```

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`.

```

1748 \def\HyPsd@protected@testopt#1{%
1749 \pdfstringdefWarn#1%
1750 \@gobbletwo
1751 }

```

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:

```

1752 \def\HyPsd@Warning#1{%
1753 \begingroup
1754 \let\space\ltx@space
1755 \Hy@Warning{#1}%
1756 \endgroup
1757 }

```

6.6.2 Protecting spaces

```

1758 \RequirePackage{etexcmds}[2007/09/09]
1759 \ifetex@unexpanded
1760 \expandafter\@secondoftwo
1761 \else
1762 \expandafter\@firstoftwo
1763 \fi
1764 {%

```

`\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`.

```

1765 \def\HyPsd@ProtectSpaces#1{%
1766   \iftrue
1767     \expandafter\HyPsd@@ProtectSpacesFi
1768     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1769   \fi
1770 }%
```

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

```

1771 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1772   \fi
1773   \ifx\scrollmode#2\scrollmode
1774     \HyPsd@RemoveMask#1\HyPsd@End#3%
1775   \else
1776     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1777     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1778   \fi
1779 }%
```

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.

```

1780 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1781   \toks@\expandafter{#1}%
1782   \xdef#2{\the\toks@}%
1783 }%

1784 }{%
1785   \let\HyPsd@fi\fi
1786   \def\HyPsd@ProtectSpaces#1{%
1787     \xdef#1{%
1788       \iftrue
1789         \expandafter\HyPsd@@ProtectSpacesFi
1790         \expandafter|\expandafter\@empty#1| %
1791       \HyPsd@fi
1792     }%
1793     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1794   }%
1795   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1796     \fi
1797     \etex@unexpanded{#1}%
1798     \ifx\scrollmode#2\scrollmode
1799     \else
1800       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1801     \HyPsd@fi
1802   }%
1803   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1804     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1805   }%
1806 }
```

6.6.3 Remove grouping braces

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

```
1807 \def\HyPsd@RemoveBraces#1{%
1808   \ifx\scrollmode#1\scrollmode
1809   \else
1810     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1811   \fi
1812 }
```

`\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`.

```
1813 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1814   \fi
1815   \def\Hy@temp@A{#1#2}%
1816   \def\Hy@temp@B{#3}%
1817   \ifx\Hy@temp@A\Hy@temp@B
1818     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1819       \HyPsd@String#1%
1820     }%
1821     \ifx\scrollmode#2\scrollmode
1822     \else
1823       \Hy@ReturnAfterFiFiEnd{%
1824         \HyPsd@RemoveBraces{#2}%
1825       }%
1826     \fi
1827   \else
1828     \def\Hy@temp@A{#1}%
1829     \HyPsd@AppendItalcorr\HyPsd@String
1830     \ifx\Hy@temp@A\@empty
1831       \Hy@ReturnAfterElseFiFiEnd{%
1832         \HyPsd@RemoveBraces{#2}%
1833       }%
1834     \else
1835       \HyPsd@ProtectSpaces\Hy@temp@A
1836       \HyPsd@AppendItalcorr\Hy@temp@A
1837       \Hy@ReturnAfterFiFiEnd{%
1838         \expandafter\HyPsd@RemoveBraces\expandafter
1839           {\Hy@temp@A#2}%
1840       }%
1841     \fi
1842   \fi
1843   \Hy@ReturnEnd
1844 }
```

`\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`.

```
1845 \def\HyPsd@AppendItalcorr#1{%
1846   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
```

```

1847 }
1848 \def\HyPsd@@AppendItalcorr#1#2{%
1849   \expandafter\def\expandafter#2\expandafter{#2#1}%
1850 }

```

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).

```

1851 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1852   \global\let\HyPsd@Rest\relax
1853   \ifcat\relax\noexpand#1\relax
1854     \ifx#1\protect
1855       \else
1856         \ifx#1\penalty
1857           \setbox\z@=\hbox{%
1858             \afterassignment\HyPsd@AfterCountRemove
1859             \count@=#2\HyPsd@End
1860           }%
1861         \else
1862           \ifx#1\kern
1863             \setbox\z@=\hbox{%
1864               \afterassignment\HyPsd@AfterDimenRemove
1865               \dimen@=#2\HyPsd@End
1866             }%
1867           \else
1868             \ifx#1\hskip
1869               \setbox\z@=\hbox{%
1870                 \afterassignment\HyPsd@AfterSkipRemove
1871                 \skip@=#2\HyPsd@End
1872               }%
1873             \else
1874               \HyPsd@CatcodeWarning{#1}%
1875             \fi
1876           \fi
1877         \fi
1878       \fi
1879     \else
1880       \ifcat#1A% letter
1881         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1882           \HyPsd@String#1%
1883         }%
1884       \else
1885         \ifcat#1 % SPACE
1886           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1887             \HyPsd@String\HyPsd@SPACEOPTI
1888           }%
1889         \else

```

```

1890 \ifcat$#1%
1891 \HyPsd@CatcodeWarning{math shift}%
1892 \else
1893 \ifcat&#1%
1894 \HyPsd@CatcodeWarning{alignment tab}%
1895 \else
1896 \ifcat^#1%
1897 \HyPsd@CatcodeWarning{superscript}%
1898 \else
1899 \ifcat_#1%
1900 \HyPsd@CatcodeWarning{subscript}%
1901 \else
1902 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1903 \HyPsd@String#1%
1904 }%
1905 \fi
1906 \fi
1907 \fi
1908 \fi
1909 \fi
1910 \fi
1911 \fi
1912 \ifx\HyPsd@Rest\relax
1913 \ifx\scrollmode#2\scrollmode
1914 \else
1915 \Hy@ReturnAfterFiFiEnd{%
1916 \HyPsd@CheckCatcodes#2\HyPsd@End
1917 }%
1918 \fi
1919 \else
1920 \ifx\HyPsd@Rest\@empty
1921 \else
1922 \Hy@ReturnAfterFiFiEnd{%
1923 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1924 }%
1925 \fi
1926 \fi
1927 \Hy@ReturnEnd
1928 }

```

Remove counts, dimens, skips.

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

```

1929 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1930 \gdef\HyPsd@Rest{#1}%
1931 }

```

`\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.

```

1932 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1933 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1934 \HyPsd@ReplaceSpaceWarning{string\kern\space\the\dimen@}%
1935 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1936 \else
1937 \ifdim\dimen@=\z@

```



```

1938 \else
1939 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1940 \fi
1941 \gdef\HyPsd@Rest{#1}%
1942 \fi
1943 }

```

`\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).

```

1944 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1945 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>lex %
1946 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1947 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1948 \else
1949 \ifdim\skip@=\z@
1950 \else
1951 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1952 \fi
1953 \gdef\HyPsd@Rest{#1}%
1954 \fi
1955 }

```

Catcode warnings.

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

```

1956 \def\HyPsd@CatcodeWarning#1{%
1957 \HyPsd@Warning{%
1958 Token not allowed in a PDF string (%)
1959 \ifHy@unicode
1960 Unicode%
1961 \else
1962 PDFDocEncoding%
1963 \fi
1964 }:%
1965 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1966 }%
1967 }
1968 \begingroup
1969 \catcode'\|=0 %
1970 \catcode'\|=12 %
1971 \gdef\HyPsd@RemoveCmdPrefix#1{%
1972 |expandafter\HyPsd@@RemoveCmdPrefix
1973 |string#1|\@empty\<-|\@empty|\@empty
1974 }%
1975 \gdef\HyPsd@@RemoveCmdPrefix#1\<-#2|\@empty#3|\@empty{#1#2}%
1976 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1977 \def\HyPsd@RemoveSpaceWarning#1{%
1978 \HyPsd@Warning{%
1979 Token not allowed in a PDF string (%)
1980 \ifHy@unicode
1981 Unicode%
1982 \else
1983 PDFDocEncoding%
1984 \fi
1985 }:%

```

```

1986 \MessageBreak #1\MessageBreak
1987 removed%
1988 }%
1989 }

```

\HyPsd@ReplaceSpaceWarning

```

1990 \def\HyPsd@ReplaceSpaceWarning#1{%
1991 \HyPsd@Warning{%
1992 Token not allowed in a PDF string (%
1993 \ifHy@unicode
1994 Unicode%
1995 \else
1996 PDFDocEncoding%
1997 \fi
1998 }:%
1999 \MessageBreak #1\MessageBreak
2000 replaced by space%
2001 }%
2002 }

```

6.6.5 Check for wrong glyphs

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

```

2003 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2004 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2005 \HyPsd@String#1%
2006 }%
2007 \ifx\#2\%
2008 \else
2009 \ltx@ReturnAfterFi{%
2010 \HyPsd@GlyphProcessWarning#2\@empty
2011 }%
2012 \fi
2013 }
2014 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2015 \HyPsd@@GlyphProcessWarning#1++>%
2016 \HyPsd@GlyphProcess#2\@empty
2017 }
2018 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2019 \ifx\#2\%
2020 \HyPsd@Warning{%
2021 Glyph not defined in %
2022 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2023 removing '@backslashchar#1'%
2024 }%
2025 \else
2026 \HyPsd@Warning{%
2027 Composite letter '@backslashchar#1+#2'\MessageBreak
2028 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2029 \MessageBreak
2030 removing '@backslashchar#1'%
2031 }%
2032 \fi
2033 }

```

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`.

```
2034 \def\HyPsd@spaceopti#1{ % first space
2035   \ifx\HyPsd@spaceopti#1%
2036     \040%
2037   \else
2038     #1%
2039   \fi
2040 }%
```

6.6.6 Replacing tokens

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

- `#1` Exact the tokens that should be replaced.
- `#2` The replacement (don't need to be expanded).
- `#3` Command with the string.

```
2041 \def\HyPsd@Subst#1#2#3{%
2042   \def\HyPsd@@ReplaceFi##1##2\END\fi{%
2043     \fi
2044     ##1%
2045     \ifx\scrollmode##2\scrollmode
2046     \else
2047       #2%
2048       \HyPsd@@ReplaceFi##2\END
2049     \fi
2050   }%
2051   \xdef#3{%
2052     \iftrue
2053       \expandafter\HyPsd@@ReplaceFi#3#1\END
2054     \fi
2055   }%
2056 }
```

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

```
2057 \def\HyPsd@StringSubst#1{%
2058   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2059 }
```

`\HyPsd@EscapeTeX`

```
2060 \begingroup
2061   \lccode'\!='\%%
2062   \lccode'\|='\%%
2063   \lccode'\(<='\{%
2064   \lccode'\)='\}%
2065   \lccode'0=\ltx@zero
2066   \lccode'1=\ltx@zero
2067   \lccode'3=\ltx@zero
2068   \lccode'4=\ltx@zero
2069   \lccode'5=\ltx@zero
2070   \lccode'7=\ltx@zero
2071 \lowercase{\endgroup
2072   \def\HyPsd@EscapeTeX#1{%
```

```

2073 \HyPsd@Subst!{|045}#1%
2074 \HyPsd@Subst({|173}#1%
2075 \HyPsd@Subst){|175}#1%
2076 }%
2077 }

```

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.

```

2078 \def\HyPsd@doxspace#1{%
2079 \ifx#1\relax\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 \ifx#1-\else
2088 \ifx#1'\else
2089 \HyPsd@SPACEOPTI
2090 \fi
2091 \fi
2092 \fi
2093 \fi
2094 \fi
2095 \fi
2096 \fi
2097 \fi
2098 \fi
2099 \fi
2100 #1%
2101 }%

```

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.

```

2102 \begingroup
2103 \catcode'\|=0 %
2104 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

2105 |gdef|HyPsd@ConvertToUnicode#1{%
2106 |xdef#1{%
2107 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2108 }%
2109 |ifx#1|@empty
2110 |else
2111 |xdef#1{%
2112 \376\377%
2113 #1%
2114 }%

```

```

2115 |fi
2116 }%

```

\HyPsd@DoConvert

```

2117 |gdef|HyPsd@DoConvert#1{%
2118 |ifx#1|@empty
2119 |else
2120 |ltx@ReturnAfterFi{%
2121 |ifx#1\%%
2122 \%%
2123 |expandafter|HyPsd@DoEscape
2124 |else
2125 |HyPsd@Char{#1}%
2126 |expandafter|HyPsd@DoConvert
2127 |fi
2128 }%
2129 |fi
2130 }%

```

\HyPsd@DoEscape

```

2131 |gdef|HyPsd@DoEscape#1{%
2132 |ifx#19%
2133 |expandafter|HyPsd@GetTwoBytes
2134 |else
2135 |ltx@ReturnAfterFi{%
2136 |ifx#18%
2137 00%
2138 |expandafter|HyPsd@GetTwoBytes
2139 |else
2140 #1%
2141 |expandafter|HyPsd@GetOneByte
2142 |fi
2143 }%
2144 |fi
2145 }%

```

\HyPsd@GetTwoBytes

```

2146 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2147 #1\#2#3#4%
2148 |HyPsd@DoConvert
2149 }%

```

\HyPsd@GetOneByte

```

2150 |gdef|HyPsd@GetOneByte#1#2{%
2151 #1#2%
2152 |HyPsd@DoConvert
2153 }%
2154 |endgroup

```

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

```

2155 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2156 \xdef#4{#4#1#2}%
2157 \HyPsd@@ConvertToUnicode#3\END#4%
2158 }

```

\HyPsd@Char

```

2159 \begingroup

```

```

2160 \catcode0=9 %
2161 \catcode'\^=7 %
2162 \catcode'\^^=12 %
2163 \def\x{~~~~0000}%
2164 \expandafter\endgroup
2165 \ifx\x\@empty
2166 \def\HyPsd@Char#1{%
2167 \ifnum'#1<128 %
2168 \@backslashchar 000#1%
2169 \else
2170 \ifnum'#1<65536 %
2171 \expandafter\HyPsd@CharTwoByte\number'#1!%
2172 \else
2173 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2174 \intcalcSub{'#1}{65536}!%
2175 \fi
2176 \fi
2177 }%
2178 \def\HyPsd@CharTwoByte#1!{%
2179 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2180 \IntCalcDiv#1!256!!%
2181 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2182 \IntCalcMod#1!256!!%
2183 }%
2184 \def\HyPsd@CharOctByte#1!{%
2185 \@backslashchar
2186 \IntCalcDiv#1!64!%
2187 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2188 \IntCalcMod#1!8!%
2189 }%
2190 \def\HyPsd@CharSurrogate#1!{%
2191 \@backslashchar 33%
2192 \IntCalcDiv#1!262144!%
2193 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2194 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2195 \@backslashchar 33%
2196 \expandafter\expandafter\expandafter\IntCalcAdd
2197 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2198 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2199 \IntCalcMod#1!256!!%
2200 }%
2201 \else
2202 \def\HyPsd@Char#1{%
2203 \@backslashchar 000#1%
2204 }%
2205 \fi

```

6.6.9 Support for UTF-8 input encoding

After `\usepackage[utf8]{inputenc}` there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

This calculation must be done in an expandable context, so we use `eTeX` here for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

`\numexpr 123/4\relax` is replaced by
`\number\dimexpr.25\dimexpr 123sp\relax\relax`

```

2206 \begingroup\expandafter\expandafter\expandafter\endgroup
2207 \expandafter\ifx\csname numexpr\endcsname\relax
2208   \let\HyPsd@UTFviii\relax
2209 \else
2210   \begingroup
2211     \lccode'\~='^f4\relax
2212   \lowercase{\endgroup
2213     \def\HyPsd@UTFviii{%
2214       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2215       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2216       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2217       \ifx~\HyPsd@UTFviii@ccxliv@undef
2218         \let~\HyPsd@UTFviii@ccxliv@def
2219       \fi
2220       \let\unichar\HyPsd@unichar
2221     }%
2222   }%
2223   \def\HyPsd@UTFviii@ccxliv@undef{\@inpencc@undefined@{utf8}}%
2224   \edef\HyPsd@UTFviii@ccxliv@def{%
2225     \noexpand\UTFviii@four@octets\string ^f4%
2226   }%

```

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.

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

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

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

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

$$(5)$$

```

2227 \def\HyPsd@UTFviii@two#1#2{%
2228   \expandafter\HyPsd@UTFviii@@two
2229   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2230   \number'#1\expandafter| %
2231   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2232   \number'#2 \@nil
2233 }%
2234 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2235   \expandafter\8%
2236   \number\numexpr #1-48\expandafter\relax
2237   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2238   \number\numexpr #3-8*%
2239   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2240   \number\numexpr #4-8*#3\relax
2241 }%

```

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

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

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

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

$$\begin{aligned} d &:= B - 4 * (B/4) & (9) \\ e &:= C/8 - 16 & (10) \\ f &:= C - 8 * (C/8) & (11) \end{aligned}$$

(12)

```

2242 \def\HyPsd@UTFviii@three#1#2#3{%
2243 \expandafter\HyPsd@UTFviii@@three
2244 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2245 \number'#1\expandafter| %
2246 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2247 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2248 \number'#2\expandafter| %
2249 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2250 \number'#3 \@nil
2251 }%
2252 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2253 \expandafter\9%
2254 \number\numexpr #1-56\expandafter\relax
2255 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2256 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2257 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2258 \number\numexpr #6-16\expandafter\relax
2259 \number\numexpr #7-8*#6\relax
2260 }%

```

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

```

```

2261 \def\HyPsd@UTFviii@four#1#2{%
2262 \expandafter\HyPsd@@UTFviii@four\number
2263 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2264 \expandafter|\number
2265 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2266 }%
2267 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2268 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2269 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2270 \ifodd#2 %
2271 \number\numexpr(#2-1)/2\relax
2272 \else
2273 \number\numexpr#2/2\relax
2274 \fi
2275 \number\numexpr\ifodd#2 4+\fi
2276 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2277 \933%
2278 \expandafter\HyPsd@@@UTFviii@four\number
2279 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2280 }%
2281 \def\HyPsd@@@UTFviii@four#1|#2{%
2282 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2283 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2284 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2285 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax

```


2286 }%

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

```
2287 \def\HyPsd@unichar#1{%
2288   \ifHy@unicode
2289     \ifnum#1>"10FFFF %
2290       \HyPsd@UnicodeReplacementCharacter % illegal
2291     \else
2292       \ifnum#1>"FFFF %
```

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

```
2293     \expandafter\HyPsd@unichar\expandafter{%
2294       \number\dimexpr 55296+%
2295       \dimexpr.0009765625\dimexpr\number#1sp-\p@
2296       \relax\relax\relax
2297   }%
```

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

```
2298     \expandafter\HyPsd@unichar\expandafter{%
2299       \number\dimexpr#1-9216%
2300       -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2301       \relax\relax\relax
2302   }%
2303   \else
2304     \ifnum#1>"7FF %
2305       \9%
2306       \expandafter\HyPsd@unichar@first@byte\expandafter{%
2307         \number
2308         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2309       }%
2310     \else
2311       \8%
2312       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2313     \fi
2314     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2315       \number
2316       \dimexpr#1-256*\number
2317       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2318     }%
2319     \fi
2320   \fi
2321   \else
2322     .% unsupported (Unicode -> PDF Doc Encoding)
2323   \fi
2324 }%
2325 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2326 \def\HyPsd@unichar@first@byte#1{%
2327   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2328   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2329     \number
2330     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2331     \relax\relax\relax
2332   }%
2333 }%
2334 \def\HyPsd@unichar@second@byte#1{%
2335   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2336   \expandafter\HyPsd@unichar@octtwo\expandafter{%
```

```

2337 \number
2338 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2339 \relax\relax\relax
2340 }%
2341 }%
2342 \def\HyPsd@unichar@octtwo#1{%
2343 \number\dimexpr.125\dimexpr#1sp\relax\relax
2344 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2345 \relax\relax\relax
2346 }%
2347 \fi

```

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

```

2348 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2349 \ifx\@gobble#1%
2350 \else
2351 [Please insert \textbackslash PrerenderUnicode%
2352 \textbraceleft#1\textbraceright\space
2353 into preamble]%
2354 \fi
2355 }%

```

7 Support of other packages

7.1 Class memoir

```

2356 \@ifclassloaded{memoir}{%
2357 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2358 }{}

```

7.2 Package subfigure

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

```

2359 \@ifpackageloaded{subfigure}{%
2360 \ltx@ifundefined{sub@label}{%
2361 \Hy@hypertexnamesfalse
2362 }{%
2363 \renewcommand*{\sub@label}[1]{%
2364 \@bsphack
2365 \subfig@oldlabel{#1}%
2366 \if@filesw
2367 \begingroup
2368 \edef\@currentlabstr{%
2369 \expandafter\strip@prefix\meaning\@currentlabelname
2370 }%
2371 \protected@write\@auxout{}{%
2372 \string\newlabel{sub@#1}{%
2373 {\@nameuse{\@thesub\@capytype}}%
2374 {\thepage}%
2375 }%
2376 \expandafter\strip@period\@currentlabstr
2377 \relax.\relax\@@@%
2378 }%
2379 {\@currentHref}%
2380 }%
2381 }%

```

```

2382     }%
2383     \endgroup
2384     \fi
2385     \@esphack
2386 }%
2387 \@ifpackagelater{subfigure}{2002/03/26}{\%
2388     \providecommand*{\toclevel@subfigure}{1}%
2389     \providecommand*{\toclevel@subtable}{1}%
2390 }%
2391 }%
2392 }{}

```

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:

```

2393 \ltx@ifundefined{XR@addURL}{%
2394 }{%

```

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.

```

2395 \def\xR@addURL#1{\xR@dURL#1{}{}{}\\}%
2396 \def\xR@dURL#1#2#3#4#5\\{%
2397   {#1}{#2}%
2398   \if!#4!%
2399   \else
2400     {#3}{#4}{\xR@URL}%
2401   \fi
2402 }%
2403 }

2404 \def\Hy@true{true}
2405 \def\Hy@false{false}

```

Providing dummy definitions.

```

2406 \let\literalps@out\@gobble
2407 \newcommand\pdfbookmark[3]{}{}
2408 \def\Acrobatmenu#1#2{\leavevmode#2}
2409 \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

```

2410 \let\HyperRaiseLinkHook\@empty
2411 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2412 \newcount\Hy@SavedSpaceFactor
2413 \def\Hy@SaveSpaceFactor{%
2414   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2415 }
2416 \def\Hy@RestoreSpaceFactor{%
2417   \relax
2418   \ifhmode
2419     \ifnum\Hy@SavedSpaceFactor>\z@
2420       \spacefactor=\Hy@SavedSpaceFactor
2421     \fi
2422   \fi
2423 }
2424 \def\Hy@SaveSavedSpaceFactor{%
2425   \edef\Hy@RestoreSavedSpaceFactor{%
2426     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2427   }%
2428 }
2429 \def\Hy@raisedlink#1{%
2430   \ifvmode
2431     #1%
2432   \else
2433     \Hy@SaveSpaceFactor
2434     \penalty\@M
2435     \smash{%
2436       \begingroup
2437         \let\HyperRaiseLinkLength\@tempdima
2438         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2439         \HyperRaiseLinkHook
2440       \expandafter\endgroup
2441       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2442         \Hy@RestoreSpaceFactor
2443         #1%
2444         \Hy@SaveSpaceFactor
2445       }%
2446     }%
2447     \Hy@RestoreSpaceFactor
2448   \fi
2449 }

```

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

```

2450 \def\Hy@SaveLastskip{%
2451   \let\Hy@RestoreLastskip\relax
2452   \ifvmode
2453     \ifdim\lastskip=\z@
2454       \let\Hy@RestoreLastskip\nobreak
2455     \else
2456       \begingroup
2457         \skip@=-\lastskip
2458       \edef\x{%
2459         \endgroup
2460       \def\noexpand\Hy@RestoreLastskip{%
2461         \noexpand\ifvmode
2462           \noexpand\nobreak
2463           \vskip\the\skip@
2464           \vskip\the\lastskip\relax
2465         \noexpand\fi

```

```

2466     }%
2467     }%
2468     \x
2469     \fi
2470 \else
2471 \ifhmode
2472 \ifdim\lastskip=\z@
2473 \let\Hy@RestoreLastskip\nobreak
2474 \else
2475 \begingroup
2476 \skip@=-\lastskip
2477 \edef\x{%
2478 \endgroup
2479 \def\noexpand\Hy@RestoreLastskip{%
2480 \noexpand\ifhmode
2481 \noexpand\nobreak
2482 \hskip\the\skip@
2483 \hskip\the\lastskip\relax
2484 \noexpand\fi
2485 }%
2486 }%
2487 \x
2488 \fi
2489 \fi
2490 \fi
2491 }%

```

9 Options

```

2492 \SetupKeyvalOptions{%
2493 family=Hyp,%
2494 prefix=HyOpt%
2495 }

```

9.1 Help macros

`\IfHyperBooleanExists`

```

2496 \def\IfHyperBooleanExists#1{%
2497 \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2498 \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2499 }%
2500 }

2501 \@namedef{KV@Hyp@stoppeearly@default}{-}

```

`\IfHyperBoolean`

```

2502 \def\IfHyperBoolean#1{%
2503 \IfHyperBooleanExists{#1}{%
2504 \csname ifHy@#1\endcsname
2505 \expandafter\ltx@firstoftwo
2506 \else
2507 \expandafter\ltx@secondoftwo
2508 \fi
2509 }\ltx@secondoftwo
2510 }

```

`\Hy@boolkey`

```

2511 \def\Hy@boolkey#1#2{%
2512   \edef\Hy@tempa{#2}%
2513   \lowercase\expandafter{%
2514     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2515   }%
2516   \ifx\Hy@tempa\@empty
2517     \let\Hy@tempa\Hy@true
2518   \fi
2519   \ifx\Hy@tempa\Hy@true
2520   \else
2521     \ifx\Hy@tempa\Hy@false
2522     \else
2523       \let\Hy@tempa\relax
2524     \fi
2525   \fi
2526   \ifx\Hy@tempa\relax
2527     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2528   \else
2529     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2530     \csname Hy@#1\Hy@tempa\endcsname
2531   \fi
2532 }

```

\Hy@WarnOptionValue

```

2533 \def\Hy@WarnOptionValue#1#2#3{%
2534   \Hy@Warning{%
2535     Unexpected value ‘#1’\MessageBreak
2536     of option ‘#2’ instead of\MessageBreak
2537     #3%
2538   }%
2539 }

```

\Hy@DisableOption

```

2540 \def\Hy@DisableOption#1{%
2541   \ltx@ifundefined{KV@Hyp@#1@default}{%
2542     \define@key{Hyp}{#1}%
2543   }{%
2544     \define@key{Hyp}{#1}[]%
2545   }%
2546   {\Hy@WarnOptionDisabled{#1}}%
2547 }

```

\Hy@WarnOptionDisabled

```

2548 \def\Hy@WarnOptionDisabled#1{%
2549   \Hy@Warning{%
2550     Option ‘#1’ has already been used,\MessageBreak
2551     setting the option has no effect%
2552   }%
2553 }

```

\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.

```

2554 \def\Hy@CheckOptionValue#1#2#3{%
2555   \begingroup
2556   \edef\x{#1}%
2557   \@onelevel@sanitize\x
2558   \let\y=y%

```

```

2559 \def\do##1##2{%
2560 \def\z{##1}%
2561 \@onelevel@sanitize\z
2562 \ifx\x\z
2563 \let\y=n%
2564 \let\do\@gobbletwo
2565 \fi
2566 }%
2567 ##3%
2568 \ifx\y y%
2569 \def\do##1##2{%
2570 * '##1'%
2571 \ifx\##2\\\else\space(##2)\fi
2572 \MessageBreak
2573 }%
2574 \Hy@Warning{%
2575 Values of option '#2':\MessageBreak
2576 ##3%
2577 * An empty value disables the option.\MessageBreak
2578 Unknown value '\x'%
2579 }%
2580 \fi
2581 \endgroup
2582 }

```

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

```

2583 \def\Hy@DefNameKey#1{%
2584 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2585 }

```

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

```

2586 \def\Hy@@DefNameKey#1#2#3{%
2587 \define@key{Hyp}{#2}{%
2588 \edef#1{##1}%
2589 \ifx#1\@empty
2590 \else
2591 \Hy@CheckOptionValue{##1}{#2}{#3}%
2592 \fi
2593 }%
2594 \let#1\@empty
2595 }

```

`\Hy@UseNameKey`

```

2596 \def\Hy@UseNameKey#1#2{%
2597 \ifx#2\@empty
2598 \else
2599 /#1/#2%
2600 \fi
2601 }

```

9.2 Defining the options

```

2602 \define@key{Hyp}{implicit}[true]{%
2603   \Hy@boolkey{implicit}{#1}%
2604 }
2605 \define@key{Hyp}{draft}[true]{%
2606   \Hy@boolkey{draft}{#1}%
2607 }
2608 \define@key{Hyp}{final}[true]{%
2609   \Hy@boolkey{final}{#1}%
2610 }
2611 \let\KV@Hyp@nolinks\KV@Hyp@draft
2612 \def\Hy@ObsoletePaperOption#1{%
2613   \Hy@WarningNoLine{%
2614     Option '#1' is no longer used%
2615   }%
2616   \define@key{Hyp}{#1}[true]{}%
2617 }
2618 \def\Hy@temp#1{%
2619   \define@key{Hyp}{#1}[true]{%
2620     \Hy@ObsoletePaperOption{#1}%
2621   }%
2622 }
2623 \Hy@temp{a4paper}
2624 \Hy@temp{a5paper}
2625 \Hy@temp{b5paper}
2626 \Hy@temp{letterpaper}
2627 \Hy@temp{legalpaper}
2628 \Hy@temp{executivepaper}
2629 \define@key{Hyp}{setpagesize}[true]{%
2630   \Hy@boolkey{setpagesize}{#1}%
2631 }
2632 \define@key{Hyp}{debug}[true]{%
2633   \Hy@boolkey{debug}{#1}%
2634 }
2635 \define@key{Hyp}{linktocpage}[true]{%
2636   \Hy@boolkey{linktocpage}{#1}%
2637   \ifHy@linktocpage
2638     \let\Hy@linktoc\Hy@linktoc@page
2639   \else
2640     \let\Hy@linktoc\Hy@linktoc@section
2641   \fi
2642 }
2643 \chardef\Hy@linktoc@none=0 %
2644 \chardef\Hy@linktoc@section=1 %
2645 \chardef\Hy@linktoc@page=2 %
2646 \chardef\Hy@linktoc@all=3 %
2647 \ifHy@linktocpage
2648   \let\Hy@linktoc\Hy@linktoc@page
2649 \else
2650   \let\Hy@linktoc\Hy@linktoc@section
2651 \fi
2652 \define@key{Hyp}{linktoc}{%
2653   \@ifundefined{Hy@linktoc@#1}{%
2654     \Hy@Warning{%
2655       Unexpected value '#1' of\MessageBreak
2656       option 'linktoc' instead of 'none',\MessageBreak
2657       'section', 'page' or 'all'%
2658     }%

```



```

2659 }{%
2660   \expandafter\let\expandafter\Hy@linktoc
2661   \csname Hy@linktoc@#1\endcsname
2662 }%
2663 }
2664 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2665 \let\XR@ext\relax
2666 \define@key{Hyp}{verbose}[true]{%
2667   \Hy@boolkey{verbose}{#1}%
2668 }
2669 \define@key{Hyp}{typexml}[true]{%
2670   \Hy@boolkey{typexml}{#1}%
2671 }

```

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.

```

2672 \define@key{Hyp}{raiselinks}[true]{%
2673   \Hy@boolkey{raiselinks}{#1}%
2674 }

```

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

```

2675 \def\Hy@setbreaklinks#1{%
2676   \csname breaklinks#1\endcsname
2677 }
2678 \def\Hy@breaklinks@unsupported{%
2679   \ifx\Hy@setbreaklinks\@gobble
2680     \ifHy@breaklinks
2681       \Hy@WarningNoLine{%
2682         You have enabled option 'breaklinks'.\MessageBreak
2683         But driver '\Hy@driver.def' does not support this.\MessageBreak
2684         Expect trouble with the link areas of broken links%
2685       }%
2686     \fi
2687   \fi
2688 }
2689 \define@key{Hyp}{breaklinks}[true]{%
2690   \Hy@boolkey{breaklinks}{#1}%
2691   \let\Hy@setbreaklinks\@gobble
2692 }
2693 \define@key{Hyp}{localanchorname}[true]{%
2694   \Hy@boolkey{localanchorname}{#1}%
2695 }

```

Determines whether an automatic anchor is put on each page

```

2696 \define@key{Hyp}{pageanchor}[true]{%
2697   \Hy@boolkey{pageanchor}{#1}%
2698 }

```

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.

```

2699 \define@key{Hyp}{plainpages}[true]{%
2700   \Hy@boolkey{plainpages}{#1}%
2701 }

```

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

```

2702 \define@key{Hyp}{naturalnames}[true]{%

```

```

2703 \Hy@boolkey{naturalnames}{#1}%
2704 }

```

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

```

2705 \define@key{Hyp}{hypertexnames}[true]{%
2706 \Hy@boolkey{hypertexnames}{#1}%
2707 }

```

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

```

2708 \define@key{Hyp}{nesting}[true]{%
2709 \Hy@boolkey{nesting}{#1}%
2710 }

2711 \define@key{Hyp}{unicode}[true]{%
2712 \Hy@boolkey{unicode}{#1}%
2713 \ifHy@unicode
2714 \def\HyPsd@pdfencoding{unicode}%
2715 \HyPsd@LoadUnicode
2716 \else
2717 \def\HyPsd@pdfencoding{pdfdoc}%
2718 \fi
2719 }

2720 \def\HyPsd@LoadUnicode{%
2721 \@ifundefined{T@PU}{%
2722 \input{puenc.def}%
2723 \HyLinguex@Restore
2724 }{}%
2725 \DeclareFontFamily{PU}{pdf}{}%
2726 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2727 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2728 \global\let\HyPsd@LoadUnicode\relax
2729 }

2730 \Hy@AtBeginDocument{%
2731 \ifx\HyPsd@LoadUnicode\relax
2732 \else
2733 \def\HyPsd@LoadUnicode{%
2734 \Hy@Error{%
2735 Unicode support for bookmarks is not available.\MessageBreak
2736 Activate unicode support by using one of the options\MessageBreak
2737 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2738 in the preamble%
2739 }\@ehc
2740 \global\let\HyPsd@LoadUnicode\relax
2741 \global\Hy@unicodedefalse
2742 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2743 }%
2744 \fi
2745 }

2746 \define@key{Hyp}{pdfencoding}{%
2747 \edef\HyPsd@temp{#1}%
2748 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2749 \let\HyPsd@pdfencoding\HyPsd@temp
2750 \Hy@unicodedefalse
2751 \else
2752 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2753 \z@
2754 \else
2755 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto

```

```

2756         \z@
2757     \else
2758         \@ne
2759     \fi
2760 \fi
2761 \let\HyPsd@pdfencoding\HyPsd@temp
2762 \hypersetup{unicode}%
2763 \ifHy@unicode
2764     \def\HyPsd@pdfencoding{#1}%
2765     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2766         \HyPsd@LoadStringEnc
2767     \fi
2768 \else
2769     \Hy@Warning{Cannot switch to unicode bookmarks}%
2770     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2771 \fi
2772 \else
2773     \@onelevel@sanitize\HyPsd@temp
2774     \Hy@Warning{%
2775         Values of option 'pdfencoding':\MessageBreak
2776         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2777         Ignoring unknown value '\HyPsd@temp'%
2778     }%
2779 \fi
2780 \fi
2781 }
2782 \def\HyPsd@pdfencoding@auto{auto}
2783 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2784 \def\HyPsd@pdfencoding@unicode{unicode}
2785 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2786 \def\HyPsd@LoadStringEnc{%
2787     \RequirePackage{stringenc}[2009/12/15]%
2788     \let\HyPsd@LoadStringEnc\relax
2789 }
2790 \Hy@AtBeginDocument{%
2791     \@ifpackageloaded{stringenc}{%
2792         \let\HyPsd@LoadStringEnc\relax
2793     }{%
2794         \def\HyPsd@LoadStringEnc{%
2795             \Hy@WarningNoLine{%
2796                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2797                 in the preamble or load the package there%
2798             }%
2799         }%
2800     }%
2801 }
2802 \def\hypersetup{\kvsetkeys{Hyp}}
2803 \newif\ifHy@setpdfversion
2804 \define@key{Hyp}{pdfversion}{%
2805     \@ifundefined{Hy@pdfversion@#1}{%
2806         \PackageWarning{hyperref}{%
2807             Unsupported PDF version '#1'.\MessageBreak
2808             Valid values: 1.2 until 1.9%
2809         }%
2810     }{%
2811         \Hy@setpdfversiontrue
2812         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%

```

```

2813 }%
2814 }
2815 \@namedef{Hy@pdfversion@1.2}{2}%
2816 \@namedef{Hy@pdfversion@1.3}{3}%
2817 \@namedef{Hy@pdfversion@1.4}{4}%
2818 \@namedef{Hy@pdfversion@1.5}{5}%
2819 \@namedef{Hy@pdfversion@1.6}{6}%
2820 \@namedef{Hy@pdfversion@1.7}{7}%
2821 \@namedef{Hy@pdfversion@1.8}{8}%
2822 \@namedef{Hy@pdfversion@1.9}{9}%
2823 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2824 \newif\ifHy@DviMode
2825 \let\Hy@DviErrMsg\ltx@empty
2826 \ifpdf
2827   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2828 \else
2829   \ifxetex
2830     \def\Hy@DviErrMsg{XeTeX is running}%
2831   \else
2832     \ifvtex
2833       \ifvtexdvi
2834         \Hy@DviModetrue
2835       \else
2836         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2837       \fi
2838     \else
2839       \Hy@DviModetrue
2840     \fi
2841   \fi
2842 \fi
2843 \def\Hy@Opt@CheckDvi#1{%
2844   \ifHy@DviMode
2845     \expandafter\ltx@firstofone
2846   \else
2847     \Hy@Error{%
2848       Wrong DVI mode driver option ‘#1’,\MessageBreak
2849       because \Hy@DviErrMsg
2850     }\@ehc
2851     \expandafter\ltx@gobble
2852   \fi
2853 }
2854 \DeclareVoidOption{tex4ht}{%
2855   \Hy@texhttrue
2856   \kvsetkeys{Hyp}{colorlinks=true}%
2857   \def\BeforeTeXIVht{\RequirePackage{color}}%
2858   \def\Hy@driver{htex4ht}%
2859   \def\MaybeStopEarly{%
2860     \Hy@Message{Stopped early}%
2861     \Hy@AtBeginDocument{%
2862       \PDF@FinishDoc
2863       \gdef\PDF@FinishDoc{}%
2864     }%
2865   \endinput
2866 }%

```

```

2867 }
2868 \DeclareVoidOption{pdftex}{%
2869   \ifpdf
2870     \def\Hy@driver{hpdftex}%
2871   \else
2872     \Hy@Error{%
2873       Wrong driver option 'pdftex',\MessageBreak
2874       because pdfTeX in PDF mode is not detected%
2875     }\@ehc
2876   \fi
2877 }
2878 \DeclareVoidOption{nativpdf}{%
2879   \HyOpt@CheckDvi{nativpdf}{%
2880     \def\Hy@driver{hdvips}%
2881   }%
2882 }
2883 \DeclareVoidOption{dvipdfm}{%
2884   \HyOpt@CheckDvi{dvipdfm}{%
2885     \def\Hy@driver{hdvipdfm}%
2886   }%
2887 }
2888 \DeclareVoidOption{dvipdfmx}{%
2889   \HyOpt@CheckDvi{dvipdfmx}{%
2890     \def\Hy@driver{hdvipdfm}%
2891   }%
2892 }
2893 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2894   \expandafter\ifx\csname if#1\expandafter\endcsname
2895     \csname iftrue\endcsname
2896   \chardef\SpecialDvipdfmxOutlineOpen\@ne
2897   \else
2898     \chardef\SpecialDvipdfmxOutlineOpen\z@
2899   \fi
2900 }
2901 \DeclareVoidOption{xetex}{%
2902   \ifxetex
2903     \def\Hy@driver{hxetex}%
2904   \else
2905     \Hy@Error{%
2906       Wrong driver option 'xetex',\MessageBreak
2907       because XeTeX is not detected%
2908     }\@ehc
2909   \fi
2910 }
2911 \DeclareVoidOption{pdfmark}{%
2912   \HyOpt@CheckDvi{pdfmark}{%
2913     \def\Hy@driver{hdvips}%
2914   }%
2915 }
2916 \DeclareVoidOption{dvips}{%
2917   \HyOpt@CheckDvi{dvips}{%
2918     \def\Hy@driver{hdvips}%
2919   }%
2920 }
2921 \DeclareVoidOption{hypertex}{%
2922   \HyOpt@CheckDvi{hypertex}{%
2923     \def\Hy@driver{hypertex}%

```

```

2924 }%
2925 }
2926 \let\Hy@MaybeStopNow\relax
2927 \DeclareVoidOption{vtex}{%
2928   \ifvtex
2929     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2930     \def\Hy@driver{hvtex}%
2931   \else
2932     \ifnum\OpMode=10\relax
2933     \def\Hy@driver{hvtexhtm}%
2934     \def\MaybeStopEarly{%
2935       \Hy@Message{Stopped early}%
2936       \Hy@AtBeginDocument{%
2937         \PDF@FinishDoc
2938         \gdef\PDF@FinishDoc{}}%
2939     }%
2940     \endinput
2941   }%
2942   \else
2943     \Hy@Error{%
2944       Wrong driver option ‘vtex’,\MessageBreak
2945       because of wrong OpMode (\the\OpMode)%
2946     }\@ehc
2947   \fi
2948 \fi
2949 \else
2950 \Hy@Error{%
2951   Wrong driver option ‘vtex’,\MessageBreak
2952   because VTeX is not running%
2953 }\@ehc
2954 \fi
2955 }
2956 \DeclareVoidOption{vtexpdfmark}{%
2957   \ifvtex
2958     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2959     \def\Hy@driver{hvtexmrk}%
2960   \else
2961     \Hy@Error{%
2962       Wrong driver option ‘vtexpdfmark’,\MessageBreak
2963       because of wrong OpMode (\the\OpMode)%
2964     }\@ehc
2965   \fi
2966 \else
2967 \Hy@Error{%
2968   Wrong driver option ‘vtexpdfmark’,\MessageBreak
2969   because VTeX is not running%
2970 }\@ehc
2971 \fi
2972 }
2973 \DeclareVoidOption{dviwindo}{%
2974   \HyOpt@CheckDvi{dviwindo}{%
2975     \def\Hy@driver{hdviwind}%
2976     \kvsetkeys{Hyp}{colorlinks}%
2977     \PassOptionsToPackage{dviwindo}{color}%
2978   }%
2979 }
2980 \DeclareVoidOption{dvipsone}{%

```

```

2981 \HyOpt@CheckDvi{dvipsone}{%
2982   \def\Hy@driver{hdvipson}%
2983 }%
2984 }
2985 \DeclareVoidOption{textures}{%
2986   \HyOpt@CheckDvi{textures}{%
2987     \def\Hy@driver{htexture}%
2988   }%
2989 }
2990 \DeclareVoidOption{latex2html}{%
2991   \HyOpt@CheckDvi{latex2html}{%
2992     \Hy@AtBeginDocument{\@@@latextohtmlX}%
2993   }%
2994 }

```

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

```

2995 \DeclareVoidOption{ps2pdf}{%
2996   \HyOpt@CheckDvi{ps2pdf}{%
2997     \def\Hy@driver{hdvips}%
2998   }%
2999 }

3000 \let\HyOpt@DriverFallback\ltx@empty
3001 \define@key{Hyp}{driverfallback}{%
3002   \ifHy@DviMode
3003     \def\HyOpt@DriverFallback{#1}%
3004     \Hy@Match\HyOpt@DriverFallback{%
3005       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3006       latex2html|tex4ht)$%
3007     }{}{%
3008       \let\HyOpt@DriverFallback\ltx@empty
3009     }%
3010   \fi
3011 }

```

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.

```

3012 \define@key{Hyp}{hyperfigures}[true]{%
3013   \Hy@boolkey{hyperfigures}{#1}%
3014 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3015 \define@key{Hyp}{hyperfootnotes}[true]{%
3016   \Hy@boolkey{hyperfootnotes}{#1}%
3017 }

```

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

```

3018 \def\back@none{none}
3019 \def\back@section{section}
3020 \def\back@page{page}
3021 \def\back@slide{slide}
3022 \define@key{Hyp}{backref}[section]{%
3023   \lowercase{\def\Hy@tempa{#1}}%
3024   \ifx\Hy@tempa\@empty
3025     \let\Hy@tempa\back@section
3026   \fi
3027   \ifx\Hy@tempa\Hy>false

```

```

3028 \let\Hy@tempa\back@none
3029 \fi
3030 \ifx\Hy@tempa\back@slide
3031 \let\Hy@tempa\back@section
3032 \fi
3033 \ifx\Hy@tempa\back@page
3034 \PassOptionsToPackage{hyperpageref}{backref}%
3035 \Hy@backreftrue
3036 \else
3037 \ifx\Hy@tempa\back@section
3038 \PassOptionsToPackage{hyperref}{backref}%
3039 \Hy@backreftrue
3040 \else
3041 \ifx\Hy@tempa\back@none
3042 \Hy@backreffalse
3043 \else
3044 \Hy@WarnOptionValue{#1}{backref}{%
3045 'section', 'slide', 'page', 'none',\MessageBreak
3046 or 'false'}%
3047 \fi
3048 \fi
3049 \fi
3050 }
3051 \define@key{Hyp}{pagebackref}[true]{%
3052 \edef\Hy@tempa{#1}%
3053 \lowercase\expandafter{%
3054 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3055 }%
3056 \ifx\Hy@tempa\@empty
3057 \let\Hy@tempa\Hy>true
3058 \fi
3059 \ifx\Hy@tempa\Hy>true
3060 \PassOptionsToPackage{hyperpageref}{backref}%
3061 \Hy@backreftrue
3062 \else
3063 \ifx\Hy@tempa\Hy>false
3064 \Hy@backreffalse
3065 \else
3066 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3067 \fi
3068 \fi
3069 }

```

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

```

3070 \define@key{Hyp}{hyperindex}[true]{%
3071 \Hy@boolkey{hyperindex}{#1}%
3072 }

```

Configuration of encap char.

```

3073 \define@key{Hyp}{encap}[|]{%
3074 \def\HyInd@EncapChar{#1}%
3075 }

```

12 Language options

The `\autoref` feature depends on the language.


```

3076 \def\HyLang@afrikaans{%
3077   \def\equationautorefname{Vergelyking}%
3078   \def\footnoteautorefname{Voetnota}%
3079   \def\itemautorefname{Item}%
3080   \def\figureautorefname{Figuur}%
3081   \def\tableautorefname{Tabel}%
3082   \def\partautorefname{Deel}%
3083   \def\appendixautorefname{Bylae}%
3084   \def\chapterautorefname{Hoofstuk}%
3085   \def\sectionautorefname{Afdeling}%
3086   \def\subsectionautorefname{Subafdeling}%
3087   \def\subsubsectionautorefname{Subsubafdeling}%
3088   \def\paragraphautorefname{Paragraaf}%
3089   \def\subparagraphautorefname{Subparagraaf}%
3090   \def\FancyVerbLineautorefname{Lyn}%
3091   \def\theoremautorefname{Teorema}%
3092   \def\pageautorefname{Bladsy}%
3093 }
3094 \def\HyLang@english{%
3095   \def\equationautorefname{Equation}%
3096   \def\footnoteautorefname{footnote}%
3097   \def\itemautorefname{item}%
3098   \def\figureautorefname{Figure}%
3099   \def\tableautorefname{Table}%
3100   \def\partautorefname{Part}%
3101   \def\appendixautorefname{Appendix}%
3102   \def\chapterautorefname{chapter}%
3103   \def\sectionautorefname{section}%
3104   \def\subsectionautorefname{subsection}%
3105   \def\subsubsectionautorefname{subsubsection}%
3106   \def\paragraphautorefname{paragraph}%
3107   \def\subparagraphautorefname{subparagraph}%
3108   \def\FancyVerbLineautorefname{line}%
3109   \def\theoremautorefname{Theorem}%
3110   \def\pageautorefname{page}%
3111 }
3112 \def\HyLang@french{%
3113   \def\equationautorefname{'Equation}%
3114   \def\footnoteautorefname{note}%
3115   \def\itemautorefname{item}%
3116   \def\figureautorefname{Figure}%
3117   \def\tableautorefname{Tableau}%
3118   \def\partautorefname{Partie}%
3119   \def\appendixautorefname{Appendice}%
3120   \def\chapterautorefname{chapitre}%
3121   \def\sectionautorefname{section}%
3122   \def\subsectionautorefname{sous-section}%
3123   \def\subsubsectionautorefname{sous-sous-section}%
3124   \def\paragraphautorefname{paragraphe}%
3125   \def\subparagraphautorefname{sous-paragraphe}%
3126   \def\FancyVerbLineautorefname{ligne}%
3127   \def\theoremautorefname{Th\'eor\`eme}%
3128   \def\pageautorefname{page}%
3129 }
3130 \def\HyLang@german{%
3131   \def\equationautorefname{Gleichung}%
3132   \def\footnoteautorefname{Fu\ss note}%

```

```

3133 \def\itemautorefname{Punkt}%
3134 \def\figureautorefname{Abbildung}%
3135 \def\tableautorefname{Tabelle}%
3136 \def\partautorefname{Teil}%
3137 \def\appendixautorefname{Anhang}%
3138 \def\chapterautorefname{Kapitel}%
3139 \def\sectionautorefname{Abschnitt}%
3140 \def\subsectionautorefname{Unterabschnitt}%
3141 \def\subsubsectionautorefname{Unterunterabschnitt}%
3142 \def\paragraphautorefname{Absatz}%
3143 \def\subparagraphautorefname{Unterabsatz}%
3144 \def\FancyVerbLineautorefname{Zeile}%
3145 \def\theoremautorefname{Theorem}%
3146 \def\pageautorefname{Seite}%
3147 }
3148 \def\HyLang@italian{%
3149 \def\equationautorefname{Equazione}%
3150 \def\footnoteautorefname{nota}%
3151 \def\itemautorefname{punto}%
3152 \def\figureautorefname{Figura}%
3153 \def\tableautorefname{Tabella}%
3154 \def\partautorefname{Parte}%
3155 \def\appendixautorefname{Appendice}%
3156 \def\chapterautorefname{Capitolo}%
3157 \def\sectionautorefname{sezione}%
3158 \def\subsectionautorefname{sottosezione}%
3159 \def\subsubsectionautorefname{sottosottosezione}%
3160 \def\paragraphautorefname{paragrafo}%
3161 \def\subparagraphautorefname{sottoparagrafo}%
3162 \def\FancyVerbLineautorefname{linea}%
3163 \def\theoremautorefname{Teorema}%
3164 \def\pageautorefname{Pag.\@}%
3165 }
3166 \def\HyLang@magyar{%
3167 \def\equationautorefname{Egyenlet}%
3168 \def\footnoteautorefname{1\`abjegyzet}%
3169 \def\itemautorefname{Elem}%
3170 \def\figureautorefname{\`Abra}%
3171 \def\tableautorefname{T\`abl\`azat}%
3172 \def\partautorefname{R\`esz}%
3173 \def\appendixautorefname{F\`uggel\`ek}%
3174 \def\chapterautorefname{fejezet}%
3175 \def\sectionautorefname{szakasz}%
3176 \def\subsectionautorefname{alszakasz}%
3177 \def\subsubsectionautorefname{alalszakasz}%
3178 \def\paragraphautorefname{bekezd\`es}%
3179 \def\subparagraphautorefname{albekezd\`es}%
3180 \def\FancyVerbLineautorefname{sor}%
3181 \def\theoremautorefname{T\`etel}%
3182 \def\pageautorefname{oldal}%
3183 }
3184 \def\HyLang@portuges{%
3185 \def\equationautorefname{Equa\c c\~ao}%
3186 \def\footnoteautorefname{Nota de rodap\`e}%
3187 \def\itemautorefname{Item}%
3188 \def\figureautorefname{Figura}%
3189 \def\tableautorefname{Tabela}%

```


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

```
3218 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3219 \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.

```
3220 \def\partautorefname{\cyr\cyrch.}%
3221 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3222 \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.

```
3223 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3224 % \def\appendixautorefname{%
3225 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrzh\cyre\cyrn\cyri\cyre
3226 % }%
```

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.

```
3227 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3228 \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.

```
3229 \def\paragraphautorefname{\cyr\cyrp.}%
3230 \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.

```
3231 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3232 % \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.

```
3233 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3234 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3235 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3236 % \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 ...

```
3237 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3238 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3239 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```

3240 \def\pageautorefname{\cyr\cyr.}%
3241 }

3242 \def\HyLang@spanish{%
3243 \def\equationautorefname{Ecuaci\'}on}%
3244 \def\footnoteautorefname{Nota a pie de p\'}agina}%
3245 \def\itemautorefname{Elemento}%
3246 \def\figureautorefname{Figura}%
3247 \def\tableautorefname{Tabla}%
3248 \def\partautorefname{Parte}%
3249 \def\appendixautorefname{Ap\'}endice}%
3250 \def\chapterautorefname{Cap\'}itulo}%
3251 \def\sectionautorefname{Secci\'}on}%
3252 \def\subsectionautorefname{Subsecci\'}on}%
3253 \def\subsubsectionautorefname{Subsubsecci\'}on}%
3254 \def\paragraphautorefname{P\'}arrafo}%
3255 \def\subparagraphautorefname{Subp\'}arrafo}%
3256 \def\FancyVerbLineautorefname{L\'}inea}%
3257 \def\theoremautorefname{Teorema}%
3258 \def\pageautorefname{P\'}agina}%
3259 }

3260 \def\HyLang@vietnamese{%
3261 \def\equationautorefname{Ph\'}uhorn{\'}ohorn{\'}ng tr\'}inh}%
3262 \def\footnoteautorefname{Ch\'}u th\'}ich}%
3263 \def\itemautorefname{m\'}d{u}c}%
3264 \def\figureautorefname{H\'}inh}%
3265 \def\tableautorefname{B\'}h{a}ng}%
3266 \def\partautorefname{Ph\'}\acircumflex{n}%
3267 \def\appendixautorefname{Ph\'}d{u} l\'}d{u}c}%
3268 \def\chapterautorefname{ch\'}uhorn{\'}ohorn{\'}ng}%
3269 \def\sectionautorefname{m\'}d{u}c}%
3270 \def\subsectionautorefname{m\'}d{u}c}%
3271 \def\subsubsectionautorefname{m\'}d{u}c}%
3272 \def\paragraphautorefname{\dj{'}o\'}d{a}n}%
3273 \def\subparagraphautorefname{\dj{'}o\'}d{a}n}%
3274 \def\FancyVerbLineautorefname{d\'}ong}%
3275 \def\theoremautorefname{DJ{\'}d{i}nh l\'}y}%
3276 \def\pageautorefname{Trang}%
3277 }

```

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

```

3278 \def\HyLang@addto#1#2{%
3279 #2%
3280 \@temptokena{#2}%
3281 \ifx#1\relax
3282 \let#1\@empty
3283 \fi
3284 \ifx#1\@undefined
3285 \edef#1{\the\@temptokena}%
3286 \else
3287 \toks@\expandafter{#1}%
3288 \edef#1{\the\toks@\the\@temptokena}%
3289 \fi
3290 \@temptokena{}\toks@\@temptokena
3291 }

3292 \def\HyLang@DeclareLang#1#2#3{%

```

```

3293 \@ifpackagewith{babel}{#1}{%
3294 \expandafter\HyLang@addto
3295 \csname extras#1\expandafter\endcsname
3296 \csname HyLang@#2\endcsname
3297 \beginngroup
3298 \edef\x{\endgroup
3299 #3%
3300 }%
3301 \x
3302 \@namedef{HyLang@#1@done}{}%
3303 }{}%
3304 \beginngroup
3305 \edef\x##1##2{%
3306 \noexpand\ifx##2\relax
3307 \errmessage{No definitions for language #2' found!}%
3308 \noexpand\fi
3309 \endgroup
3310 \noexpand\define@key{Hyp}{#1}[]{}%
3311 \noexpand\@ifundefined{HyLang@#1@done}{%
3312 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3313 #3%
3314 \noexpand\@namedef{HyLang@#1@done}{}%
3315 }{}%
3316 }%
3317 }%
3318 \expandafter\x\csname extras#1\expandafter\endcsname
3319 \csname HyLang@#2\endcsname
3320 }
3321 \HyLang@DeclareLang{english}{english}{}
3322 \HyLang@DeclareLang{UKenglish}{english}{}
3323 \HyLang@DeclareLang{british}{english}{}
3324 \HyLang@DeclareLang{USenglish}{english}{}
3325 \HyLang@DeclareLang{american}{english}{}
3326 \HyLang@DeclareLang{german}{german}{}
3327 \HyLang@DeclareLang{austrian}{german}{}
3328 \HyLang@DeclareLang{ngerman}{german}{}
3329 \HyLang@DeclareLang{naustrian}{german}{}
3330 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3331 \HyLang@DeclareLang{brazil}{portuges}{}
3332 \HyLang@DeclareLang{brazilian}{portuges}{}
3333 \HyLang@DeclareLang{portuguese}{portuges}{}
3334 \HyLang@DeclareLang{spanish}{spanish}{}
3335 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3336 \HyLang@DeclareLang{french}{french}{}
3337 \HyLang@DeclareLang{frenchb}{french}{}
3338 \HyLang@DeclareLang{francais}{french}{}
3339 \HyLang@DeclareLang{acadian}{french}{}
3340 \HyLang@DeclareLang{canadien}{french}{}
3341 \HyLang@DeclareLang{italian}{italian}{}
3342 \HyLang@DeclareLang{magyar}{magyar}{}
3343 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3344 \DeclareVoidOption{vietnamese}{%
3345 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3346 \Hy@AtEndOfPackage{%
3347 \@ifundefined{T@PU}{}{}%
3348 \input{pvnenc.def}%

```

```

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

```

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

```

3360 \DeclareVoidOption{arabic}{%
3361   \Hy@AtEndOfPackage{%
3362     \@ifundefined{T@PU}{}{%
3363       \input{puarenc.def}%
3364     }%
3365   }%
3366 }

```

13 Options to change appearance of links

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

```

3367 \define@key{Hyp}{colorlinks}[true]{%
3368   \Hy@boolkey{colorlinks}{#1}%
3369 }
3370 \DeclareVoidOption{hidelinks}{%
3371   \Hy@colorlinksfalse
3372   \Hy@ocgcolorlinksfalse
3373   \Hy@frenchlinksfalse
3374   \def\Hy@colorlink##1{\begingroup}%
3375   \def\Hy@endcolorlink{\endgroup}%
3376   \def\@pdfborder{0 0 0}%
3377   \let\@pdfborderstyle\ltx@empty
3378 }
3379 \define@key{Hyp}{ocgcolorlinks}[true]{%
3380   \Hy@boolkey{ocgcolorlinks}{#1}%
3381 }
3382 \Hy@AtBeginDocument{%
3383   \begingroup
3384   \@ifundefined{OBJ@OCG@view}{%
3385     \ifHy@ocgcolorlinks
3386       \Hy@Warning{%
3387         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3388         using ‘colorlinks’ instead%
3389       }%
3390     \fi
3391   }{}%
3392   \endgroup
3393 }
3394 \define@key{Hyp}{frenchlinks}[true]{%
3395   \Hy@boolkey{frenchlinks}{#1}%
3396 }

```

14 Bookmarking

```

3397 \begingroup\expandafter\expandafter\expandafter\endgroup
3398 \expandafter\ifx\csname chapter\endcsname\relax
3399   \def\toclevel@part{0}%
3400 \else
3401   \def\toclevel@part{-1}%
3402 \fi
3403 \def\toclevel@chapter{0}
3404 \def\toclevel@section{1}
3405 \def\toclevel@subsection{2}
3406 \def\toclevel@subsubsection{3}
3407 \def\toclevel@paragraph{4}
3408 \def\toclevel@subparagraph{5}
3409 \def\toclevel@figure{0}
3410 \def\toclevel@table{0}
3411 \ifpackageloaded{listings}{%
3412   \providecommand*\theHlstlisting{\thelstlisting}%
3413   \providecommand*\toclevel@lstlisting{0}%
3414 }{}
3415 \ifpackageloaded{listing}{%
3416   \providecommand*\theHlisting{\thelisting}%
3417   \providecommand*\toclevel@listing{0}%
3418 }{}
3419 \define@key{Hyp}{bookmarks}[true]{%
3420   \Hy@boolkey{bookmarks}{#1}%
3421 }
3422 \define@key{Hyp}{bookmarksopen}[true]{%
3423   \Hy@boolkey{bookmarksopen}{#1}%
3424 }

```

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.

```

3425 \let\Hy@bookmarksdepth\c@tocdepth
3426 \define@key{Hyp}{bookmarksdepth}[]{}%
3427 \begingroup
3428   \edef\x{#1}%
3429   \ifx\x\empty
3430     \global\let\Hy@bookmarksdepth\c@tocdepth
3431   \else
3432     \ifundefined{toclevel@\x}{%
3433       \@onelevel@sanitize\x
3434       \edef\y{\expandafter\@car\x\@nil}%
3435       \ifcase 0\expandafter\ifx\y-1\fi
3436         \expandafter\ifnum\expandafter\y>47 %
3437         \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3438       \Hy@Warning{Unknown document division name (\x)}%
3439     \else
3440       \setbox\z@=\hbox{%

```



```

3441         \count@=\x
3442         \xdef\Hy@bookmarksdepth{\the\count@}%
3443     }%
3444     \fi
3445 }{%
3446     \setbox\z@=\hbox{%
3447         \count@=\csname toplevel@\x\endcsname
3448         \xdef\Hy@bookmarksdepth{\the\count@}%
3449     }%
3450 }%
3451     \fi
3452 \endgroup
3453 }

```

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

```

3454 \define@key{Hyp}{bookmarksopenlevel}{%
3455   \def\@bookmarksopenlevel{#1}%
3456 }
3457 \def\@bookmarksopenlevel{\maxdimen}
3458 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3459 \define@key{Hyp}{bookmarkstype}{%
3460   \def\Hy@bookmarkstype{#1}%
3461 }
3462 \def\Hy@bookmarkstype{toc}

```

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

```

3463 \define@key{Hyp}{bookmarksnumbered}[true]{%
3464   \Hy@boolkey{bookmarksnumbered}{#1}%
3465 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3466 \define@key{Hyp}{CJKbookmarks}[true]{%
3467   \Hy@boolkey{CJKbookmarks}{#1}%
3468 }

3469 \def\Hy@temp#1{%
3470   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3471 }
3472 \def\Hy@@temp#1#2#3{%
3473   \define@key{Hyp}{#2color}{%
3474     \HyColor@HyperrefColor{##1}#1%
3475   }%
3476   \def#1{#3}%
3477 }
3478 \Hy@temp{link}{red}
3479 \Hy@temp{anchor}{black}
3480 \Hy@temp{cite}{green}
3481 \Hy@temp{file}{cyan}
3482 \Hy@temp{url}{magenta}
3483 \Hy@temp{menu}{red}
3484 \Hy@temp{run}{\@filecolor}
3485 \define@key{Hyp}{pagecolor}{%
3486   \Hy@WarningPageColor
3487 }
3488 \def\Hy@WarningPageColor{%
3489   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3490   \global\let\Hy@WarningPageColor\relax
3491 }

```

```

3492 \define@key{Hyp}{allcolors}{%
3493   \HyColor@HyperrefColor{#1}\@linkcolor
3494   \HyColor@HyperrefColor{#1}\@anchorcolor
3495   \HyColor@HyperrefColor{#1}\@citecolor
3496   \HyColor@HyperrefColor{#1}\@filecolor
3497   \HyColor@HyperrefColor{#1}\@urlcolor
3498   \HyColor@HyperrefColor{#1}\@menucolor
3499   \HyColor@HyperrefColor{#1}\@runcolor
3500 }

3501 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3502 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3503 \let\@baseurl\@empty
3504 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3505 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3506 \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.

```

3507 \let\@pdfpagetransition\relax
3508 \define@key{Hyp}{pdfpagetransition}{%
3509   \def\@pdfpagetransition{#1}%
3510 }

```

`\@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.

```

3511 \let\@pdfpageduration\relax
3512 \define@key{Hyp}{pdfpageduration}{%
3513   \def\@pdfpageduration{#1}%
3514   \Hy@Match\@pdfpageduration{%
3515     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3516   }{}{%
3517     \Hy@Warning{%
3518       Invalid value ‘\@pdfpageduration’\MessageBreak
3519       of option ‘pdfpageduration’\MessageBreak
3520       is replaced by an empty value%
3521     }%
3522     \let\@pdfpageduration\ltx@empty
3523   }%
3524 }

```

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.

```

3525 \newif\ifHy@useHidKey
3526 \Hy@useHidKeyfalse
3527 \define@key{Hyp}{pdfpagehidden}[true]{%
3528   \Hy@boolkey{pdfpagehidden}{#1}%
3529   \ifHy@pdfpagehidden
3530     \global\Hy@useHidKeytrue
3531   \fi
3532 }

```

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).

```

3533 \def\Hy@ColorList{cite,file,link,menu,run,url}
3534 \@for\Hy@temp:=\Hy@ColorList\do{%
3535   \edef\Hy@temp{%
3536     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3537       \noexpand\HyColor@HyperrefBorderColor
3538         {##1}%
3539       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3540       {hyperref}%
3541       {\Hy@temp bordercolor}%
3542     }%
3543   }%
3544   \Hy@temp
3545 }
3546 \define@key{Hyp}{pagebordercolor}{%
3547   \Hy@WarningPageBorderColor
3548 }
3549 \def\Hy@WarningPageBorderColor{%
3550   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3551   \global\let\Hy@WarningPageBorderColor\relax
3552 }
3553 \define@key{Hyp}{allbordercolors}{%
3554   \def\Hy@temp##1##2{%
3555     \HyColor@HyperrefBorderColor{##1}{##1{hyperref}}{##2bordercolor}%
3556   }%
3557   \Hy@temp\@citebordercolor{cite}%
3558   \Hy@temp\@filebordercolor{file}%
3559   \Hy@temp\@linkbordercolor{link}%
3560   \Hy@temp\@menubordercolor{menu}%
3561   \Hy@temp\@runbordercolor{run}%
3562   \Hy@temp\@urlbordercolor{url}%
3563 }
3564 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{##1}}
3565 \Hy@DefNameKey{pdfhighlight}{%
3566   \do{/I}{Invert}%
3567   \do{/N}{None}%
3568   \do{/O}{Outline}%
3569   \do{/P}{Push}%
3570 }
3571 \define@key{Hyp}{pdfborder}{%
3572   \let\Hy@temp\@pdfborder
3573   \def\@pdfborder{##1}%
3574   \Hy@Match\@pdfborder{%
3575     ^\HyPat@NonNegativeReal/ %
3576     \HyPat@NonNegativeReal/ %
3577     \HyPat@NonNegativeReal/%
3578     ( ?[\HyPat@NonNegativeReal/(\HyPat@NonNegativeReal/)*]?$%
3579   ){%}{%
3580     \Hy@Warning{%
3581       Invalid value '\@pdfborder'\MessageBreak

```

```

3582     for option 'pdfborder'\MessageBreak
3583     Option setting is ignored%
3584 }%
3585 \let\@pdfborder\Hy@temp
3586 }%
3587 }
3588 \define@key{Hyp}{pdfborderstyle}{%
3589 \let\Hy@temp\@pdfborderstyle
3590 \def\@pdfborderstyle{#1}%
3591 \Hy@Match\@pdfborderstyle{%
3592 ~%
3593 ( */Type */Border%
3594 | */W +\HyPat@NonNegativeReal/%
3595 | */S */[SDBIU]%
3596 | */D *[ \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?]?%
3597 )* *$%
3598 }-{}-%
3599 \Hy@Warning{%
3600 Invalid value '\@pdfborderstyle'\MessageBreak
3601 for option 'pdfborderstyle'\MessageBreak
3602 Option setting is ignored%
3603 }%
3604 \let\@pdfborderstyle\Hy@temp
3605 }%
3606 }
3607 \def\Hy@setpdfborder{%
3608 \ifx\@pdfborder\@empty
3609 \else
3610 /Border[\@pdfborder]%
3611 \fi
3612 \ifx\@pdfborderstyle\@empty
3613 \else
3614 /BS<<\@pdfborderstyle>>%
3615 \fi
3616 }
3617 \Hy@DefNameKey{pdfpagemode}{%
3618 \do{UseNone}{}%
3619 \do{UseOutlines}{}%
3620 \do{UseThumbs}{}%
3621 \do{FullScreen}{}%
3622 \do{UseOC}{PDF 1.5}%
3623 \do{UseAttachments}{PDF 1.6}%
3624 }
3625 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3626 \do{UseNone}{}%
3627 \do{UseOutlines}{}%
3628 \do{UseThumbs}{}%
3629 \do{FullScreen}{}%
3630 \do{UseOC}{PDF 1.5}%
3631 \do{UseAttachments}{PDF 1.6}%
3632 }
3633 \Hy@DefNameKey{pdfdirection}{%
3634 \do{L2R}{Left to right}%
3635 \do{R2L}{Right to left}%
3636 }
3637 \Hy@DefNameKey{pdfviewarea}{%
3638 \do{MediaBox}{}%

```

```

3639 \do{CropBox}{}%
3640 \do{BleedBox}{}%
3641 \do{TrimBox}{}%
3642 \do{ArtBox}{}%
3643 }
3644 \Hy@DefNameKey{pdfviewclip}{%
3645 \do{MediaBox}{}%
3646 \do{CropBox}{}%
3647 \do{BleedBox}{}%
3648 \do{TrimBox}{}%
3649 \do{ArtBox}{}%
3650 }
3651 \Hy@DefNameKey{pdfprintarea}{%
3652 \do{MediaBox}{}%
3653 \do{CropBox}{}%
3654 \do{BleedBox}{}%
3655 \do{TrimBox}{}%
3656 \do{ArtBox}{}%
3657 }
3658 \Hy@DefNameKey{pdfprintclip}{%
3659 \do{MediaBox}{}%
3660 \do{CropBox}{}%
3661 \do{BleedBox}{}%
3662 \do{TrimBox}{}%
3663 \do{ArtBox}{}%
3664 }
3665 \Hy@DefNameKey{pdfprintscaling}{%
3666 \do{AppDefault}{}%
3667 \do{None}{}%
3668 }
3669 \Hy@DefNameKey{pdfduplex}{%
3670 \do{Simplex}{}%
3671 \do{DuplexFlipShortEdge}{}%
3672 \do{DuplexFlipLongEdge}{}%
3673 }
3674 \Hy@DefNameKey{pdfpicktraybypdftype}{%
3675 \do{true}{}%
3676 \do{false}{}%
3677 }
3678 \define@key{Hyp}{pdfprintpagerange}{%
3679 \def\@pdfprintpagerange{#1}%
3680 }
3681 \Hy@DefNameKey{pdfnumcopies}{%
3682 \do{2}{two copies}%
3683 \do{3}{three copies}%
3684 \do{4}{four copies}%
3685 \do{5}{five copies}%
3686 }
3687 \define@key{Hyp}{pdfusetitle}[true]{%
3688 \Hy@boolkey{pdfusetitle}{#1}%
3689 }
3690 \def\HyXeTeX@CheckUnicode{%
3691 \ifxetex
3692 \ifHy@unicode
3693 \else
3694 \Hy@WarningNoLine{%
3695 XeTeX driver only supports unicode.\MessageBreak

```

```

3696     Enabling option 'unicode'%
3697   }%
3698   \kvsetkeys{Hyp}{unicode}%
3699   \fi
3700 \else
3701   \let\HyXeTeX@CheckUnicode\relax
3702 \fi
3703 }
3704 \def\HyPsd@PrerenderUnicode#1{%
3705   \begingroup
3706   \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3707   \else
3708     \sbox0{%
3709       \let\GenericInfo\@gobbletwo
3710       \let\GenericWarning\@gobbletwo
3711       \let\GenericError\@gobblefour
3712       \PrerenderUnicode{#1}%
3713     }%
3714   \fi
3715   \endgroup
3716 }
3717 \define@key{Hyp}{pdftitle}{%
3718   \HyXeTeX@CheckUnicode
3719   \HyPsd@XeTeXBigCharstrue
3720   \HyPsd@PrerenderUnicode{#1}%
3721   \pdfstringdef\@pdftitle{#1}%
3722 }
3723 \define@key{Hyp}{pdfauthor}{%
3724   \HyXeTeX@CheckUnicode
3725   \HyPsd@XeTeXBigCharstrue
3726   \HyPsd@PrerenderUnicode{#1}%
3727   \pdfstringdef\@pdfauthor{#1}%
3728 }
3729 \define@key{Hyp}{pdfproducer}{%
3730   \HyXeTeX@CheckUnicode
3731   \HyPsd@XeTeXBigCharstrue
3732   \HyPsd@PrerenderUnicode{#1}%
3733   \pdfstringdef\@pdfproducer{#1}%
3734 }
3735 \define@key{Hyp}{pdfcreator}{%
3736   \HyXeTeX@CheckUnicode
3737   \HyPsd@XeTeXBigCharstrue
3738   \HyPsd@PrerenderUnicode{#1}%
3739   \pdfstringdef\@pdfcreator{#1}%
3740 }
3741 \define@key{Hyp}{pdfcreationdate}{%
3742   \begingroup
3743   \Hy@unicodedefalse
3744   \pdfstringdef\@pdfcreationdate{#1}%
3745   \endgroup
3746 }
3747 \define@key{Hyp}{pdfmoddate}{%
3748   \begingroup
3749   \Hy@unicodedefalse
3750   \pdfstringdef\@pdfmoddate{#1}%
3751   \endgroup
3752 }

```

```

3753 \define@key{Hyp}{pdfsubject}{%
3754   \HyXeTeX@CheckUnicode
3755   \HyPsd@XeTeXBigCharstrue
3756   \HyPsd@PrerenderUnicode{#1}%
3757   \pdfstringdef\@pdfsubject{#1}%
3758 }
3759 \define@key{Hyp}{pdfkeywords}{%
3760   \HyXeTeX@CheckUnicode
3761   \HyPsd@XeTeXBigCharstrue
3762   \HyPsd@PrerenderUnicode{#1}%
3763   \pdfstringdef\@pdfkeywords{#1}%
3764 }
3765 \define@key{Hyp}{pdftrapped}{%
3766   \lowercase{\edef\Hy@temp{#1}}%
3767   \ifx\Hy@temp\HyInfo@trapped@true
3768     \def\@pdftrapped{True}%
3769   \else
3770     \ifx\Hy@temp\HyInfo@trapped@false
3771       \def\@pdftrapped{False}%
3772     \else
3773       \ifx\Hy@temp\HyInfo@trapped@unknown
3774         \def\@pdftrapped{Unknown}%
3775       \else
3776         \ifx\Hy@temp\@empty
3777           \else
3778             \Hy@Warning{%
3779               Unsupported value ‘#1’\MessageBreak
3780               for option ‘pdftrapped’%
3781             }%
3782           \fi
3783         \def\@pdftrapped{}%
3784       \fi
3785     \fi
3786   \fi
3787 }
3788 \def\HyInfo@trapped@true{true}
3789 \def\HyInfo@trapped@false{false}
3790 \def\HyInfo@trapped@unknown{unknown}
3791 \def\HyInfo@TrappedUnsupported{%
3792   \ifx\@pdftrapped\@empty
3793     \else
3794       \Hy@WarningNoLine{‘pdftrapped’ is not supported by this driver}%
3795     \gdef\HyInfo@TrappedUnsupported{}%
3796   \fi
3797 }
3798 \define@key{Hyp}{pdfinfo}{%
3799   \kvsetkeys{pdfinfo}{#1}%
3800 }
3801 \def\Hy@temp#1{%
3802   \lowercase{\Hy@temp@A{#1}}{#1}%
3803 }
3804 \def\Hy@temp@A#1#2{%
3805   \define@key{pdfinfo}{#2}{%
3806     \hypersetup{pdf#1={#1}}%
3807   }%
3808 }
3809 \Hy@temp{Title}

```

```

3810 \Hy@temp{Author}
3811 \Hy@temp{Keywords}
3812 \Hy@temp{Subject}
3813 \Hy@temp{Creator}
3814 \Hy@temp{Producer}
3815 \Hy@temp{CreationDate}
3816 \Hy@temp{ModDate}
3817 \Hy@temp{Trapped}
3818 \newif\ifHyInfo@AddonUnsupported
3819 \kv@set@family@handler{pdfinfo}{%
3820   \HyInfo@AddonHandler{#1}{#2}%
3821 }
3822 \let\HyInfo@do\relax
3823 \def\HyInfo@AddonHandler#1#2{%
3824   \ifx\kv@value\relax
3825     \Hy@Warning{%
3826       Option 'pdfinfo': ignoring key '\kv@key' without value%
3827     }%
3828   \else
3829     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3830     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3831     \expandafter\ifx\curname KV@pdfinfo@\HyInfo@Key\endcurname\relax
3832     \ifHyInfo@AddonUnsupported
3833       \Hy@Warning{%
3834         This driver does not support additional\MessageBreak
3835         information entries, therefore\MessageBreak
3836         '\kv@key' is ignored%
3837       }%
3838     \else
3839       \define@key{pdfinfo}{\HyInfo@Key}{%
3840         \HyXeTeX@CheckUnicode
3841         \HyPsd@XeTeXBigCharstrue
3842         \HyPsd@PrerenderUnicode{##1}%
3843         \pdfstringdef\HyInfo@Value{##1}%
3844         \expandafter\let\curname HyInfo@Value@\HyInfo@Key\endcurname
3845         \HyInfo@Value
3846       }%
3847     \edef\HyInfo@AddonList{%
3848       \HyInfo@AddonList
3849       \HyInfo@do{\HyInfo@Key}%
3850     }%
3851     \kv@parse@normalized{%
3852       \HyInfo@Key={#2}%
3853     }{%
3854       \kv@processor@default{pdfinfo}%
3855     }%
3856   \fi
3857 \else
3858   \kv@parse@normalized{%
3859     \HyInfo@Key={#2}%
3860   }{%
3861     \kv@processor@default{pdfinfo}%
3862   }%
3863 \fi
3864 \fi
3865 }
3866 \def\HyInfo@GenerateAddons{%

```



```

3867 \ifHyInfo@AddonUnsupported
3868   \def\HyInfo@Addons{}%
3869 \else
3870   \begingroup
3871     \toks@{}%
3872     \def\HyInfo@do##1{%
3873       \edefEscapeName\HyInfo@Key{##1}%
3874       \edef\x{%
3875         \toks@{%
3876           \the\toks@
3877           /\HyInfo@Key(\csize HyInfo@Value@##1\endcsize)%
3878         }%
3879       }%
3880       \x
3881     }%
3882     \HyInfo@AddonList
3883     \edef\x{\endgroup
3884       \def\noexpand\HyInfo@Addons{\the\toks@}%
3885     }%
3886     \x
3887   \fi
3888 }
3889 \let\HyInfo@AddonList\ltx@empty

3890 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3891 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3892 \let\setpdfinkmargin\gobble
3893 \def\calculate@pdfview#1 #2\{%
3894   \def\@pdfview{#1}%
3895   \ifx\#2\%
3896     \def\@pdfviewparams{-32768}%
3897   \else
3898     \def\@pdfviewparams{#2}%
3899   \fi
3900 }
3901 \begingroup\expandafter\expandafter\expandafter\endgroup
3902 \expandafter\ifx\csize numexpr\endcsize\relax
3903   \def\Hy@number#1{%
3904     \expandafter\@firstofone\expandafter{\number#1}%
3905   }%
3906 \else
3907   \def\Hy@number#1{%
3908     \the\numexpr#1\relax
3909   }%
3910 \fi
3911 \define@key{Hyp}{pdfstartpage}{%
3912   \ifx\#1\%
3913     \let\@pdfstartpage\ltx@empty
3914   \else
3915     \edef\@pdfstartpage{\Hy@number{#1}}%
3916   \fi
3917 }%
3918 \define@key{Hyp}{pdfstartview}{%
3919   \ifx\#1\%
3920     \let\@pdfstartview\ltx@empty
3921   \else
3922     \hypercalcbpdef\@pdfstartview{/#1}%
3923   \fi

```

```

3924 }
3925 \def\HyPat@NonNegativeReal/{%
3926 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3927 }
3928 \define@key{Hyp}{pdfremotestartview}{%
3929 \ifx\#1\%
3930 \def\@pdfremotestartview{/Fit}%
3931 \else
3932 \hypercalcbpdef\@pdfremotestartview{#1}%
3933 \edef\@pdfremotestartview{\@pdfremotestartview}%
3934 \Hy@Match\@pdfremotestartview{%
3935 ~(XYZ -(null|\HyPat@NonNegativeReal/) %
3936 -(null|\HyPat@NonNegativeReal/) %
3937 (null|\HyPat@NonNegativeReal/)| %
3938 Fit(|B| %
3939 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)| %
3940 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3941 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3942 )$%
3943 }-}{%
3944 \Hy@Warning{%
3945 Invalid value '\@pdfremotestartview'\MessageBreak
3946 of 'pdfremotestartview'\MessageBreak
3947 is replaced by 'Fit'%
3948 }%
3949 \let\@pdfremotestartview\@empty
3950 }%
3951 \ifx\@pdfremotestartview\@empty
3952 \def\@pdfremotestartview{/Fit}%
3953 \else
3954 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3955 \fi
3956 \fi
3957 }
3958 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3959 \define@key{Hyp}{pdftoolbar}[true]{%
3960 \Hy@boolkey{pdftoolbar}{#1}%
3961 }
3962 \define@key{Hyp}{pdfmenubar}[true]{%
3963 \Hy@boolkey{pdfmenubar}{#1}%
3964 }
3965 \define@key{Hyp}{pdfwindowui}[true]{%
3966 \Hy@boolkey{pdfwindowui}{#1}%
3967 }
3968 \define@key{Hyp}{pdffitwindow}[true]{%
3969 \Hy@boolkey{pdffitwindow}{#1}%
3970 }
3971 \define@key{Hyp}{pdfcenterwindow}[true]{%
3972 \Hy@boolkey{pdfcenterwindow}{#1}%
3973 }
3974 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3975 \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3976 }
3977 \define@key{Hyp}{pdfa}[true]{%
3978 \Hy@boolkey{pdfa}{#1}%
3979 }
3980 \define@key{Hyp}{pdfnewwindow}[true]{%

```

```

3981 \def\Hy@temp{#1}%
3982 \ifx\Hy@temp\@empty
3983   \Hy@pdfnewwindowsetfalse
3984 \else
3985   \Hy@pdfnewwindowsettrue
3986   \Hy@boolkey{pdfnewwindow}{#1}%
3987 \fi
3988 }
3989 \def\Hy@SetNewWindow{%
3990   \ifHy@pdfnewwindowset
3991     /NewWindow %
3992   \ifHy@pdfnewwindow true\else false\fi
3993 \fi
3994 }
3995 \Hy@DefNameKey{pdfpagelayout}{%
3996   \do{SinglePage}{}%
3997   \do{OneColumn}{}%
3998   \do{TwoColumnLeft}{}%
3999   \do{TwoColumnRight}{}%
4000   \do{TwoPageLeft}{PDF 1.5}%
4001   \do{TwoPageRight}{PDF 1.5}%
4002 }
4003 \define@key{Hyp}{pdflang}{%
4004   \def\@pdflang{#1}%
4005 }
4006 \define@key{Hyp}{pdfpagelabels}[true]{%
4007   \Hy@boolkey{pdfpagelabels}{#1}%
4008 }
4009 \define@key{Hyp}{pdfescapeform}[true]{%
4010   \Hy@boolkey{pdfescapeform}{#1}%
4011 }

```

Default values:

```

4012 \def\@linkbordercolor{1 0 0}
4013 \def\@urlbordercolor{0 1 1}
4014 \def\@menubordercolor{1 0 0}
4015 \def\@filebordercolor{0 .5 .5}
4016 \def\@runbordercolor{0 .7 .7}
4017 \def\@citebordercolor{0 1 0}
4018 \def\@pdfhighlight{/I}
4019 \let\@pdftitle\ltx@empty
4020 \let\@pdfauthor\ltx@empty
4021 \let\@pdfproducer\relax
4022 \def\@pdfcreator{LaTeX with hyperref package}
4023 \let\@pdfcreationdate\ltx@empty
4024 \let\@pdfmoddate\ltx@empty
4025 \let\@pdfsubject\ltx@empty
4026 \let\@pdfkeywords\ltx@empty
4027 \let\@pdftrapped\ltx@empty
4028 \let\@pdfpagescrop\ltx@empty
4029 \def\@pdfstartview{/Fit}
4030 \def\@pdfremotestartview{/Fit}
4031 \def\@pdfstartpage{1}
4032 \let\@pdfprintpagerange\ltx@empty
4033 \let\@pdflang\ltx@empty
4034 \let\PDF@SetupDoc\@empty
4035 \let\PDF@FinishDoc\@empty
4036 \let\phantomsection\@empty

```

```

4037 \let\special@paper\@empty
4038 \def\HyperDestNameFilter#1{#1}
4039 \Hy@AtBeginDocument{%
4040   \begingroup
4041   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4042   \dimen@=\x\relax
4043   \ifdim\dimen@>\z@
4044   \else
4045     \dimen@=11in\relax
4046     \Hy@WarningNoLine{%
4047       Height of page (\expandafter\string\x) %
4048       is invalid (\the\x),\MessageBreak
4049       using 11in%
4050     }%
4051   \fi
4052   \dimen@=0.99626401\dimen@
4053   \xdef\Hy@pageheight{\strip@pt\dimen@}%
4054 \endgroup
4055 }
4056 \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.

```

4057 \let\hyper@normalise\ExecuteOptions
4058 \let\ExecuteOptions\hypersetup
4059 \Hy@RestoreCatcodes
4060 \InputIfFileExists{hyperref.cfg}{-}{-}
4061 \Hy@SetCatcodes
4062 \let\ExecuteOptions\hyper@normalise
4063 \ifx\Hy@MaybeStopNow\relax
4064 \else
4065   \Hy@stoppeearlytrue
4066   \expandafter\Hy@MaybeStopNow
4067 \fi
4068 \Hy@stoppeearlyfalse

```

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

```

4069 \SetupKeyvalOptions{family=Hyp}
4070 \DeclareLocalOptions{%
4071   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4072 }

```

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

```

4073 \@ifpackageloaded{tex4ht}{%
4074   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4075   \PassOptionsToPackage{tex4ht}{hyperref}%
4076 }%
4077 {-}

4078 \let\ReadBookmarks\relax
4079 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package `xspace` support

```

4080 \def\Hy@xspace@end{}

```

```

4081 \ltx@ifundefined{xspaceaddexceptions}{%
4082   \Hy@AtBeginDocument{%
4083     \ltx@ifundefined{xspaceaddexceptions}{%
4084       }{%
4085         \def\Hy@xspace@end{%
4086           \ltx@gobble{end for xspace}%
4087         }%
4088         \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4089       }%
4090     }%
4091   }{%
4092     \def\Hy@xspace@end{%
4093       \ltx@gobble{end for xspace}%
4094     }%
4095     \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4096   }

```

15.2 Option draft

```

4097 \Hy@AtBeginDocument{%
4098   \ifHy@draft
4099     \let\hyper@@anchor\@gobble
4100     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4101     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4102     \def\hyper@anchorend{\Hy@xspace@end}%
4103     \let\hyper@linkstart\@gobbletwo
4104     \def\hyper@linkend{\Hy@xspace@end}%
4105     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4106     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4107     \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4108     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4109     \let\PDF@SetupDoc\@empty
4110     \let\PDF@FinishDoc\@empty
4111     \let\@fifthoffive\@secondoftwo
4112     \let\@secondoffive\@secondoftwo
4113     \let\ReadBookmarks\relax
4114     \let\WriteBookmarks\relax
4115     \Hy@WarningNoLine{Draft mode on}%
4116   \fi
4117   \Hy@DisableOption{draft}%
4118   \Hy@DisableOption{nolinks}%
4119   \Hy@DisableOption{final}%
4120 }

```

15.3 PDF/A

```

4121 \Hy@DisableOption{pdfa}
4122 \ifHy@pdfa
4123   \kvsetkeys{Hyp}{pdfversion=1.4}%
4124   \def\Hy@Acrobatmenu#1#2{%
4125     \leavevmode
4126     \begingroup
4127       \edef\x{#1}%
4128       \@onelevel@sanitize\x
4129       \ifx\x\Hy@NextPage
4130         \let\y=Y%
4131       \else
4132         \ifx\x\Hy@PrevPage
4133           \let\y=Y%

```

```

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

```

4167 \Hy@nextfalse
4168 \ltx@ifundefined{spanish@sh@"@sel}{-}{\Hy@nexttrue}
4169 \ltx@ifundefined{galician@sh@"@sel}{-}{\Hy@nexttrue}
4170 \ltx@ifundefined{estonian@sh@"@sel}{-}{\Hy@nexttrue}
4171 \ifHy@next
4172 \let\texttilde\~%
4173 \fi

4174 \def\Hy@wrapper@babel#1#2{%
4175 \begingroup
4176 \Hy@safe@activetrue
4177 \set@display@protect
4178 \edef\x{#2}%
4179 \@onelevel@sanitize\x
4180 \toks@{#1}%
4181 \edef\x{\endgroup\the\toks@{\x}}%
4182 \x
4183 }
4184 \def\Hy@WrapperDef#1{%
4185 \begingroup

```

```

4186 \escapechar=\m@ne
4187 \xdef\Hy@gtemp{%
4188   \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4189 }%
4190 \endgroup
4191 \edef#1{%
4192   \noexpand\Hy@wrapper@babel
4193   \expandafter\noexpand\Hy@gtemp
4194 }%
4195 \expandafter\def\Hy@gtemp
4196 }

4197 \ifHy@hyperfigures
4198   \Hy@Info{Hyper figures ON}%
4199 \else
4200   \Hy@Info{Hyper figures OFF}%
4201 \fi
4202 \ifHy@nesting
4203   \Hy@Info{Link nesting ON}%
4204 \else
4205   \Hy@Info{Link nesting OFF}%
4206 \fi
4207 \ifHy@hyperindex
4208   \Hy@Info{Hyper index ON}%
4209 \else
4210   \Hy@Info{Hyper index OFF}%
4211 \fi
4212 \ifHy@plainpages
4213   \Hy@Info{Plain pages ON}%
4214 \else
4215   \Hy@Info{Plain pages OFF}%
4216 \fi
4217 \ifHy@backref
4218   \Hy@Info{Backreferencing ON}%
4219 \else
4220   \Hy@Info{Backreferencing OFF}%
4221 \fi
4222 \ifHy@typexml
4223   \Hy@AtEndOfPackage{%
4224     \RequirePackage{color}%
4225     \RequirePackage{nameref}%
4226   }%
4227 \fi
4228 \Hy@DisableOption{typexml}
4229 \ifHy@implicit
4230   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4231 \else
4232   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4233   \def\MaybeStopEarly{%
4234     \Hy@Message{Stopped early}%
4235     \Hy@AtBeginDocument{%
4236       \PDF@FinishDoc
4237       \gdef\PDF@FinishDoc{}%
4238     }%
4239     \endinput
4240   }%
4241   \Hy@AtBeginDocument{%
4242     \let\autoref\ref

```

```

4243 \let\autopageref\pageref
4244 \ifx\@pdfpagemode\@empty
4245 \gdef\@pdfpagemode{UseNone}%
4246 \fi
4247 \global\Hy@backreffalse
4248 }%
4249 \Hy@AtEndOfPackage{%
4250 \global\let\ReadBookmarks\relax
4251 \global\let\WriteBookmarks\relax
4252 }%
4253 \fi
4254 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4255 \Hy@AtEndOfPackage{%
4256 \ifpackageloaded{tex4ht}{%
4257 \def\Hy@driver{htex4ht}%
4258 \Hy@texhttrue
4259 }{}%

```

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.

```

4260 \ifx\Hy@driver\@empty
4261 \else
4262 \def\Hy@temp{hpdfTeX}%
4263 \ifpdf
4264 \ifx\Hy@driver\Hy@temp
4265 \else
4266 \Hy@WarningNoLine{%
4267 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4268 pdfTeX is running in PDF mode.\MessageBreak
4269 Forcing driver ‘\Hy@temp.def’%
4270 }%
4271 \let\Hy@driver\Hy@temp
4272 \fi
4273 \else
4274 \ifx\Hy@driver\Hy@temp
4275 \Hy@WarningNoLine{%
4276 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4277 pdfTeX is not running in PDF mode.\MessageBreak
4278 Using default driver%
4279 }%
4280 \let\Hy@driver\@empty
4281 \fi
4282 \fi
4283 \fi
4284 \ifHy@texht
4285 \else
4286 \ifx\Hy@driver\@empty
4287 \else
4288 \def\Hy@temp{hxeTeX}%
4289 \ifxeTeX
4290 \ifx\Hy@driver\Hy@temp
4291 \else
4292 \Hy@WarningNoLine{%
4293 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4294 XeTeX is running.\MessageBreak

```



```

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

```

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

```

4326 \def\HyOpt@DriverType{}%
4327 \ifx\Hy@driver\@empty
4328     \def\HyOpt@DriverType{(autodetected)}%
4329     \providecommand*{\Hy@defaultdriver}{hypertex}%
4330 \ifpdf
4331     \def\Hy@driver{hpdfTeX}%
4332 \else
4333     \ifxetex
4334         \def\Hy@driver{hxetex}%
4335     \else
4336         \ifvtexhtml
4337             \def\Hy@driver{hvtexhtm}%
4338             \def\MaybeStopEarly{%
4339                 \Hy@Message{Stopped early}%
4340                 \Hy@AtBeginDocument{%
4341                     \PDF@FinishDoc
4342                     \gdef\PDF@FinishDoc{}}%
4343             }%
4344             \endinput
4345         }%
4346     \else
4347         \ifvtexpdf
4348             \def\Hy@driver{hvtex}%
4349         \else
4350             \ifvtexps

```

```

4351         \def\Hy@driver{hvtex}%
4352     \else
4353         \ifx\HyOpt@DriverFallback\ltx@empty
4354             \let\Hy@driver\Hy@defaultdriver
4355             \def\HyOpt@DriverType{ (default)}%
4356         \else
4357             \begingroup
4358                 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4359                 \edef\x{\endgroup
4360                     \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4361                 }%
4362             \x
4363             \ifx\Hy@driver\ltx@empty
4364                 \let\Hy@driver\Hy@defaultdriver
4365                 \def\HyOpt@DriverType{ (default)}%
4366             \else
4367                 \def\HyOpt@DriverType{ (fallback)}%
4368             \fi
4369         \fi
4370     \fi
4371 \fi
4372 \fi
4373 \fi
4374 \fi
4375 \ifx\Hy@driver\Hy@defaultdriver
4376     \def\Hy@temp{hdvwind}%
4377     \ifx\Hy@temp\Hy@driver
4378         \kvsetkeys{Hyp}{colorlinks}%
4379         \PassOptionsToPackage{dviwindo}{color}%
4380     \fi
4381 \fi
4382 \fi
4383 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4384 \chardef\Hy@VersionChecked=0 %
4385 \input{\Hy@driver.def}%
4386 \ifcase\Hy@VersionChecked
4387     \Hy@VersionCheck{\Hy@driver.def}%
4388 \fi
4389 \let\@unprocessedoptions\relax
4390 \Hy@RestoreCatcodes
4391 \Hy@DisableOption{tex4ht}%
4392 \Hy@DisableOption{pdftex}%
4393 \Hy@DisableOption{nativepdf}%
4394 \Hy@DisableOption{dvipdfm}%
4395 \Hy@DisableOption{dvipdfmx}%
4396 \Hy@DisableOption{dvipdfmx-outline-open}%
4397 \Hy@DisableOption{pdfmark}%
4398 \Hy@DisableOption{dvips}%
4399 \Hy@DisableOption{hypertex}%
4400 \Hy@DisableOption{vtex}%
4401 \Hy@DisableOption{vtexpdfmark}%
4402 \Hy@DisableOption{dviwindo}%
4403 \Hy@DisableOption{dvipsone}%
4404 \Hy@DisableOption{textures}%
4405 \Hy@DisableOption{latex2html}%
4406 \Hy@DisableOption{ps2pdf}%
4407 \Hy@DisableOption{xetex}%

```

```

4408 \Hy@DisableOption{pdfversion}%
4409 }

```

Support for open outlines is enabled for Xe_T_EX >= 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.

```

4410 \newif\ifHy@DvipdfmxOutlineOpen
4411 \ifxetex
4412 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4413 \else
4414 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4415 \Hy@DvipdfmxOutlineOpentruer
4416 \fi
4417 \fi
4418 \begingroup\expandafter\expandafter\expandafter\endgroup
4419 \expandafter\ifx\cname SpecialDvipdfmxOutlineOpen\endcsname\relax
4420 \else
4421 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4422 \Hy@DvipdfmxOutlineOpentruer
4423 \fi
4424 \fi

```

15.4.2 Bookmarks

```

4425 \def\WriteBookmarks{0}
4426 \def\@bookmarkopenstatus#1{%
4427 \ifHy@bookmarksopen

```

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

```

4428 \ifnum#1<\expandafter\@firstofone\expandafter
4429 {\number\@bookmarksopenlevel} % explicit space
4430 \else
4431 -%
4432 \fi
4433 \else
4434 -%
4435 \fi
4436 }
4437 \ifHy@bookmarks
4438 \Hy@Info{Bookmarks ON}%
4439 \ifx\@pdfpagemode\@empty
4440 \def\@pdfpagemode{UseOutlines}%
4441 \fi
4442 \else
4443 \let\@bookmarkopenstatus\ltx@gobble
4444 \Hy@Info{Bookmarks OFF}%
4445 \Hy@AtEndOfPackage{%
4446 \global\let\ReadBookmarks\relax
4447 \global\let\WriteBookmarks\relax
4448 }%
4449 \ifx\@pdfpagemode\@empty
4450 \def\@pdfpagemode{UseNone}%
4451 \fi
4452 \fi
4453 \Hy@DisableOption{bookmarks}

```

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

```

4454 \def\Hy@CatcodeWrapper#1{%
4455 \let\Hy@EndWrap\ltx@empty

```

```

4456 \def\TMP@EnsureCode##1##2{%
4457   \edef\Hy@EndWrap{%
4458     \Hy@EndWrap
4459     \catcode##1 \the\catcode##1\relax
4460   }%
4461   \catcode##1 ##2\relax
4462 }%
4463 \TMP@EnsureCode{10}{12}% ^^J
4464 \TMP@EnsureCode{33}{12}% !
4465 \TMP@EnsureCode{34}{12}% "
4466 \TMP@EnsureCode{36}{3}% $ (math)
4467 \TMP@EnsureCode{38}{4}% & (alignment)
4468 \TMP@EnsureCode{39}{12}% '
4469 \TMP@EnsureCode{40}{12}% (
4470 \TMP@EnsureCode{41}{12}% )
4471 \TMP@EnsureCode{42}{12}% *
4472 \TMP@EnsureCode{43}{12}% +
4473 \TMP@EnsureCode{44}{12}% ,
4474 \TMP@EnsureCode{45}{12}% -
4475 \TMP@EnsureCode{46}{12}% .
4476 \TMP@EnsureCode{47}{12}% /
4477 \TMP@EnsureCode{58}{12}% :
4478 \TMP@EnsureCode{59}{12}% ;
4479 \TMP@EnsureCode{60}{12}% <
4480 \TMP@EnsureCode{61}{12}% =
4481 \TMP@EnsureCode{62}{12}% >
4482 \TMP@EnsureCode{63}{12}% ?
4483 \TMP@EnsureCode{91}{12}% [
4484 \TMP@EnsureCode{93}{12}% ]
4485 \TMP@EnsureCode{94}{7}% ^ (superscript)
4486 \TMP@EnsureCode{95}{8}% _ (subscript)
4487 \TMP@EnsureCode{96}{12}% '
4488 \TMP@EnsureCode{124}{12}% |
4489 \TMP@EnsureCode{126}{13}% ~ (active)
4490 #1\relax
4491 \Hy@EndWrap
4492 }

```

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

```

4493 \Hy@AtBeginDocument{%
4494   \ifHy@ocgcolorlinks
4495     \kvsetkeys{Hyp}{colorlinks}%
4496     \ifHy@pdfa
4497       \Hy@Warning{%
4498         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4499         using 'colorlinks' instead of 'ocgcolorlinks'%
4500       }%
4501       \Hy@ocgcolorlinksfalse
4502     \fi
4503   \fi
4504   \ifHy@ocgcolorlinks
4505     \else
4506       \Hy@DisableOption{ocgcolorlinks}%
4507     \fi
4508   \ifHy@colorlinks
4509     \def\@pdfborder{0 0 0}%
4510     \let\@pdfborderstyle\@empty

```

```

4511 \ifHy@typexml
4512 \else
4513   \Hy@CatcodeWrapper{%
4514     \RequirePackage{color}%
4515   }%
4516 \fi
4517 \def\Hy@colorlink#1{%
4518   \begingroup
4519   \HyColor@UseColor#1%
4520 }%
4521 \def\Hy@endcolorlink{\endgroup}%
4522 \Hy@Info{Link coloring ON}%
4523 \else
4524   \ifHy@frenchlinks
4525     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4526     \def\Hy@endcolorlink{\endgroup}%
4527     \Hy@Info{French linking ON}%
4528   \else
for grouping consistency:
4529     \def\Hy@colorlink#1{\begingroup}%
4530     \def\Hy@endcolorlink{\endgroup}%
4531     \Hy@Info{Link coloring OFF}%
4532   \fi
4533 \fi
4534 \Hy@DisableOption{colorlinks}%
4535 \Hy@DisableOption{frenchlinks}%
4536 \ifHy@texht
4537   \long\def\@firstoffive#1#2#3#4#5{#1}%
4538   \long\def\@secondoffive#1#2#3#4#5{#2}%
4539   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4540   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4541   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4542   \providecommand*\@safe@activestrue{}%
4543   \providecommand*\@safe@activesfalse{}%
4544   \def\T@ref#1{%
4545     \Hy@safe@activestrue
4546     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4547     \Hy@safe@activesfalse
4548   }%
4549   \def\T@pageref#1{%
4550     \Hy@safe@activestrue
4551     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4552     \Hy@safe@activesfalse
4553   }%
4554 \else
4555   \ifHy@typexml
4556   \else
4557     \Hy@CatcodeWrapper{%
4558       \RequirePackage{nameref}%
4559     }%
4560   \fi
4561 \fi
4562 \DeclareRobustCommand\ref{%
4563   \@ifstar\@refstar\T@ref
4564 }%
4565 \DeclareRobustCommand\pageref{%
4566   \@ifstar\@pagerefstar\T@pageref

```

```

4567 }%
4568 % \@ifclassloaded{memoir}{%
4569 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4570 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4571 % }%
4572 % }\ltx@secondoftwo
4573 % {%
4574 % \DeclareRobustCommand*{\nameref}{%
4575 % \ifstar\@mem@titlerefno link\@mem@titleref
4576 % }%
4577 % }{%
4578 % \DeclareRobustCommand*{\nameref}{%
4579 % \ifstar\@namerefstar\T@nameref
4580 % }%
4581 % }%
4582 }
4583 \Hy@AtBeginDocument{%
4584 \ifHy@texht
4585 \else
4586 \Hy@CatcodeWrapper\ReadBookmarks
4587 \fi
4588 }
4589 \ifHy@backref
4590 \RequirePackage{backref}%
4591 \else
4592 \let\Hy@backout\@gobble
4593 \fi
4594 \Hy@DisableOption{backref}
4595 \Hy@DisableOption{pagebackref}
4596 \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.

```

4597 \begingroup
4598 \endlinechar=-1 %
4599 \catcode'\^^A=14 %
4600 \catcode'\^^M\active
4601 \catcode'\%\active
4602 \catcode'\#\active
4603 \catcode'\_\active
4604 \catcode'\$\active
4605 \catcode'\&\active
4606 \gdef\hyper@normalise{^^A
4607 \begingroup
4608 \catcode'\^^M\active
4609 \def^^M{ }^^A
4610 \catcode'\%\active
4611 \let%\@percentchar
4612 \let%\@percentchar
4613 \catcode'\#\active

```

```

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

4667 \def\hyperlink#1#2{%
4668 \hyper@@link{}{#1}{#2}%
4669 }

4670 \def\Hy@VerboseLinkStart#1#2{%

```

```

4671 \ifHy@verbose
4672 \begingroup
4673   \Hy@safe@activetrue
4674   \xdef\Hy@VerboseGlobalTemp{(#1) ‘#2’}%
4675   \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4676   \xdef\Hy@VerboseGlobalTemp{%
4677     \Hy@VerboseGlobalTemp, %
4678     line \the\inputlineno
4679   }%
4680 \endgroup
4681 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4682 \@onelevel@sanitize\Hy@VerboseLinkInfo
4683 \fi
4684 }

4685 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4686 \def\Hy@VerboseLinkStop{%
4687   \ifHy@verbose
4688     \begingroup
4689     \edef\x{\endgroup
4690       \write\m@ne{%
4691         Package ‘hyperref’ Info: %
4692         End of reference \Hy@VerboseLinkInfo.%
4693       }%
4694     }%
4695     \x
4696   \fi
4697 }

4698 \def\Hy@VerboseAnchor#1{%
4699   \ifHy@verbose
4700     \begingroup
4701     \Hy@safe@activetrue
4702     \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
4703   \endgroup
4704 \fi
4705 }

4706 \def\Hy@AllowHyphens{%
4707   \relax
4708   \ifhmode
4709     \penalty\@M
4710     \hskip\z@skip
4711   \fi
4712 }

4713 \DeclareRobustCommand*\href[1][]{%
4714   \begingroup
4715   \setkeys{href}{#1}%
4716   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4717 }
4718 \def\Hy@href#1{%
4719   \hyper@normalise\href@
4720 }
4721 \begingroup
4722 \catcode'\$=6 %
4723 \catcode'\#=12 %
4724 \gdef\href@\$1{\expandafter\href@split$1##\}%
4725 \gdef\href@split$1#$2##$3\\$4{%
4726   \hyper@@link{$1}{$2}{$3}{$4}%

```



```

4727 \endgroup
4728 }%
4729 \endgroup

```

Option ‘page’.

```

4730 \define@key{href}{page}{%
4731 \def\Hy@href@page{#1}%
4732 }
4733 \let\Hy@href@page\@empty
4734 \newcount\c@Hy@tempcnt
4735 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4736 \def\Hy@MakeRemoteAction{%
4737 \ifx\Hy@href@page\@empty
4738 \def\Hy@href@page{0}%
4739 \else
4740 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4741 \ifnum\c@Hy@tempcnt<\@ne
4742 \Hy@Warning{%
4743 Invalid page number (\theHy@tempcnt)\MessageBreak
4744 for remote PDF file.\MessageBreak
4745 Using page 1%
4746 }%
4747 \def\Hy@href@page{0}%
4748 \else
4749 \global\advance\c@Hy@tempcnt\m@ne
4750 \edef\Hy@href@page{\theHy@tempcnt}%
4751 \fi
4752 \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.

```

4753 \ifx\Hy@href@nextactionraw\@empty
4754 \else
4755 \Hy@pdfnewwindowsettrue
4756 \Hy@pdfnewwindowtrue
4757 \fi
4758 }

```

Option ‘pdfremotestartview’.

```

4759 \define@key{href}{pdfremotestartview}{%
4760 \setkeys{Hyp}{pdfremotestartview={#1}}%
4761 }

```

Option ‘pdfnewwindow’.

```

4762 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4763 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4764 \newif\ifHy@href@ismap
4765 \define@key{href}{ismap}[true]{%
4766 \ltx@ifundefined{Hy@href@ismap#1}{%
4767 \Hy@Error{%
4768 Invalid value (#1) for key ‘ismap’.\MessageBreak
4769 Permitted values are ‘true’ or ‘false’.\MessageBreak
4770 Ignoring ‘ismap’%
4771 }\@ehc
4772 }{%
4773 \csname Hy@href@ismap#1\endcsname
4774 }%
4775 }

```

Option ‘nextactionraw’.

```

4776 \let\Hy@href@nextactionraw\@empty
4777 \define@key{href}{nextactionraw}{%
4778   \edef\Hy@href@nextactionraw{#1}%
4779   \ifx\Hy@href@nextactionraw\@empty
4780     \else
4781       \Hy@Match\Hy@href@nextactionraw{%
4782         ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|%
4783         \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?)]$%
4784       }-}{%
4785         \Hy@Warning{Invalid value for ‘nextactionraw’: \MessageBreak
4786           \Hy@href@nextactionraw \MessageBreak
4787           The action is discarded%
4788         }%
4789       }%
4790     \ifx\Hy@href@nextactionraw\@empty
4791       \else
4792         \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4793       \fi
4794     \fi
4795 }
4796 \def\HyPat@ObjRef/{.+}

```

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

```

4797 \RequirePackage{url}
4798 \let\HyOrg@url\url
4799 \def\Hurl{\begingroup \Url}
4800 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4801 \def\nolinkurl@#1{\Hurl{#1}}
4802 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4803 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4804 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4805 \providecommand\hyper@image[2]{#2}
4806 \def\hypertarget#1#2{%
4807   \ifHy@nesting
4808     \hyper@@anchor{#1}{#2}%
4809   \else
4810     \hyper@@anchor{#1}{\relax}#2%
4811   \fi
4812 }

```

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

```

4813 \DeclareRobustCommand*{\hyperref}{%
4814   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4815 }
4816 \def\Hy@babelnormalise#1[#2]{%
4817   \begingroup
4818     \Hy@safe@activetrue
4819     \edef\Hy@tempa{%
4820       \endgroup
4821       \noexpand#1[#2]}%
4822   }%

```

```

4823 \Hy@tempa
4824 }
4825 \def\@hyperref{\hyper@normalise\@hyperref}
4826 \def\@hyperref#1#2#3{%
4827   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4828   \expandafter\tryhyper@link\ref@one\{#1}%
4829 }
4830 \def\tryhyper@link#1\#2{%
4831   \hyper@@link{#2}{#1}%
4832 }

4833 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
4834 \def\@hyperdef#1#2#3{% , category, name, text
4835   \ifx\#1\%
4836     \def\Hy@AnchorName{#2}%
4837   \else
4838     \def\Hy@AnchorName{#1.#2}%
4839   \fi
4840   \ifHy@nesting
4841     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4842   \else
4843     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4844   \fi
4845 }

```

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

```

4846 \def\label@hyperref[#1]{%
4847   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4848 }%
4849 \def\label@@hyperref#1#2#3{%
4850   \ifx#1\relax
4851     \protect\G@refundefinedtrue
4852     \@latex@warning{%
4853       Hyper reference ‘#2’ on page \thepage \space undefined%
4854     }%
4855     \begingroup
4856       #3%
4857     \endgroup
4858   \else
4859     \hyper@@link{\expandafter\@fifthoffive#1}%
4860     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4861   \fi
4862 }
4863 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4864                               % anchor text
4865   \@bsphack
4866   \ifx\#2\%
4867     \def\Hy@AnchorName{#3}%
4868   \else
4869     \def\Hy@AnchorName{#2.#3}%
4870   \fi
4871   \if@filesw
4872     \protected@write\@auxout{}{%
4873       \string\newlabel{#1}{\{ }\{ }\{ }\{ \Hy@AnchorName\} }%
4874     }%
4875   \fi
4876   \@esphack

```

```

4877 \ifHy@nesting
4878 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4879 \else
4880 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4881 \fi
4882 }

```

17 Underlying basic hypertext macros

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

```

4883 \def\hyper@link{\let\Hy@reserved@a\relax
4884 \ifnextchar[\hyper@link@{\hyper@link@[link]}%
4885 }
4886 \def\hyper@link@[#1]#2#3#4{%
4887 \begingroup
4888 \protected@edef\Hy@tempa{#2}%
4889 \Hy@safe@activetrue
4890 \edef\x{#3}%
4891 \ifx\Hy@tempa\@empty
4892 \toks0{\hyper@link{#1}}%
4893 \else
4894 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4895 \fi
4896 \toks2{%
4897 \Hy@safe@activetrue
4898 #4%
4899 }%
4900 \edef\Hy@tempa{\the\toks2}%
4901 \edef\x{\endgroup
4902 \ifx\Hy@tempa\@empty
4903 \noexpand\Hy@Warning{Suppressing empty link}%
4904 \else
4905 \the\toks0 \{x\}\the\toks2}%
4906 \fi
4907 }%
4908 \x
4909 }

```

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.

```

4910 \def\hyper@readexternallink#1\{#2#3#4{%
4911 \begingroup
4912 \let\relax\relax
4913 \expandafter\endgroup
4914 \expandafter\@hyper@@readexternallink#1\{#2\}{#3}{#4}%
4915 }
4916 \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.

```
4917 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4918 }
```

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

```
4919 \def\@pdftempwordfile{file}%
4920 \def\@pdftempwordrun{run}%
4921 \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:

```
4922 \ifx\\\#6\\\%
4923 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
4924 \else
4925 \ifx\\\#4\\\%
4926 \@hyper@linkfile file:#7\\\{#3}{#2}{#7}%
4927 \else
```

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

```
4928 \def\@pdftempa{#4}%
4929 \ifx\@pdftempa\@pdftempwordfile
4930 \@hyper@linkfile#7\\\{#3}{#2}{#7}%
4931 \else
```

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

```
4932 \ifx\@pdftempa\@pdftempwordrun
4933 \ifHy@pdfa
4934 \Hy@Error{%
4935 PDF/A: Launch action is prohibited%
4936 }\@ehc
4937 \begingroup
4938 \leavevmode
4939 #2%
4940 \endgroup
4941 \else
4942 \@hyper@launch#7\\\{#3}{#2}%
4943 \fi
4944 \else
```

otherwise its a URL

```
4945 \@hyper@linkurl{#3}{#7\ifx\\\#2\\\else\hyper@hash#2\fi}%
4946 \fi
4947 \fi
4948 \fi
4949 \fi
4950 }
```

By default, turn run: into file:

```
4951 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
4952 \hyper@linkurl{#2}{%
4953 \Hy@linkfileprefix
4954 #1%
4955 \ifx\\#3\\%
4956 \else
4957 \hyper@hash
4958 #3%
4959 \fi
4960 }%
4961 }
```

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

```
4962 \def\@hyper@linkfile file:#1\\#2#3#4{%
4963 %file url,link string, name, original uri
4964 \filename@parse{#1}%
4965 \ifx\filename@ext\relax
4966 \edef\filename@ext{\XR@ext}%
4967 \fi
4968 \def\use@file{\filename@area\filename@base.\filename@ext}%
4969 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4970 \hyper@linkfile{#2}{\use@file}{#3}%
4971 }{%
4972 \ifx\@baseurl\@empty
4973 \hyper@linkurl{#2}{%
4974 #4\ifx\\#3\\%
4975 \else\hyper@hash#3\fi
4976 }%
4977 \else
4978 \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
4979 \else\hyper@hash#3\fi}%
4980 }%

4981 \def\Hy@IfStringEndsWith#1#2{%
4982 \begingroup
4983 \edef\x{#1}%
4984 \@onelevel@sanitize\x
4985 \edef\x{.\x$}%
4986 \edef\y{#2}%
4987 \@onelevel@sanitize\y
4988 \edef\y{.\y$}%
4989 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4990 \endgroup
4991 \ifx\relax##2\relax
4992 \expandafter\ltx@secondoftwo
4993 \else
4994 \expandafter\ltx@firstoftwo
4995 \fi
4996 }%
4997 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4998 }

4999 \def\Hy@StringLocalhost{localhost}
5000 \@onelevel@sanitize\Hy@StringLocalhost
5001 \def\Hy@CleanupFile#1{%
5002 \edef#1{#1}%
5003 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
```

```

5004 }
5005 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5006   \begingroup
5007   \toks@{\endgroup}%
5008   \def\x{#1}%
5009   \ifx\x\@empty
5010     \def\x{#2}%
5011     \ifx\x\@empty
5012       \toks@{\endgroup\def#5{/#3}}%
5013     \else
5014       \@onelevel@sanitize\x
5015       \ifx\x\Hy@StringLocalhost
5016         \toks@{\endgroup\def#5{/#3}}%
5017       \fi
5018     \fi
5019   \fi
5020   \the\toks@
5021 }

```

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.

```

5022 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5023 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5024   \ifx\#1\%
5025     #2\Hy@Warning{Ignoring empty anchor}%
5026   \else
5027     \def\anchor@spot{#2#3}%
5028     \let\put@me@back\@empty
5029     \ifx\relax#2\relax
5030     \else
5031       \ifHy@nesting
5032       \else
5033         \ifcat a\noexpand#2\relax
5034         \else
5035           \ifcat 0\noexpand#2 \relax
5036         \else
5037           \typeout{Anchor start is not alphanumeric %
5038             on input line\the\inputlineno%
5039           }%
5040           \let\anchor@spot\@empty
5041           \def\put@me@back{#2#3}%
5042         \fi
5043       \fi
5044     \fi
5045   \fi
5046   \ifHy@activeanchor
5047     \anchor@spot
5048   \else
5049     \hyper@anchor{#1}%
5050   \fi
5051   \expandafter\put@me@back
5052 \fi

```

```

5053 \let\anchor@spot\@empty
5054 }
5055 \let\anchor@spot\ltx@empty

```

18 Compatibility with the *LT_{EX}2html* 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.

```

5056 \let\htmladdimg\hyperimage
5057 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5058 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5059 \def\htmlref#1#2{% anchor text, label
5060   \label@hyperref[{#2}]{#1}%
5061 }

```

This is really too much. The *LT_{EX}2html* 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.

```

5062 \def\@latextohtmlX{%
5063   \let\hhyperref\hyperref
5064   \def\hyperref##1##2##3##4{% anchor text for HTML
5065     % text to print before label in print
5066     % label
5067     % post-label text in print
5068     ##2\ref{##4}##3%
5069   }%
5070 }

```

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.

```

5071 \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
5072 \def\HyField@NewFlag#1#2{%
5073   \lowercase{\HyField@NewOption{#2}}%

```



```

5074 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5075 }

```

\HyField@NewFlagOnly

```

5076 \def\HyField@NewFlagOnly#1#2{%
5077 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5078 }

```

\HyField@NewOption #1: option name

```

5079 \def\HyField@NewOption#1{%
5080 \expandafter\newif\csname ifFld@#1\endcsname
5081 \define@key{Field}{#1}[true]{%
5082 \lowercase{\Field@boolkey{##1}}{#1}%
5083 }%
5084 }

```

\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

```

5085 \def\HyField@NewBitsetFlag#1#2#3#4{%
5086 \begingroup
5087 \count@=#4\relax
5088 \advance\count@\m@ne
5089 \def\x##1{%
5090 \endgroup
5091 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5092 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5093 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5094 (\number#4) #2%
5095 }%
5096 \else
5097 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5098 \csname HyField@#3@##1\endcsname
5099 /#2%
5100 }%
5101 \fi
5102 }%
5103 \expandafter\x\expandafter{\the\count@}%
5104 }

```

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

```

5105 \def\HyField@UseFlag#1#2{%
5106 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5107 }

```

\HyField@@UseFlag

```

5108 \def\HyField@@UseFlag#1#2{%
5109 \bitsetSetValue{HyField@#2}{%
5110 \csname HyField@#2@#1\endcsname
5111 }{%
5112 \csname ifFld@#1\endcsname 1\else 0\fi
5113 }%
5114 }

```

```

\HyField@SetFlag The bit set is HyField@#1
5115 \def\HyField@SetFlag#1#2{%
5116 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5117 }

\HyField@@SetFlag
5118 \def\HyField@@SetFlag#1#2{%
5119 \bitsetSetValue{HyField@#2}{%
5120 \csname HyField@#2@#1\endcsname
5121 }{1}%
5122 }

\HyField@PrintFlags
5123 \def\HyField@PrintFlags#1#2{%
5124 \ifHy@verbose
5125 \begingroup
5126 \let\Hy@temp\@empty
5127 \let\MessageBreak\relax
5128 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5129 \bitsetGetSetBitList{HyField@#1}\do{%
5130 \edef\Hy@temp{%
5131 \Hy@temp
5132 \csname HyField@#1@\x\endcsname\MessageBreak
5133 }%
5134 }%
5135 \edef\x{\endgroup
5136 \noexpand\Hy@Info{%
5137 Field flags: %
5138 \expandafter\ifx\@car#1\@nil S\else/\fi
5139 #1 %
5140 \bitsetGetDec{HyField@#1} %
5141 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5142 \Hy@temp
5143 for #2%
5144 }%
5145 }\x
5146 \fi
5147 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5148 \HyField@NewFlag{Ff}{ReadOnly}{1}
5149 \HyField@NewFlag{Ff}{Required}{2}
5150 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5151 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5152 \HyField@NewFlag{Ff}{Radio}{16}
5153 \HyField@NewFlag{Ff}{Pushbutton}{17}
5154 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5155 \HyField@NewFlag{Ff}{Multiline}{13}
5156 \HyField@NewFlag{Ff}{Password}{14}
5157 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5158 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4

```

5159 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
 5160 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
 5161 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

“Table 8.79 field flags specific to choice fields”

5162 \HyField@NewFlag{Ff}{Combo}{18}
 5163 \HyField@NewFlag{Ff}{Edit}{19}
 5164 \HyField@NewFlag{Ff}{Sort}{20}
 5165 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
 5166 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
 5167 \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.

5168 \newif\ifFld@popdown
 5169 \define@key{Field}{popdown}[true]{%
 5170 \lowercase{\Field@boolkey{#1}}{popdown}%
 5171 }

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.

5172 \HyField@NewFlag{F}{Invisible}{1}
 5173 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
 5174 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
 5175 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
 5176 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
 5177 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
 5178 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
 5179 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
 5180 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

 5181 \ifHy@pdfa
 5182 \def\HyField@PDFAFldWarning#1#2{%
 5183 \Hy@Warning{%
 5184 PDF/A: Annotation flag ‘#1’ must\MessageBreak
 5185 be set to ‘#2’%
 5186 }%
 5187 }%
 5188 \Fld@invisiblefalse
 5189 \def\Fld@invisibletrue{%
 5190 \HyField@PDFAFldWarning{invisible}{false}%
 5191 }%
 5192 \Fld@hiddenfalse
 5193 \def\Fld@hiddentrue{%
 5194 \HyField@PDFAFldWarning{hidden}{false}%
 5195 }%
 5196 \Fld@printtrue
 5197 \def\Fld@printfalse{%
 5198 \HyField@PDFAFldWarning{print}{true}%
 5199 }%
 5200 \Fld@nozoomtrue
 5201 \def\Fld@nozoomfalse{%
 5202 \HyField@PDFAFldWarning{nozoom}{true}%
 5203 }%
 5204 \Fld@norotatetrue

```

5205 \def\Fld@norotatefalse{%
5206   \HyField@PDFAFldWarning{norotate}{true}%
5207 }%
5208 \Fld@noviewfalse
5209 \def\Fld@noviewtrue{%
5210   \HyField@PDFAFldWarning{noview}{false}%
5211 }%
5212 \fi

```

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

```

5213 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5214 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5215 \HyField@NewFlag{Submit}{GetMethod}{4}
5216 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5217 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5218 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5219 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5220 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5221 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5222 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5223 \HyField@NewFlag{Submit}{ExclFKey}{12}
5224 \HyField@NewFlag{Submit}{EmbedForm}{14}

5225 \define@key{Field}{export}{%
5226   \lowercase{\def\Hy@temp{#1}}%
5227   \@ifundefined{Fld@export@Hy@temp}{%
5228     \onelevel@sanitize\Hy@temp
5229     \Hy@Error{%
5230       Unknown export format '\Hy@temp'.\MessageBreak
5231       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5232     }\@ehc
5233   }{%
5234     \let\Fld@export\Hy@temp
5235   }%
5236 }
5237 \def\Fld@export{fdf}
5238 \@namedef{Fld@export@fdf}{0}%
5239 \@namedef{Fld@export@html}{1}%
5240 \@namedef{Fld@export@xfdf}{2}%
5241 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5242 \def\HyField@FlagsSubmit{%
5243   \bitsetReset{HyField@Submit}%
5244   \ifcase\@nameuse{Fld@export@Fld@export} %
5245     % FDF
5246     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5247     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5248     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5249     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5250     \HyField@UseFlag{Submit}{CanonicalFormat}%
5251     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5252     \HyField@UseFlag{Submit}{ExclFKey}%
5253     \HyField@UseFlag{Submit}{EmbedForm}%
5254   \or % HTML
5255     \HyField@SetFlag{Submit}{ExportFormat}%

```

```

5256 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5257 \HyField@UseFlag{Submit}{GetMethod}%
5258 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5259 \HyField@UseFlag{Submit}{CanonicalFormat}%
5260 \or % XFDF
5261 \HyField@SetFlag{Submit}{XFDF}%
5262 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5263 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5264 \HyField@UseFlag{Submit}{CanonicalFormat}%
5265 \or % PDF
5266 \HyField@SetFlag{Submit}{SubmitPDF}%
5267 \HyField@UseFlag{Submit}{GetMethod}%
5268 \fi
5269 \HyField@PrintFlags{Submit}{submit button field}%
5270 \bitsetIsEmpty{HyField@Submit}{%
5271 \let\Fld@submitflags\tx@empty
5272 }{%
5273 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
5274 }%
5275 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5276 \def\HyField@FlagsAnnot#1{%
5277 \bitsetReset{HyField@F}%
5278 \HyField@UseFlag{F}{Invisible}%
5279 \HyField@UseFlag{F}{Hidden}%
5280 \HyField@UseFlag{F}{Print}%
5281 \HyField@UseFlag{F}{NoZoom}%
5282 \HyField@UseFlag{F}{NoRotate}%
5283 \HyField@UseFlag{F}{NoView}%
5284 \HyField@UseFlag{F}{Locked}%
5285 \HyField@UseFlag{F}{ToggleNoView}%
5286 \HyField@UseFlag{F}{LockedContents}%
5287 \HyField@PrintFlags{F}{#1}%
5288 \bitsetIsEmpty{HyField@F}{%
5289 \let\Fld@annotflags\tx@empty
5290 }{%
5291 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5292 }%
5293 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5294 \def\HyField@FlagsPushButton{%
5295 \HyField@FlagsAnnot{push button field}%
5296 \bitsetReset{HyField@Ff}%
5297 \HyField@UseFlag{Ff}{ReadOnly}%
5298 \HyField@UseFlag{Ff}{Required}%
5299 \HyField@UseFlag{Ff}{NoExport}%
5300 \HyField@SetFlag{Ff}{PushButton}%
5301 \HyField@PrintFlags{Ff}{push button field}%
5302 \bitsetIsEmpty{HyField@Ff}{%
5303 \let\Fld@flags\tx@empty
5304 }{%

```

```

5305 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5306 }%
5307 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5308 \def\HyField@FlagsCheckBox{%
5309 \HyField@FlagsAnnot{check box field}%
5310 \bitsetReset{HyField@Ff}%
5311 \HyField@UseFlag{Ff}{ReadOnly}%
5312 \HyField@UseFlag{Ff}{Required}%
5313 \HyField@UseFlag{Ff}{NoExport}%
5314 \HyField@PrintFlags{Ff}{check box field}%
5315 \bitsetIsEmpty{HyField@Ff}{%
5316 \let\Fld@flags\ltx@empty
5317 }{%
5318 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5319 }%
5320 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5321 \def\HyField@FlagsRadioButton{%
5322 \HyField@FlagsAnnot{radio button field}%
5323 \bitsetReset{HyField@Ff}%
5324 \HyField@UseFlag{Ff}{ReadOnly}%
5325 \HyField@UseFlag{Ff}{Required}%
5326 \HyField@UseFlag{Ff}{NoExport}%
5327 \HyField@UseFlag{Ff}{NoToggleToOff}%
5328 \HyField@SetFlag{Ff}{Radio}%
5329 \HyField@UseFlag{Ff}{RadiosInUnison}%
5330 \HyField@PrintFlags{Ff}{radio button field}%
5331 \bitsetIsEmpty{HyField@Ff}{%
5332 \let\Fld@flags\ltx@empty
5333 }{%
5334 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5335 }%
5336 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5337 \def\HyField@FlagsText{%
5338 \HyField@FlagsAnnot{text field}%
5339 \bitsetReset{HyField@Ff}%
5340 \HyField@UseFlag{Ff}{ReadOnly}%
5341 \HyField@UseFlag{Ff}{Required}%
5342 \HyField@UseFlag{Ff}{NoExport}%
5343 \HyField@UseFlag{Ff}{Multiline}%
5344 \HyField@UseFlag{Ff}{Password}%
5345 \HyField@UseFlag{Ff}{FileSelect}%
5346 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5347 \HyField@UseFlag{Ff}{DoNotScroll}%
5348 \ifFld@comb

```

```

5349 \ifcase0\ifFld@multiline
5350         \else\ifFld@password
5351         \else\ifFld@fileselect
5352         \else 1\fi\fi\fi\relax
5353     \Hy@Error{%
5354         Field option ‘comb’ cannot used together with\MessageBreak
5355         ‘multiline’, ‘password’, or ‘fileselect’%
5356     }\@ehc
5357 \else
5358     \HyField@UseFlag{Ff}{Comb}%
5359 \fi
5360 \fi
5361 \HyField@UseFlag{Ff}{RichText}%
5362 \HyField@PrintFlags{Ff}{text field}%
5363 \bitsetIsEmpty{HyField@Ff}{%
5364     \let\Fld@flags\ltx@empty
5365 }{%
5366     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5367 }%
5368 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5369 \def\HyField@FlagsChoice{%
5370     \HyField@FlagsAnnot{choice field}%
5371     \bitsetReset{HyField@Ff}%
5372     \HyField@UseFlag{Ff}{ReadOnly}%
5373     \HyField@UseFlag{Ff}{Required}%
5374     \HyField@UseFlag{Ff}{NoExport}%
5375     \HyField@UseFlag{Ff}{Combo}%
5376     \ifFld@combo
5377         \HyField@UseFlag{Ff}{Edit}%
5378     \fi
5379     \HyField@UseFlag{Ff}{Sort}%
5380     \HyField@UseFlag{Ff}{MultiSelect}%
5381     \ifFld@combo
5382         \ifFld@edit
5383             \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5384         \fi
5385     \fi
5386     \HyField@UseFlag{Ff}{CommitOnSelChange}%
5387     \HyField@PrintFlags{Ff}{choice field}%
5388     \bitsetIsEmpty{HyField@Ff}{%
5389         \let\Fld@flags\ltx@empty
5390     }{%
5391         \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5392     }%
5393 }

```

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.

```

5394 \def\HyField@PDFChoices#1{%

```

```

5395 \begingroup
5396 \global\let\Fld@choices\ltx@empty
5397 \let\HyTmp@optlist\ltx@empty
5398 \let\HyTmp@optitem\relax
5399 \count@=0 %
5400 \kv@parse{#1}{%
5401   \Hy@pdfstringdef\kv@key\kv@key
5402   \ifx\kv@value\relax
5403     \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5404       \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5405     \else
5406       \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5407     \fi
5408   \else
5409     \Hy@pdfstringdef\kv@value\kv@value
5410     \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5411   \fi
5412   \edef\HyTmp@optlist{%
5413     \HyTmp@optlist
5414     \HyTmp@optitem{\the\count@}{\kv@key}0%
5415   }%
5416   \advance\count@ by 1 %
5417   \@gobbletwo
5418 }%
5419 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5420 \ifFld@multiselect
5421   \HyField@@PDFChoices{DV}\Fld@default
5422   \HyField@@PDFChoices{V}\Fld@value
5423 \else
5424   \ifx\Fld@default\relax
5425   \else
5426     \pdfstringdef\Hy@gtemp\Fld@default
5427     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5428   \fi
5429   \ifx\Fld@value\relax
5430   \else
5431     \pdfstringdef\Hy@gtemp\Fld@value
5432     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5433   \fi
5434 \fi
5435 \endgroup
5436 }

```

\HyField@@PDFChoices

```

5437 \def\HyField@@PDFChoices#1#2{%
5438   \ifx#2\relax
5439   \else
5440     \count@=0 %
5441     \def\HyTmp@optitem##1##2##3{%
5442       \def\HyTmp@key{##2}%
5443       \ifx\HyTmp@key\Hy@gtemp
5444         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5445           \HyTmp@optlist
5446           \HyTmp@optitem{##1}{##2}1%
5447         }%
5448       \let\HyTmp@found=Y%
5449     \else
5450       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%

```



```

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

```

19.3 Forms

\HyField@SetKeys

```

5498 \def\HyField@SetKeys{%
5499   \kvsetkeys{Field}%
5500 }

5501 \newif\ifFld@checked
5502 \newif\ifFld@disabled

```

```

5503 \Fld@checkedfalse
5504 \Fld@disabledfalse
5505 \newcount\Fld@menulength
5506 \newdimen\Fld@Width
5507 \newdimen\Fld@charsize
5508 \Fld@charsize=10\p@
5509 \def\Fld@maxlen{0}
5510 \def\Fld@align{0}
5511 \def\Fld@color{0 0 0 rg}
5512 \def\Fld@bcolor{1 1 1}
5513 \def\Fld@bordercolor{1 0 0}
5514 \def\Fld@bordersep{1\p@}
5515 \def\Fld@borderwidth{1}
5516 \def\Fld@borderstyle{S}
5517 \def\Fld@cbsymbol{4}
5518 \def\Fld@radiosymbol{H}
5519 \def\Fld@rotation{0}
5520 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5521 \def\endForm{\@endForm}
5522 \newif\ifForm@html
5523 \Form@htmlfalse
5524 \def\Form@boolkey#1#2{%
5525   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5526 }
5527 \define@key{Form}{action}{%
5528   \hyper@normalise\Hy@DefFormAction{#1}%
5529 }
5530 \def\Hy@DefFormAction{\def\Form@action}
5531 \def\enc@html{html}
5532 \define@key{Form}{encoding}{%
5533   \def\Hy@tempa{#1}%
5534   \ifx\Hy@tempa\enc@html
5535     \Form@htmltrue
5536   \def\Fld@export{html}%
5537   \else
5538     \Hy@Warning{%
5539       Form 'encoding' key with \MessageBreak
5540       unknown value '#1'%
5541     }%
5542     \Form@htmlfalse
5543   \fi
5544 }
5545 \define@key{Form}{method}{%
5546   \lowercase{\def\Hy@temp{#1}}%
5547   \@ifundefined{Form@method@\Hy@temp}{%
5548     \@onelevel@sanitize\Hy@temp
5549     \Hy@Error{%
5550       Unknown method '\Hy@temp'.\MessageBreak
5551       Known values are 'post' and 'get'%
5552     }\@ehc
5553   }{%
5554     \let\Form@method\Hy@temp
5555     \ifcase\@nameuse{Form@method@\Hy@temp} %
5556       \Fld@getmethodfalse
5557     \else
5558       \Fld@getmethodtrue
5559     \fi

```

```

5560 }%
5561 }
5562 \def\Form@method{}
5563 \@namedef{Form@method@post}{0}
5564 \@namedef{Form@method@get}{1}

5565 \newif\ifHyField@NeedAppearances
5566 \def\HyField@NeedAppearancesfalse{%
5567   \global\let\ifHyField@NeedAppearances\iffalse
5568 }
5569 \def\HyField@NeedAppearancetrue{%
5570   \global\let\ifHyField@NeedAppearances\iftrue
5571 }
5572 \HyField@NeedAppearancetrue
5573 \define@key{Form}{NeedAppearances}[true]{%
5574   \edef\Hy@tempa{#1}%
5575   \ifx\Hy@tempa\Hy@true
5576     \HyField@NeedAppearancetrue
5577   \else
5578     \ifx\Hy@tempa\Hy@false
5579       \HyField@NeedAppearancesfalse
5580     \else
5581       \Hy@Error{%
5582         Unexpected value '\Hy@tempa'\MessageBreak
5583         of option 'NeedAppearances' instead of\MessageBreak
5584         'true' or 'false'%
5585       }\@ehc
5586     \fi
5587   \fi
5588 }
5589 \def\Field@boolkey#1#2{%
5590   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5591 }
5592 \ifHy@texht
5593   \newtoks\Field@toks
5594   \Field@toks={ }%
5595   \def\Field@addtoks#1#2{%
5596     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5597     \@processme
5598   }%
5599 \else
5600   \def\Hy@WarnHTMLFieldOption#1{%
5601     \Hy@Warning{%
5602       HTML field option '#1'\MessageBreak
5603       is ignored%
5604     }%
5605   }%
5606 \fi
5607 \def\Fld@checkequals#1=#2=#3\\{%
5608   \def\@currDisplay{#1}%
5609   \ifx\\#2\\%
5610     \def\@currValue{#1}%
5611   \else
5612     \def\@currValue{#2}%
5613   \fi
5614 }
5615 \define@key{Field}{loc}{%
5616   \def\Fld@loc{#1}%

```

```

5617 }
5618 \define@key{Field}{checked}[true]{%
5619   \lowercase{\Field@boolkey{#1}}{checked}%
5620 }
5621 \define@key{Field}{disabled}[true]{%
5622   \lowercase{\Field@boolkey{#1}}{disabled}%
5623 }
5624 \ifHy@texht
5625   \define@key{Field}{accesskey}{%
5626     \Field@addtoks{accesskey}{#1}%
5627   }%
5628   \define@key{Field}{tabkey}{%
5629     \Field@addtoks{tabkey}{#1}%
5630   }%
5631 \else
5632   \define@key{Field}{accesskey}{%
5633     \Hy@WarnHTMLFieldOption{accesskey}%
5634   }%
5635   \define@key{Field}{tabkey}{%
5636     \Hy@WarnHTMLFieldOption{tabkey}%
5637   }%
5638 \fi
5639 \define@key{Field}{name}{%
5640   \def\Fld@name{#1}%
5641 }
5642 \let\Fld@altname\relax
5643 \define@key{Field}{altname}{%
5644   \def\Fld@altname{#1}%
5645 }
5646 \let\Fld@mappingname\relax
5647 \define@key{Field}{mappingname}{%
5648   \def\Fld@mappingname{#1}%
5649 }
5650 \define@key{Field}{width}{%
5651   \def\Fld@width{#1}%
5652   \Field@Width#1\setbox0=\hbox{m}%
5653 }
5654 \define@key{Field}{maxlen}{%
5655   \def\Fld@maxlen{#1}%
5656 }
5657 \define@key{Field}{menulength}{%
5658   \Fld@menulength=#1\relax
5659 }
5660 \define@key{Field}{height}{%
5661   \def\Fld@height{#1}%
5662 }
5663 \define@key{Field}{charsize}{%
5664   \Fld@charsize#1%
5665 }
5666 \define@key{Field}{borderwidth}{%
5667   \def\Fld@borderwidth{#1}%
5668 }
5669 \define@key{Field}{borderstyle}{%
5670   \let\Hy@temp\Fld@borderstyle
5671   \def\Fld@borderstyle{#1}%
5672   \Hy@Match\Fld@borderstyle%
5673   ^[SDBIU]$%

```

```

5674 }{}{%
5675   \Hy@Warning{%
5676     Invalid value '\pdfborderstyle'\MessageBreak
5677     for option 'pdfborderstyle'. Valid values:\MessageBreak
5678     \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5679     \space\space I (Inset), U (Underline)\MessageBreak
5680     Option setting is ignored%
5681   }%
5682   \let\Fld@borderstyle\Hy@temp
5683 }%
5684 }
5685 \define@key{Field}{bordersep}{%
5686   \def\Fld@bordersep{#1}%
5687 }
5688 \define@key{Field}{default}{%
5689   \def\Fld@default{#1}%
5690 }
5691 \define@key{Field}{align}{%
5692   \def\Fld@align{#1}%
5693 }
5694 \define@key{Field}{value}{%
5695   \def\Fld@value{#1}%
5696 }
5697 \define@key{Field}{checkboxsymbol}{%
5698   \Fld@DingDef\Fld@cbsymbol{#1}%
5699 }
5700 \define@key{Field}{radiosymbol}{%
5701   \Fld@DingDef\Fld@radiosymbol{#1}%
5702 }
5703 \def\Fld@DingDef#1#2{%
5704   \let\Fld@temp\ltx@empty
5705   \Fld@@@DingDef#2\ding{}\@nil
5706   \let#1\Fld@temp
5707 }
5708 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
5709   \expandafter\def\expandafter\Fld@temp\expandafter{%
5710     \Fld@temp
5711     #1%
5712   }%
5713   \ifx\#3\%
5714     \expandafter\@gobble
5715   \else
5716     \begingroup
5717       \lccode'0=#2\relax
5718       \lowercase{\endgroup
5719         \expandafter\def\expandafter\Fld@temp\expandafter{%
5720           \Fld@temp
5721           0%
5722         }%
5723       }%
5724       \expandafter\@firstofone
5725     \fi
5726   {%
5727     \Fld@@@DingDef#3\@nil
5728   }%
5729 }
5730 \define@key{Field}{rotation}{%

```

```

5731 \def\Fld@rotation{#1}%
5732 }

5733 \define@key{Field}{backgroundcolor}{%
5734 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5735 }

5736 \define@key{Field}{bordercolor}{%
5737 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5738 }

5739 \define@key{Field}{color}{%
5740 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5741 }

5742 \let\Fld@onclick@code\ltx@empty
5743 \let\Fld@format@code\ltx@empty
5744 \let\Fld@validate@code\ltx@empty
5745 \let\Fld@calculate@code\ltx@empty
5746 \let\Fld@keystroke@code\ltx@empty
5747 \let\Fld@onfocus@code\ltx@empty
5748 \let\Fld@onblur@code\ltx@empty
5749 \let\Fld@onmousedown@code\ltx@empty
5750 \let\Fld@onmouseup@code\ltx@empty
5751 \let\Fld@onenter@code\ltx@empty
5752 \let\Fld@onexit@code\ltx@empty
5753 \def\Hy@temp#1{%
5754 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5755 }

5756 \def\Hy@@temp#1#2{%
5757 \ifHy@pdfa
5758 \define@key{Field}{#2}{%
5759 \Hy@Error{%
5760 PDF/A: Additional action ‘#2’ is prohibited%
5761 }\@ehc
5762 }%
5763 \else
5764 \define@key{Field}{#2}{%
5765 \def#1{##1}%
5766 }%
5767 \fi
5768 }

5769 \Hy@temp{keystroke}
5770 \Hy@temp{format}
5771 \Hy@temp{validate}
5772 \Hy@temp{calculate}
5773 \Hy@temp{onfocus}
5774 \Hy@temp{onblur}
5775 \Hy@temp{onenter}
5776 \Hy@temp{onexit}
5777 \ifHy@texht
5778 \def\Hy@temp#1{%
5779 \define@key{Field}{#1}{%
5780 \Field@addtoks{#1}{##1}%
5781 }%
5782 }%
5783 \else
5784 \def\Hy@temp#1{%
5785 \define@key{Field}{#1}{%
5786 \Hy@WarnHTMLFieldOption{#1}%
5787 }%

```

```

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

5818 \DeclareRobustCommand\TextField{%
5819   \@ifnextchar[{\@TextField}{\@TextField[]}%
5820 }
5821 \DeclareRobustCommand\ChoiceMenu{%
5822   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5823 }
5824 \DeclareRobustCommand\CheckBox{%
5825   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5826 }
5827 \DeclareRobustCommand\PushButton{%
5828   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5829 }
5830 \DeclareRobustCommand\Gauge{%
5831   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5832 }
5833 \DeclareRobustCommand\Submit{%
5834   \@ifnextchar[{\@Submit}{\@Submit[]}%
5835 }
5836 \DeclareRobustCommand\Reset{%
5837   \@ifnextchar[{\@Reset}{\@Reset[]}%
5838 }
5839 \def\LayoutTextField#1#2{% label, field
5840   #1 #2%
5841 }
5842 \def\LayoutChoiceField#1#2{% label, field
5843   #1 #2%
5844 }

```

```

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

```

Default options for the types of \ChoiceMenu.

```

5885 \def\DefaultOptionsofListBox{print}
5886 \def\DefaultOptionsofComboBox{print,edit,sort}
5887 \def\DefaultOptionsofPopdownBox{print}
5888 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5889 \ifHy@hyperfigures
5890   \Hy@Info{Hyper figures ON}%
5891 \else
5892   \Hy@Info{Hyper figures OFF}%
5893 \fi
5894 \ifHy@nesting
5895   \Hy@Info{Link nesting ON}%
5896 \else

```



```

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

```

21 Low-level utility macros

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

```

5924 \edef\hyper@hash{\string#}
5925 \edef\hyper@tilde{\string~}
5926 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5927 \def\@currentHref{Doc-Start}
5928 \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.

```

5929 \Hy@AtBeginDocument{%
5930 \Hy@pdfstringtrue
5931 \PDF@SetupDoc
5932 \let\PDF@SetupDoc\@empty
5933 \Hy@DisableOption{pdfpagescrop}%
5934 \Hy@DisableOption{pdfpagemode}%
5935 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5936 \Hy@DisableOption{pdfdirection}%
5937 \Hy@DisableOption{pdfviewarea}%
5938 \Hy@DisableOption{pdfviewclip}%
5939 \Hy@DisableOption{pdfprintarea}%
5940 \Hy@DisableOption{pdfprintclip}%
5941 \Hy@DisableOption{pdfprintscaling}%
5942 \Hy@DisableOption{pdfduplex}%
5943 \Hy@DisableOption{pdfpicktraybypdfsize}%
5944 \Hy@DisableOption{pdfprintpagerange}%
5945 \Hy@DisableOption{pdfnumcopies}%

```

```

5946 \Hy@DisableOption{pdfstartview}%
5947 \Hy@DisableOption{pdfstartpage}%
5948 \Hy@DisableOption{pdftoolbar}%
5949 \Hy@DisableOption{pdfmenubar}%
5950 \Hy@DisableOption{pdfwindowui}%
5951 \Hy@DisableOption{pdfitwindow}%
5952 \Hy@DisableOption{pdfcenterwindow}%
5953 \Hy@DisableOption{pdfdisplaydoctitle}%
5954 \Hy@DisableOption{pdfpagelayout}%
5955 \Hy@DisableOption{pdflang}%
5956 \Hy@DisableOption{baseurl}%
5957 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5958 \Hy@pdfstringfalse
5959 }

```

Ignore star from referencing macros:

```

5960 \LetLtxMacro\NoHy@OrgRef\ref
5961 \DeclareRobustCommand*{\ref}{%
5962 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5963 }
5964 \LetLtxMacro\NoHy@OrgPageRef\pageref
5965 \DeclareRobustCommand*{\pageref}{%
5966 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5967 }

```

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.

```

5968 \def\NoHyper{%
5969 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
5970 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
5971 \global\let\hyper@livelink\hyper@link
5972 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
5973 \let\hyper@anchor\ltx@gobble
5974 \let\hyper@anchorstart\ltx@gobble
5975 \def\hyper@anchorend{\Hy@xspace@end}%
5976 \let\hyper@linkstart\ltx@gobbletwo
5977 \def\hyper@linkend{\Hy@xspace@end}%
5978 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
5979 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
5980 \let\Hy@backout\@gobble
5981 }
5982 \def\stop@hyper{%
5983 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
5984 \let\Hy@backout\@gobble
5985 \let\hyper@@anchor\ltx@gobble
5986 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
5987 \let\hyper@anchor\ltx@gobble
5988 \let\hyper@anchorstart\ltx@gobble
5989 \def\hyper@anchorend{\Hy@xspace@end}%
5990 \let\hyper@linkstart\ltx@gobbletwo
5991 \def\hyper@linkend{\Hy@xspace@end}%
5992 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%

```

```

5993 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
5994 }
5995 \def\endNoHyper{%
5996 \global\let\hyper@link\hyper@livelink
5997 }
5998 \endpackage

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

5999 \*nohyperref
6000 \RequirePackage{letltxmacro}[2008/06/13]
6001 \let\hyper@@anchor\@gobble
6002 \def\hyper@link#1##2##3{##3}%
6003 \let\hyper@anchorstart\@gobble
6004 \let\hyper@anchorend\@empty
6005 \let\hyper@linkstart\@gobbletwo
6006 \let\hyper@linkend\@empty
6007 \def\hyper@linkurl#1##2{##1}%
6008 \def\hyper@linkfile#1##2##3{##1}%
6009 \def\hyper@link@{##1}##2##3{##3}%
6010 \let\PDF@SetupDoc\@empty
6011 \let\PDF@FinishDoc\@empty
6012 \def\nohyperpage#1{##1}

```

Some top-level commands:

```

6013 \def\Acrobatmenu#1##2{\leavevmode#2}
6014 \let\pdfstringdefDisableCommands\@gobbletwo
6015 \let\texorpdfstring\@firstoftwo
6016 \let\pdfbookmark\@undefined
6017 \newcommand\pdfbookmark[3]{}
6018 \let\phantomsection\@empty
6019 \let\hypersetup\@gobble
6020 \let\hyperbaseurl\@gobble
6021 \newcommand*{\href}[3]{}
6022 \let\hyperdef\@gobbletwo
6023 \let\hyperlink\@gobble
6024 \let\hypertarget\@gobble
6025 \def\hyperref{%
6026 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6027 }
6028 \long\def\@gobbleopt[#1]{}
6029 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6030 \LetLtxMacro\NoHy@OrgRef\ref
6031 \DeclareRobustCommand*{\ref}{%
6032 \ifstar\NoHy@OrgRef\NoHy@OrgRef
6033 }
6034 \LetLtxMacro\NoHy@OrgPageRef\pageref
6035 \DeclareRobustCommand*{\pageref}{%

```

```

6036 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6037 }
6038 \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}`

```

6039 \*package
6040 \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.

```

6041 \if@filesw
6042 \ifHy@typexml
6043 \immediate\closeout\@mainaux
6044 \immediate\openout\@mainaux\jobname.aux\relax
6045 \immediate\write\@auxout{<relaxxml>\relax}%
6046 \fi
6047 \immediate\write\@auxout{%
6048 \string\providecommand\string\HyperFirstAtBeginDocument{%
6049 \string\AtBeginDocument}^^J%
6050 \string\HyperFirstAtBeginDocument{%
6051 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6052 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6053 \string\gdef\string\contentsline%
6054 \string#1\string#2\string#3\string#4{%
6055 \string\oldcontentsline%
6056 {\string#1}{\string#2}{\string#3}^^J%
6057 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6058 \string\gdef\string\newlabel\string#1\string#2{%
6059 \string\newlabelxx{\string#1}\string#2}^^J%
6060 \string\gdef\string\newlabelxx%
6061 \string#1\string#2\string#3\string#4\string#5\string#6{%
6062 \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.

```

6063 \string\AtEndDocument{%
6064 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6065 \string\let\string\contentsline\string\oldcontentsline^^J%
6066 \string\let\string\newlabel\string\oldnewlabel^^J%
6067 \string\fi%
6068 }^^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.

```

6069 \string\fi%
6070 }^^J%
6071 \string\global\string\let\string\hyper@last\relax^^J%
6072 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6073 }%
6074 \fi
6075 \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.

```

6076 \ifx\hyper@last\@undefined
6077 \def\@starttoc#1{%
6078 \begingroup
6079 \makeatletter
6080 \IfFileExists{\jobname.#1}{%
6081 \Hy@WarningNoLine{%
6082 old #1 file detected, not used; run LaTeX again%
6083 }%
6084 }{}%
6085 \if@filesw
6086 \expandafter\newwrite\csname tf@#1\endcsname
6087 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6088 \fi
6089 \@nobreakfalse
6090 \endgroup
6091 }%
6092 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6093 \fi
6094 }

```

25 Title strings

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

```

6095 \ifHy@pdfusetitle
6096 \let\HyOrg@title\title
6097 \let\HyOrg@author\author
6098 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6099 \def\Hy@scanopttitle[#1]{%
6100 \gdef\Hy@title{#1}%
6101 \HyOrg@title{#1}%
6102 }%
6103 \def\Hy@scantitle#1{%
6104 \gdef\Hy@title{#1}%
6105 \HyOrg@title{#1}%
6106 }%
6107 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6108 \def\Hy@scanoptauthor[#1]{%
6109 \gdef\Hy@author{#1}%
6110 \HyOrg@author{#1}%
6111 }%
6112 \def\Hy@scanauthor#1{%
6113 \gdef\Hy@author{#1}%
6114 \HyOrg@author{#1}%
6115 }%

```

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.

```

6116 \begingroup
6117 \def\process@me#1\@nil#2{%
6118 \expandafter\let\expandafter\x\csname @#2\endcsname

```

```

6119 \edef\y{\expandafter\strip@prefix\meaning\x}%
6120 \def\c##1##1##2\@nil{%
6121 \ifx\\##1\\%
6122 \else
6123 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6124 \expandafter{x}%
6125 \fi
6126 }%
6127 \expandafter\c\y\relax#1\@nil
6128 }%
6129 \expandafter\process@me\string\@latex@\@nil{title}%
6130 \expandafter\process@me\string\@latex@\@nil{author}%
6131 \endgroup
6132 \fi
6133 \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.

```

6134 \def\Hy@UseMaketitleString#1{%
6135 \ltx@ifundefined{Hy@#1}{\}%
6136 \begingroup
6137 \let\Hy@saved@hook\pdfstringdefPreHook
6138 \pdfstringdefDisableCommands{%
6139 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6140 \let\newline\\%
6141 }%
6142 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6143 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6144 \csname Hy@#1\endcsname\@empty
6145 }%
6146 \fi
6147 \global\let\pdfstringdefPreHook\Hy@saved@hook
6148 \endgroup
6149 }%
6150 }
6151 \def\Hy@newline@title#1{ #1}
6152 \def\Hy@newline@author#1{, #1}
6153 \def\Hy@UseMaketitleInfos{%
6154 \Hy@UseMaketitleString{title}%
6155 \Hy@UseMaketitleString{author}%
6156 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6157 \RequirePackage{atbegshi}[2007/09/09]
6158 \let\Hy@EveryPageHook\ltx@empty
6159 \let\Hy@EveryPageBoxHook\ltx@empty
6160 \let\Hy@FirstPageHook\ltx@empty
6161 \AtBeginShipout{%
6162   \Hy@EveryPageHook
6163   \ifx\Hy@EveryPageBoxHook\ltx@empty
6164   \else
6165     \setbox\AtBeginShipoutBox=\vbox{%
6166       \offinterlineskip
6167       \Hy@EveryPageBoxHook
6168       \box\AtBeginShipoutBox
6169     }%
6170   \fi
6171 }
6172 \AtBeginShipoutFirst{%
6173   \Hy@FirstPageHook
6174 }
6175 \g@addto@macro\Hy@FirstPageHook{%
6176   \PDF@FinishDoc
6177 }
6178 \global\let\PDF@FinishDoc\ltx@empty
6179 }

```

27.1 PDF /PageLabels

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

```

6179 \ifHy@pdfpagelabels
6180 \begingroup\expandafter\expandafter\expandafter\endgroup
6181 \expandafter\ifx\csname thepage\endcsname\relax
6182   \Hy@pdfpagelabelsfalse
6183   \Hy@WarningNoLine{%
6184     Option 'pdfpagelabels' is turned off\MessageBreak
6185     because \string\thepage\space is undefined%
6186   }%
6187   \csname fi\endcsname
6188   \csname iffalse\expandafter\endcsname
6189 \fi

```

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

```

6190 \def\thispdfpagelabel#1{%
6191   \gdef\HyPL@thisLabel{#1}%
6192 }%
6193 \global\let\HyPL@thisLabel\relax

```

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

```

6194 \let\HyPL@Labels\ltx@empty

```

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

```

6195 \newcount\Hy@abspage
6196 \Hy@abspage=0 %

```

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

```

6197 \def\HyPL@LastType{init}%
6198 \def\HyPL@LastNumber{0}%
6199 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6200 \def\HyPL@arabic{D}%
6201 \def\HyPL@Roman{R}%
6202 \def\HyPL@roman{r}%
6203 \def\HyPL@Alph{A}%
6204 \def\HyPL@alph{a}%

6205 \let\HyPL@SlidesSetPage\ltx@empty
6206 \ltx@ifclassloaded{slides}{%
6207   \def\HyPL@SlidesSetPage{%
6208     \advance\c@page\ltx@one
6209     \ifnum\value{page}>\ltx@one
6210       \protected@edef\HyPL@SlidesOptionalPage{%
6211         \Hy@SlidesFormatOptionalPage{\thepage}%
6212       }%
6213     \else
6214       \let\HyPL@SlidesOptionalPage\ltx@empty
6215     \fi
6216     \advance\c@page-\ltx@one
6217   \def\HyPL@page{%
6218     \csname the\Hy@SlidesPage\endcsname
6219     \HyPL@SlidesOptionalPage
6220   }%
6221 }%
6222 }{}%
```

`\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.

```

6223 \def\HyPL@EveryPage{%
6224   \begingroup
6225   \ifx\HyPL@thisLabel\relax
6226     \let\HyPL@page\thepage
6227     \HyPL@SlidesSetPage
6228   \else
6229     \let\HyPL@page\HyPL@thisLabel
6230     \global\let\HyPL@thisLabel\relax
6231   \fi
6232   \let\HyPL@Type\relax
6233   \ifnum\the\c@page>0 %
6234     \ifx\HyPL@SlidesSetPage\ltx@empty
6235       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6236     \fi
6237   \fi
6238   \let\Hy@temp Y%
6239   \ifx\HyPL@Type\HyPL@LastType
6240   \else
6241     \let\Hy@temp N%
6242   \fi
6243   \ifx\HyPL@Type\relax
6244     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6245   \else
6246     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6247   \fi
6248   \ifx\HyPL@Prefix\HyPL@LastPrefix
6249   \else
6250     \let\Hy@temp N%
6251   \fi
6252   \if Y\Hy@temp
```



```

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

```

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

```

6283 \def\HyPL@CheckThePage#1\@nil{%
6284 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6285 }%

```

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

```

6286 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6287 \def\Hy@tempa{#4}%
6288 \def\Hy@tempb{\csname\endcsname\c@page}%
6289 \ifx\Hy@tempa\Hy@tempb
6290 \expandafter\ifx\csname HyPL#3\endcsname\relax
6291 \else
6292 \def\HyPL@Type{#3}%
6293 \def\HyPL@Prefix{#2}%
6294 \fi
6295 \else
6296 \begingroup
6297 \let\Hy@next\endgroup
6298 \let\HyPL@found\@undefined
6299 \def\arabic{\HyPL@Format{arabic}}%
6300 \def\Roman{\HyPL@Format{Roman}}%
6301 \def\roman{\HyPL@Format{roman}}%

```

```

6302 \def\Alph{\HyPL@Format{Alph}}%
6303 \def\alph{\HyPL@Format{alph}}%
6304 \protected@edef\Hy@temp{#1}%
6305 \ifx\HyPL@found\relax
6306 \toks@ \expandafter{\Hy@temp}%
6307 \edef\Hy@next{\endgroup
6308 \noexpand\HyPL@@@CheckThePage\the\toks@
6309 \noexpand\HyPL@found\relax\noexpand\@nil
6310 }%
6311 \fi
6312 \Hy@next
6313 \fi
6314 }%

```

`\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`.

```

6315 \def\HyPL@Format#1#2{%
6316 \ifx\HyPL@found\@undefined
6317 \expandafter\ifx\csname c@#2\endcsname\c@page
6318 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6319 \else
6320 \expandafter\noexpand\csname#1\endcsname{#2}%
6321 \fi
6322 \else
6323 \expandafter\noexpand\csname#1\endcsname{#2}%
6324 \fi
6325 }%

```

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

```

6326 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6327 \def\Hy@tempa{#3}%
6328 \def\Hy@tempb{\HyPL@found\relax}%
6329 \ifx\Hy@tempa\Hy@tempb
6330 \def\HyPL@Type{#2}%
6331 \def\HyPL@Prefix{#1}%
6332 \fi
6333 }%

```

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

```

6334 \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`.

```

6335 \def\HyPL@Useless{0<</S/D>>}%
6336 \@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.

```

6337 \def\HyPL@SetPageLabels{%
6338 \@onelevel@sanitize\HyPL@Labels
6339 \ifx\HyPL@Labels\@empty
6340 \else
6341 \ifx\HyPL@Labels\HyPL@Useless
6342 \else

```

```

6343      \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6344      \fi
6345      \fi
6346    }%

```

```

6347    \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6348  \fi

```

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

```

6349 \Hy@DisableOption{pdfpagelabels}
6350 \</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

```

6351 \<*pdftex>
6352 \pdf@ifdraftmode{%
6353   \let\Hy@PutCatalog\ltx@gobble
6354 }{%
6355   \let\Hy@PutCatalog\pdfcatalog
6356 }
6357 \</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.

```

6358 \<*vtex>
6359 \providecommand*\XR@ext{-pdf}
6360 \edef\Hy@VTeXversion{%
6361   \ifx\VTeXversion\@undefined
6362     \z@
6363   \else
6364     \ifx\VTeXversion\relax
6365       \z@
6366     \else
6367       \VTeXversion
6368     \fi
6369   \fi
6370 }
6371 \begingroup
6372   \ifnum\Hy@VTeXversion<660 %
6373     \gdef\Hy@PutCatalog#1{%
6374       \Hy@WarningNoLine{%
6375         VTeX 6.59g or above required for pdfpagelabels%
6376       }%
6377     }%
6378   \else
6379     \gdef\Hy@PutCatalog#1{%
6380       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6381     }%
6382     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6383       \ifx\#2\%
6384         \else

```

```

6385 \immediate\special{!pdfpagelabels #2}%
6386 \fi
6387 }%
6388 \fi
6389 \endgroup
6390 </vtex>

6391 <*pdfTeX | vtex>

```

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

```

6392 \ifHy@pdfpagelabels
6393 \def\HyPL@StorePageLabel#1{%
6394 \toks@ \expandafter{\HyPL@Labels}%
6395 \xdef\HyPL@Labels{%
6396 \the\toks@
6397 \the\Hy@abspage<<#1>>%
6398 }%
6399 }%

```

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.

```

6400 \RequirePackage{atveryend}[2009/12/07]%
6401 \AtVeryEndDocument{%
6402 \HyPL@SetPageLabels
6403 }%

6404 \fi
6405 </pdfTeX | vtex>

```

27.1.2 xetex

```

6406 <*xetex>
6407 \HyPsd@LoadUnicode
6408 \Hy@unicodetrue
6409 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6410 \else
6411 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6412 \fi
6413 \HyPsd@LoadStringEncoding
6414 \define@key{Hyp}{unicode}[true]{%
6415 \Hy@boolkey{unicode}{#1}%
6416 \ifHy@unicode
6417 \else
6418 \Hy@Warning{%
6419 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6420 option setting 'unicode=false'%
6421 }%
6422 \Hy@unicodetrue
6423 \fi
6424 }
6425 \define@key{Hyp}{pdfencoding}{%
6426 \edef\HyPsd@temp{#1}%
6427 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6428 \let\HyPsd@pdfencoding\HyPsd@temp
6429 \else
6430 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6431 \let\HyPsd@pdfencoding\HyPsd@temp

```

```

6432 \else
6433 \Hy@Warning{%
6434 XeTeX driver only supports\MessageBreak
6435 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6436 setting 'pdfencoding=\HyPsd@temp'%
6437 }%
6438 \fi
6439 \fi
6440 }
6441 \let\HyXeTeX@CheckUnicode\relax
6442 \</xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6443 <*pdfmarkbase>
6444 \begingroup
6445 \@ifundefined{headerps@out}{\Hy@FirstPageHook}%
6446 \toks@\expandafter{\Hy@FirstPageHook}%
6447 \xdef\Hy@FirstPageHook{%
6448 \noexpand\headerps@out{%
6449 systemdict /pdfmark known%
6450 {%
6451 userdict /?pdfmark systemdict /exec get put%
6452 }{%
6453 userdict /?pdfmark systemdict /pop get put %
6454 userdict /pdfmark systemdict /cleartomark get put%
6455 }%
6456 ifelse%
6457 }%
6458 \the\toks@
6459 }%
6460 }%
6461 \endgroup
6462 \</pdfmarkbase>

\Hy@PutCatalog
6463 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6464 <*pdfmarkbase>
6465 \def\Hy@PutCatalog#1{%
6466 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog}\string} << #1 >>}}%
6467 }
6468 \</pdfmarkbase>

6469 <*pdfmarkbase | dvipdfm | xetex>
6470 \ifHy@pdfpagelabels

```

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

```

6471 \def\HyPL@StorePageLabel#1{%
6472 \if@filesw
6473 \begingroup
6474 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6475 \immediate\write\@mainaux{%
6476 \string\HyPL@Entry{\Hy@tempa}%
6477 }%
6478 \endgroup
6479 \fi
6480 }%

```

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.

```

6481 \Hy@AtBeginDocument{%
6482   \if@files
6483     \immediate\write\@mainaux{%
6484       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6485     }%
6486   \fi
6487   \ifx\HyPL@Labels\@empty
6488     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6489   \else
6490     \HyPL@SetPageLabels
6491   \fi
6492   \let\HyPL@Entry\@gobble
6493 }%
```

`\HyPL@Entry`

```

6494 \def\HyPL@Entry#1{%
6495   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6496     \HyPL@Labels
6497     #1%
6498   }%
6499 }%

6500 \fi
6501 </pdfmarkbase | dvipdfm | xetex>
6502 <*package>

6503 \ifx\MaybeStopEarly\relax
6504 \else
6505   \Hy@stopppedearlytrue
6506   \expandafter\MaybeStopEarly
6507 \fi
6508 \Hy@stopppedearlyfalse
```

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

```

6509 \def\Hy@CounterExists#1{%
6510   \begingroup\expandafter\expandafter\expandafter\endgroup
```

```

6511 \expandafter\ifx\csname c@#1\endcsname\relax
6512 \expandafter\@gobble
6513 \else
6514 \begingroup\expandafter\expandafter\expandafter\endgroup
6515 \expandafter\ifx\csname the#1\endcsname\relax
6516 \expandafter\expandafter\expandafter\@gobble
6517 \else
6518 \expandafter\expandafter\expandafter\@firstofone
6519 \fi
6520 \fi
6521 }
6522 \Hy@CounterExists{section}{%
6523 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6524 }
6525 \Hy@CounterExists{part}{%
6526 \newcommand\theHpart{\arabic{part}}}%
6527 }
6528 \ltx@ifundefined{thechapter}{%
6529 \newcommand\theHsection {\arabic{section}}}%
6530 \newcommand\theHfigure {\arabic{figure}}}%
6531 \newcommand\theHtable {\arabic{table}}}%
6532 }{%
6533 \newcommand\theHchapter {\arabic{chapter}}}%
6534 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
6535 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
6536 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
6537 }
6538 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
6539 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6540 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6541 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6542 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
6543 \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.

```

6544 \let\H@item\item
6545 \newcounter{Item}
6546 \def\theHItem{\arabic{Item}}
6547 \def\item{%
6548 \@hyper@itemfalse
6549 \if@nmbrlist\@hyper@itemtrue\fi
6550 \H@item
6551 }
6552 \newcommand\theHenumi {\theHItem}
6553 \newcommand\theHenumii {\theHItem}
6554 \newcommand\theHenumiii {\theHItem}
6555 \newcommand\theHenumiv {\theHItem}
6556 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6557 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6558 \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.

```

6559 \let\H@refstepcounter\refstepcounter
6560 \edef\name@of@eq{equation}%
6561 \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.

```

6562 \newif\if@hyper@item
6563 \newif\if@skiphyperref
6564 \@hyper@itemfalse
6565 \@skiphyperreffalse
6566 \def\refstepcounter#1{%
6567   \ifHy@pdfstring
6568   \else
6569     \H@refstepcounter{#1}%
6570     \edef\This@name{#1}%
6571     \ifx\This@name\name@of@slide
6572     \else
6573       \if@skiphyperref
6574       \else
6575         \if@hyper@item
6576         \stepcounter{Item}%
6577         \hyper@refstepcounter{Item}%
6578         \@hyper@itemfalse
6579       \else
6580         \hyper@refstepcounter{#1}%
6581       \fi
6582     \fi
6583   \fi
6584 \fi
6585 }
6586 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```

6587 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6588 \def\hyper@refstepcounter#1{%
6589   \edef\This@name{#1}%
6590   \ifx\This@name\name@of@eq
6591     \@ifundefined{theHequation}{%
6592       \make@stripped@name{\theequation}%
6593       \let\theHequation\newname
6594     }{}%
6595   \fi
6596   \@ifundefined{theH#1}{%
6597     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6598   }{}%
6599   \hyper@makecurrent{#1}%
6600   \ifmeasuring@
6601   \else
6602     \Hy@raisedlink{%
6603       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6604     }%
6605   \fi
6606 }

```

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.

```

6607 \begingroup\expandafter\expandafter\expandafter\endgroup
6608 \expandafter\ifx\csname chapter\endcsname\relax
6609   \def\Hy@chapterstring{section}%
6610 \else
6611   \def\Hy@chapterstring{chapter}%
6612 \fi
6613 \def\Hy@appendixstring{appendix}
6614 \def\Hy@chapapp{\Hy@chapterstring}
6615 \ltx@ifundefined{appendix}{%
6616 }{%
6617   \let\HyOrg@appendix\appendix
6618   \def\appendix{%
6619     \ltx@ifundefined{chapter}%
6620       {\gdef\theHsection{\Alph{section}}}%
6621       {\gdef\theHchapter{\Alph{chapter}}}%
6622     \xdef\Hy@chapapp{\Hy@appendixstring}%
6623     \HyOrg@appendix
6624   }%
6625 }
```

\Hy@Test@alph

```

6626 \def\Hy@Test@alph#1{%
6627   \ifcase#1\or
6628     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6629     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6630     u\or v\or w\or x\or y\or z%
6631   \else
6632     \@ctrerr
6633   \fi
6634 }
```

\Hy@Test@Alph

```

6635 \def\Hy@Test@Alph#1{%
6636   \ifcase#1\or
6637     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6638     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6639     U\or V\or W\or X\or Y\or Z%
6640   \else
6641     \@ctrerr
6642   \fi
6643 }
```

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

```

6644 \def\hyper@makecurrent#1{%
6645   \begingroup
6646     \edef\Hy@param{#1}%
6647     \ifx\Hy@param\Hy@chapterstring
6648       \let\Hy@param\Hy@chapapp
6649     \fi
6650     \ifHy@hypertextnames
6651       \let\@number\@firstofone
6652       \def\@fnsymbol##1{fnsymbol\number##1}%

```

```

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

```

\Hy@MakeCurrentHref

```

6689 \def\Hy@MakeCurrentHref#1{%
6690 \edef\HyperLocalCurrentHref{#1}%
6691 \@onelevel@sanitize\HyperLocalCurrentHref
6692 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6693 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6694 \ifHy@localanchorname
6695 \let\@currentHref\HyperLocalCurrentHref
6696 \else
6697 \global\let\@currentHref\HyperGlobalCurrentHref
6698 \fi
6699 }

```

\Hy@MakeCurrentHrefAuto

```

6700 \def\Hy@MakeCurrentHrefAuto#1{%
6701 \Hy@GlobalStepCount\Hy@linkcounter
6702 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6703 }

```

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

```

6704 \def\@currentHlabel{\@currentHref}

```

```

6705 \@ifpackageloaded{fancyvrb}{%
6706   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
6707     \def\FV@StepLineNo{%
6708       \FV@SetLineNo
6709       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6710       \FV@StepLineNo
6711     }%
6712   }%
6713 }{}

```

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 `hypertexnames` 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`

```

6714 \Hy@AtBeginDocument{%
6715   \@ifclassloaded{revtex4}{%
6716     \@namedef{ver@lastpage.sty}{1994/06/25}%
6717   }{}%
6718   \@ifpackageloaded{lastpage}{%
6719     \ifHy@pageanchor
6720     \else
6721       \Hy@WarningNoLine{%
6722         The \string\pageref{LastPage} link doesn't work\MessageBreak
6723         with disabled option 'pageanchor'%
6724       }%
6725     \fi
6726     \def\lastpage@putlabel{%
6727       \addtocounter{page}{-1}%
6728       \if@filesw
6729         \begingroup
6730           \let\@number\@firstofone
6731           \ifHy@pageanchor
6732             \ifHy@hypertexnames
6733               \ifHy@plainpages
6734                 \def\Hy@temp{\arabic{page}}%
6735               \else
6736                 \Hy@unicodedefalse
6737                 \pdfstringdef\Hy@temp{\thepage}%
6738             \fi
6739           \else
6740             \def\Hy@temp{\the\Hy@pagecounter}%
6741           \fi
6742         \fi
6743         \immediate\write\@auxout{%
6744           \string\newlabel
6745             {LastPage}{-}{\thepage}{-}{%
6746               \ifHy@pageanchor page.\Hy@temp\fi}{-}}%
6747       }%
6748     \endgroup

```

```

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

```

6778 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
6779 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

6780 \@ifpackageloaded{titlesec}{%
6781 \def\ttl@Hy@steplink#1{%
6782 \Hy@MakeCurrentHrefAuto{#1*}%
6783 \edef\ttl@Hy@saveanchor{%
6784 \noexpand\Hy@raisedlink{%
6785 \noexpand\hyper@anchorstart{\@currentHref}%
6786 \noexpand\hyper@anchorend
6787 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6788 \noexpand\ttl@Hy@PatchSaveWrite
6789 }%
6790 }%
6791 }%

```

```

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

Package titletoc support:
6813 \@ifpackageloaded{titletoc}{%
6814   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6815 }{}

```

32 Package varioref support

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

```

6816 \def\Hy@varioref@undefined{{??}{??}{-}{-}}
6817 \@ifpackageloaded{varioref}{%
6818   \def\vref@pagenum#1#2{%
6819     \@ifundefined{r@#2}{%
6820       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6821     }{}%
6822     \edef#1{\getpagerefnumber{#2}}%
6823   }%
6824 }{}

```

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

```

6825 \def\Hy@varioref@refstepcounter#1{%
6826   \stepcounter{#1}%
6827   \protected@edef\@currentlabel{%
6828     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6829   }%
6830 }
6831 \AtBeginDocument{%
6832   \ifx\refstepcounter\Hy@varioref@refstepcounter
6833     \let\H@refstepcounter\refstepcounter
6834     \let\refstepcounter\Hy@saved@refstepcounter
6835   \fi
6836 }

```

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

```

6837 \ifpackageloaded{longtable}{%
6838   \begingroup
6839   \def\y{\LT@array}%
6840   \ifundefined{scr@LT@array}{%
6841     \ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6842   }\def\y{\scr@LT@array}%
6843   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6844     \expandafter\endgroup
6845     \expandafter\def\y[##1]##2{%
6846       \H@refstepcounter{#1}%
6847       \hyper@makecurrent{table}%
6848       \let\Hy@LT@currentHref\@currentHref
6849       #2\@sharp####4%
6850     }%
6851   }%
6852   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6853 \begingroup
6854 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6855   \endgroup
6856   \def\LT@start{%
6857     #1%
6858     \ifvoid\LT@foot#2\fi
6859     \let\@currentHref\Hy@LT@currentHref
6860     \Hy@raisedlink{%
6861       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6862     }%
6863     #3%
6864   }%
6865 }%
6866 \expandafter\x\LT@start\@nil
6867 }{}

```

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.

```

6868 \let\new@refstepcounter\refstepcounter
6869 \let\H@equation\equation
6870 \let\H@endequation\endequation
6871 \ifpackageloaded{amsmath}{%
6872   \long\def\Hy@temp{%
6873     \incr@eqnum
6874     \mathdisplay@push

```

```

6875 \st@rredfalse \global\@eqnswtrue
6876 \mathdisplay{equation}%
6877 }%
6878 \ifx\Hy@temp\equation
6879 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6880 \csname iftrue\endcsname
6881 \else
6882 \long\def\equation{%
6883 \mathdisplay@push
6884 \st@rredfalse \global\@eqnswtrue
6885 \mathdisplay{equation}%
6886 \incr@eqnum
6887 }%
6888 \fi
6889 \fi
6890 }{%
6891 \def\equation{%
6892 \let\refstepcounter\H@refstepcounter
6893 \H@equation
6894 \@ifundefined{theHequation}{%
6895 \make@stripped@name{\theequation}%
6896 \let\theHequation\newname
6897 }{}%
6898 \hyper@makecurrent{equation}%
6899 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6900 \let\refstepcounter\new@refstepcounter
6901 }%
6902 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6903 }

```

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.

```

6904 \newif\if@eqnstar
6905 \@eqnstarfalse
6906 \let\H@eqnarray\eqnarray
6907 \let\H@endeqnarray\endeqnarray
6908 \def\eqnarray{%
6909 \let\Hy@reserved@a\relax
6910 \def\@currentHref{}%
6911 \H@eqnarray
6912 \if@eqnstar
6913 \else
6914 \ifx\\\@currentHref\\%
6915 \else
6916 \@ifundefined{theHequation}{%
6917 \make@stripped@name{\theequation}%
6918 \let\theHequation\newname
6919 }{}%
6920 \hyper@makecurrent{equation}%
6921 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6922 \fi
6923 \fi
6924 }
6925 \def\endeqnarray{%

```

```

6926 \H@endeqnarray
6927 }

```

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.

```

6928 \@namedef{eqnarray*}{%
6929 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6930 }
6931 \@namedef{endeqnarray*}{%
6932 \nonumber\endeqnarray\@eqnstarfalse
6933 }

```

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

```

6934 \ltx@ifundefined{subeqnarray}{}{%
6935 \let\H@subeqnarray\subeqnarray
6936 \let\H@endsubeqnarray\endsubeqnarray
6937 \def\subeqnarray{%
6938 \let\Hy@reserved@a\relax
6939 \H@subeqnarray
6940 \@ifundefined{theHequation}{%
6941 \make@stripped@name{\theequation}%
6942 \let\theHequation\newname
6943 }{}%
6944 \hyper@makecurrent{equation}%
6945 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6946 }%
6947 \def\endsubeqnarray{%
6948 \H@endsubeqnarray
6949 }%
6950 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6951 }

```

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

```

6952 \def\make@stripped@name#1{%
6953 \begingroup
6954 \escapechar\m@ne
6955 \global\let\newname\@empty
6956 \protected@edef\Hy@tempa{#1}%
6957 \edef\@tempb{%
6958 \noexpand\@tfor\noexpand\Hy@tempa:=%
6959 \expandafter\strip@prefix\meaning\Hy@tempa
6960 }%
6961 \@tempb\do{%
6962 \if{\Hy@tempa\else
6963 \if}\Hy@tempa\else
6964 \xdef\newname{\newname\Hy@tempa}%
6965 \fi
6966 \fi
6967 }%
6968 \endgroup
6969 }

```

Support for amsmath's subequations:

```

6970 \begingroup\expandafter\expandafter\expandafter\endgroup
6971 \expandafter\ifx\csname subequations\endcsname\relax
6972 \else
6973 \let\HyOrg@subequations\subequations
6974 \def\subequations{%

```



```

6975 \stepcounter{equation}%
6976 \protected@edef\theHparentequation{%
6977   \@ifundefined{theHequation}\theequation\theHequation
6978 }%
6979 \addtocounter{equation}{-1}%
6980 \HyOrg@subequations
6981 \def\theHequation{\theHparentequation\alph{equation}}%
6982 \ignorespaces
6983 }%
6984 \fi

```

Support for package amsthm (Daniel Müllner):

```

6985 \@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

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

```

```

7025 \topsep \thm@preskip % used by thm head
7026 \topsepadd \thm@postskip % used by \endparenv
7027 \def\dth@counter{#2}%
7028 \ifx\@empty\dth@counter
7029 \def\@tempa{%
7030 \oparg{\@begintheorem{#3}{}}{}%
7031 }%
7032 \else
7033 \H@refstepcounter{#2}%
7034 \hyper@makecurrent{#2}%
7035 \let\Hy@dth@currentHref\@currentHref
7036 \def\@tempa{%
7037 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7038 }%
7039 \fi
7040 \@tempa
7041 }%
7042 \else
7043 \def\@thm#1#2#3{%
7044 \ifhmode
7045 \unskip\unskip\par
7046 \fi
7047 \normalfont
7048 \trivlist
7049 \let\thmheadnl\relax
7050 \let\thm@swap\@gobble
7051 \thm@notefont{\fontseries\mddefault\upshape}%
7052 \thm@headpunct{.}% add period after heading
7053 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7054 \thm@space@setup
7055 #1% style overrides
7056 \topsep \thm@preskip % used by thm head
7057 \topsepadd \thm@postskip % used by \endparenv
7058 \def\dth@counter{#2}%
7059 \ifx\@empty\dth@counter
7060 \def\@tempa{%
7061 \oparg{\@begintheorem{#3}{}}{}%
7062 }%
7063 \else
7064 \H@refstepcounter{#2}%
7065 \hyper@makecurrent{#2}%
7066 \let\Hy@dth@currentHref\@currentHref
7067 \def\@tempa{%
7068 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7069 }%
7070 \fi
7071 \@tempa
7072 }%
7073 \fi
7074 \dth@everypar={%
7075 \@minipagefalse
7076 \global\@newlistfalse
7077 \@noparitemfalse
7078 \if@inlabel
7079 \global\@inlabelfalse
7080 \begingroup
7081 \setbox\z@\lastbox

```

```

7082     \ifvoid\z@
7083     \kern-\itemindent
7084     \fi
7085 \endgroup
7086 \ifx\@empty\dth@counter
7087 \else
7088   \Hy@raisedlink{%
7089     \hyper@anchorstart{%
7090       \ltx@ifundefined{Hy@dth@currentHref}%
7091       \@currentHref\Hy@dth@currentHref
7092     }\hyper@anchorend
7093   }%
7094 \fi
7095 \unhbox\@labels
7096 \fi
7097 \if@nobreak
7098   \@nobreakfalse \clubpenalty\@M
7099 \else
7100   \clubpenalty\@clubpenalty \everypar{}%
7101 \fi
7102 }%
7103 }{}

```

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.

```

7104 \ifHy@hyperfootnotes
7105   \newcounter{Hfootnote}%
7106   \let\H@@@footnotetext\@footnotetext
7107   \let\H@@@footnotemark\@footnotemark
7108   \def\@xfootnotenext[#1]{%
7109     \begingroup
7110       \csname c@\@mpfn\endcsname #1\relax
7111       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7112     \endgroup
7113     \ifx\@footnotetext\@mpfootnotetext
7114       \expandafter\H@@@mpfootnotetext
7115     \else
7116       \expandafter\H@@@footnotetext
7117     \fi
7118   }%
7119   \def\@xfootnotemark[#1]{%
7120     \begingroup
7121       \c@footnote #1\relax
7122       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7123     \endgroup
7124     \H@@@footnotemark
7125   }%
7126   \let\H@@@mpfootnotetext\@mpfootnotetext
7127   \long\def\@mpfootnotetext#1{%
7128     \H@@@mpfootnotetext{%
7129       \ifHy@nesting
7130         \expandafter\hyper@@anchor\expandafter{%

```

```

7131     \Hy@footnote@currentHref
7132     }{#1}%
7133   \else
7134     \Hy@raisedlink{%
7135       \expandafter\hyper@@anchor\expandafter{%
7136         \Hy@footnote@currentHref
7137       }{\relax}%
7138     }#1%
7139   \fi
7140 }%
7141 }%
7142 \long\def\@footnotetext#1{%
7143   \H@@footnotetext{%
7144     \ifHy@nesting
7145       \expandafter\hyper@@anchor\expandafter{%
7146         \Hy@footnote@currentHref
7147       }{#1}%
7148     \else
7149       \Hy@raisedlink{%
7150         \expandafter\hyper@@anchor\expandafter{%
7151           \Hy@footnote@currentHref
7152         }{\relax}%
7153       }%
7154       \let\@currentHref\Hy@footnote@currentHref
7155       \let\@currentlabelname\@empty
7156       #1%
7157     \fi
7158   }%
7159 }%

```

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.

```

7160 \def\@footnotemark{%
7161   \leavevmode
7162   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7163   \stepcounter{Hfootnote}%
7164   \global\let\Hy@saved@currentHref\@currentHref
7165   \hyper@makecurrent{Hfootnote}%
7166   \global\let\Hy@footnote@currentHref\@currentHref
7167   \global\let\@currentHref\Hy@saved@currentHref
7168   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7169   \@makefnmark
7170   \hyper@linkend
7171   \ifhmode\spacefactor\@x@sf\fi
7172   \relax
7173 }%

```

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

```

7174 \ifpackageloaded{tabularx}{%
7175   \let\HyOrg@TX@endtabularx\TX@endtabularx
7176   \def\TX@endtabularx{%
7177     \let\@footnotetext\H@@footnotetext
7178     \let\@footnotemark\H@@footnotemark
7179     \let\@mpfootnotetext\H@@mpfootnotetext
7180     \HyOrg@TX@endtabularx

```

```

7181 }%
7182 }{}%

```

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

```

7183 \@ifpackageloaded{longtable}{%
7184   \CheckCommand*{\LT@p@ftntext}[1]{%
7185     \edef\@tempa{%
7186       \the\LT@p@ftn
7187       \noexpand\footnotetext[\the\c@footnote]%
7188     }%
7189     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7190   }%
7191   \long\def\LT@p@ftntext#1{%
7192     \edef\@tempa{%
7193       \the\LT@p@ftn
7194       \begingroup
7195         \noexpand\c@footnote=\the\c@footnote\relax
7196         \noexpand\protected@xdef\noexpand\@thefnmark{%
7197           \noexpand\thempfn
7198         }%
7199         \noexpand\Hy@LT@footnotetext{%
7200           \Hy@footnote@currentHref
7201         }%
7202       }%
7203       \global\LT@p@ftn\expandafter{%
7204         \@tempa{#1}%
7205       }%
7206     }%
7207   }%
7208   \long\def\Hy@LT@footnotetext#1#2{%
7209     \H@@@footnotetext{%
7210       \ifHy@nesting
7211         \hyper@@anchor{#1}{#2}%
7212       \else
7213         \Hy@raisedlink{%
7214           \hyper@@anchor{#1}{\relax}%
7215         }%
7216         \def\@currentHref{#1}%
7217         \let\@currentlabelname\@empty
7218         #2%
7219       \fi
7220     }%
7221   }%
7222 }{}%

```

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

```

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

```

```

7232 \hsize\columnwidth
7233 \@parboxrestore
7234 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7235 \@makefnmark{}%
7236 \rule{\z@}{\footnotesep}%
7237 \bgroup
7238 \aftergroup\V@@@footnotetext
7239 \Hy@raisedlink{%
7240 \expandafter\hyper@@anchor\expandafter{%
7241 \Hy@footnote@currentHref
7242 }\relax}%
7243 }%
7244 \let\@currentHref\Hy@footnote@currentHref
7245 \let\@currentlabelname\@empty
7246 \ignorespaces
7247 }%
7248 }{}%

```

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

```

7249 \def\Hy@temp#1{%
7250 \begingroup
7251 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7252 \endgroup
7253 \@footnotemark
7254 }%
7255 \ifx\Hy@temp\footref
7256 \def\footref#1{%
7257 \begingroup
7258 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7259 \endgroup
7260 \H@@@footnotemark
7261 }%
7262 \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.

```

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

```

```

7284 \fi
7285 }%

```

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

```

7286 \def\realfootnote{%
7287 \ifnextchar[\@xfootnote{%
7288 \stepcounter{\@mpfn}%
7289 \protected@xdef\@thefnmark{\thempfn}%
7290 \H@@@footnotemark\H@@@footnotetext
7291 }%
7292 }%

7293 \fi
7294 \Hy@DisableOption{hyperfootnotes}

7295 </package>
7296 <*check>
7297 \checklatex
7298 \checkcommand\def\@xfootnotenext[#1]{%
7299 \begingroup
7300 \csname c@\@mpfn\endcsname #1\relax
7301 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7302 \endgroup
7303 \@footnotetext
7304 }
7305 \checkcommand\def\@xfootnotemark[#1]{%
7306 \begingroup
7307 \c@footnote #1\relax
7308 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7309 \endgroup
7310 \@footnotemark
7311 }
7312 \checkcommand\def\@footnotemark{%
7313 \leavevmode
7314 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7315 \@makefnmark
7316 \ifhmode\spacefactor\@x@sf\fi
7317 \relax
7318 }
7319 </check>
7320 <*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.

```

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

```

```

7332     \let\Hy@tempa\Hy@float@caption
7333     \fi
7334   }%
7335   \expandafter\@firstofone
7336 \fi
7337 {\@dblarg{\Hy@tempa\@capttype}}%
7338 }
7339 \long\def\@caption#1[#2]#3{%
7340   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7341     \csname iftrue\endcsname
7342     \global\let\@currentHref\hc@currentHref
7343   \else
7344     \hyper@makecurrent{\@capttype}%
7345   \fi
7346   \@ifundefined{NR@gettitle}{%
7347     \def\@currentlabelname{#2}%
7348   }{%
7349     \NR@gettitle{#2}%
7350   }%
7351   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7352     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7353   }%
7354   \begingroup
7355     \@parboxrestore
7356     \if@minipage
7357       \setminipage
7358     \fi
7359     \normalsize
7360     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7361       \csname iftrue\endcsname
7362       \global\@capstartfalse
7363       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7364     \else
7365       \@makecaption{\csname fnum@#1\endcsname}{%
7366         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7367     \ifHy@nesting
7368       \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7369     \else
7370       \Hy@raisedlink{%
7371         \expandafter\hyper@@anchor\expandafter{%
7372           \@currentHref
7373         }\relax}%
7374       }%
7375       #3%
7376     \fi
7377   }%
7378 \fi
7379 \par
7380 \endgroup
7381 }

```

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.

```

7382 \let\Hy@float@caption\@caption
7383 \@ifpackageloaded{float}{%
7384   \def\Hy@float@caption{%

```



```

7385 \ifx\Hy@float@currentHref\@undefined
7386 \hyper@makecurrent{\@cuptype}%
7387 \global\let\Hy@float@currentHref\@currentHref
7388 \else
7389 \let\@currentHref\Hy@float@currentHref
7390 \fi
7391 \float@caption
7392 }%
7393 \let\HyOrg@float@makebox\float@makebox
7394 \renewcommand{\float@makebox}[1]{%
7395 \HyOrg@float@makebox{%
7396 #1\relax
7397 \ifx\Hy@float@currentHref\@undefined
7398 \else
7399 \expandafter\hyper@@anchor\expandafter{%
7400 \Hy@float@currentHref
7401 }\relax}%
7402 \global\let\Hy@float@currentHref\@undefined
7403 \fi
7404 }%
7405 }%
7406 }{}

7407 \</package>
7408 \<*check>
7409 \checklatex[1999/06/01 - 2000/06/01]
7410 \checkcommand\def\caption{%
7411 \ifx\@cuptype\@undefined
7412 \@latex@error{\noexpand\caption outside float}\@ehd
7413 \expandafter\@gobble
7414 \else
7415 \refstepcounter\@cuptype
7416 \expandafter\@firstofone
7417 \fi
7418 {\@dblarg{\@caption\@cuptype}}}%
7419 }
7420 \checkcommand\long\def\@caption#1[#2]#3{%
7421 \par
7422 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7423 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7424 }%
7425 \begingroup
7426 \@parboxrestore
7427 \if@minipage
7428 \@setminipage
7429 \fi
7430 \normalsize
7431 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7432 \endgroup
7433 }
7434 \</check>
7435 \<*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 *drficite* may break.

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

```

7436 \def\hyper@natlinkstart#1{%
7437   \Hy@backout{#1}%
7438   \hyper@linkstart{cite}{cite.#1}%
7439   \def\hyper@nat@current{#1}%
7440 }
7441 \def\hyper@natlinkend{%
7442   \hyper@linkend
7443 }
7444 \def\hyper@natlinkbreak#1#2{%
7445   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7446 }
7447 \def\hyper@natanchorstart#1{%
7448   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7449 }
7450 \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.

```

7451 \ltx@ifundefined{NAT@parse}{%
7452   \providecommand*\@extra@binfo{}%
7453   \providecommand*\@extra@b@citeb{}%
7454   \def\bibcite#1#2{%
7455     \@newlabel{b}{#1\@extra@binfo}{%
7456       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7457     }%
7458   }%
7459   \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.”.

```

7460 \let\Hy@bibcite\bibcite
7461 \begingroup
7462   \ifundefined{bbl@cite@choice}{}{%
7463     \g@addto@macro\bbl@cite@choice{%
7464       \let\bibcite\Hy@bibcite
7465     }%
7466   }%
7467 \endgroup

```

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

```

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

```

```

7478     \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7479     }%
7480     \@BIBLABEL{#1}%
7481     \fi
7482     \hfill
7483   ]%
7484   \@skiphyperreffalse
7485   \if@filesw
7486     \begingroup
7487     \let\protect\noexpand
7488     \immediate\write\@auxout{%
7489       \string\bibcite{#2}{#1}%
7490     }%
7491     \endgroup
7492   \fi
7493   \ignorespaces
7494 }%

```

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

```

7495 \def\@bibitem#1{%
7496   \@skiphyperreftrue\H@item\@skiphyperreffalse
7497   \Hy@raisedlink{%
7498     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7499   }%
7500   \if@filesw
7501     \begingroup
7502     \let\protect\noexpand
7503     \immediate\write\@auxout{%
7504       \string\bibcite{#1}{\the\value{\@listctr}}}%
7505     }%
7506     \endgroup
7507   \fi
7508   \ignorespaces
7509 }%
7510 }{}

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

```

```

7532 \fi
7533 \ignorespaces
7534 }
7535 </check>
7536 <*package>

```

Revtext (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.

```

7537 \ifclassloaded{revtext}{%
7538 \Hy@Info{*** compatibility with revtext **** }%
7539 \def\revtext@checking#1#2{%
7540 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7541 \expandafter\def\csname b@#1\endcsname{#2}%
7542 \@SetMaxRnhefLabel{#1}%
7543 \expandafter\let\csname b@#1\endcsname\T@temp
7544 }%

```

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

```

7545 \ifundefined{CITE}{\def\CITE{\@cite}}{%
7546 \providecommand*\@extra@b@cib{%
7547 \def\CITE[#1]#2{%
7548 \let\@citea\@empty
7549 \leavevmode
7550 \unskip
7551 $^{}%
7552 \scriptstyle
7553 \@CITE{%
7554 \@for\@citeb:=#2\do{%
7555 \@citea
7556 \def\@citea{,\penalty\@m\ }%
7557 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7558 \if@filesw
7559 \immediate\write\@auxout{\string\citation{\@citeb}}%
7560 \fi
7561 \ifundefined{b@\@citeb\extra@b@cib}{%
7562 \mbox{\reset@font\bfseries ?}%
7563 \G@refundefinedtrue
7564 \@latex@warning{%
7565 Citation '\@citeb' on page \thepage \space undefined%
7566 }%
7567 }{%
7568 {\csname b@\@citeb\@extra@b@cib\endcsname}%
7569 }%
7570 }%
7571 }{#1}%
7572 }$%
7573 }%

```

No, life is too short. I am not going to understand the Revtext \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

```

7574 \def\citex[#1]#2{%
7575 \let\@citea\@empty
7576 \@cite{%
7577 \@for\@citeb:=#2\do{%
7578 \@citea
7579 \def\@citea{,\penalty\@m\ }%

```

```

7580 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7581 \if@filesw
7582 \immediate\write\@auxout{\string\citation{\@citeb}}}%
7583 \fi
7584 \ifundefined{b@\@citeb\@extra@b@citeb}{%
7585 \mbox{\reset@font\bfseries ?}%
7586 \G@refundefinedtrue
7587 \@latex@warning{%
7588 Citation '\@citeb' on page \thepage \space undefined%
7589 }%
7590 }{%
7591 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7592 }%
7593 }%
7594 }{\#1}%
7595 }%
7596 }{}

```

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.

```

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

```

```

7627 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
7628 }%
7629 \def\@harvarditem[#1]#2#3#4#5\par{%
7630 \item[]%
7631 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7632 \if@filesw
7633 \begingroup
7634 \def\protect##1{\string ##1\space}%
7635 \ifthenelse{\equal{#1}{\null}}{%
7636 {\def\next{{#4}{#2}{#2}{#3}}}%
7637 {\def\next{{#4}{#2}{#1}{#3}}}%
7638 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7639 \endgroup
7640 \fi
7641 \protect\hspace*{-\labelwidth}%
7642 \protect\hspace*{-\labelsep}%
7643 \ignorespaces
7644 #5%
7645 \ifHy@backref
7646 \newblock
7647 \backref{\csname br@#4\endcsname}%
7648 \fi
7649 \par
7650 }%

```

\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:

```

7651 \long\def\HAR@checkcitations#1#2#3#4{%
7652 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7653 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7654 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7655 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7656 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7657 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7658 \else
7659 \@tempswatrue
7660 \fi
7661 \else
7662 \@tempswatrue
7663 \fi
7664 \else
7665 \@tempswatrue
7666 \fi
7667 }%
7668 }%
7669 }{}

```

37.2 Package chicago

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

```

7670 \ifpackageloaded{chicago}{%

```

\citeN

```

7671 \def\citeN{%
7672 \def\@citeseppen{-1000}%

```

```

7673 \def\@cite##1##2{##1}%
7674 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
7675 \@citedata@opt
7676 }%

```

\shortciteN

```

7677 \def\shortciteN{%
7678 \def\@citesep{-1000}%
7679 \def\@cite##1##2{##1}%
7680 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
7681 \@citedata@opt
7682 }%

```

\@citedata@opt

```

7683 \def\@citedata@opt{%
7684 \let\@cite@opt\@empty
7685 \@ifnextchar [{%
7686 \@tempswatrue
7687 \@citedatax@opt
7688 }{%
7689 \@tempswafalse
7690 \@citedatax[]%
7691 }%
7692 }%

```

\@citedatax@opt

```

7693 \def\@citedatax@opt[#1]{%
7694 \def\@cite@opt{, #1}%
7695 \@citedatax[{#1}]%
7696 }%
7697 }{}

```

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.

```

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

```

```

7713 \def\Hy@PageAnchorSlide{%
7714 \advance\c@page\ltx@one
7715 \ifnum\c@page>\ltx@one
7716 \ltx@ifundefined{theHpage}{%
7717 \protected@edef\Hy@TheSlideOptionalPage{%
7718 \Hy@SlidesFormatOptionalPage{the\thepage}%
7719 }%
7720 }{%
7721 \protected@edef\Hy@TheSlideOptionalPage{%
7722 \Hy@SlidesFormatOptionalPage{theHpage}%
7723 }%
7724 }%
7725 \else
7726 \def\Hy@TheSlideOptionalPage{}%
7727 \fi
7728 \advance\c@page-\ltx@one
7729 \pdfstringdef\@the@H@page{%
7730 \csname
7731 the%
7732 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7733 \Hy@SlidesPage
7734 \endcsname
7735 \Hy@TheSlideOptionalPage
7736 }%
7737 \ltx@gobblethree
7738 }%
7739 \def\Hy@SlidesPage{slide}%
7740 \g@addto@macro\slide{%
7741 \def\Hy@SlidesPage{slide}%
7742 }%
7743 \g@addto@macro\overlay{%
7744 \def\Hy@SlidesPage{overlay}%
7745 }%
7746 \g@addto@macro\note{%
7747 \def\Hy@SlidesPage{note}%
7748 }%
7749 }{%
7750 \def\Hy@PageAnchorSlidesPlain{}%
7751 \def\Hy@PageAnchorSlide{}%
7752 }
7753 \def\Hy@EveryPageAnchor{%
7754 \Hy@DistillerDestFix
7755 \ifHy@pageanchor
7756 \ifHy@hypertexnames
7757 \ifHy@plainpages
7758 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7759 \Hy@PageAnchorSlidesPlain
7760 \else
7761 \begingroup
7762 \let\@number\@firstofone
7763 \Hy@unicodedefalse
7764 \Hy@PageAnchorSlide
7765 \pdfstringdef\@the@H@page{the\thepage}%
7766 \endgroup
7767 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7768 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7769 \fi

```



```

7770 \else
7771 \Hy@GlobalStepCount\Hy@pagecounter
7772 \def\Hy@TempPageAnchor{%
7773 \hyper@@anchor{page.\the\Hy@pagecounter}%
7774 }%
7775 \fi
7776 \vbox to 0pt{%
7777 \kern\voffset
7778 \kern\topmargin
7779 \kern-1bp\relax
7780 \hbox to 0pt{%
7781 \kern\hoffset
7782 \kern\ifodd\value{page}%
7783 \oddsidemargin
7784 \else
7785 \evensidemargin
7786 \fi
7787 \kern-1bp\relax
7788 \Hy@TempPageAnchor\relax
7789 \hss
7790 }%
7791 \vss
7792 }%
7793 \fi
7794 }
7795 \g@addto@macro\Hy@EveryPageBoxHook{%
7796 \Hy@EveryPageAnchor
7797 }

```

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.

```

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

```

```

7820 \fi
7821 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7822 \Hy@writebookmark{\csname the#2\endcsname}%
7823   {#3}%
7824   {\@currentHref}%
7825   {\Hy@toclevel}%
7826   {#1}%
7827 \ifHy@verbose
7828   \begingroup
7829   \def\Hy@tempa{#3}%
7830   \@onelevel@sanitize\Hy@tempa
7831   \let\temp@online\on@line
7832   \let\on@line\@empty
7833   \Hy@Info{%
7834     bookmark\temp@online:\MessageBreak
7835     thecounter {\csname the#2\endcsname}\MessageBreak
7836     text {\Hy@tempa}\MessageBreak
7837     reference {\@currentHref}\MessageBreak
7838     toplevel {\Hy@toclevel}\MessageBreak
7839     type {#1}%
7840   }%
7841   \endgroup
7842 \fi
7843 \addtocontents{#1}{%
7844   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7845 }%
7846 \endgroup
7847 }
7848 \def\contentsline#1#2#3#4{%
7849   \ifx\#4\%
7850     \csname l@#1\endcsname{#2}{#3}%
7851   \else
7852     \ifcase\Hy@linktoc % none
7853       \csname l@#1\endcsname{#2}{#3}%
7854     \or % section
7855       \csname l@#1\endcsname{%
7856         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7857       }{#3}%
7858     \or % page
7859       \csname l@#1\endcsname{{#2}}{%
7860         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7861       }%
7862     \else % all
7863       \csname l@#1\endcsname{%
7864         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7865       }{%
7866         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7867       }%
7868     \fi
7869   \fi
7870 }
7871 \</package>
7872 \<*check>
7873 \checklatex
7874 \checkcommand\def\addcontentsline#1#2#3{%
7875   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7876 }

```

```

7877 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7878 \</check>
7879 \<*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.

```

7880 \let\H@definecounter\@definecounter
7881 \def\@definecounter#1{%
7882   \H@definecounter{#1}%
7883   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7884 }

```

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.

```

7885 \let\H@newctr\@newctr
7886 \def\@newctr#1[#2]{%
7887   \H@newctr#1[{#2}]%
7888   \expandafter\def\csname theH#1\endcsname{%
7889     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7890   }%
7891 }

```

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.

```

7892 \ifpackageloaded{amsmath}{%
7893   \def\Hy@make@anchor{%
7894     \Hy@MakeCurrentHrefAuto{AMS}%
7895     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7896   }%
7897   \def\Hy@make@df@tag@@#1{%
7898     \gdef\df@tag{%
7899       \maketag@@@{\Hy@make@anchor#1}%
7900       \def\@currentlabel{#1}%
7901     }%
7902   }%
7903   \def\Hy@make@df@tag@@@#1{%
7904     \gdef\df@tag{%
7905       \tagform@{\Hy@make@anchor#1}%
7906       \toks@{\xp{p@equation{#1}}}%
7907       \edef\@currentlabel{\the\toks@}%
7908     }%
7909   }%
7910   \let\HyOrg@make@df@tag@@\make@df@tag@@
7911   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7912   \let\make@df@tag@@\Hy@make@df@tag@@
7913   \let\make@df@tag@@@\Hy@make@df@tag@@@
7914 }{}

```

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

```

7915 \ifpackagewith{hyperref}{pdfTeX}{%
7916   \let\H@seteqlabel\@seteqlabel
7917   \def\@seteqlabel#1{%
7918     \H@seteqlabel{#1}%
7919     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7920     \Hy@raisedlink{%
7921       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7922     }%
7923   }%
7924 }{}

```

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.

```

7925 \let\HyOrg@addtoreset\@addtoreset
7926 \def\@addtoreset#1#2{%
7927   \HyOrg@addtoreset{#1}{#2}%
7928   \expandafter\xdef\csname theH#1\endcsname{%
7929     \expandafter\noexpand
7930     \csname the\@ifundefined{theH#2}{H#2}\endcsname
7931     .\noexpand\the\noexpand\value{#1}%
7932   }%
7933 }

```

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

```

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

```

```

7951 \renewcommand*{\numberwithin}[3][\arabic]{%
7952 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7953 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7954 \HyOrg@addtoreset{#2}{#3}%
7955 \xp\xdef\csname the#2\endcsname{%
7956 \xp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7957 }%
7958 \xp\xdef\csname theH#2\endcsname{%
7959 \xp\xnx
7960 \csname the\@ifundefined{theH#3}{H#3\endcsname
7961 .\@nx#1{#2}%
7962 }%
7963 }%
7964 }%
7965 }%
7966 }{%
7967 \Hy@WarningNoLine{%
7968 \string\numberwithin\space of package ‘amsmath’ %
7969 only fixed\MessageBreak
7970 for version 2000/06/06 v2.12 or newer%
7971 }%
7972 }%
7973 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7974 \ifHy@hyperfigures
7975 \let\Hy@Gin@setfile\Gin@setfile
7976 \def\Gin@setfile#1#2#3{%
7977 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7978 }%
7979 \fi
7980 \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 emboldening 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.

```

7981 \ifHy@hyperindex
7982 \def\HyInd@ParenLeft{({}%
7983 \def\HyInd@ParenRight{)}}%
7984 \def\hyperindexformat#1#2{%
7985 \let\HyOrg@hyperpage\hyperpage
7986 \let\hyperpage\@firstofone
7987 #1{\HyOrg@hyperpage{#2}}%
7988 \let\hyperpage\HyOrg@hyperpage

```

```

7989 }%
7990 \Hy@nextfalse
7991 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7992 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7993 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7994 \begingroup
7995 \lccode'\|=\expandafter\HyInd@EncapChar\relax
7996 \lccode'\/= '\relax
7997 \lowercase{\endgroup
7998 \ifHy@next
7999 \let\HyInd@org@wrindex\@wrindex
8000 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8001 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8002 \ifx\#3\%
8003 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8004 \else
8005 \HyInd@@@wrindex{#1}{#2}#3\%
8006 \fi
8007 }%
8008 \def\HyInd@@@wrindex#1#2#3#4\{\%
8009 \def\Hy@temp@A{#3}%
8010 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8011 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8012 \relax
8013 \HyInd@org@wrindex{#1}{%
8014 #2|hyperindexformat{/#3#4}%
8015 }%
8016 \else
8017 \ifx\#4\%
8018 \ifx\Hy@temp@A\HyInd@ParenRight
8019 \HyInd@org@wrindex{#1}{#2|#3}%
8020 \else
8021 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8022 \fi
8023 \else
8024 \HyInd@org@wrindex{#1}{%
8025 #2|#3hyperindexformat{/#4}%
8026 }%
8027 \fi
8028 \fi
8029 }%
8030 \else
8031 \def\@wrindex#1{\@@wrindex#1||\}%
8032 \def\@@wrindex#1|#2|#3\{\%
8033 \if@filesw
8034 \ifx\#2\%
8035 \protected@write\@indexfile{}\%
8036 \string\indexentry{#1|hyperpage}{\thepage}%
8037 }%
8038 \else
8039 \HyInd@@@wrindex{#1}#2\%
8040 \fi
8041 \fi
8042 \endgroup
8043 \@esphack
8044 }%
8045 \def\HyInd@@@wrindex#1#2#3\{\%

```

```

8046 \def\Hy@temp@A{#2}%
8047 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8048 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8049 \relax
8050 \protected@write\@indexfile{}\{%
8051 \string\indexentry{%
8052 #1|hyperindexformat{/#2#3}%
8053 }\the page}%
8054 }%
8055 \else
8056 \ifx\#3\%
8057 \ifx\Hy@temp@A\HyInd@ParenRight
8058 \protected@write\@indexfile{}\{%
8059 \string\indexentry{#1|#2}\the page}%
8060 }%
8061 \else
8062 \protected@write\@indexfile{}\{%
8063 \string\indexentry{#1|#2hyperpage}\the page}%
8064 }%
8065 \fi
8066 \else
8067 \protected@write\@indexfile{}\{%
8068 \string\indexentry{%
8069 #1|#2hyperindexformat{/#3}%
8070 }\the page}%
8071 }%
8072 \fi
8073 \fi
8074 }%
8075 \fi
8076 }%
8077 \fi
8078 \Hy@DisableOption{hyperindex}
8079 \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.

```
8080 \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.

```

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

```

```

8097 \ifx\#2\%
8098 \commahyperpage{#1}%
8099 \else
8100 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8101 \fi
8102 }
8103 \def\commahyperpage#1{\commahyperpage#1, ,\}
8104 \def\commahyperpage#1, #2,#3\{%
8105 \ifx\#2\%
8106 \HyInd@pagelink{#1}%
8107 \else
8108 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8109 \fi
8110 }

```

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

```

8111 \def\HyInd@pagelink#1{%
8112 \begingroup
8113 \toks@={}%
8114 \HyInd@removespaces#1 \@nil
8115 \endgroup
8116 }
8117 \def\HyInd@removespaces#1 #2\@nil{%
8118 \toks@=\expandafter\the\toks@#1}%
8119 \ifx\#2\%
8120 \edef\x{\the\toks@}%
8121 \ifx\x\@empty
8122 \else
8123 \hyperlink{page.\the\toks@}{\the\toks@}%
8124 \fi
8125 \else
8126 \ltx@ReturnAfterFi{%
8127 \HyInd@removespaces#2\@nil
8128 }%
8129 \fi
8130 }

```

44 Compatibility with foiltex

```

8131 \@ifclassloaded{foils}{%
8132 \providecommand*\ext@table{lot}%
8133 \providecommand*\ext@figure{lof}%
8134 }{}

```

45 Compatibility with seminar slide package

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

```

8135 \@ifclassloaded{seminar}{%
8136 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
8137 }{%
8138 \Hy@seminarslidesfalse
8139 }
8140 \@ifpackageloaded{slidesec}{%
8141 \newcommand\theHslidesection {\arabic{slidesection}}}%

```



```

8142 \newcommand\theHslidesubsection{%
8143   \theHslidesection.\arabic{slidesubsection}%
8144 }%
8145 \def\slide@heading[#1]#2{%
8146   \H@refstepcounter{slidesection}%
8147   \@addtoreset{slidesubsection}{slidesection}%
8148   \addtocontents{los}{%
8149     \protect\l@slide{\the\c@slidesection}\ignorespaces#1}%
8150     {\@SCTR}{slideheading.\theslidesection}%
8151   }%
8152   \def\Hy@tempa{#2}%
8153   \ifx\Hy@tempa@empty
8154   \else
8155     {%
8156       \edef\@currentlabel{%
8157         \csname p@slidesection\endcsname\theslidesection
8158       }%
8159       \makeslideheading{#2}%
8160     }%
8161   \fi
8162   \gdef\theslideheading{#1}%
8163   \gdef\theslidesubheading{}%
8164   \ifHy@bookmarksnumbered
8165     \def\Hy@slidetitle{\theslidesection\space #1}%
8166   \else
8167     \def\Hy@slidetitle{#1}%
8168   \fi
8169   \ifHy@hypertexnames
8170     \ifHy@naturalnames
8171       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8172       \Hy@writebookmark
8173         {\theslidesection}%
8174         {\Hy@slidetitle}%
8175         {slideheading.\theslidesection}%
8176         {1}%
8177         {toc}%
8178     \else
8179       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8180       \Hy@writebookmark
8181         {\theslidesection}%
8182         {\Hy@slidetitle}%
8183         {slideheading.\theHslidesection}%
8184         {1}%
8185         {toc}%
8186     \fi
8187   \else
8188     \Hy@GlobalStepCount\Hy@linkcounter
8189     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8190     \Hy@writebookmark
8191       {\theslidesection}%
8192       {\Hy@slidetitle}%
8193       {slideheading.\the\Hy@linkcounter}%
8194       {1}%
8195       {toc}%
8196   \fi
8197 }%
8198 \def\slide@subheading[#1]#2{%

```

```

8199 \H@refstepcounter{slidesubsection}%
8200 \addtocontents{los}{%
8201   \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8202   {\@SCTR}{slideheading.\theslidesubsection}%
8203 }%
8204 \def\Hy@tempa{#2}%
8205 \ifx\Hy@tempa\@empty
8206 \else
8207   {%
8208     \edef\@currentlabel{%
8209       \csname p@slidesubsection\endcsname\theslidesubsection
8210     }%
8211     \makeslidesubheading{#2}%
8212   }%
8213 \fi
8214 \gdef\theslidesubheading{#1}%
8215 \ifHy@bookmarksnumbered
8216   \def\Hy@slidetitle{\theslidesubsection\space #1}%
8217 \else
8218   \def\Hy@slidetitle{#1}%
8219 \fi
8220 \ifHy@hypertextnames
8221   \ifHy@naturalnames
8222     \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8223     \Hy@writebookmark
8224       {\theslidesubsection}%
8225       {\Hy@slidetitle}%
8226       {slideheading.\theslidesubsection}%
8227       {2}%
8228       {toc}%
8229   \else
8230     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8231     \Hy@writebookmark
8232       {\theslidesubsection}%
8233       {\Hy@slidetitle}%
8234       {slideheading.\theHslidesubsection}%
8235       {2}%
8236       {toc}%
8237   \fi
8238 \else
8239   \Hy@GlobalStepCount\Hy@linkcounter
8240   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8241   \Hy@writebookmark
8242     {\theslidesubsection}%
8243     {\Hy@slidetitle}%
8244     {slideheading.\the\Hy@linkcounter}%
8245     {1}%
8246     {toc}%
8247 \fi
8248 }%
8249 \providecommand*{\listslidenam}{List of Slides}%
8250 \def\listofslides{%
8251   \section*{%
8252     \listslidenam
8253     \@mkboth{%
8254       \expandafter\MakeUppercase\listslidenam
8255     }%

```

```

8256     \expandafter\MakeUppercase\listslidenam
8257 }%
8258 }%
8259 \def\l@slide##1##2##3##4{%
8260     \slide@undottedcline{%
8261         \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8262     }{}%
8263 }%
8264 \let\l@subslide\l@slide
8265 \@startlos
8266 }%
8267 \def\slide@contents{%
8268     \def\l@slide##1##2##3##4{%
8269         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8270     }%
8271     \let\l@subslide\@gobblefour
8272     \@startlos
8273 }%
8274 \def\Slide@contents{%
8275     \def\l@slide##1##2##3##4{%
8276         \ifcase\lslide@flag
8277             \message{##1 ** \the\c@slidesection}%
8278             \ifnum##1>\c@slidesection
8279                 \def\lslide@flag{1}%
8280                 {%
8281                     \large
8282                     \slide@ccline{%
8283                         \slidenumberline{$\Rightarrow\bullet$}%
8284                         {\hyperlink{##4}{##2}}%
8285                     }{##3}%
8286                 }%
8287             \else
8288                 {%
8289                     \large
8290                     \slide@ccline{%
8291                         \slidenumberline{$\surd\;\bullet$}%
8292                         {\hyperlink{##4}{##2}}%
8293                     }{##3}%
8294                 }%
8295             \fi
8296         \or
8297             \def\lslide@flag{2}%
8298             {%
8299                 \large
8300                 \slide@ccline{%
8301                     \slidenumberline{$\bullet$}%
8302                     {\hyperlink{##4}{##2}}%
8303                 }{##3}%
8304             }%
8305         \or
8306             {%
8307                 \large
8308                 \slide@ccline{%
8309                     \slidenumberline{$\bullet$}%
8310                     {\hyperlink{##4}{##2}}%
8311                 }{##3}%
8312             }%

```

```

8313 \fi
8314 }%
8315 \def\l@subslide##1##2##3##4{%
8316 \ifnum\lslide@flag=1 %
8317 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8318 \fi
8319 }%
8320 \def\lslide@flag{0}%
8321 \@startlos
8322 }%
8323 }{}

```

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.)

```

8324 \ifHy@texht
8325 \expandafter\endinput
8326 \fi
8327 \let\real@setref\@setref
8328 \def\@setref#1#2#3{% csname, extract group, refname
8329 \ifx#1\relax
8330 \protect\G@refundefinedtrue
8331 \nfss@text{\reset@font\bfseries ??}%
8332 \@latex@warning{%
8333 Reference ‘#3’ on page \thepage \space undefined%
8334 }%
8335 \else
8336 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8337 \fi
8338 }

```

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

```

8339 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8340 \begingroup
8341 \toks0={\hyper@@link{#5}{#4}}%
8342 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8343 \edef\x{\endgroup
8344 \the\toks0 {\the\toks1 }%
8345 }%
8346 \x
8347 }
8348 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8349 \ifx#1\relax
8350 \protect\G@refundefinedtrue
8351 \nfss@text{\reset@font\bfseries ??}%
8352 \@latex@warning{%
8353 Reference ‘#3’ on page \thepage \space undefined%
8354 }%
8355 \else
8356 \protect\hyper@@link
8357 {\expandafter\@fifthoffive#1}%
8358 {page.\expandafter\@secondoffive#1}%
8359 {\expandafter\@secondoffive#1}%
8360 \fi
8361 }
8362 </package>
8363 <*check>

```

```

8364 \checklatex
8365 \checkcommand\def\@setref#1#2#3{%
8366   \ifx#1\relax
8367     \protect\G@refundefinedtrue
8368     \nfss@text{\reset@font\bfseries ??}%
8369     \@latex@warning{%
8370       Reference '#3' on page \thepage\space undefined%
8371     }%
8372   \else
8373     \expandafter#2#1\null
8374   \fi
8375 }
8376 \end{check}
8377 \end{package}

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8378 \def\HyRef@StarSetRef#1{%
8379   \begingroup
8380   \Hy@safe@activetrue
8381   \edef\x{#1}%
8382   \@onelevel@sanitize\x
8383   \edef\x{\endgroup
8384     \noexpand\HyRef@StarSetRef
8385     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8386   }%
8387   \x
8388 }
8389 \def\HyRef@@StarSetRef#1#2#3{%
8390   \ifx#1\@undefined
8391     \let#1\relax
8392   \fi
8393   \real@setref#1#3{#2}%
8394 }
8395 \def\@refstar#1{%
8396   \HyRef@StarSetRef{#1}\@firstoffive
8397 }
8398 \def\@pagerefstar#1{%
8399   \HyRef@StarSetRef{#1}\@secondoffive
8400 }
8401 \def\@namerefstar#1{%
8402   \HyRef@StarSetRef{#1}\@thirdoffive
8403 }
8404 \Hy@AtBeginDocument{%
8405   \ifpackageloaded{varioref}{%
8406     \def\@Refstar#1{%
8407       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8408     }%
8409     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8410       \MakeUppercase#1%
8411     }%
8412     \DeclareRobustCommand*\Ref*{%
8413       \ifstar\@Refstar\HyRef@Ref
8414     }%
8415     \def\HyRef@Ref#1{%
8416       \hyperref[#{1}]{\Ref*{#1}}%
8417     }%
8418     \def\Vr@f#1{%

```

```

8419 \leavevmode\unskip\vref@space
8420 \hyperref[#1]{%
8421 \Ref*{#1}%
8422 \let\vref@space\nobreakspace
8423 \@vpageref\unskip}{#1}%
8424 }%
8425 }%
8426 \def\vr@f#1{%
8427 \leavevmode\unskip\vref@space
8428 \begingroup
8429 \let\T@pageref\@pagerefstar
8430 \hyperref[#1]{%
8431 \ref*{#1}%
8432 \vpageref\unskip}{#1}%
8433 }%
8434 \endgroup
8435 }%
8436 }{}%
8437 }
8438 \DeclareRobustCommand*\autopageref{%
8439 \@ifstar{%
8440 \HyRef@autopagerefname\pageref*%
8441 }\HyRef@autopageref
8442 }
8443 \def\HyRef@autopageref#1{%
8444 \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
8445 }
8446 \def\HyRef@autopagerefname{%
8447 \ltx@ifundefined{pageautorefname}{%
8448 \ltx@ifundefined{pagename}{%
8449 \Hy@Warning{No autoref name for 'page'}%
8450 }{%
8451 \pagename\nobreakspace
8452 }%
8453 }{}%
8454 \pageautorefname\nobreakspace
8455 }%
8456 }
8457 \DeclareRobustCommand*\autoref{%
8458 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8459 }
8460 \def\HyRef@autoref#1#2{%
8461 \begingroup
8462 \Hy@safe@activetrue
8463 \expandafter\HyRef@autosetref\csize r@#2\endcsize{#2}{#1}%
8464 \endgroup
8465 }
8466 \def\HyRef@autosetref#1#2#3{% link command, csize, refname
8467 \HyRef@ShowKeysRef{#2}%
8468 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8469 \edef\HyRef@thisref{%
8470 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8471 }%
8472 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8473 \Hy@safe@activesfalse
8474 #3{%
8475 \expandafter\@fifthoffive#1\@empty\@empty\@empty

```

```

8476 }{%
8477   \expandafter\@fourthoffive#1\@empty\@empty\@empty
8478 }{%
8479   \HyRef@currentHtag
8480   \expandafter\@firstoffive#1\@empty\@empty\@empty
8481   \null
8482 }%
8483 \else
8484   \protect\G@refundefinedtrue
8485   \nfss@text{\reset@font\bfseries ??}%
8486   \@latex@warning{%
8487     Reference '#2' on page \thepage\space undefined%
8488   }%
8489 \fi
8490 }
8491 \def\HyRef@testreftype#1.#2\{%
8492   \ltx@ifundefined{#1autorefname}{%
8493     \ltx@ifundefined{#1name}{%
8494       \HyRef@StripStar#1\*\@nil{#1}%
8495       \ltx@ifundefined{\HyRef@name autorefname}{%
8496         \ltx@ifundefined{\HyRef@name name}{%
8497           \def\HyRef@currentHtag{%
8498             \Hy@Warning{No autoref name for '#1'}%
8499           }{%
8500             \edef\HyRef@currentHtag{%
8501               \expandafter\noexpand\csname\HyRef@name name\endcsname
8502               \noexpand~%
8503             }%
8504           }%
8505         }{%
8506           \edef\HyRef@currentHtag{%
8507             \expandafter\noexpand
8508             \csname\HyRef@name autorefname\endcsname
8509             \noexpand~%
8510           }%
8511         }%
8512       }{%
8513         \edef\HyRef@currentHtag{%
8514           \expandafter\noexpand\csname#1name\endcsname
8515           \noexpand~%
8516         }%
8517       }%
8518     }{%
8519       \edef\HyRef@currentHtag{%
8520         \expandafter\noexpand\csname#1autorefname\endcsname
8521         \noexpand~%
8522       }%
8523     }%
8524   }
8525 \def\HyRef@StripStar#1*\@nil#3{%
8526   \def\HyRef@name{#2}%
8527   \ifx\HyRef@name\HyRef@CaseStar
8528     \def\HyRef@name{#1}%
8529   \else
8530     \def\HyRef@name{#3}%
8531   \fi
8532 }

```

```

8533 \def\HyRef@CaseStar{*\\}
8534 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8535 \let\HyRef@ShowKeysRef\@gobble
8536 \def\HyRef@ShowKeysInit{%
8537   \begingroup\expandafter\expandafter\expandafter\endgroup
8538   \expandafter\ifx\csname SK@@label\endcsname\relax
8539   \else
8540     \ifx\SK@ref\@empty
8541     \else
8542       \def\HyRef@ShowKeysRef{%
8543         \SK@\SK@@ref
8544       }%
8545     \fi
8546   \fi
8547 }
8548 \@ifpackageloaded{showkeys}{%
8549   \HyRef@ShowKeysInit
8550 }{%
8551   \Hy@AtBeginDocument{%
8552     \@ifpackageloaded{showkeys}{%
8553       \HyRef@ShowKeysInit
8554     }{}%
8555   }%
8556 }

```

Defaults for the names that \autoref uses.

```

8557 \providecommand*\AMSautorefname{\equationautorefname}
8558 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8559 \providecommand*\Itemautorefname{\itemautorefname}
8560 \providecommand*\itemautorefname{item}
8561 \providecommand*\equationautorefname{Equation}
8562 \providecommand*\footnoteautorefname{footnote}
8563 \providecommand*\itemautorefname{item}
8564 \providecommand*\figureautorefname{Figure}
8565 \providecommand*\tableautorefname{Table}
8566 \providecommand*\partautorefname{Part}
8567 \providecommand*\appendixautorefname{Appendix}
8568 \providecommand*\chapterautorefname{chapter}
8569 \providecommand*\sectionautorefname{section}
8570 \providecommand*\subsectionautorefname{subsection}
8571 \providecommand*\subsubsectionautorefname{subsubsection}
8572 \providecommand*\paragraphautorefname{paragraph}
8573 \providecommand*\subparagraphautorefname{subparagraph}
8574 \providecommand*\FancyVerbLineautorefname{line}
8575 \providecommand*\theoremautorefname{Theorem}
8576 \providecommand*\pageautorefname{page}
8577 </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_T_EX offers `\pdfescapestring`.

```
8578 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8579 \begingroup\expandafter\expandafter\expandafter\endgroup
8580 \expandafter\ifx\csname pdfTEXescapestring\endcsname\relax
8581 \begingroup
8582 \catcode'\|=0 %
8583 \@makeother\|%
8584 \@firstofone{ \endgroup
8585 |def|Hy@pstringdef#1#2{%
8586 | \begingroup
8587 |edef~{|string~}%
8588 |xdef|Hy@gtemp{#2}%
8589 | \endgroup
8590 |let#1|Hy@gtemp
8591 |@onelevel@sanitize#1%
8592 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8593 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8594 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8595 }%
8596 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8597 #1%
8598 |ifx\|#2\|%
8599 |else
8600 \|%
8601 |ltx@ReturnAfterFi{%
8602 |Hy@ExchangeBackslash#2|@nil
8603 }%
8604 |fi
8605 }%
8606 }%
8607 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8608 #1%
8609 \ifx\|#2\|%
8610 \else
8611 \@backslashchar(%
8612 \ltx@ReturnAfterFi{%
8613 \Hy@ExchangeLeftParenthesis#2\@nil
8614 }%
8615 \fi
8616 }%
8617 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8618 #1%
8619 \ifx\|#2\|%
8620 \else
8621 \@backslashchar)%
8622 \ltx@ReturnAfterFi{%
8623 \Hy@ExchangeRightParenthesis#2\@nil
```

```

8624 }%
8625 \fi
8626 }%
8627 \else
8628 \def\Hy@pstringdef#1#2{%
8629 \begingroup
8630 \edef~{\string~}%
8631 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8632 \endgroup
8633 \let#1\Hy@gtemp
8634 }%
8635 \fi
8636 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8637 <*pdfTeX>
8638 \providecommand*{\XR@ext}{pdf}
8639 \Hy@setbreaklinks{true}
8640 \def\HyPat@ObjRef{%
8641 [0-9]*[1-9][0-9]* 0 R%
8642 }

```

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

```

8643 \let\Hy@pdfminorversion\relax
8644 \begingroup\expandafter\expandafter\expandafter\endgroup
8645 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8646 \begingroup\expandafter\expandafter\expandafter\endgroup
8647 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8648 \else
8649 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8650 \fi
8651 \else
8652 \def\Hy@pdfminorversion{\pdfminorversion}%
8653 \fi
8654 \@ifundefined{Hy@pdfminorversion}{%
8655 \PackageInfo{hyperref}{%
8656 PDF version is not set, because pdfTeX is too old (<1.10a)%
8657 }%
8658 }{%
8659 \ifHy@ocgcolorlinks
8660 \ifnum\Hy@pdfminorversion<5 %
8661 \kvsetkeys{Hyp}{pdfversion=1.5}%
8662 \fi
8663 \fi
8664 \ifHy@setpdfversion
8665 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8666 \else
8667 \Hy@pdfminorversion=\Hy@pdfversion\relax
8668 \fi
8669 \PackageInfo{hyperref}{%

```

```

8670 \expandafter\string\Hy@pdfminorversion
8671 :=\number\Hy@pdfversion\space
8672 }%
8673 \fi
8674 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8675 }
8676 \Hy@DisableOption{pdfversion}%

8677 \ifHy@ocgcolorlinks
8678 \pdf@ifdraftmode{}\{%
8679 \immediate\pdfobj{%
8680 <<%
8681 /Type/OCG%
8682 /Name(View)%
8683 /Usage<<%
8684 /Print<<%
8685 /PrintState/OFF%
8686 >>%
8687 /View<<%
8688 /ViewState/ON%
8689 >>%
8690 >>%
8691 >>%
8692 }%
8693 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8694 \immediate\pdfobj{%
8695 <<%
8696 /Type/OCG%
8697 /Name(Print)%
8698 /Usage<<%
8699 /Print<<%
8700 /PrintState/ON%
8701 >>%
8702 /View<<%
8703 /ViewState/OFF%
8704 >>%
8705 >>%
8706 >>%
8707 }%
8708 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8709 \immediate\pdfobj{%
8710 [%
8711 \OBJ@OCG@view\space\OBJ@OCG@print
8712 ]%
8713 }%
8714 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8715 \pdfcatalog{%
8716 /OCProperties<<%
8717 /OCGs \OBJ@OCGs
8718 /D<<%
8719 /OFF[\OBJ@OCG@print]%
8720 /AS[%
8721 <<%
8722 /Event/View%
8723 /OCGs \OBJ@OCGs
8724 /Category[/View]%
8725 >>%
8726 <<%

```

```

8727         /Event/Print%
8728         /OCGs \OBJ@OCGs
8729         /Category[/Print]%
8730     >>%
8731     <<%
8732         /Event/Export%
8733         /OCGs \OBJ@OCGs
8734         /Category[/Print]%
8735     >>%
8736     ]%
8737     >>%
8738     >>%
8739     }%
8740     \beginngroup
8741     \edef\x{\endgroup
8742     \pdfpageresources{%
8743         /Properties<<%
8744         /OCView \OBJ@OCG@view
8745         /OCPrint \OBJ@OCG@print
8746     >>%
8747     }%
8748     }%
8749     \x
8750     }%
8751     \Hy@AtBeginDocument{%
8752     \def\Hy@colorlink#1{%
8753     \beginngroup
8754     \ifHy@ocgcolorlinks
8755     \def\Hy@ocgcolor{#1}%
8756     \setbox0=\hbox\bgroup\color@beginngroup
8757     \else
8758     \HyColor@UseColor#1%
8759     \fi
8760     }%
8761     \def\Hy@endcolorlink{%
8762     \ifHy@ocgcolorlinks
8763     \color@endgroup\egroup
8764     \mbox{%
8765     \pdfliteral page{/OC/OCPrint BDC}%
8766     \rlap{\copy0}%
8767     \pdfliteral page{EMC/OC/OCView BDC}%
8768     \beginngroup
8769     \expandafter\HyColor@UseColor\Hy@ocgcolor
8770     \box0 %
8771     \endgroup
8772     \pdfliteral page{EMC}%
8773     }%
8774     \fi
8775     \endgroup
8776     }%
8777     }%
8778     \else
8779     \Hy@DisableOption{ocgcolorlinks}%
8780     \fi

```

First, allow for some changes and additions to pdftex syntax:

```

8781 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8782 \ifx\pdfstartlink\@undefined% less than version 14

```

```

8783 \let\pdfstartlink\pdfannotlink
8784 \let\pdfinkmargin\@tempdima
8785 \let\pdfxform\pdfform
8786 \let\pdflastxform\pdflastform
8787 \let\pdfrefxform\pdfrefform
8788 \else
8789 \pdfinkmargin1pt %
8790 \fi

```

First set up the default linking

```
8791 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8792 \Hy@WrapperDef\new@pdfink#1{%
8793   \ifhmode
8794     \@savs\spacefactor
8795   \fi
8796   \Hy@SaveLastskip
8797   \Hy@VerboseAnchor{#1}%
8798   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8799   \Hy@DestName\Hy@pstringDest\@pdfview
8800   \Hy@RestoreLastskip
8801   \ifhmode
8802     \spacefactor\@savs
8803   \fi
8804 }
8805 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```

8806 \def\Hy@DestName#1#2{%
8807   \pdfdest name{#1}#2\relax
8808 }

```

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.

```

8809 \providecommand*\@pdfborder{0 0 1}
8810 \providecommand*\@pdfborderstyle{}
8811 \def\Hy@undefinedname{UNDEFINED}
8812 \def\find@pdfink#1#2{%
8813   \leavevmode
8814   \protected@edef\Hy@testname{#2}%
8815   \ifx\Hy@testname\@empty
8816     \Hy@Warning{%
8817       Empty destination name,\MessageBreak
8818       using '\Hy@undefinedname'%
8819     }%
8820   \let\Hy@testname\Hy@undefinedname
8821   \else
8822     \Hy@pstringdef\Hy@testname{%
8823       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8824     }%
8825   \fi
8826   \Hy@StartlinkName{%
8827     \ifHy@pdfa /F 4\fi
8828     \Hy@setpdfborder

```

```

8829 \ifx\@pdfhighlight\@empty
8830 \else
8831 /H\@pdfhighlight
8832 \fi
8833 \ifx\CurrentBorderColor\relax
8834 \else
8835 /C[\CurrentBorderColor]%
8836 \fi
8837 }\Hy@testname
8838 \expandafter\Hy@colorlink\csname @#1color\endcsname
8839 }
8840 \def\Hy@StartlinkName#1#2{%
8841 \pdfstartlink attr{#1}goto name{#2}\relax
8842 }
8843 \def\close@pdflink{%
8844 \Hy@endcolorlink
8845 \Hy@VerboseLinkStop
8846 \pdfendlink
8847 }
8848 \def\hyper@anchor#1{%
8849 \new@pdflink{#1}\anchor@spot\pdf@endanchor
8850 }
8851 \def\hyper@anchorstart#1{%
8852 \new@pdflink{#1}%
8853 \Hy@activeanchortrue
8854 }
8855 \def\hyper@anchorend{%
8856 \pdf@endanchor
8857 \Hy@activeanchorfalse
8858 }
8859 \def\hyper@linkstart#1#2{%
8860 \Hy@VerboseLinkStart{#1}{#2}%
8861 \ltx@ifundefined{@#1bordercolor}{%
8862 \let\CurrentBorderColor\relax
8863 }{%
8864 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8865 }%
8866 \find@pdflink{#1}{#2}%
8867 }
8868 \def\hyper@linkend{\close@pdflink}
8869 \def\hyper@link#1#2#3{%
8870 \Hy@VerboseLinkStart{#1}{#2}%
8871 \ltx@ifundefined{@#1bordercolor}{%
8872 \let\CurrentBorderColor\relax
8873 }{%
8874 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8875 }%
8876 \find@pdflink{#1}{#2}#3\Hy@xspace@end
8877 \close@pdflink
8878 }
8879 \let\CurrentBorderColor\@linkbordercolor
8880 \def\hyper@linkurl#1#2{%
8881 \begingroup
8882 \Hy@pstringdef\Hy@pstringURI{#2}%
8883 \hyper@chars
8884 \leavevmode
8885 \pdfstartlink

```

```

8886 attr{%
8887   \Hy@setpdfborder
8888   \ifx\@pdfhighlight\@empty
8889   \else
8890     /H\@pdfhighlight
8891   \fi
8892   \ifx\@urlbordercolor\relax
8893   \else
8894     /C[\@urlbordercolor]%
8895   \fi
8896 }%
8897 user{%
8898   /Subtype/Link%
8899   \ifHy@pdfa /F 4\fi
8900   /A<<%
8901     /Type/Action%
8902     /S/URI%
8903     /URI(\Hy@pstringURI)%
8904     \ifHy@href@ismap
8905       /IsMap true%
8906     \fi
8907     \Hy@href@nextactionraw
8908   >>%
8909 }%
8910 \relax
8911 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8912 \close@pdfink
8913 \endgroup
8914 }
8915 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8916 \begingroup
8917   \def\Hy@pstringF{#2}%
8918   \Hy@CleanupFile\Hy@pstringF
8919   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8920   \Hy@pstringdef\Hy@pstringD{#3}%
8921   \Hy@MakeRemoteAction
8922   \leavevmode
8923   \pdfstartlink
8924   attr{%
8925     \Hy@setpdfborder
8926     \ifx\@pdfhighlight\@empty
8927     \else
8928       /H\@pdfhighlight
8929     \fi
8930     \ifx\@filebordercolor\relax
8931     \else
8932       /C[\@filebordercolor]%
8933     \fi
8934   }%
8935   user {%
8936     /Subtype/Link%
8937     \ifHy@pdfa /F 4\fi
8938     /A<<%
8939       /F(\Hy@pstringF)%
8940       /S/GoToR%
8941     \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}
```

```
8942      \ifx\#3\%  
8943      /D[\Hy@href@page\@pdfremotestartview]%  
8944      \else  
8945      /D(\Hy@pstringD)%  
8946      \fi  
8947      \Hy@href@nextactionraw  
8948      >>%  
8949      }%  
8950      \relax  
8951      \Hy@colorlink\@filecolor#1\Hy@xspace@end  
8952      \close@pdflink  
8953      \endgroup  
8954 }  
8955 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname  
8956 \begingroup  
8957   \Hy@pstringdef\Hy@pstringF{#1}%  
8958   \Hy@pstringdef\Hy@pstringP{#3}%  
8959   \leavevmode  
8960   \pdfstartlink  
8961   attr{%  
8962     \Hy@setpdfborder  
8963     \ifx\@pdfhighlight\@empty  
8964     \else  
8965     /H\@pdfhighlight  
8966     \fi  
8967     \ifx\@runbordercolor\relax  
8968     \else  
8969     /C[\@runbordercolor]%  
8970     \fi  
8971   }%  
8972   user {%  
8973     /Subtype/Link%  
8974     \ifHy@pdfa /F 4\fi  
8975     /A<<%  
8976     /F(\Hy@pstringF)%  
8977     /S/Launch%  
8978     \Hy@SetNewWindow  
8979     \ifx\#3\%  
8980     \else  
8981     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%  
8982     \fi  
8983     \Hy@href@nextactionraw  
8984     >>%  
8985   }%  
8986   \relax  
8987   \Hy@colorlink\@runcolor#2\Hy@xspace@end
```



```

8988 \close@pdflink
8989 \endgroup
8990 }

```

\@pdfproducer

```

8991 \ifx\@pdfproducer\relax
8992 \begingroup\expandafter\expandafter\expandafter\endgroup
8993 \expandafter\ifx\csname luatexversion\endcsname\relax
8994 \def\@pdfproducer{pdfTeX}%
8995 \ifx\eTeXversion\@undefined
8996 \else
8997 \ifx\eTeXversion\relax
8998 \else
8999 \ifnum\eTeXversion>0 %
9000 \def\@pdfproducer{pdfTeX}%
9001 \fi
9002 \fi
9003 \fi
9004 \ifx\pdfTeXversion\@undefined
9005 \else
9006 \ifnum\pdfTeXversion<100 %
9007 \edef\@pdfproducer{%
9008 \@pdfproducer
9009 \the\pdfTeXversion.\pdfTeXrevision
9010 }%
9011 \else
9012 \ifnum\pdfTeXversion<130 %
9013 \edef\@pdfproducer{%
9014 \@pdfproducer-%
9015 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9016 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9017 \pdfTeXrevision
9018 }%
9019 \else
9020 \ifnum\pdfTeXversion<140 %
9021 \else
9022 \def\@pdfproducer{pdfTeX}%
9023 \fi
9024 \edef\@pdfproducer{%
9025 \@pdfproducer-%
9026 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9027 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9028 \pdfTeXrevision
9029 }%
9030 \fi
9031 \fi
9032 \fi
9033 \else
9034 \begingroup
9035 \count@=\luatexversion
9036 \divide\count@ by 100 %
9037 \edef\x{\the\count@}%
9038 \count@=-\x\relax
9039 \multiply\count@ by 100 %
9040 \advance\count@ by \luatexversion
9041 \edef\x{\endgroup
9042 \def\noexpand\@pdfproducer{%

```

```

9043      LuaTeX-\x.\the\count@.\luatexrevision
9044      }%
9045      }%
9046      \x
9047      \fi
9048      \fi

```

\PDF@SetupDox

```

9049 \def\PDF@SetupDoc{%
9050   \ifx\@pdfpagescrop\@empty
9051   \else
9052     \edef\process@me{%
9053       \pdfpagesattr={%
9054         /CropBox[\@pdfpagescrop]%
9055         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9056         \else
9057           ^^Jthe\pdfpagesattr
9058         \fi
9059       }%
9060     }%
9061     \process@me
9062   \fi
9063   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9064   \pdfcatalog{%
9065     /PageMode/\@pdfpagemode
9066     \ifx\@baseurl\@empty
9067     \else
9068       /URI<</Base(\Hy@pstringB)>>%
9069     \fi
9070   }%
9071   \ifx\@pdfstartpage\@empty
9072   \else
9073     \ifx\@pdfstartview\@empty
9074     \else
9075       openaction goto page\@pdfstartpage{\@pdfstartview}%
9076     \fi
9077   \fi
9078   \edef\Hy@temp{%
9079     \ifHy@pdftoolbar\else /HideToolbar true\fi
9080     \ifHy@pdfmenubar\else /HideMenubar true\fi
9081     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9082     \ifHy@pdfitwindow /FitWindow true\fi
9083     \ifHy@pdfcenterwindow /CenterWindow true\fi
9084     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9085     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9086     \Hy@UseNameKey{Direction}\@pdfdirection
9087     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9088     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9089     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9090     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9091     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9092     \Hy@UseNameKey{Duplex}\@pdfduplex
9093     \ifx\@pdfpicktraybypdfsize\@empty
9094     \else
9095       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9096     \fi
9097     \ifx\@pdfprintpagerange\@empty
9098     \else

```

```

9099     /PrintPageRange[\@pdfprintpagerange]%
9100     \fi
9101     \ifx\@pdfnumcopies\@empty
9102     \else
9103         /NumCopies \@pdfnumcopies
9104     \fi
9105 }%
9106 \pdfcatalog{%
9107     \ifx\Hy@temp\@empty
9108     \else
9109         /ViewerPreferences<<\Hy@temp>>%
9110     \fi
9111     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9112     \ifx\@pdflang\@empty
9113     \else
9114         /Lang(\@pdflang)%
9115     \fi
9116 }%
9117 }

```

\PDF@FinishDoc

```

9118 \def\PDF@FinishDoc{%
9119     \pdf@ifdraftmode{}{%
9120         \Hy@UseMaketitleInfos
9121         \HyInfo@GenerateAddons
9122     \pdfinfo{%
9123         /Author(\@pdfauthor)%
9124         /Title(\@pdftitle)%
9125         /Subject(\@pdfsubject)%
9126         /Creator(\@pdfcreator)%
9127         \ifx\@pdfcreationdate\@empty
9128         \else
9129             /CreationDate(\@pdfcreationdate)%
9130         \fi
9131         \ifx\@pdfmoddate\@empty
9132         \else
9133             /ModDate(\@pdfmoddate)%
9134         \fi
9135         \ifx\@pdfproducer\relax
9136         \else
9137             /Producer(\@pdfproducer)%
9138         \fi
9139         /Keywords(\@pdfkeywords)%
9140         \ifx\@pdftrapped\@empty
9141         \else
9142             /Trapped/\@pdftrapped
9143         \fi
9144         \HyInfo@Addons
9145     }%
9146 }%
9147 \Hy@DisableOption{pdfauthor}%
9148 \Hy@DisableOption{pdftitle}%
9149 \Hy@DisableOption{pdfsubject}%
9150 \Hy@DisableOption{pdfcreator}%
9151 \Hy@DisableOption{pdfcreationdate}%
9152 \Hy@DisableOption{pdfmoddate}%
9153 \Hy@DisableOption{pdfproducer}%
9154 \Hy@DisableOption{pdfkeywords}%

```

```

9155 \Hy@DisableOption{pdftrapped}%
9156 \Hy@DisableOption{pdfinfo}%
9157 }

```

`\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`.

```

9158 \def\hyper@pagetransition{%
9159 \ifx\@pdfpagetransition\relax
9160 \else
9161 \expandafter\Hy@RemoveTransPageAttr
9162 \the\pdfpageattr^^J/Trans{}}>>\END
9163 \ifx\@pdfpagetransition\@empty
9164 \else
9165 \edef\@processme{%
9166 \global\pdfpageattr{%
9167 \the\pdfpageattr
9168 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9169 }%
9170 }%
9171 \@processme
9172 \fi
9173 \fi
9174 }

```

`\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.

```

9175 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9176 \ifx\#2\%
9177 \global\pdfpageattr{#1}%
9178 \else
9179 \Hy@RemoveTransPageAttr#1#4\END
9180 \fi
9181 }

```

`\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`.

```

9182 \def\hyper@pageduration{%
9183 \ifx\@pdfpageduration\relax
9184 \else
9185 \expandafter
9186 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9187 \ifx\@pdfpageduration\@empty
9188 \else
9189 \edef\@processme{%
9190 \global\pdfpageattr{%
9191 \the\pdfpageattr
9192 ^^J/Dur \@pdfpageduration\space
9193 }%
9194 }%
9195 \@processme
9196 \fi
9197 \fi
9198 }

```

`\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.

```

9199 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9200   \ifx\#2\%
9201     \global\pdfpageattr{#1}%
9202   \else
9203     \Hy@RemoveDurPageAttr#1#4\END
9204   \fi
9205 }

```

`\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).

```

9206 \def\hyper@pagehidden{%
9207   \ifHy@useHidKey
9208     \expandafter
9209     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9210   \ifHy@pdfpagehidden
9211     \edef\@processme{%
9212       \global\pdfpageattr{%
9213         \the\pdfpageattr
9214         ^^J/Hid true % SPACE
9215       }%
9216     }%
9217     \@processme
9218   \fi
9219 \fi
9220 }

```

`\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.

```

9221 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9222   \ifx\#2\%
9223     \global\pdfpageattr{#1}%
9224   \else
9225     \Hy@RemoveHidPageAttr#1#4\END
9226   \fi
9227 }

9228 \pdf@ifdraftmode{}{%
9229   \g@addto@macro\Hy@EveryPageHook{%
9230     \hyper@pagetransition
9231     \hyper@pageduration
9232     \hyper@pagehidden
9233   }%
9234 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9235 </pdfTeX>
9236 <*pdfTeX | xetex>
9237 \Hy@AtBeginDocument{%
9238   \ifHy@setpagesize

```

```

9239 \expandafter\@firstofone
9240 \else
9241 \expandafter\@gobble
9242 \fi
9243 {%
9244 \@ifclassloaded{seminar}{%
9245 <*pdftex>
9246 \setlength{\pdfhorigin}{1truein}%
9247 \setlength{\pdfvorigin}{1truein}%
9248 </pdftex>
9249 \ifportrait
9250 \ifdim\paperwidth=\z@
9251 \else
9252 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9253 \fi
9254 \ifdim\paperheight=\z@
9255 \else
9256 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9257 \fi
9258 \else
9259 \ifdim\paperheight=\z@
9260 \else
9261 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9262 \fi
9263 \ifdim\paperwidth=\z@
9264 \else
9265 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9266 \fi
9267 \fi
9268 }{%
9269 \ltx@ifundefined{stockwidth}{%
9270 \ifdim\paperwidth>\z@
9271 \setlength{\pdfpagewidth}{\paperwidth}%
9272 \fi
9273 \ifdim\paperheight>\z@
9274 \setlength{\pdfpageheight}{\paperheight}%
9275 \fi
9276 }{%
9277 \ifdim\stockwidth>\z@
9278 \setlength{\pdfpagewidth}{\stockwidth}%
9279 \fi
9280 \ifdim\stockheight>\z@
9281 \setlength{\pdfpageheight}{\stockheight}%
9282 \fi
9283 }%
9284 }%
9285 }%
9286 \Hy@DisableOption{setpagesize}%
9287 }
9288 </pdftex | xetex>
9289 <*pdftex>
9290 \def\Acrobatmenu#1#2{%
9291 \Hy@Acrobatmenu{#1}{#2}%
9292 \pdfstartlink
9293 attr{%
9294 \Hy@setpdfborder
9295 \ifx\@pdfhighlight\@empty

```

```

9296      \else
9297      /H\@pdfhighlight
9298      \fi
9299      \ifx\@menubordercolor\relax
9300      \else
9301      /C[\@menubordercolor]%
9302      \fi
9303      }%
9304      user{%
9305      /Subtype/Link%
9306      \ifHy@pdfa /F 4\fi
9307      /A<<%
9308      /S/Named%
9309      /N/#1%
9310      \Hy@href@nextactionraw
9311      >>%
9312      }%
9313      \relax
9314      \Hy@colorlink\@menucolor#2%
9315      \close@pdflink
9316      }%
9317      }

```

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.

```

9318 \def\Hy@FixNotFirstPage{%
9319   \gdef\Hy@FixNotFirstPage{%
9320     \setbox\AtBeginShipoutBox=\hbox{%
9321       \copy\AtBeginShipoutBox
9322     }%
9323   }%
9324 }
9325 \AtBeginShipout{\Hy@FixNotFirstPage}
9326 </pdfTeX>

```

46.3 hypertext

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of \special commands:

href: html:

name: html:

end: html:

image: html:

base_name: html:<base href = "href_string">

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is be used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the 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.

```

9327 \*hypertext
9328 \providecommand*\XR@ext{}\dvi
9329 \let\PDF@FinishDoc\ltx@empty
9330 \def\PDF@SetupDoc{%
9331   \ifx\@baseurl\@empty
9332   \else
9333     \special{html:<base href="\@baseurl">}%
9334   \fi
9335 }
9336 \Hy@WrapperDef\hyper@anchor#1{%
9337   \Hy@SaveLastskip
9338   \Hy@VerboseAnchor{#1}%
9339   \begingroup
9340     \let\protect=\string
9341     \hyper@chars
9342     \special{html:<a name=%
9343       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9344   \endgroup
9345   \Hy@activeanchortrue
9346   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9347   \special{html:</a>}%
9348   \Hy@activeanchorfalse
9349   \Hy@RestoreLastskip
9350 }
9351 \Hy@WrapperDef\hyper@anchorstart#1{%
9352   \Hy@SaveLastskip
9353   \Hy@VerboseAnchor{#1}%
9354   \begingroup
9355     \hyper@chars
9356     \special{html:<a name=%
9357       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9358   \endgroup
9359   \Hy@activeanchortrue
9360 }
9361 \def\hyper@anchorend{%
9362   \special{html:</a>}%
9363   \Hy@activeanchorfalse
9364   \Hy@RestoreLastskip
9365 }

```



```

9366 \def\@urlltype{url}
9367 \def\hyper@linkstart#1#2{%
9368   \Hy@VerboseLinkStart{#1}{#2}%
9369   \expandafter\Hy@colorlink\csname @#1color\endcsname
9370   \def\Hy@tempa{#1}%
9371   \ifx\Hy@tempa\@urlltype
9372     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9373   \else
9374     \begingroup
9375       \hyper@chars
9376       \special{html:<a href=%
9377         \hyper@quote\#\Hy@HyperDestNameFilter{#2}\hyper@quote>}%
9378     \endgroup
9379   \fi
9380 }
9381 \def\hyper@linkend{%
9382   \special{html:</a>}%
9383   \Hy@endcolorlink
9384 }
9385 \def\hyper@linkfile#1#2#3{%
9386   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9387 }
9388 \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.

```

9389 \leavevmode
9390 \ifHy@raiselinks
9391   \Hy@SaveSpaceFactor
9392   \Hy@SaveSavedSpaceFactor
9393   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9394   \Hy@RestoreSavedSpaceFactor
9395   \@linkdim\dp\@tempboxa
9396   \lower\@linkdim\hbox{%
9397     \hyper@chars
9398     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9399   }%
9400   \Hy@colorlink\@urlcolor
9401   \Hy@RestoreSpaceFactor
9402   #1%
9403   \Hy@SaveSpaceFactor
9404   \@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).

```

9405   \advance\@linkdim by -6.5\p@
9406   \raise\@linkdim\hbox{\special{html:</a>}}%
9407   \Hy@endcolorlink
9408   \Hy@RestoreSpaceFactor
9409 \else
9410   \begingroup
9411     \hyper@chars
9412     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9413     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9414     \special{html:</a>}%
9415     \Hy@endcolorlink
9416   \endgroup

```

```

9417 \fi
9418 }

```

Very poor implementation of \hyper@link without considering #1.

```

9419 \def\hyper@link#1#2#3{%
9420 \Hy@VerboseLinkStart{#1}{#2}%
9421 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
9422 }

9423 \def\hyper@image#1#2{%
9424 \begingroup
9425 \hyper@chars
9426 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9427 \endgroup
9428 }
9429 </hypertex>
9430 <*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, L^AT_EX 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.

```

9431 \providecommand*\XR@ext{-}{dvi}
9432 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9433 \Hy@WrapperDef\hyper@anchor#1{%
9434 \Hy@SaveLastskip
9435 \Hy@VerboseAnchor{#1}%
9436 \begingroup
9437 \let\protect=\string
9438 \special{mark: #1}%
9439 \endgroup
9440 \Hy@activeanchortrue
9441 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9442 \Hy@activeanchorfalse
9443 \Hy@RestoreLastskip
9444 }
9445 \Hy@WrapperDef\hyper@anchorstart#1{%
9446 \Hy@SaveLastskip
9447 \Hy@VerboseAnchor{#1}%
9448 \special{mark: #1}%
9449 \Hy@activeanchortrue
9450 }
9451 \def\hyper@anchorend{%
9452 \Hy@activeanchorfalse
9453 \Hy@RestoreLastskip
9454 }
9455 \def\hyper@linkstart#1#2{%
9456 \Hy@VerboseLinkStart{#1}{#2}%
9457 \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

9458 \special{button: %
9459 10000000 %
9460 \number\baselineskip\space
9461 #2%
9462 }%
9463 }
9464 \def\hyper@linkend{%
9465 \Hy@endcolorlink
9466 }
9467 \def\hyper@link#1#2#3{%
9468 \Hy@VerboseLinkStart{#1}{#2}%
9469 \leavevmode
9470 \ifHy@raiselinks
9471 \Hy@SaveSpaceFactor
9472 \Hy@SaveSavedSpaceFactor
9473 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9474 \Hy@RestoreSavedSpaceFactor
9475 \@linkdim\dp\@tempboxa
9476 \lower\@linkdim\hbox{%
9477 \special{button: %
9478 \number\wd\@tempboxa\space
9479 \number\ht\@tempboxa\space
9480 #2%
9481 }%
9482 \expandafter\Hy@colorlink\csname @#1color\endcsname
9483 \Hy@RestoreSpaceFactor
9484 #3\Hy@xspace@end
9485 \Hy@SaveSpaceFactor
9486 \Hy@endcolorlink
9487 }%
9488 \@linkdim\ht\@tempboxa
9489 \advance\@linkdim by -6.5\p@
9490 \raise\@linkdim\hbox{}}%
9491 \Hy@RestoreSpaceFactor
9492 \else
9493 \special{button: %
9494 \number\wd\@tempboxa\space
9495 \number\ht\@tempboxa\space
9496 #2%
9497 }%
9498 \expandafter\Hy@colorlink\csname @#1color\endcsname
9499 #3\Hy@xspace@end
9500 \Hy@endcolorlink
9501 \fi
9502 }
9503 \def\hyper@linkurl#1#2{%
9504 \begingroup
9505 \hyper@chars
9506 \leavevmode
9507 \ifHy@raiselinks
9508 \Hy@SaveSpaceFactor
9509 \Hy@SaveSavedSpaceFactor
9510 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9511 \Hy@RestoreSavedSpaceFactor
9512 \@linkdim\dp\@tempboxa
9513 \lower\@linkdim\hbox{%
9514 \special{button: %

```

```

9515     \number\wd\@tempboxa\space
9516     \number\ht\@tempboxa\space
9517     launch: \wwwbrowser\space
9518     #2%
9519 }%
9520 \Hy@colorlink\@urlcolor
9521 \Hy@RestoreSpaceFactor
9522 #1\Hy@xspace@end
9523 \Hy@SaveSpaceFactor
9524 \Hy@endcolorlink
9525 }%
9526 \@linkdim\ht\@tempboxa
9527 \advance\@linkdim by -6.5\p@
9528 \raise\@linkdim\hbox{}%
9529 \Hy@RestoreSpaceFactor
9530 \else
9531 \special{button: %
9532 \number\wd\@tempboxa\space
9533 \number\ht\@tempboxa\space
9534 launch: \wwwbrowser\space
9535 #2%
9536 }%
9537 \Hy@colorlink\@urlcolor
9538 #1\Hy@xspace@end
9539 \Hy@endcolorlink
9540 \fi
9541 \endgroup
9542 }
9543 \def\hyper@linkfile#1#2#3{%
9544 \begingroup
9545 \hyper@chars
9546 \leavevmode
9547 \ifHy@raiselinks
9548 \Hy@SaveSpaceFactor
9549 \Hy@SaveSavedSpaceFactor
9550 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9551 \Hy@RestoreSavedSpaceFactor
9552 \@linkdim\dp\@tempboxa
9553 \lower\@linkdim\hbox{%
9554 \special{button: %
9555 \number\wd\@tempboxa\space
9556 \number\ht\@tempboxa\space
9557 #3,%
9558 file: #2%
9559 }%
9560 \Hy@colorlink\@filecolor
9561 \Hy@RestoreSpaceFactor
9562 #1\Hy@xspace@end
9563 \Hy@SaveSpaceFactor
9564 \Hy@endcolorlink
9565 }%
9566 \@linkdim\ht\@tempboxa
9567 \advance\@linkdim by -6.5\p@
9568 \raise\@linkdim\hbox{}%
9569 \Hy@RestoreSpaceFactor
9570 \else
9571 \special{button: %

```

```

9572      \number\wd\@tempboxa\space
9573      \number\ht\@tempboxa\space
9574      #3,%
9575      file: #2%
9576    }%
9577    \Hy@colorlink\@filecolor
9578      #1\Hy@xspace@end
9579    \Hy@endcolorlink
9580  \fi
9581 \endgroup
9582 }
9583 \ifx\@pdfproducer\relax
9584   \def\@pdfproducer{dviwindo + Distiller}%
9585 \fi
9586 \HyInfo@AddonUnsupportedtrue
9587 \def\PDF@FinishDoc{%
9588   \Hy@UseMaketitleInfos
9589   \HyInfo@TrappedUnsupported
9590   \special{PDF: Keywords \@pdfkeywords}%
9591   \special{PDF: Title \@pdftitle}%
9592   \special{PDF: Creator \@pdfcreator}%
9593   \ifx\@pdfcreationdate\@empty
9594   \else
9595     \special{PDF: CreationDate \@pdfcreationdate}%
9596   \fi
9597   \ifx\@pdfmoddate\@empty
9598   \else
9599     \special{PDF: ModDate \@pdfmoddate}%
9600   \fi
9601   \special{PDF: Author \@pdfauthor}%
9602   \ifx\@pdfproducer\relax
9603   \else
9604     \special{PDF: Producer \@pdfproducer}%
9605   \fi
9606   \special{PDF: Subject \@pdfsubject}%
9607   \Hy@DisableOption{pdfauthor}%
9608   \Hy@DisableOption{pdftitle}%
9609   \Hy@DisableOption{pdfsubject}%
9610   \Hy@DisableOption{pdfcreator}%
9611   \Hy@DisableOption{pdfcreationdate}%
9612   \Hy@DisableOption{pdfmoddate}%
9613   \Hy@DisableOption{pdfproducer}%
9614   \Hy@DisableOption{pdfkeywords}%
9615   \Hy@DisableOption{pdftrapped}%
9616   \Hy@DisableOption{pdfinfo}%
9617 }
9618 \def\PDF@SetupDoc{%
9619   \ifx\@baseurl\@empty
9620   \else
9621     \special{PDF: Base \@baseurl}%
9622   \fi
9623   \ifx\@pdfpagescrop\@empty\else
9624     \special{PDF: BBox \@pdfpagescrop}%
9625   \fi
9626   \def\Hy@temp{}%
9627   \ifx\@pdfstartpage\@empty
9628   \else

```

```

9629 \ifx\@pdfstartview\@empty
9630 \else
9631 \edef\Hy@temp{%
9632   ,Page=\@pdfstartpage
9633   ,View=\@pdfstartview
9634 }%
9635 \fi
9636 \fi
9637 \edef\Hy@temp{%
9638   \noexpand\pdfmark{%
9639     pdfmark=/DOCVIEW,%
9640     PageMode=/\@pdfpagemode
9641   }\Hy@temp
9642 }%
9643 }%
9644 \Hy@temp
9645 \ifx\@pdfpagescrop\@empty
9646 \else
9647 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9648 \fi
9649 \edef\Hy@temp{%
9650   \ifHy@pdftoolbar\else /HideToolbar true\fi
9651   \ifHy@pdfmenubar\else /HideMenubar true\fi
9652   \ifHy@pdfwindowui\else /HideWindowUI true\fi
9653   \ifHy@pdffitwindow /FitWindow true\fi
9654   \ifHy@pdfcenterwindow /CenterWindow true\fi
9655   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9656   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9657   \Hy@UseNameKey{Direction}\@pdfdirection
9658   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9659   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9660   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9661   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9662   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9663   \Hy@UseNameKey{Duplex}\@pdfduplex
9664   \ifx\@pdfpicktraybypdfsize\@empty
9665   \else
9666     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9667   \fi
9668   \ifx\@pdfprintpagerange\@empty
9669   \else
9670     /PrintPageRange[\@pdfprintpagerange]%
9671   \fi
9672   \ifx\@pdfnumcopies\@empty
9673   \else
9674     /NumCopies \@pdfnumcopies
9675   \fi
9676 }%
9677 \pdfmark{pdfmark=/PUT,%
9678   Raw={%
9679     \string{Catalog\string}<<%
9680     \ifx\Hy@temp\@empty
9681     \else
9682       /ViewerPreferences<<\Hy@temp>>%
9683     \fi
9684     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9685     \ifx\@pdflang\@empty

```

```

9686      \else
9687      /Lang(\@pdflang)%
9688      \fi
9689      >>%
9690      }%
9691      }%
9692  }
9693  \</dviwindo>
9694  \<*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9695 \providecommand*{\XR@ext}{pdf}
9696 \Hy@setbreaklinks{true}
9697 \def\HyPat@ObjRef{%
9698   @[\ ]+%
9699 }
9700 \newsavebox{\pdfm@box}
9701 \def\@pdfm@mark#1{\special{pdf:#1}}
9702 \Hy@WrapperDef\@pdfm@dest#1{%
9703   \Hy@SaveLastskip
9704   \Hy@VerboseAnchor{#1}%
9705   \begingroup
9706     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9707     \def\x{XYZ}%
9708     \ifx\x\@pdfview
9709       \def\x{XYZ @xpos @ypos null}%
9710     \else
9711       \def\x{FitH}%
9712       \ifx\x\@pdfview
9713         \def\x{FitH @ypos}%
9714       \else
9715         \def\x{FitBH}%
9716         \ifx\x\@pdfview
9717           \def\x{FitBH @ypos}%
9718         \else
9719           \def\x{FitV}%
9720           \ifx\x\@pdfview
9721             \def\x{FitV @xpos}%
9722           \else
9723             \def\x{FitBV}%
9724             \ifx\x\@pdfview
9725               \def\x{FitBV @xpos}%
9726             \else
9727               \def\x{Fit}%
9728               \ifx\x\@pdfview
9729                 \let\x\@pdfview
9730               \else
9731                 \def\x{FitB}%
9732                 \ifx\x\@pdfview
9733                   \let\x\@pdfview
9734                 \else
9735                   \def\x{FitR}%
9736                   \ifx\x\@pdfview
9737                     \Hy@Warning{'pdfview=FitR' is not supported}%
9738                   \def\x{XYZ @xpos @ypos null}%

```

```

9739         \else
9740         \@onelevel@sanitize\@pdfview
9741         \Hy@Warning{%
9742             Unknown value '\@pdfview' for pdfview%
9743         }%
9744         \def\x{XYZ @xpos @ypos null}%
9745     \fi
9746 \fi
9747 \fi
9748 \fi
9749 \fi
9750 \fi
9751 \fi
9752 \fi
9753 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9754 \endgroup
9755 \Hy@RestoreLastskip
9756 }
9757 \providecommand*\@pdfview{XYZ}
9758 \providecommand*\@pdfborder{0 0 1}
9759 \providecommand*\@pdfborderstyle{}
9760 \def\hyper@anchor#1{%
9761     \@pdfm@dest{#1}%
9762 }
9763 \def\hyper@anchorstart#1{%
9764     \Hy@activeanchortrue
9765     \@pdfm@dest{#1}%
9766 }
9767 \def\hyper@anchorend{%
9768     \Hy@activeanchorfalse
9769 }
9770 \newcounter{Hy@AnnotLevel}
9771 \ifHy@ocgcolorlinks
9772 \def\OBJ@OCG@view{@OCG@view}%
9773 \@pdfm@mark{%
9774     obj \OBJ@OCG@view <<%
9775     /Type/OCG%
9776     /Name(View)%
9777     /Usage<<%
9778     /Print<<%
9779     /PrintState/OFF%
9780     >>%
9781     /View<<%
9782     /ViewState/ON%
9783     >>%
9784     >>%
9785     >>%
9786 }%
9787 \@pdfm@mark{close \OBJ@OCG@view}%
9788 \def\OBJ@OCG@print{@OCG@print}%
9789 \@pdfm@mark{%
9790     obj \OBJ@OCG@print <<%
9791     /Type/OCG%
9792     /Name(Print)%
9793     /Usage<<%
9794     /Print<<%
9795     /PrintState/ON%

```



```

9796      >>%
9797      /View<<%
9798      /ViewState/OFF%
9799      >>%
9800      >>%
9801      >>%
9802      }%
9803      \@pdfm@mark{close \OBJ@OCG@print}%
9804      \def\OBJ@OCGs{@OCGs}%
9805      \@pdfm@mark{%
9806      obj \OBJ@OCGs [%
9807      \OBJ@OCG@view\space\OBJ@OCG@print
9808      ]%
9809      }%
9810      \@pdfm@mark{close \OBJ@OCGs}%
9811      \@pdfm@mark{%
9812      put @catalog <<%
9813      /OCProperties<<%
9814      /OCGs \OBJ@OCGs
9815      /D<<%
9816      /OFF[\OBJ@OCG@print]%
9817      /AS[%
9818      <<%
9819      /Event/View%
9820      /OCGs \OBJ@OCGs
9821      /Category[/View]%
9822      >>%
9823      <<%
9824      /Event/Print%
9825      /OCGs \OBJ@OCGs
9826      /Category[/Print]%
9827      >>%
9828      <<%
9829      /Event/Export%
9830      /OCGs \OBJ@OCGs
9831      /Category[/Print]%
9832      >>%
9833      ]%
9834      >>%
9835      >>%
9836      >>%
9837      }%
9838      \AtBeginShipout{%
9839      \setbox\AtBeginShipoutBox=\hbox{%
9840      \copy\AtBeginShipoutBox
9841      \@pdfm@mark{%
9842      put @resources <<%
9843      /Properties<<%
9844      /OCView \OBJ@OCG@view
9845      /OCPrint \OBJ@OCG@print
9846      >>%
9847      >>%
9848      }%
9849      }%
9850      }%
9851      \Hy@AtBeginDocument{%
9852      \def\Hy@colorlink#1{%

```

```

9853 \beginpgroup
9854 \ifHy@ocgcolorlinks
9855 \def\Hy@ocgcolor{#1}%
9856 \setbox0=\hbox\bgroup\color@beginpgroup
9857 \else
9858 \HyColor@UseColor#1%
9859 \fi
9860 }%
9861 \def\Hy@endcolorlink{%
9862 \ifHy@ocgcolorlinks
9863 \color@endgroup\egroup
9864 \mbox{%
9865 \@pdfm@mark{content /OC/OCPrint BDC}%
9866 \rlap{\copy0}%
9867 \@pdfm@mark{content EMC/OC/OCView BDC}%
9868 \beginpgroup
9869 \expandafter\HyColor@UseColor\Hy@ocgcolor
9870 \box0 %
9871 \endpgroup
9872 \@pdfm@mark{content EMC}%
9873 }%
9874 \fi
9875 \endpgroup
9876 }%
9877 }%
9878 \else
9879 \Hy@DisableOption{ocgcolorlinks}%
9880 \fi

9881 \def\Hy@BeginAnnot#1{%
9882 \stepcounter{Hy@AnnotLevel}%
9883 \ifnum\value{Hy@AnnotLevel}=\@ne
9884 #1%
9885 \fi
9886 }
9887 \def\Hy@endAnnot{%
9888 \ifnum\value{Hy@AnnotLevel}=\@ne
9889 \Hy@endcolorlink
9890 \@pdfm@mark{eann}%
9891 \fi
9892 \addtocounter{Hy@AnnotLevel}\m@ne
9893 }

9894 \def\Hy@undefinedname{UNDEFINED}
9895 \def\hyper@linkstart#1#2{%
9896 \Hy@VerboseLinkStart{#1}{#2}%
9897 \leavevmode
9898 \Hy@BeginAnnot{%
9899 \protected@edef\Hy@testname{#2}%
9900 \ifx\Hy@testname\@empty
9901 \Hy@Warning{%
9902 Empty destination name,\MessageBreak
9903 using '\Hy@undefinedname'%
9904 }%
9905 \let\Hy@testname\Hy@undefinedname
9906 \else
9907 \Hy@pstringdef\Hy@testname{%
9908 \expandafter\HyperDestNameFilter\expandafter{%
9909 \Hy@testname

```

```

9910     }%
9911     }%
9912 \fi
9913 \@pdfm@mark{%
9914     bann<<%
9915     /Type/Annot%
9916     /Subtype/Link%
9917     \ifHy@pdfa /F 4\fi
9918     \Hy@setpdfborder
9919     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9920     \else
9921     /C[\csname @#1bordercolor\endcsname]%
9922     \fi
9923     /A<<%
9924     /S/GoTo%
9925     /D(\Hy@testname)%
9926     \Hy@href@nextactionraw
9927     >>%
9928     >>%
9929     }%
9930     \expandafter\Hy@colorlink\csname @#1color\endcsname
9931     }%
9932 }
9933 \def\hyper@linkend{\Hy@EndAnnot}%
9934 \def\hyper@link#1#2#3{%
9935     \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9936 }
9937 \def\hyper@linkfile#1#2#3{%
9938     \leavevmode
9939     \Hy@BeginAnnot{%
9940         \def\Hy@pstringF{#2}%
9941         \Hy@CleanupFile\Hy@pstringF
9942         \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9943         \Hy@pstringdef\Hy@pstringD{#3}%
9944         \Hy@MakeRemoteAction
9945         \@pdfm@mark{%
9946             bann<<%
9947             /Type/Annot%
9948             /Subtype/Link%
9949             \ifHy@pdfa /F 4\fi
9950             \Hy@setpdfborder
9951             \ifx\@filebordercolor\relax
9952             \else
9953             /C[\@filebordercolor]%
9954             \fi
9955             /A<<%
9956             /S/GoToR%
9957             /F(\Hy@pstringF)%
9958             /D%
9959             \ifx\#3\%
9960             [\Hy@href@page\@pdfremotestartview]%
9961             \else
9962             (\Hy@pstringD)%
9963             \fi
9964             \Hy@SetNewWindow
9965             \Hy@href@nextactionraw
9966             >>%

```

```

9967     >>%
9968   }%
9969   \Hy@colorlink\@filecolor
9970 }%
9971 #1\Hy@xspace@end
9972 \Hy@endAnnot
9973 }
9974 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9975 \leavevmode
9976 \Hy@BeginAnnot{%
9977   \Hy@pstringdef\Hy@pstringF{#1}%
9978   \Hy@pstringdef\Hy@pstringP{#3}%
9979   \@pdfm@mark{%
9980     bann<<%
9981     /Type/Annot%
9982     /Subtype/Link%
9983     \ifHy@pdfa /F 4\fi
9984     \Hy@setpdfborder
9985     \ifx\@runbordercolor\relax
9986     \else
9987       /C[\@runbordercolor]%
9988     \fi
9989     /A<<%
9990     /F(\Hy@pstringF)%
9991     /S/Launch%
9992     \Hy@SetNewWindow
9993     \ifx\|#3\|%
9994     \else
9995       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9996     \fi
9997     \Hy@href@nextactionraw
9998     >>%
9999     >>%
10000   }%
10001   \Hy@colorlink\@runcolor
10002 }%
10003 #2\Hy@xspace@end
10004 \Hy@endAnnot
10005 }
10006 \def\hyper@linkurl#1#2{%
10007 \leavevmode
10008 \Hy@BeginAnnot{%
10009   \Hy@pstringdef\Hy@pstringURI{#2}%
10010   \@pdfm@mark{%
10011     bann<<%
10012     /Type/Annot%
10013     /Subtype/Link%
10014     \ifHy@pdfa /F 4\fi
10015     \Hy@setpdfborder
10016     \ifx\@urlbordercolor\relax
10017     \else
10018       /C[\@urlbordercolor]%
10019     \fi
10020     /A<<%
10021     /S/URI%
10022     /URI(\Hy@pstringURI)%
10023     \ifHy@href@ismap

```

```

10024      /IsMap true%
10025      \fi
10026      \Hy@href@nextactionraw
10027      >>%
10028      >>%
10029      }%
10030      \Hy@colorlink\@urlcolor
10031      }%
10032      #1\Hy@xspace@end
10033      \Hy@endAnnot
10034      }
10035      \def\Acrobatmenu#1#2{%
10036      \Hy@Acrobatmenu{#1}{#2}{%
10037      \Hy@BeginAnnot{%
10038      \@pdfm@mark{%
10039      bann<<%
10040      /Type/Annot%
10041      /Subtype/Link%
10042      \ifHy@pdfa /F 4\fi
10043      /A<<%
10044      /S/Named%
10045      /N/#1%
10046      \Hy@href@nextactionraw
10047      >>%
10048      \Hy@setpdfborder
10049      \ifx\@menubordercolor\relax
10050      \relax
10051      /C[\@menubordercolor]%
10052      \fi
10053      >>%
10054      }%
10055      \Hy@colorlink\@menucolor
10056      }%
10057      #2\Hy@xspace@end
10058      \Hy@endAnnot
10059      }%
10060      }
10061      \ifx\@pdfproducer\relax
10062      \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10063      \begingroup\expandafter\expandafter\expandafter\endgroup
10064      \expandafter\ifx\csname XeTeXversion\endcsname\relax
10065      \else
10066      \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10067      \fi
10068      \fi
10069      \def\PDF@FinishDoc{%
10070      \Hy@UseMaketitleInfos
10071      \HyInfo@GenerateAddons
10072      \@pdfm@mark{%
10073      docinfo<<%
10074      /Title(\@pdftitle)%
10075      /Subject(\@pdfsubject)%
10076      /Creator(\@pdfcreator)%
10077      \ifx\@pdfcreationdate\@empty
10078      \else
10079      /CreationDate(\@pdfcreationdate)%

```

```

10080 \fi
10081 \ifx\@pdfmoddate\@empty
10082 \else
10083 /ModDate(\@pdfmoddate)%
10084 \fi
10085 /Author(\@pdfauthor)%
10086 \ifx\@pdfproducer\relax
10087 \else
10088 /Producer(\@pdfproducer)%
10089 \fi
10090 /Keywords(\@pdfkeywords)%
10091 \ifx\@pdftrapped\@empty
10092 \else
10093 /Trapped/\@pdftrapped
10094 \fi
10095 \HyInfo@Addons
10096 >>%
10097 }%
10098 \Hy@DisableOption{pdfauthor}%
10099 \Hy@DisableOption{pdftitle}%
10100 \Hy@DisableOption{pdfsubject}%
10101 \Hy@DisableOption{pdfcreator}%
10102 \Hy@DisableOption{pdfcreationdate}%
10103 \Hy@DisableOption{pdfmoddate}%
10104 \Hy@DisableOption{pdfproducer}%
10105 \Hy@DisableOption{pdfkeywords}%
10106 \Hy@DisableOption{pdftrapped}%
10107 \Hy@DisableOption{pdfinfo}%
10108 }

10109 \def\PDF@SetupDoc{%
10110 \edef\Hy@temp{%
10111 \ifHy@pdftoolbar\else /HideToolbar true\fi
10112 \ifHy@pdfmenubar\else /HideMenubar true\fi
10113 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10114 \ifHy@pdffitwindow /FitWindow true\fi
10115 \ifHy@pdfcenterwindow /CenterWindow true\fi
10116 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10117 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10118 \Hy@UseNameKey{Direction}\@pdfdirection
10119 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10120 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10121 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10122 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10123 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10124 \Hy@UseNameKey{Duplex}\@pdfduplex
10125 \ifx\@pdfpicktraybypdfsize\@empty
10126 \else
10127 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10128 \fi
10129 \ifx\@pdfprintpagerange\@empty
10130 \else
10131 /PrintPageRange[\@pdfprintpagerange]%
10132 \fi
10133 \ifx\@pdfnumcopies\@empty
10134 \else
10135 /NumCopies \@pdfnumcopies
10136 \fi

```

```

10137 }%
10138 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10139 \@pdfm@mark{%
10140   docview<<%
10141     \ifx\@pdfstartpage\@empty
10142     \else
10143       \ifx\@pdfstartview\@empty
10144       \else
10145         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10146         \fi
10147       \fi
10148     \ifx\@baseurl\@empty
10149     \else
10150       /URI<</Base(\Hy@pstringB)>>%
10151       \fi
10152     /PageMode/\@pdfpagemode
10153     \ifx\Hy@temp\@empty
10154     \else
10155       /ViewerPreferences<<\Hy@temp>>%
10156       \fi
10157     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10158     \ifx\@pdflang\@empty
10159     \else
10160       /Lang(\@pdflang)%
10161     \fi
10162   >>%
10163 }%
10164 \ifx\@pdfpagescrop\@empty
10165 \else
10166   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10167 \fi
10168 }
10169 </dvi pdfm | xetex>
10170 < *dvi pdfm | xetex>

```

\hyper@pagetransition

```

10171 \def\hyper@pagetransition{%
10172   \ifx\@pdfpagetransition\relax
10173   \else
10174     \ifx\@pdfpagetransition\@empty
10175     \else
10176       \special{pdf:put @thispage %
10177         <</Trans<</S/\@pdfpagetransition>>>>%
10178       }%
10179     \fi
10180   \fi
10181 }

```

\hyper@pageduration

```

10182 \def\hyper@pageduration{%
10183   \ifx\@pdfpageduration\relax
10184   \else
10185     \ifx\@pdfpageduration\@empty
10186     \else
10187       \special{pdf:put @thispage %
10188         <</Dur \@pdfpageduration>>>%
10189     }%

```

```

10190 \fi
10191 \fi
10192 }

```

\hyper@pagehidden

```

10193 \def\hyper@pagehidden{%
10194 \ifHy@useHidKey
10195 \special{pdf:put @thispage %
10196 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10197 }%
10198 \fi
10199 }

```

```

10200 \g@addto@macro\Hy@EveryPageBoxHook{%
10201 \hyper@pagetransition
10202 \hyper@pageduration
10203 \hyper@pagehidden
10204 }

10205 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10206 <*dvipdfm>
10207 \AtBeginShipoutFirst{%
10208 \ifHy@setpagesize
10209 \begingroup
10210 \ifundefined{stockwidth}{%
10211 \ifdim\paperwidth>\z@
10212 \ifdim\paperheight>\z@
10213 \special{papersize=\the\paperwidth,\the\paperheight}%
10214 \fi
10215 \fi
10216 }{%
10217 \ifdim\stockwidth>\z@
10218 \ifdim\stockheight>\z@
10219 \special{papersize=\the\stockwidth,\the\stockheight}%
10220 \fi
10221 \fi
10222 }%
10223 \endgroup
10224 \fi
10225 \Hy@DisableOption{setpagesize}%
10226 }
10227 </dvipdfm>

```

46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10228 <*vtexhtml>
10229 \providecommand*{\XR@ext}{.htm}
10230 \RequirePackage{vtexhtml}
10231 \newif\if@Localurl
10232 \let\PDF@FinishDoc\ltx@empty
10233 \def\PDF@SetupDoc{%
10234 \ifx\@baseurl\@empty
10235 \else

```



```

10236 \special{!direct <base href="\@baseurl">}%
10237 \fi
10238 }
10239 \def\@urlltype{url}
10240 \def\hyper@link#1#2#3{%
10241 \Hy@VerboseLinkStart{#1}{#2}%
10242 \leavevmode
10243 \special{!direct <a href=%
10244 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10245 #3\Hy@xspace@end
10246 \special{!direct </a>}%
10247 }
10248 \def\hyper@linkurl#1#2{%
10249 \begingroup
10250 \hyper@chars
10251 \leavevmode
10252 \MathBSuppress=1\relax
10253 \special{!direct <a href=%
10254 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10255 #1\Hy@xspace@end
10256 \MathBSuppress=0\relax
10257 \special{!direct </a>}%
10258 \endgroup
10259 }
10260 \def\hyper@linkfile#1#2#3{%
10261 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\#3\fi}%
10262 }
10263 \def\hyper@linkstart#1#2{%
10264 \Hy@VerboseLinkStart{#1}{#2}%
10265 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10266 \@Localurltrue
10267 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10268 \else
10269 \@Localurlfalse
10270 \begingroup
10271 \hyper@chars
10272 \special{!aref \HyperDestNameFilter{#2}}%
10273 \endgroup
10274 \fi
10275 }
10276 \def\hyper@linkend{%
10277 \if@Localurl
10278 \special{!endaref}%
10279 \else
10280 \special{!direct </a>}%
10281 \fi
10282 }
10283 \Hy@WrapperDef\hyper@anchorstart#1{%
10284 \Hy@SaveLastskip
10285 \Hy@VerboseAnchor{#1}%
10286 \begingroup
10287 \hyper@chars
10288 \special{!aname #1}%
10289 \special{!direct <a name=%
10290 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10291 \endgroup
10292 \Hy@activeanchortrue

```

```

10293 }
10294 \def\hyper@anchorend{%
10295   \special{!direct </a>}%
10296   \Hy@activeanchorfalse
10297   \Hy@RestoreLastskip
10298 }
10299 \Hy@WrapperDef\hyper@anchor#1{%
10300   \Hy@SaveLastskip
10301   \Hy@VerboseAnchor{#1}%
10302   \begingroup
10303     \let\protect=\string
10304     \hyper@chars
10305     \leavevmode
10306     \special{!aname #1}%
10307     \special{!direct <a name=%
10308       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10309   \endgroup
10310   \Hy@activeanchortrue
10311   \bgroup\anchor@spot\egroup
10312   \special{!direct </a>}%
10313   \Hy@activeanchorfalse
10314   \Hy@RestoreLastskip
10315 }
10316 \def\@Form[#1]{%
10317   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10318 }
10319 \let\@endForm\ltx@empty
10320 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10321   \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10322 }
10323 \def\@TextField[#1]#2{% parameters, label
10324   \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10325 }
10326 \def\@CheckBox[#1]#2{% parameters, label
10327   \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10328 }
10329 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10330   \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10331 }
10332 \def\@PushButton[#1]#2{% parameters, label
10333   \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10334 }
10335 \def\@Reset[#1]#2{%
10336   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10337 }
10338 \def\@Submit[#1]#2{%
10339   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10340 }
10341 </vtexhtml>
10342 < *vtex>

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct is
better than a \csname, because it avoids the definition and the hash table entry of a
previous undefined macro.
10343 \ifx\mediaheight\@undefined
10344 \else
10345   \ifx\mediaheight\relax

```

```

10346 \else
10347   \ifHy@setpagesize
10348     \providecommand*\VTeXInitMediaSize{%
10349       \ltx@ifundefined{stockwidth}{%
10350         \ifdim\paperheight>0pt %
10351           \setlength\mediaheight\paperheight
10352         \fi
10353         \ifdim\paperheight>0pt %
10354           \setlength\mediawidth\paperwidth
10355         \fi
10356       }{%
10357         \ifdim\stockheight>0pt %
10358           \setlength\mediaheight\stockheight
10359         \fi
10360         \ifdim\stockwidth>0pt %
10361           \setlength\mediawidth\stockwidth
10362         \fi
10363       }%
10364     }%
10365   \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10366 \fi
10367 \Hy@DisableOption{setpagesize}%
10368 \fi
10369 \fi

```

Older versions of VTeX require xyz in lower case.

```

10370 \providecommand*\@pdfview{xyz}
10371 \providecommand*\@pdfborder{0 0 1}
10372 \providecommand*\@pdfborderstyle{}
10373 \let\CurrentBorderColor\@linkbordercolor
10374 \Hy@WrapperDef\hyper@anchor#1{%
10375   \Hy@SaveLastskip
10376   \Hy@VerboseAnchor{#1}%
10377   \begingroup
10378     \let\protect=\string
10379     \hyper@chars
10380     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10381   \endgroup
10382   \Hy@activeanchortrue
10383   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10384   \Hy@activeanchorfalse
10385   \Hy@RestoreLastskip
10386 }
10387 \Hy@WrapperDef\hyper@anchorstart#1{%
10388   \Hy@SaveLastskip
10389   \Hy@VerboseAnchor{#1}%
10390   \begingroup
10391     \hyper@chars
10392     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10393   \endgroup
10394   \Hy@activeanchortrue
10395 }
10396 \def\hyper@anchorend{%
10397   \Hy@activeanchorfalse
10398   \Hy@RestoreLastskip
10399 }
10400 \def\@urltype{url}
10401 \def\Hy@undefinedname{UNDEFINED}

```

```

10402 \def\hyper@linkstart#1#2{%
10403   \Hy@VerboseLinkStart{#1}{#2}%
10404   \Hy@pstringdef\Hy@colorlink\csname @#1color\endcsname
10405   \expandafter\Hy@colorlink\csname @#1color\endcsname
10406   \ltx@ifundefined{@#1bordercolor}{%
10407     \let\CurrentBorderColor\relax
10408   }{%
10409     \edef\CurrentBorderColor{%
10410       \csname @#1bordercolor\endcsname
10411     }%
10412   }%
10413   \def\Hy@tempa{#1}%
10414   \ifx\Hy@tempa\@uratype
10415     \special{!%
10416       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10417         \ifHy@href@ismap
10418           /IsMap true%
10419         \fi
10420         \Hy@href@nextactionraw
10421       >;%
10422       a=<%
10423         \ifHy@pdfa /F 4\fi
10424         \Hy@setpdfborder
10425         \ifx\CurrentBorderColor\relax
10426           \else
10427             /C [\CurrentBorderColor]%
10428           \fi
10429         >%
10430       }%
10431     \else
10432       \protected@edef\Hy@testname{#2}%
10433       \ifx\Hy@testname\@empty
10434         \Hy@Warning{%
10435           Empty destination name,\MessageBreak
10436           using '\Hy@undefinedname'%
10437         }%
10438         \let\Hy@testname\Hy@undefinedname
10439       \fi
10440       \special{!%
10441         aref \expandafter\HyperDestNameFilter
10442           \expandafter{\Hy@testname};%
10443         a=<%
10444           \ifHy@pdfa /F 4\fi
10445           \Hy@setpdfborder
10446           \ifx\CurrentBorderColor\relax
10447             \else
10448               /C [\CurrentBorderColor]%
10449             \fi
10450           >%
10451         }%
10452       \fi
10453     }
10454   \def\hyper@linkend{%
10455     \special{!endaref}%
10456     \Hy@endcolorlink
10457   }
10458   \def\hyper@linkfile#1#2#3{%

```

```

10459 \leavevmode
10460 \def\Hy@pstringF{#2}%
10461 \Hy@CleanupFile\Hy@pstringF
10462 \special{!%
10463   aref <%
10464   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10465   f=\Hy@pstringF>#3;%
10466   a=<%
10467     \ifHy@pdfa /F 4\fi
10468     \Hy@setpdfborder
10469     \ifx\@filebordercolor\relax
10470     \else
10471       /C [\@filebordercolor]%
10472     \fi
10473   >%
10474 }%
10475 \Hy@colorlink\@filecolor
10476 #1\Hy@xspace@end
10477 \Hy@endcolorlink
10478 \special{!endaref}%
10479 }
10480 \def\hyper@linkurl#1#2{%
10481   \begingroup
10482   \Hy@pstringdef\Hy@pstringURI{#2}%
10483   \hyper@chars
10484   \leavevmode
10485   \special{!%
10486     aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10487     \ifHy@href@ismap
10488       /IsMap true%
10489     \fi
10490     \Hy@href@nextactionraw
10491     >,%
10492     a=<%
10493     \ifHy@pdfa /F 4\fi
10494     \Hy@setpdfborder
10495     \ifx\@urlbordercolor\relax
10496     \else
10497       /C [\@urlbordercolor]%
10498     \fi
10499     >%
10500   }%
10501   \Hy@colorlink\@urlcolor
10502   #1\Hy@xspace@end
10503   \Hy@endcolorlink
10504   \special{!endaref}%
10505   \endgroup
10506 }
10507 \def\hyper@link#1#2#3{%
10508   \Hy@VerboseLinkStart{#1}{#2}%
10509   \ltx@ifundefined{@#1bordercolor}{%
10510     \let\CurrentBorderColor\relax
10511   }{%
10512     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10513   }%
10514   \leavevmode
10515   \protected@edef\Hy@testname{#2}%

```

```

10516 \ifx\Hy@testname\@empty
10517   \Hy@Warning{%
10518     Empty destination name,\MessageBreak
10519     using '\Hy@undefinedname'%
10520   }%
10521   \let\Hy@testname\Hy@undefinedname
10522 \fi
10523 \special{!%
10524   aref \expandafter\HyperDestNameFilter
10525     \expandafter{\Hy@testname};%
10526   a=<%
10527     \ifHy@pdfa /F 4\fi
10528     \Hy@setpdfborder
10529     \ifx\CurrentBorderColor\relax
10530     \else
10531       /C [\CurrentBorderColor]%
10532     \fi
10533   >%
10534 }%
10535 \expandafter
10536 \Hy@colorlink\csname @#1color\endcsname
10537   #3\Hy@xspace@end
10538 \Hy@endcolorlink
10539 \special{!endaref}%
10540 }
10541 \def\hyper@image#1#2{%
10542   \hyper@linkurl{#2}{#1}%
10543 }
10544 \def\@hyper@launch run:#1\#2#3{%
10545   \Hy@pstringdef\Hy@pstringF{#1}%
10546   \Hy@pstringdef\Hy@pstringP{#3}%
10547   \leavevmode
10548   \special{!aref %
10549     <u=%
10550       /Type/Action%
10551       /S/Launch%
10552       /F(\Hy@pstringF)%
10553       \Hy@SetNewWindow
10554       \ifx\#3\%
10555       \else
10556         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10557       \fi
10558       \Hy@href@nextactionraw
10559     >,%
10560     a=<%
10561       \ifHy@pdfa /F 4\fi
10562       \Hy@setpdfborder
10563       \ifx\@runbordercolor\relax
10564       \else
10565         /C[\@runbordercolor]%
10566       \fi
10567     >%
10568   }%
10569   \Hy@colorlink\@runcolor
10570   #2\Hy@xspace@end
10571 \Hy@endcolorlink
10572 \special{!endaref}%

```

```

10573 }
10574 \def\Acrobatmenu#1#2{%
10575   \Hy@Acrobatmenu{#1}{#2}{%
10576     \special{!%
10577       aref <u=/S /Named /N /#1>;%
10578       a=<%
10579         \ifHy@pdfa /F 4\fi
10580         \Hy@setpdfborder
10581         \ifx\@menubordercolor\relax
10582         \else
10583         /C[\@menubordercolor]%
10584         \fi
10585       >%
10586     }%
10587     \Hy@colorlink\@menucolor
10588     #2\Hy@xspace@end
10589     \Hy@endcolorlink
10590     \special{!endaref}%
10591   }%
10592 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for VTeX 7.02 or later.

Please never use `\ifundefined{VTeXversion}{...}{...}` globally.

```

10593 \ifnum\Hy@VTeXversion<702 %
10594 \else
10595   \def\hyper@pagetransition{%
10596     \ifx\@pdfpagetransition\relax
10597     \else
10598     \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10599   \else
10600     \hvtex@parse@trans\@pdfpagetransition
10601     \fi
10602   \fi
10603 }%

```

I have to write an “honest” parser to convert raw PDF code into VTeX `\special`.
(AVK)

Syntax of VTeX `\special{!trans <transition_effect>}`:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                      <Dissolve_effect> | <Glitter_effect> |
                      <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

10604 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10605 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10606 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10607 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10608 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10609 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10610 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10611 \def\hvtex@par@dimension{/Dm}%
10612 \def\hvtex@par@direction{/Di}%
10613 \def\hvtex@par@duration{/D}%
10614 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10615 \def\hvtex@gettoken{%
10616 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10617 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10618 \def\hvtex@gettoken@#1 #2\@nil{%
10619 \edef\hvtex@token{#1}%
10620 \edef\hvtex@buffer{#2}%
10621 }%
10622 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10623 \let\hvtex@trans@code\@empty
10624 \let\hvtex@param@dimension\@empty
10625 \let\hvtex@param@direction\@empty
10626 \let\hvtex@param@duration\@empty
10627 \let\hvtex@param@motion\@empty
10628 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10629 \hvtex@gettoken
10630 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10631 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10632 \else
10633 \hvtex@gettoken
10634 \fi
10635 \fi
10636 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10637 \hvtex@trans@params
10638 }%

```

Reentrant macro to parse optional parameters.

```

10639 \def\hvtex@trans@params{%
10640 \ifx\hvtex@buffer\@empty
10641 \else
10642 \hvtex@gettoken
10643 \let\hvtex@trans@par\hvtex@token
10644 \ifx\hvtex@buffer\@empty
10645 \else

```



```

10646 \hvtex@gettoken
10647 \ifx\hvtex@trans@par\hvtex@par@duration
/D is the effect duration in seconds. VTEX special takes it in milliseconds.

```

```

10648 \let\hvtex@param@duration\hvtex@token
10649 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10650 \expandafter\edef\expandafter\hvtex@param@motion
10651 \expandafter{\expandafter\@gobble\hvtex@token}%
10652 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

10653 \expandafter\edef\expandafter\hvtex@param@dimension
10654 \expandafter{\expandafter\@gobble\hvtex@token}%
10655 \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).

```

10656 \let\hvtex@param@direction\hvtex@token
10657 \fi\fi\fi
10658 \fi
10659 \fi
10660 \ifx\hvtex@buffer\@empty
10661 \let\next\hvtex@produce@trans
10662 \else
10663 \let\next\hvtex@trans@params
10664 \fi
10665 \next
10666 }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10667 \def\hvtex@produce@trans{%
10668 \let\vtex@trans@special\@empty
10669 \if S\hvtex@trans@code
10670 \edef\vtex@trans@special{\hvtex@trans@code
10671 \hvtex@param@dimension\hvtex@param@motion}%
10672 \else\if B\hvtex@trans@code
10673 \edef\vtex@trans@special{%
10674 \hvtex@trans@code\hvtex@param@dimension
10675 }%
10676 \else\if X\hvtex@trans@code
10677 \edef\vtex@trans@special{%
10678 \hvtex@trans@code\hvtex@param@motion
10679 }%
10680 \else\if W\hvtex@trans@code
10681 \edef\vtex@trans@special{%
10682 \hvtex@trans@code\hvtex@param@direction
10683 }%
10684 \else\if D\hvtex@trans@code
10685 \let\vtex@trans@special\hvtex@trans@code
10686 \else\if R\hvtex@trans@code
10687 \let\vtex@trans@special\hvtex@trans@code
10688 \else\if G\hvtex@trans@code
10689 \edef\vtex@trans@special{%
10690 \hvtex@trans@code\hvtex@param@direction
10691 }%
10692 \fi\fi\fi\fi\fi\fi

```

```

10693 \ifx\vtex@trans@special\@empty
10694 \else
10695 \ifx\hvtex@param@duration\@empty
10696 \else
10697 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10698 \multiply\dimen@\@m
10699 \edef\vtex@trans@special{%
10700 \vtex@trans@special,\strip@pt\dimen@
10701 }%
10702 \fi

```

And all the mess is just for this.

```

10703 \special{!trans \vtex@trans@special}%
10704 \fi
10705 }%

10706 \def\hyper@pageduration{%
10707 \ifx\@pdfpageduration\relax
10708 \else
10709 \ifx\@pdfpageduration\@empty
10710 \special{!duration-}%
10711 \else
10712 \special{!duration \@pdfpageduration}%
10713 \fi
10714 \fi
10715 }%

10716 \def\hyper@pagehidden{%
10717 \ifHy@useHidKey
10718 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10719 \fi
10720 }%

10721 \g@addto@macro\Hy@EveryPageBoxHook{%
10722 \hyper@pagetransition
10723 \hyper@pageduration
10724 \hyper@pagehidden
10725 }%
10726 \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

```

10727 \ifx\@pdfproducer\relax
10728 \def\@pdfproducer{VTeX}%
10729 \ifnum\Hy@VTeXversion>\z@
10730 \count@\VTeXversion
10731 \divide\count@ 100 %
10732 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10733 \multiply\count@ -100 %
10734 \advance\count@\VTeXversion
10735 \edef\@pdfproducer{%

```

```

10736 \pdfproducer
10737 .\ifnum\count@<10 0\fi\the\count@
10738 \ifx\VTexOS\@undefined\else
10739 \ifnum\VTexOS>0 %
10740 \ifnum\VTexOS<6 %
10741 \space(%
10742 \ifcase\VTexOS
10743 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10744 \fi
10745 )%
10746 \fi
10747 \fi
10748 \fi
10749 ,\space
10750 \ifnum\OpMode=\@one PDF\else PS\fi
10751 \space backend%
10752 \ifx\gexmode\@undefined\else
10753 \ifnum\gexmode>\z@\space with GeX\fi
10754 \fi
10755 }%
10756 \fi
10757 \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).

```

10758 \def\PDF@SetupDoc{%
10759 \ifx\@pdfpagescrop\@empty
10760 \else
10761 \special{!pdfinfo b=<\@pdfpagescrop>}%
10762 \fi
10763 \ifx\@pdfstartpage\@empty
10764 \else
10765 \ifx\@pdfstartview\@empty
10766 \else
10767 \special{!onopen Page\@pdfstartpage}%
10768 \fi
10769 \fi
10770 \special{!pdfinfo p=</\@pdfpagemode>}%
10771 \ifx\@baseurl\@empty
10772 \else
10773 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10774 \fi
10775 \special{!pdfinfo v=<<<%
10776 \ifHy@pdftoolbar\else /HideToolbar true\fi
10777 \ifHy@pdfmenubar\else /HideMenubar true\fi

```

```

10778 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10779 \ifHy@pdfwindow /FitWindow true\fi
10780 \ifHy@pdfcenterwindow /CenterWindow true\fi
10781 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10782 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10783 \Hy@UseNameKey{Direction}\@pdfdirection
10784 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10785 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10786 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10787 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10788 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10789 \Hy@UseNameKey{Duplex}\@pdfduplex
10790 \ifx\@pdfpicktraybypdfsize\@empty
10791 \else
10792 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10793 \fi
10794 \ifx\@pdfprintpagerange\@empty
10795 \else
10796 /PrintPageRange[\@pdfprintpagerange]%
10797 \fi
10798 \ifx\@pdfnumcopies\@empty
10799 \else
10800 /NumCopies \@pdfnumcopies
10801 \fi
10802 >>>}%
10803 \ifx\@pdfpagelayout\@empty
10804 \else
10805 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10806 \fi
10807 }%
10808 \HyInfo@AddonUnsupportedtrue
10809 \def\PDF@FinishDoc{%
10810 \Hy@UseMaketitleInfos
10811 \HyInfo@TrappedUnsupported
10812 \special{!pdfinfo a=<\@pdfauthor>}%
10813 \special{!pdfinfo t=<\@pdftitle>}%
10814 \special{!pdfinfo s=<\@pdfsubject>}%
10815 \special{!pdfinfo c=<\@pdfcreator>}%
10816 \ifx\@pdfproducer\relax
10817 \else
10818 \special{!pdfinfo r=<\@pdfproducer>}%
10819 \fi
10820 \special{!pdfinfo k=<\@pdfkeywords>}%
10821 \Hy@DisableOption{pdfauthor}%
10822 \Hy@DisableOption{pdftitle}%
10823 \Hy@DisableOption{pdfsubject}%
10824 \Hy@DisableOption{pdfcreator}%
10825 \Hy@DisableOption{pdfcreationdate}%
10826 \Hy@DisableOption{pdfmoddate}%
10827 \Hy@DisableOption{pdfproducer}%
10828 \Hy@DisableOption{pdfkeywords}%
10829 \Hy@DisableOption{pdftrapped}%
10830 \Hy@DisableOption{pdfinfo}%
10831 }
10832 </vtex>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```
/showpage {  
  //showpage  
  clippath stroke erasepage  
} bind def
```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```
10833 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
10834 <package>\providecommand*\Hy@DistillerDestFix{}  
10835 <*pdfmark | dviwindo>  
10836 \def\Hy@DistillerDestFix{%  
10837   \begingroup  
10838   \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
10839   \ifnum \@ifundefined{OpMode}{0}{%  
10840     \@ifundefined{gexmode}{0}{%  
10841       \ifnum\gexmode>0 \OpMode\else 0\fi  
10842     }>1 %  
10843   \def\x##1{%  
10844     \immediate\special{!=##1}%  
10845   }%  
10846   \fi  
10847   \x{%  
10848     /product where{%  
10849       pop %  
10850       product(Distiller)search{%  
10851         pop pop pop %  
10852         version(.)search{%  
10853           exch pop exch pop%  
10854           (3011)eq{%  
10855             gsave %  
10856             newpath 0 0 moveto closepath clip%  
10857             /Courier findfont 10 scalefont setfont %  
10858             72 72 moveto(.)show %  
10859             grestore%  
10860           }if%  
10861         }{pop}ifelse%  
10862       }{pop}ifelse%  
10863     }if%  
10864   }%  
10865   \endgroup  
10866 }  
10867 </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

```

10868 <*pdfmark>
10869 \Hy@breaklinks@unsupported
10870 \def\HyPat@ObjRef{%
10871   \[^{^}+\^}%
10872 }
10873 \Hy@WrapperDef\hyper@anchor#1{%
10874   \Hy@SaveLastskip
10875   \Hy@VerboseAnchor{#1}%
10876   \begingroup
10877     \pdfmark[\anchor@spot]{%
10878       pdfmark=/DEST,%
10879       linktype=anchor,%
10880       View=/^@pdfview \@pdfviewparams,%
10881       DestAnchor={#1}%
10882     }%
10883   \endgroup
10884   \Hy@RestoreLastskip
10885 }
10886 \ltx@ifundefined{hyper@anchorstart}{^}{\endinput}
10887 \Hy@WrapperDef\hyper@anchorstart#1{%
10888   \Hy@SaveLastskip
10889   \Hy@VerboseAnchor{#1}%
10890   \literalps@out{H.S}%
10891   \Hy@AllowHyphens
10892   \xdef\hyper@currentanchor{#1}%
10893   \Hy@activeanchortrue
10894 }
10895 \def\hyper@anchorend{%
10896   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10897   \pdfmark{%
10898     pdfmark=/DEST,%
10899     linktype=anchor,%
10900     View=/^@pdfview \@pdfviewparams,%
10901     DestAnchor=\hyper@currentanchor,%
10902   }%
10903   \Hy@activeanchorfalse
10904   \Hy@RestoreLastskip
10905 }
10906 \def\hyper@linkstart#1#2{%
10907   \Hy@VerboseLinkStart{#1}{#2}%
10908   \ifHy@breaklinks
10909     \else
10910       \leavevmode
10911       \ifmmode
10912         \def\Hy@LinkMath{^}%
10913       \else
10914         \let\Hy@LinkMath\ltx@empty
10915       \fi
10916       \Hy@SaveSpaceFactor
10917       \hbox\bgroup

```

```

10918 \Hy@RestoreSpaceFactor
10919 \Hy@LinkMath
10920 \fi
10921 \expandafter\Hy@colorlink\csname @#1color\endcsname
10922 \literalps@out{H.S}%
10923 \Hy@AllowHyphens
10924 \xdef\hyper@currentanchor{#2}%
10925 \gdef\hyper@currentlinktype{#1}%
10926 }
10927 \def\hyper@linkend{%
10928 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10929 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10930 \let\Hy@tempcolor\relax
10931 }{%
10932 \edef\Hy@tempcolor{%
10933 \csname @\hyper@currentlinktype bordercolor\endcsname
10934 }%
10935 }%
10936 \pdfmark{%
10937 pdfmark=/ANN,%
10938 linktype=link,%
10939 Subtype=/Link,%
10940 PDFAFlags=4,%
10941 Dest=\hyper@currentanchor,%
10942 AcroHighlight=\@pdfhighlight,%
10943 Border=\@pdfborder,%
10944 BorderStyle=\@pdfborderstyle,%
10945 Color=\Hy@tempcolor,%
10946 Raw=H.B%
10947 }%
10948 \Hy@endcolorlink
10949 \ifHy@breaklinks
10950 \else
10951 \Hy@LinkMath
10952 \Hy@SaveSpaceFactor
10953 \egroup
10954 \Hy@RestoreSpaceFactor
10955 \fi
10956 }

```

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.

```

10957 \begingroup
10958 \catcode'P=12 %
10959 \catcode'T=12 %
10960 \lowercase{\endgroup
10961 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10962 }
10963 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10964 \def\hyper@pagetransition{%
10965 \ifx\@pdfpagetransition\relax
10966 \else
10967 \ifx\@pdfpagetransition\@empty
10968 % 1. Does an old entry have to be deleted?

```

```

10969 % 2. If 1=yes, how to delete?
10970 \else
10971 \pdfmark{%
10972 pdfmark=/PUT,%
10973 Raw={%
10974 \string{ThisPage\string}%
10975 <</Trans << /S /\@pdfpagetransition\space >> >>%
10976 }%
10977 }%
10978 \fi
10979 \fi
10980 }

```

\hyper@pageduration

```

10981 \def\hyper@pageduration{%
10982 \ifx\@pdfpageduration\relax
10983 \else
10984 \ifx\@pdfpageduration\@empty
10985 % 1. Does an old entry have to be deleted?
10986 % 2. If 1=yes, how to delete?
10987 \else
10988 \pdfmark{%
10989 pdfmark=/PUT,%
10990 Raw={%
10991 \string{ThisPage\string}%
10992 <</Dur \@pdfpageduration>>%
10993 }%
10994 }%
10995 \fi
10996 \fi
10997 }

```

\hyper@pagehidden

```

10998 \def\hyper@pagehidden{%
10999 \ifHy@useHidKey
11000 \pdfmark{%
11001 pdfmark=/PUT,%
11002 Raw={%
11003 \string{ThisPage\string}%
11004 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11005 }%
11006 }%
11007 \fi
11008 }

11009 \g@addto@macro\Hy@EveryPageBoxHook{%
11010 \hyper@pagetransition
11011 \hyper@pageduration
11012 \hyper@pagehidden
11013 }

11014 \def\hyper@image#1#2{%
11015 \hyper@linkurl{#2}{#1}%
11016 }

11017 \def\Hy@undefinedname{UNDEFINED}
11018 \def\hyper@link#1#2#3{%
11019 \Hy@VerboseLinkStart{#1}{#2}%
11020 \ltx@ifundefined{@#1bordercolor}{%

```



```

11021 \let\Hy@tempcolor\relax
11022 }{%
11023 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11024 }%
11025 \begingroup
11026 \protected@edef\Hy@testname{#2}%
11027 \ifx\Hy@testname\@empty
11028 \Hy@Warning{%
11029 Empty destination name,\MessageBreak
11030 using '\Hy@undefinedname'%
11031 }%
11032 \let\Hy@testname\Hy@undefinedname
11033 \fi
11034 \pdfmark[{#3}]{%
11035 Color=\Hy@tempcolor,%
11036 linktype={#1},%
11037 AcroHighlight=\@pdfhighlight,%
11038 Border=\@pdfborder,%
11039 BorderStyle=\@pdfborderstyle,%
11040 pdfmark=/ANN,%
11041 Subtype=/Link,%
11042 PDFAFlags=4,%
11043 Dest=\Hy@testname
11044 }%
11045 \endgroup
11046 }
11047 \newtoks\pdf@docset
11048 \def\PDF@FinishDoc{%
11049 \Hy@UseMaketitleInfos
11050 \Hy@Info@GenerateAddons
11051 \let\Hy@temp\@empty
11052 \ifx\@pdfcreationdate\@empty
11053 \else
11054 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11055 \fi
11056 \ifx\@pdfmoddate\@empty
11057 \else
11058 \expandafter\def\expandafter\Hy@temp\expandafter{%
11059 \Hy@temp
11060 ModDate=\@pdfmoddate,%
11061 }%
11062 \fi
11063 \ifx\@pdfproducer\relax
11064 \else
11065 \expandafter\def\expandafter\Hy@temp\expandafter{%
11066 \Hy@temp
11067 Producer=\@pdfproducer,%
11068 }%
11069 \fi
11070 \expandafter
11071 \pdfmark\expandafter{%
11072 \Hy@temp
11073 pdfmark=/DOCINFO,%
11074 Title=\@pdftitle,%
11075 Subject=\@pdfsubject,%
11076 Creator=\@pdfcreator,%
11077 Author=\@pdfauthor,%

```

```

11078 Keywords=\@pdfkeywords,%
11079 Trapped=\@pdftrapped
11080 }%
11081 \ifx\HyInfo@Addons\@empty
11082 \else
11083 \pdfmark{%
11084 pdfmark=/DOCINFO,%
11085 Raw={\HyInfo@Addons}%
11086 }%
11087 \fi
11088 \Hy@DisableOption{pdfauthor}%
11089 \Hy@DisableOption{pdftitle}%
11090 \Hy@DisableOption{pdfsubject}%
11091 \Hy@DisableOption{pdfcreator}%
11092 \Hy@DisableOption{pdfcreationdate}%
11093 \Hy@DisableOption{pdfmoddate}%
11094 \Hy@DisableOption{pdfproducer}%
11095 \Hy@DisableOption{pdfkeywords}%
11096 \Hy@DisableOption{pdftrapped}%
11097 \Hy@DisableOption{pdfinfo}%
11098 }
11099 \def\PDF@SetupDoc{%
11100 \def\Hy@temp{%
11101 \ifx\@pdfstartpage\@empty
11102 \else
11103 \ifx\@pdfstartview\@empty
11104 \else
11105 \edef\Hy@temp{%
11106 ,Page=\@pdfstartpage
11107 ,View=\@pdfstartview
11108 }%
11109 \fi
11110 \fi
11111 \edef\Hy@temp{%
11112 \noexpand\pdfmark{%
11113 pdfmark=/DOCVIEW,%
11114 PageMode=/\@pdfpagemode
11115 \Hy@temp
11116 }%
11117 }%
11118 \Hy@temp
11119 \ifx\@pdfpagescrop\@empty
11120 \else
11121 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11122 \fi
11123 \edef\Hy@temp{%
11124 \ifHy@pdftoolbar\else /HideToolbar true\fi
11125 \ifHy@pdfmenubar\else /HideMenubar true\fi
11126 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11127 \ifHy@pdffitwindow /FitWindow true\fi
11128 \ifHy@pdfcenterwindow /CenterWindow true\fi
11129 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11130 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11131 \Hy@UseNameKey{Direction}\@pdfdirection
11132 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11133 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11134 \Hy@UseNameKey{PrintArea}\@pdfprintarea

```

```

11135 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11136 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11137 \Hy@UseNameKey{Duplex}\@pdfduplex
11138 \ifx\@pdfpicktraybypdfsize\@empty
11139 \else
11140 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11141 \fi
11142 \ifx\@pdfprintpagerange\@empty
11143 \else
11144 /PrintPageRange[\@pdfprintpagerange]%
11145 \fi
11146 \ifx\@pdfnumcopies\@empty
11147 \else
11148 /NumCopies \@pdfnumcopies
11149 \fi
11150 }%
11151 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11152 \pdfmark{%
11153 pdfmark=/PUT,%
11154 Raw={%
11155 \string{Catalog\string}<<%
11156 \ifx\Hy@temp\@empty
11157 \else
11158 /ViewerPreferences<<\Hy@temp>>%
11159 \fi
11160 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11161 \ifx\@pdflang\@empty
11162 \else
11163 /Lang(\@pdflang)%
11164 \fi
11165 \ifx\@baseurl\@empty
11166 \else
11167 /URI<</Base(\Hy@pstringB)>>%
11168 \fi
11169 >>%
11170 }%
11171 }%
11172 }
11173 </pdfmark>
11174 <*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.

```

11175 \newif\ifHy@pdfmarkerror
11176 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11177 \def\pdfmark@[#1]#2{%
11178 \Hy@pdfmarkerrorfalse
11179 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11180 \@processme
11181 \let\pdf@type\relax
11182 \kvsetkeys{PDF}{#2}%
11183 \ifHy@pdfmarkerror
11184 \else
11185 \ifx\pdf@type\relax

```

```

11186 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11187 \ifx\#1\%
11188 \else
11189 \pdf@rect{#1}%
11190 \fi
11191 \else
11192 \ifx\#1\%
11193 \literalps@out{%
11194 [\the\pdf@toks\space\pdf@type\space pdfmark%
11195 }%
11196 \else
11197 \ltx@ifundefined{@\pdf@linktype color}{%
11198 \Hy@colorlink\@linkcolor
11199 }{%
11200 \expandafter\Hy@colorlink
11201 \csname @\pdf@linktype color\endcsname
11202 }%
11203 \pdf@rect{#1}%
11204 \literalps@out{%
11205 [\the\pdf@toks\space\pdf@type\space pdfmark%
11206 }%
11207 \Hy@endcolorlink
11208 \fi
11209 \fi
11210 \fi
11211 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

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}

```

```

11212 \newsavebox{\pdf@box}
11213 \providecommand*{\Hy@setouterhbox}{\sbox}
11214 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11215 \def\Hy@DEST{/DEST}
11216 \def\pdf@rect#1{%
11217 \begingroup
11218 \chardef\x=1 %
11219 \def\Hy@temp{#1}%
11220 \ifx\Hy@temp\ltx@empty
11221 \chardef\x=0 %
11222 \else
11223 \def\y{\anchor@spot}%
11224 \ifx\Hy@temp\y
11225 \def\y{\relax}%
11226 \ifx\anchor@spot\y
11227 \chardef\x=0 %
11228 \fi
11229 \fi
11230 \fi
11231 \expandafter\endgroup

```

```

11232 \ifcase\x
11233   \literalps@out{H.S}%
11234   \literalps@out{H.R}%
11235 \else
11236   \leavevmode
11237   \Hy@SaveSpaceFactor
11238   \ifmmode
11239     \def\Hy@LinkMath{$}%
11240   \else
11241     \let\Hy@LinkMath\ltx@empty
11242   \fi
11243   \ifHy@breaklinks
11244     \Hy@setouterhbox\pdf@box{%
11245       \Hy@RestoreSpaceFactor
11246       \Hy@LinkMath
11247       \Hy@AllowHyphens#1\Hy@xspace@end
11248       \Hy@LinkMath
11249       \Hy@SaveSpaceFactor
11250     }%
11251   \else
11252     \sbox\pdf@box{%
11253       \Hy@RestoreSpaceFactor
11254       \Hy@LinkMath
11255       #1\Hy@xspace@end
11256       \Hy@LinkMath
11257       \Hy@SaveSpaceFactor
11258     }%
11259   \fi
11260   \dimen@ \ht\pdf@box
11261   \ifdim\dp\pdf@box=\z@
11262     \literalps@out{H.S}%
11263   \else
11264     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11265   \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...).

```

11266   \ifHy@breaklinks
11267     \ifhmode
11268       \Hy@breaklinksunhbox\pdf@box
11269     \else
11270       \box\pdf@box
11271     \fi
11272   \else
11273     \expandafter\box\pdf@box
11274   \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

11275   \ifdim\dimen@=\z@
11276     \literalps@out{H.R}%
11277   \else
11278     \raise\dimen@\hbox{\literalps@out{H.R}}%
11279   \fi
11280   \Hy@RestoreSpaceFactor

```

```

11281 \fi
11282 \ifx\pdf@type\Hy@DEST
11283 \else
11284 \pdf@addtoksx{H.B}%
11285 \fi
11286 }

```

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.

```

11287 \newtoks\pdf@toks
11288 \newtoks\pdf@defaulttoks
11289 \pdf@defaulttoks={}
11290 \def\pdf@addtoks#1#2{%
11291 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11292 \@processme
11293 }
11294 \def\pdf@addtoksx#1{%
11295 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11296 \@processme
11297 }
11298 \def\PDFdefaults#1{%
11299 \pdf@defaulttoks={#1}%
11300 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11301 % what is the type of pdfmark?
11302 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11303 % what is the link type?
11304 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11305 \def\pdf@linktype{link}
11306 % parameter is a stream of PDF
11307 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11308 % parameter is a name
11309 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11310 % parameter is a array
11311 \define@key{PDF}{Border}{%
11312 \edef\Hy@temp{#1}%
11313 \ifx\Hy@temp\@empty
11314 \else
11315 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11316 \fi
11317 }
11318 \let\Hy@BorderArrayPatch\@empty
11319 % parameter is a dictionary
11320 \define@key{PDF}{BorderStyle}{%
11321 \edef\Hy@temp{#1}%
11322 \ifx\Hy@temp\@empty
11323 \else
11324 \pdf@addtoks{<<#1>>}{BS}%
11325 \fi
11326 }
11327 % parameter is a array
11328 \define@key{PDF}{Color}{%
11329 \ifx\relax#1\relax
11330 \else
11331 \pdf@addtoks{[#1]}{Color}% hash-ok
11332 \fi
11333 }

```

```

11334 % parameter is a string
11335 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11336 % parameter is a integer
11337 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11338 % parameter is a array
11339 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11340 % parameter is a string
11341 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11342 % parameter is a string or file
11343 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11344 % parameter is a destination
11345 \define@key{PDF}{Dest}{%
11346   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11347   \ifx\Hy@pstringDest\@empty
11348     \Hy@pdfmarkerrortrue
11349     \Hy@Warning{Destination with empty name ignored}%
11350   \else
11351     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11352   \fi
11353 }
11354 \define@key{PDF}{DestAnchor}{%
11355   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11356   \ifx\Hy@pstringDest\@empty
11357     \Hy@pdfmarkerrortrue
11358     \Hy@Warning{Destination with empty name ignored}%
11359   \else
11360     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11361   \fi
11362 }
11363 % parameter is a string
11364 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11365 % parameter is a string
11366 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11367 % parameter is a int
11368 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11369 \define@key{PDF}{PDFAFlags}{%
11370   \ifHy@pdfa
11371     \pdf@addtoks{#1}{F}%
11372   \fi
11373 }
11374 % parameter is a name
11375 \define@key{PDF}{AcroHighlight}{%
11376   \begingroup
11377     \edef\x{#1}%
11378     \expandafter\endgroup\ifx\x\@empty
11379     \else
11380       \pdf@addtoks{#1}{H}%
11381     \fi
11382 }
11383 % parameter is a string
11384 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11385 % parameter is a string
11386 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11387 % parameter is a string
11388 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11389 % parameter is a string
11390 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}

```

```

11391 % parameter is a Boolean
11392 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11393 % parameter is a integer or name
11394 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11395 % parameter is a name
11396 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11397 % parameter is a string
11398 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11399 % parameter is a array
11400 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11401 % parameter is a integer
11402 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11403 % parameter is a name
11404 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11405 % parameter is a string
11406 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11407 % parameter is a string
11408 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11409 % parameter is a string
11410 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11411 % parameter is an array
11412 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11413 % parameter is a string
11414 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11415 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11416 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11417 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11418 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11419 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11420 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11421 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11422 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11423 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11424 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11425 \define@key{PDF}{Trapped}{%
11426   \edef\Hy@temp{#1}%
11427   \ifx\Hy@temp\@empty
11428     \else
11429       \pdf@addtoks{/#1}{Trapped}%
11430     \fi
11431 }
11432
11433 </pdfmarkbase>
11434 <*pdfmark>
11435 \def\Acrobatmenu#1#2{%
11436   \Hy@Acrobatmenu{#1}{#2}{%
11437     \pdfmark[{#2]}{%
11438       linktype=menu,%
11439       pdfmark=/ANN,%
11440       AcroHighlight=\@pdfhighlight,%
11441       Border=\@pdfborder,%
11442       BorderStyle=\@pdfborderstyle,%
11443       Action={<< /Subtype /Named /N /#1 >>},%
11444       Subtype=/Link,%
11445       PDFAFlags=4%
11446     }%

```



```
11447 }%
11448 }
```

And now for some useful examples:

```
11449 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11450 \def\PDFNextPage@[#1]#2{%
11451   \pdfmark[{-#2}]{%
11452     #1,%
11453     Border=\@pdfborder,%
11454     BorderStyle=\@pdfborderstyle,%
11455     Color=.2 .1 .5,%
11456     pdfmark=/ANN,%
11457     Subtype=/Link,%
11458     PDFAFlags=4,%
11459     Page=/Next%
11460   }%
11461 }
11462 \def\PDFPreviousPage{%
11463   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11464 }
11465 \def\PDFPreviousPage@[#1]#2{%
11466   \pdfmark[{-#2}]{%
11467     #1,%
11468     Border=\@pdfborder,%
11469     BorderStyle=\@pdfborderstyle,%
11470     Color=.4 .4 .1,%
11471     pdfmark=/ANN,%
11472     Subtype=/Link,%
11473     PDFAFlags=4,%
11474     Page=/Prev%
11475   }%
11476 }
11477 \def\PDFOpen#1{%
11478   \pdfmark{#1,pdfmark=/DOCVIEW}%
11479 }
```

This will only work if you use Distiller 2.1 or higher.

```
11480 \def\hyper@linkurl#1#2{%
11481   \begingroup
11482     \Hy@pstringdef\Hy@pstringURI{#2}%
11483     \hyper@chars
11484     \leavevmode
11485     \pdfmark[{-#1}]{%
11486       pdfmark=/ANN,%
11487       linktype=url,%
11488       AcroHighlight=\@pdfhighlight,%
11489       Border=\@pdfborder,%
11490       BorderStyle=\@pdfborderstyle,%
11491       Color=\@urlbordercolor,%
11492       Action={<<%
11493         /Subtype/URI%
11494         /URI(\Hy@pstringURI)%
11495         \ifHy@href@ismap
11496           /IsMap true%
11497         \fi
11498       >>},%
11499       Subtype=/Link,%
11500       PDFAFlags=4%
```

```

11501 }%
11502 \endgroup
11503 }
11504 \def\hyper@linkfile#1#2#3{%
11505 \begingroup
11506 \def\Hy@pstringF{#2}%
11507 \Hy@CleanupFile\Hy@pstringF
11508 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11509 \Hy@pstringdef\Hy@pstringD{#3}%
11510 \Hy@MakeRemoteAction
11511 \leavevmode
11512 \pdfmark[{#1}]{%
11513 pdfmark=/ANN,%
11514 Subtype=/Link,%
11515 PDFAFlags=4,%
11516 AcroHighlight=\@pdfhighlight,%
11517 Border=\@pdfborder,%
11518 BorderStyle=\@pdfborderstyle,%
11519 linktype=file,%
11520 Color=\@filebordercolor,%
11521 Action={%
11522 <<%
11523 /S/GoToR%
11524 \Hy@SetNewWindow
11525 /F(\Hy@pstringF)%
11526 /D%
11527 \ifx\#3\%
11528 [\Hy@href@page\@pdfremotestartview]%
11529 \else
11530 (\Hy@pstringD)cvn%
11531 \fi
11532 \Hy@href@nextactionraw
11533 >>%
11534 }%
11535 }%
11536 \endgroup
11537 }
11538 \def\@hyper@launch run:#1\#2#3{%
11539 \begingroup
11540 \Hy@pstringdef\Hy@pstringF{#1}%
11541 \Hy@pstringdef\Hy@pstringP{#3}%
11542 \leavevmode
11543 \pdfmark[{#2}]{%
11544 pdfmark=/ANN,%
11545 Subtype=/Link,%
11546 PDFAFlags=4,%
11547 AcroHighlight=\@pdfhighlight,%
11548 Border=\@pdfborder,%
11549 BorderStyle=\@pdfborderstyle,%
11550 linktype=run,%
11551 Color=\@runbordercolor,%
11552 Action={%
11553 <<%
11554 /S/Launch%
11555 \Hy@SetNewWindow
11556 /F(\Hy@pstringF)%
11557 \ifx\#3\%

```

```

11558      \else
11559      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11560      \fi
11561      \Hy@href@nextactionraw
11562      >>%
11563    }%
11564  }%
11565  \endgroup
11566 }
11567 </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.

```

11568 <*dvips>
11569 \providecommand*{\XR@ext}{pdf}
11570 \let\Hy@raisedlink\ltx@empty
11571 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11572 \def\headerps@out#1{\special{! #1}}%
11573 \input{pdfmark.def}%
11574 \ifx\@pdfproducer\relax
11575   \def\@pdfproducer{dvips + Distiller}%
11576 \fi
11577 \providecommand*\@pdfborder{0 0 1}
11578 \providecommand*\@pdfborderstyle{}
11579 \providecommand*\@pdfview{XYZ}
11580 \providecommand*\@pdfviewparams{ H.V}
11581 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11582 \g@addto@macro\Hy@FirstPageHook{%
11583   \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.

```

11584   /DvipsToPDF{72.27 mul Resolution div} def%
11585   /PDFToDvips{72.27 div Resolution mul} def%
11586   /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.

```

11587   /BorderArrayPatch{%

```

```

11588 [exch{%
11589   dup dup type/integertype eq exch type/realtype eq or%
11590   {BPToDvips}if%
11591 }forall]%
11592 }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.

```

11593 /HyperBorder {1 PDFToDvips} def%
11594 /H.V {pdf@hoff pdf@voff null} def%
11595 /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

```

11596 /H.S {%
11597   currentpoint %
11598   HyperBorder add /pdf@lly exch def %
11599   dup DvipsToPDF 72 add /pdf@hoff exch def %
11600   HyperBorder sub /pdf@llx exch def%
11601 } def%

```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The x and y coordinates of the current point, minus the `baselineskip`

```

11602 /H.L {%
11603   2 sub dup%
11604   /HyperBasePt exch def %
11605   PDFToDvips /HyperBaseDvips exch def %
11606   currentpoint %
11607   HyperBaseDvips sub /pdf@ury exch def%
11608   /pdf@urx exch def%
11609 } def%
11610 /H.A {%
11611   H.L %
11612 % |pdf@voff| = the distance from the top of the page to a point
11613 % |\baselineskip| above the current point in PDF coordinates
11614   currentpoint exch pop %
11615   vsize 72 sub exch DvipsToPDF %
11616   HyperBasePt sub % baseline skip
11617   sub /pdf@voff exch def%
11618 } def%
11619 /H.R {%
11620   currentpoint %
11621   HyperBorder sub /pdf@ury exch def %
11622   HyperBorder add /pdf@urx exch def %
11623 % |pdf@voff| = the distance from the top of the page to the current point, in
11624 % PDF coordinates
11625   currentpoint exch pop vsize 72 sub %
11626   exch DvipsToPDF sub /pdf@voff exch def%
11627 } def%
11628 }%
11629 }
11630 \AtBeginShipoutFirst{%
11631   \ifHy@setpagesize

```

```

11632 \begingroup
11633 \ifundefined{stockwidth}{%
11634 \ifdim\paperwidth>\z@
11635 \ifdim\paperheight>\z@
11636 \special{papersize=\the\paperwidth,\the\paperheight}%
11637 \fi
11638 \fi
11639 }{%
11640 \ifdim\stockwidth>\z@
11641 \ifdim\stockheight>\z@
11642 \special{papersize=\the\stockwidth,\the\stockheight}%
11643 \fi
11644 \fi
11645 }%
11646 \endgroup
11647 \fi
11648 \Hy@DisableOption{setpagesize}%
11649 }
11650 </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.

```

11651 <*vtexpdfmark>
11652 \providecommand*{\XR@ext}{pdf}
11653 \let\Hy@raisedlink\ltx@empty
11654 \def\literalps@out#1{\special{pS:#1}}%
11655 \def\headerps@out#1{\immediate\special{pS:#1}}%
11656 \input{pdfmark.def}%
11657 \ifx\@pdfproducer\relax
11658 \ifnum\OpMode=\@ne
11659 \def\@pdfproducer{VTeX}%
11660 \else
11661 \def\@pdfproducer{VTeX + Distiller}%
11662 \fi
11663 \fi
11664 \providecommand*\@pdfborder{0 0 1}
11665 \providecommand*\@pdfborderstyle{}
11666 \providecommand*\@pdfview{XYZ}
11667 \providecommand*\@pdfviewparams{ H.V}
11668 \g@addto@macro\Hy@FirstPageHook{%
11669 \headerps@out{%
11670 /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.

```

11671 /HyperBorder {1} def%
11672 /H.V {pdf@hoff pdf@voff null} def%
11673 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11674 /H.S {%
11675   currentpoint %
11676   HyperBorder sub%
11677   /pdf@lly exch def %
11678   dup 72 add /pdf@hoff exch def %
11679   HyperBorder sub%
11680   /pdf@llx exch def%
11681 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11682 /H.L {%
11683   2 sub%
11684   /HyperBasePt exch def %
11685   currentpoint %
11686   HyperBasePt add HyperBorder add%
11687   /pdf@ury exch def %
11688   HyperBorder add%
11689   /pdf@urx exch def%
11690 } def%
11691 /H.A {%
11692   H.L %
11693   currentpoint exch pop %
11694   vsize 72 sub exch %
11695   HyperBasePt add add%
11696   /pdf@voff exch def%
11697 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11698 /H.R {%
11699   currentpoint %
11700   HyperBorder add%
11701   /pdf@ury exch def %
11702   HyperBorder add%
11703   /pdf@urx exch def %
11704   currentpoint exch pop vsize 72 sub add%
11705   /pdf@voff exch def%
11706 } def%
11707 }%
11708 }
11709 </vtexpdfmark>

```

46.11 Textures

```

11710 <*textures>
11711 \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.

```

11712 \begingroup
11713 \obeylines %
11714 \gdef\Hy@ps@CR{\noexpand

```

```

11715 }%
11716 \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`.

```

11717 \def\literalps@out#1{%
11718   \special{postscript 0 0 transform}%
11719   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11720 }%
11721 %

```

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.

```

11722 \def\headerps@out#1{%
11723   \special{%
11724     prepostscript TeXdict begin\Hy@ps@CR
11725       #1\Hy@ps@CR
11726     end%
11727   }%
11728 }%
11729 %

```

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.

```

11730 \g@addto@macro\Hy@FirstPageHook{%
11731   \headerps@out{%
11732     /betterpdfmark {%
11733       systemdict begin %
11734         dup /BP eq%
11735         {cleartomark gsave nulldevice []}%
11736         {dup /EP eq%
11737           {cleartomark cleartomark grestore}%
11738           {cleartomark}%
11739         }ifelse%
11740       }ifelse %
11741     end%
11742   }def\Hy@ps@CR
11743   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11744 }% end of \headerps@out
11745 }% end of \AtBeginShipoutFirst
11746 %
11747 \input{pdfmark.def}%
11748 %
11749 \ifx\@pdfproducer\relax
11750   \def\@pdfproducer{Textures + Distiller}%
11751 \fi
11752 \providecommand*\@pdfborder{0 0 1}
11753 \providecommand*\@pdfborderstyle{}

```

```

11754 \providecommand*\@pdfview{XYZ}
11755 \providecommand*\@pdfviewparams{ H.V}
11756 %

```

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 .

```

11757 \Hy@AtBeginDocument{%
11758   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11759   /vsize {\Hy@pageheight} def%
11760   /DvipsToPDF {} def%
11761   /PDFToDvips {} def%
11762   /BPTToDvips {} def%
11763   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11764   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11765   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11766   /H.S {%
11767     currentpoint %
11768     HyperBorder add /pdf@lly exch def %
11769     dup DvipsToPDF 72 add /pdf@hoff exch def %
11770     HyperBorder sub /pdf@llx exch def%
11771   } def\Hy@ps@CR
11772   /H.L {%
11773     2 sub %
11774     PDFToDvips /HyperBase exch def %
11775     currentpoint %
11776     HyperBase sub /pdf@ury exch def%
11777     /pdf@urx exch def%
11778   } def\Hy@ps@CR
11779   /H.A {%
11780     H.L %
11781     currentpoint exch pop %
11782     vsize 72 sub exch DvipsToPDF %
11783     HyperBase sub % baseline skip
11784     sub /pdf@voff exch def%
11785   } def\Hy@ps@CR
11786   /H.R {%
11787     currentpoint %
11788     HyperBorder sub /pdf@ury exch def %
11789     HyperBorder add /pdf@urx exch def %
11790     currentpoint exch pop vsize 72 sub %
11791     exch DvipsToPDF sub /pdf@voff exch def%
11792   } def\Hy@ps@CR
11793   }%
11794 }

11795 \Hy@AtBeginDocument{%
11796   \ifHy@colorlinks
11797     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11798   \fi
11799 }

```

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.


```

11800 \expandafter\let\expandafter\keepPDF@SetupDoc
11801 \csname PDF@SetupDoc\endcsname
11802 \def\PDF@SetupDoc{%
11803 \ifx\@baseurl\@empty
11804 \else
11805 \special{html:<base href="\@baseurl">}%
11806 \fi
11807 \keepPDF@SetupDoc
11808 }
11809 \Hy@WrapperDef\hyper@anchor#1{%
11810 \Hy@SaveLastskip
11811 \Hy@VerboseAnchor{#1}%
11812 \begingroup
11813 \let\protect=\string
11814 \special{html:<a name=%
11815 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11816 \endgroup
11817 \Hy@activeanchortrue
11818 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11819 \special{html:</a>}%
11820 \Hy@activeanchorfalse
11821 \Hy@RestoreLastskip
11822 }
11823 \Hy@WrapperDef\hyper@anchorstart#1{%
11824 \Hy@SaveLastskip
11825 \Hy@VerboseAnchor{#1}%
11826 \begingroup
11827 \hyper@chars
11828 \special{html:<a name=%
11829 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11830 \endgroup
11831 \Hy@activeanchortrue
11832 }
11833 \def\hyper@anchorend{%
11834 \special{html:</a>}%
11835 \Hy@activeanchorfalse
11836 \Hy@RestoreLastskip
11837 }
11838 \def\@urltype{url}
11839 \def\hyper@linkstart#1#2{%
11840 \Hy@VerboseLinkStart{#1}{#2}%
11841 \expandafter\Hy@colorlink\csname @#1color\endcsname
11842 \def\Hy@tempa{#1}%
11843 \ifx\Hy@tempa\@urltype
11844 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11845 \else
11846 \begingroup
11847 \hyper@chars
11848 \special{%
11849 html:<a href=%
11850 \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>%
11851 }%
11852 \endgroup
11853 \fi
11854 }
11855 \def\hyper@linkend{%
11856 \special{html:</a>}%

```

```

11857 \Hy@endcolorlink
11858 }
11859 \def\hyper@linkfile#1#2#3{%
11860 \hyper@linkurl{#1}{%
11861 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11862 }%
11863 }
11864 \def\hyper@linkurl#1#2{%
11865 \leavevmode
11866 \ifHy@raiselinks
11867 \Hy@SaveSpaceFactor
11868 \Hy@SaveSavedSpaceFactor
11869 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11870 \Hy@RestoreSavedSpaceFactor
11871 \@linkdim\dp\@tempboxa
11872 \lower\@linkdim\hbox{%
11873 \hyper@chars
11874 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11875 }%
11876 \Hy@colorlink\@urlcolor
11877 \Hy@RestoreSpaceFactor
11878 #1\Hy@xspace@end
11879 \Hy@SaveSpaceFactor
11880 \@linkdim\ht\@tempboxa
11881 \advance\@linkdim by -6.5\p@
11882 \raise\@linkdim\hbox{\special{html:</a>}}%
11883 \Hy@endcolorlink
11884 \Hy@RestoreSpaceFactor
11885 \else
11886 \begingroup
11887 \hyper@chars
11888 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11889 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11890 \special{html:</a>}%
11891 \Hy@endcolorlink
11892 \endgroup
11893 \fi
11894 }

```

Very poor implementation of \hyper@link without considering #1.

```

11895 \def\hyper@link#1#2#3{%
11896 \Hy@VerboseLinkStart{#1}{#2}%
11897 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
11898 }
11899 \def\hyper@image#1#2{%
11900 \begingroup
11901 \hyper@chars
11902 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11903 \endgroup
11904 }
11905 </textures>

```

46.12 dvipsone

```

11906 % \subsection{dvipsone driver}
11907 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11908 % |\special| commands.
11909 <*dvipsone>

```

```

11910 \providecommand*\XR@ext}{pdf}
11911 \let\Hy@raisedlink\ltx@empty
11912 \providecommand*\@pdfborder{0 0 1}
11913 \providecommand*\@pdfborderstyle{}
11914 \def\literalps@out#1{\special{ps:#1}}%
11915 \def\headerps@out#1{\special{headertext=#1}}%
11916 \input{pdfmark.def}%
11917 \ifx\@pdfproducer\relax
11918   \def\@pdfproducer{dvipsone + Distiller}%
11919 \fi
11920 \HyInfo@AddonUnsupportedtrue
11921 \def\PDF@FinishDoc{%
11922   \Hy@UseMaketitleInfos
11923   \HyInfo@TrappedUnsupported
11924   \special{PDF: Keywords \@pdfkeywords}%
11925   \special{PDF: Title \@pdftitle}%
11926   \special{PDF: Creator \@pdfcreator}%
11927   \ifx\@pdfcreationdate\@empty
11928     \else
11929     \special{PDF: CreationDate \@pdfcreationdate}%
11930   \fi
11931   \ifx\@pdfmoddate\@empty
11932     \else
11933     \special{PDF: ModDate \@pdfmoddate}%
11934   \fi
11935   \special{PDF: Author \@pdfauthor}%
11936   \ifx\@pdfproducer\relax
11937     \else
11938     \special{PDF: Producer \@pdfproducer}%
11939   \fi
11940   \special{PDF: Subject \@pdfsubject}%
11941   \Hy@DisableOption{pdfauthor}%
11942   \Hy@DisableOption{pdftitle}%
11943   \Hy@DisableOption{pdfsubject}%
11944   \Hy@DisableOption{pdfcreator}%
11945   \Hy@DisableOption{pdfcreationdate}%
11946   \Hy@DisableOption{pdfmoddate}%
11947   \Hy@DisableOption{pdfproducer}%
11948   \Hy@DisableOption{pdfkeywords}%
11949   \Hy@DisableOption{pdftrapped}%
11950   \Hy@DisableOption{pdfinfo}%
11951 }
11952 \def\PDF@SetupDoc{%
11953   \def\Hy@temp{}%
11954   \ifx\@pdfstartpage\@empty
11955     \else
11956     \ifx\@pdfstartview\@empty
11957       \else
11958       \edef\Hy@temp{%
11959         ,Page=\@pdfstartpage
11960         ,View=\@pdfstartview
11961       }%
11962     \fi
11963   \fi
11964   \edef\Hy@temp{%
11965     \noexpand\pdfmark{%
11966       pdfmark=/DOCVIEW,%

```

```

11967     PageMode=/\@pdfpagemode
11968     \Hy@temp
11969 }%
11970 }%
11971 \Hy@temp
11972 \ifx\@pdfpagescrop\@empty
11973 \else
11974   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11975 \fi
11976 \edef\Hy@temp{%
11977   \ifHy@pdftoolbar\else /HideToolbar true\fi
11978   \ifHy@pdfmenubar\else /HideMenubar true\fi
11979   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11980   \ifHy@pdffitwindow /FitWindow true\fi
11981   \ifHy@pdfcenterwindow /CenterWindow true\fi
11982   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11983   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11984   \Hy@UseNameKey{Direction}\@pdfdirection
11985   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11986   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11987   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11988   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11989   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11990   \Hy@UseNameKey{Duplex}\@pdfduplex
11991   \ifx\@pdfpicktraybypdfsize\@empty
11992   \else
11993     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11994   \fi
11995   \ifx\@pdfprintpagerange\@empty
11996   \else
11997     /PrintPageRange[\@pdfprintpagerange]%
11998   \fi
11999   \ifx\@pdfnumcopies\@empty
12000   \else
12001     /NumCopies \@pdfnumcopies
12002   \fi
12003 }%
12004 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12005 \pdfmark{%
12006   pdfmark=/PUT,%
12007   Raw={%
12008     \string{Catalog\string}<<%
12009     \ifx\Hy@temp\@empty
12010     \else
12011       /ViewerPreferences<<\Hy@temp>>%
12012     \fi
12013     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12014     \ifx\@pdflang\@empty
12015     \else
12016       /Lang(\@pdflang)%
12017     \fi
12018     \ifx\@baseurl\@empty
12019     \else
12020       /URI<</Base(\Hy@pstringB)>>%
12021     \fi
12022     >>%
12023   }%

```

```

12024 }%
12025 }
12026 \providecommand*\@pdfview{XYZ}
12027 \providecommand*\@pdfviewparams{ %
12028   gsave revscl currentpoint grestore %
12029   72 add exch pop null exch null%
12030 }
12031 \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.

```

12032 \g@addto@macro\Hy@FirstPageHook{%
12033   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12034   /DvipsToPDF { 65781 div } def%
12035   /PDFToDvips { 65781 mul } def%
12036   /BPToDvips{65781 mul}def%
12037   /HyperBorder { 1 PDFToDvips } def%
12038   /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.

```

12039   /BorderArrayPatch{%
12040     [exch{%
12041       dup dup type/integertype eq exch type/realtype eq or%
12042       {BPToDvips}if%
12043     }forall]%
12044   }def%
12045   /H.S {%
12046     currentpoint %
12047     HyperBorder add /pdf@lly exch def %
12048     dup DvipsToPDF 72 add /pdf@hoff exch def %
12049     HyperBorder sub /pdf@llx exch def%
12050   } def%
12051   /H.L {%
12052     2 sub %
12053     PDFToDvips /HyperBase exch def %
12054     currentpoint %
12055     HyperBase sub /pdf@ury exch def%
12056     /pdf@urx exch def%
12057   } def%
12058   /H.A {%
12059     H.L %
12060     currentpoint exch pop %
12061     HyperBase sub % baseline skip
12062     DvipsToPDF /pdf@voff exch def%
12063   } def%
12064   /H.R {%
12065     currentpoint %
12066     HyperBorder sub /pdf@ury exch def %
12067     HyperBorder add /pdf@urx exch def %
12068     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12069   } def%
12070 }%

```

```

12071 }
12072 </dvipsone>

```

46.13 TeX4ht

```

12073 <*tex4ht>
12074 \providecommand*{\XR@ext}{html}
12075 \let\Hy@raisedlink\ltx@empty
12076 \@ifpackageloaded{tex4ht}{%
12077   \Hy@InfoNoLine{tex4ht is already loaded}%
12078 }{%
12079   \RequirePackage[hTeX4ht]{tex4ht}%
12080 }
12081 \hyperlinkfileprefix{}
12082 \let\PDF@FinishDoc\ltx@empty
12083 \def\PDF@SetupDoc{%
12084   \ifx\@baseurl\@empty
12085     \else
12086       \special{t4ht=<base href="\@baseurl">}%
12087     \fi
12088 }
12089 \Hy@WrapperDef\hyper@anchor#1{%
12090   \Hy@SaveLastskip
12091   \Hy@VerboseAnchor{#1}%
12092   \begingroup
12093     \let\protect=\string
12094     \special{t4ht=<a name=%
12095       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12096   \endgroup
12097   \Hy@Activeanchortrue
12098   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12099   \special{t4ht=</a>}%
12100   \Hy@Activeanchorfalse
12101   \Hy@RestoreLastskip
12102 }
12103 \Hy@WrapperDef\hyper@anchorstart#1{%
12104   \Hy@SaveLastskip
12105   \Hy@VerboseAnchor{#1}%
12106   \begingroup
12107     \hyper@chars\special{t4ht=<a name=%
12108       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12109   \endgroup
12110   \Hy@Activeanchortrue
12111 }
12112 \def\hyper@anchorend{%
12113   \special{t4ht=</a>}%
12114   \Hy@Activeanchorfalse
12115   \Hy@RestoreLastskip
12116 }
12117 \def\@urlltype{url}
12118 \def\hyper@linkstart#1#2{%
12119   \Hy@VerboseLinkStart{#1}{#2}%
12120   \expandafter\Hy@colorlink\csname @#1color\endcsname
12121   \def\Hy@tempa{#1}%
12122   \ifx\Hy@tempa\@urlltype
12123     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12124   \else
12125     \begingroup

```

```

12126 \hyper@chars
12127 \special{t4ht=<a href=%
12128 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12129 \endgroup
12130 \fi
12131 }
12132 \def\hyper@linkend{%
12133 \special{t4ht=</a>}%
12134 \Hy@endcolorlink
12135 }
12136 \def\hyper@linkfile#1#2#3{%
12137 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12138 }
12139 \def\hyper@linkurl#1#2{%
12140 \leavevmode
12141 \ifHy@raiselinks
12142 \Hy@SaveSpaceFactor
12143 \Hy@SaveSavedSpaceFactor
12144 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12145 \Hy@RestoreSavedSpaceFactor
12146 \@linkdim\dp\@tempboxa
12147 \lower\@linkdim\hbox{%
12148 \begingroup
12149 \hyper@chars
12150 \special{%
12151 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12152 }%
12153 \endgroup
12154 }%
12155 \Hy@colorlink\@urlcolor
12156 \Hy@RestoreSpaceFactor
12157 #1\Hy@xspace@end
12158 \Hy@SaveSpaceFactor
12159 \Hy@endcolorlink
12160 \@linkdim\ht\@tempboxa
12161 \advance\@linkdim by -6.5\p@
12162 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12163 \Hy@RestoreSpaceFactor
12164 \else
12165 \begingroup
12166 \hyper@chars
12167 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12168 \Hy@colorlink\@urlcolor
12169 #1\Hy@xspace@end
12170 \Hy@endcolorlink
12171 \special{t4ht=</a>}%
12172 \endgroup
12173 \fi
12174 }

```

Poor implementation of \hyper@link without considering #1.

```

12175 \def\hyper@link#1#2#3{%
12176 \Hy@VerboseLinkStart{#1}{#2}%
12177 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12178 }
12179 \def\hyper@image#1#2{%
12180 \begingroup
12181 \hyper@chars

```

```

12182 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12183 \endgroup
12184 }
12185 \let\autoref\ref
12186 \ifx \rEfLiNK \UnDef
12187 \def\rEfLiNK #1#2{#2}%
12188 \fi
12189 \let\backref\ltx@gobble

Fix for tex4ht.
12190 \AtBeginDocument{%
12191 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12192 \expandafter\def\csname Make:Label\endcsname#1#2{%
12193 \ifhmode
12194 \Hy@SaveSpaceFactor
12195 \else
12196 \global\Hy@SavedSpaceFactor=1000 %
12197 \fi
12198 \Hy@OrgMakeLabel{#1}{%
12199 \Hy@RestoreSpaceFactor
12200 #2\Hy@xspace@end%
12201 \Hy@SaveSpaceFactor
12202 }%
12203 \Hy@RestoreSpaceFactor
12204 }%
12205 }
12206 </tex4ht>
12207 <*tex4htcfg>
12208 \IfFileExists{\jobname.cfg}{\endinput}{}
12209 \Preamble{html}
12210 \begin{document}%
12211 \EndPreamble
12212 \def\TeX{\TeX}
12213 \def\OMEGA{\Omega}
12214 \def\LaTeX{\LaTeX}
12215 \def\LaTeXe{\LaTeX2e}
12216 \def\eTeX{e-TeX}
12217 \def\MF{Metafont}
12218 \def\MP{MetaPost}
12219 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12220 <*pdfmark>
12221 \long\def\@Form[#1]{%
12222 \g@addto@macro\Hy@FirstPageHook{%
12223 \headerps@out{%
12224 [%
12225 /_objdef{pdfDocEncoding}%
12226 /type/dict%
12227 /OBJ pdfmark%
12228 [%
12229 {pdfDocEncoding}%
12230 <<%
12231 /Type/Encoding%
12232 /Differences[%

```


12233 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12234 /tilde %
12235 39/quotesingle %
12236 96/grave %
12237 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12238 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12239 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12240 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12241 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12242 164/currency %
12243 166/brokenbar %
12244 168/dieresis/copyright/ordfeminine %
12245 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12246 /twosuperior/threesuperior/acute/mu %
12247 183/periodcentered/cedilla/onesuperior/ordmasculine %
12248 188/onequarter/onehalf/threequarters %
12249 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12250 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12251 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12252 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12253 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12254 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12255 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12256 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12257 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12258 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12259]%
12260 >>%
12261 /PUT pdfmark%
12262 [%
12263 /__objdef{ZaDb}%
12264 /type/dict%
12265 /OBJ pdfmark%
12266 [%
12267 {ZaDb}%
12268 <<%
12269 /Type/Font%
12270 /Subtype/Type1%
12271 /Name/ZaDb%
12272 /BaseFont/ZapfDingbats%
12273 >>%
12274 /PUT pdfmark%
12275 [%
12276 /__objdef{Helv}%
12277 /type/dict%
12278 /OBJ pdfmark%
12279 [%
12280 {Helv}%
12281 <<%
12282 /Type/Font%
12283 /Subtype/Type1%
12284 /Name/Helv%
12285 /BaseFont/Helvetica%
12286 /Encoding{pdfDocEncoding}%
12287 >>%
12288 /PUT pdfmark%
12289 [%

```

12290 /__objdef{aform}%
12291 /type/dict%
12292 /OBJ pdfmark%
12293 [%
12294 /__objdef{afields}%
12295 /type/array%
12296 /OBJ pdfmark%
12297 {%
12298 [%
12299 /BBox[0 0 100 100]%
12300 /__objdef{Check}%
12301 /BP pdfmark %
12302 1 0 0 setrgbcolor%
12303 /ZapfDingbats 80 selectfont %
12304 20 20 moveto%
12305 (4)show%
12306 [/EP pdfmark%
12307 [%
12308 /BBox[0 0 100 100]%
12309 /__objdef{Cross}%
12310 /BP pdfmark %
12311 1 0 0 setrgbcolor%
12312 /ZapfDingbats 80 selectfont %
12313 20 20 moveto%
12314 (8)show%
12315 [/EP pdfmark%
12316 [%
12317 /BBox[0 0 250 100]%
12318 /__objdef{Submit}%
12319 /BP pdfmark %
12320 0.6 setgray %
12321 0 0 250 100 rectfill %
12322 1 setgray %
12323 2 2 moveto %
12324 2 98 lineto %
12325 248 98 lineto %
12326 246 96 lineto %
12327 4 96 lineto %
12328 4 4 lineto %
12329 fill %
12330 0.34 setgray %
12331 248 98 moveto %
12332 248 2 lineto %
12333 2 2 lineto %
12334 4 4 lineto %
12335 246 4 lineto %
12336 246 96 lineto %
12337 fill%
12338 /Helvetica 76 selectfont %
12339 0 setgray %
12340 8 22.5 moveto%
12341 (Submit)show%
12342 [/EP pdfmark%
12343 [%
12344 /BBox[0 0 250 100]%
12345 /__objdef{SubmitP}%
12346 /BP pdfmark %

```

```

12347 0.6 setgray %
12348 0 0 250 100 rectfill %
12349 0.34 setgray %
12350 2 2 moveto %
12351 2 98 lineto %
12352 248 98 lineto %
12353 246 96 lineto %
12354 4 96 lineto %
12355 4 4 lineto %
12356 fill %
12357 1 setgray %
12358 248 98 moveto %
12359 248 2 lineto %
12360 2 2 lineto %
12361 4 4 lineto %
12362 246 4 lineto %
12363 246 96 lineto %
12364 fill%
12365 /Helvetica 76 selectfont %
12366 0 setgray %
12367 10 20.5 moveto%
12368 (Submit)show%
12369 [/EP pdfmark%
12370 } ?pdfmark%
12371 [%
12372 {aform}%
12373 <<%
12374 /Fields{afields}%
12375 /DR<<%
12376 /Font<<%
12377 /ZaDb{ZaDb}%
12378 /Helv{Helv}%
12379 >>%
12380 >>%
12381 /DA(/Helv 10 Tf 0 g)%
12382 /CO{corder}%
12383 \ifHy@pdfa
12384 \else
12385 \ifHyField@NeedAppearances
12386 /NeedAppearances true%
12387 \fi
12388 \fi
12389 >>%
12390 /PUT pdfmark%
12391 [%
12392 {Catalog}%
12393 <<%
12394 /AcroForm{aform}%
12395 >>%
12396 /PUT pdfmark%
12397 [%
12398 /__objdef{corder}%
12399 /type/array%
12400 /OBJ pdfmark% dps
12401 }}%
12402 \kvsetkeys{Form}{#1}%
12403 }

```

```

12404 \let\@endForm\ltx@empty
12405 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12406   \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12407 }
12408 \def\@TextField[#1]#2{% parameters, label
12409   \def\Fld@name{#2}%
12410   \let\Fld@default\ltx@empty
12411   \let\Fld@value\@empty
12412   \def\Fld@width{\DefaultWidthofText}%
12413   \def\Fld@height{%
12414     \ifFld@multiline
12415       \DefaultHeightofTextMultiline
12416     \else
12417       \DefaultHeightofText
12418     \fi
12419   }%
12420   \begingroup
12421     \expandafter\HyField@SetKeys\expandafter{%
12422       \DefaultOptionsofText,#1%
12423     }%
12424     \HyField@FlagsText
12425     \ifFld@hidden\def\Fld@width{1sp}\fi
12426     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12427     \LayoutTextField{#2}{%
12428       \Hy@escapeform\PDFForm@Text
12429       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12430         pdfmark=/ANN,Raw={\PDFForm@Text}%
12431       }%
12432     }%
12433   \endgroup
12434 }
12435 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12436   \def\Fld@name{#2}%
12437   \let\Fld@default\relax
12438   \let\Fld@value\relax
12439   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12440   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12441   \begingroup
12442     \Fld@menulength=0 %
12443     \@tempdima\z@
12444     \@for\@curropt:=#3\do{%
12445       \expandafter\Fld@checkequals\@curropt==\%
12446       \Hy@StepCount\Fld@menulength
12447       \settowidth{\@tempdimb}{\@currDisplay}%
12448       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12449     }%
12450     \advance\@tempdima by 15\p@
12451     \begingroup
12452       \HyField@SetKeys{#1}%
12453     \edef\x{\endgroup
12454       \noexpand\expandafter
12455       \noexpand\HyField@SetKeys
12456       \noexpand\expandafter{%
12457         \expandafter\noexpand\csname DefaultOptionsof%
12458           \ifFld@radio
12459             Radio%
12460           \else

```

```

12461         \ifFld@combo
12462         \ifFld@popdown
12463             PopdownBox%
12464         \else
12465             ComboBox%
12466         \fi
12467     \else
12468         ListBox%
12469     \fi
12470 \fi
12471 \endcsname
12472 }%
12473 } \x
12474 \HyField@SetKeys{#1}%
12475 \ifFld@hidden\def\Fld@width{1sp}\fi
12476 \ifx\Fld@value\relax
12477     \let\Fld@value\Fld@default
12478 \fi
12479 \LayoutChoiceField{#2}{%
12480     \ifFld@radio
12481         \HyField@FlagsRadioButton
12482         \@@Radio{#3}%
12483     \else
12484         \begingroup
12485         \HyField@FlagsChoice
12486         \ifdim\Fld@width<\@tempdima
12487             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12488             \edef\Fld@width{\the\@tempdima}%
12489         \fi
12490         \ifFld@combo
12491         \else
12492             \@tempdima=\the\Fld@menulength\Fld@charsize
12493             \advance\@tempdima by \Fld@borderwidth bp %
12494             \advance\@tempdima by \Fld@borderwidth bp %
12495             \edef\Fld@height{\the\@tempdima}%
12496         \fi
12497         \@@Listbox{#3}%
12498     \endgroup
12499 \fi
12500 }%
12501 \endgroup
12502 }
12503 \def\@@Radio#1{%
12504     \Fld@listcount=0 %
12505     \EdefEscapeName\Fld@default{\Fld@default}%
12506     \@for\@curropt:=#1\do{%
12507         \expandafter\Fld@checkequals\@curropt==\%
12508         \EdefEscapeName\@currValue{\@currValue}%
12509         \Hy@StepCount\Fld@listcount
12510         \@currDisplay\space
12511         \Hy@escapeform\PDFForm@Radio
12512         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12513             pdfmark=/ANN,%
12514             Raw={%
12515                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12516             }%
12517         } % deliberate space between radio buttons

```

```

12518 }%
12519 }
12520 \newcount\Fld@listcount
12521 \def\@@ListBox#1{%
12522   \HyField@PDFChoices{#1}%
12523   \Hy@escapeform\PDFForm@List
12524   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12525     pdfmark=/ANN,Raw={\PDFForm@List}%
12526   }%
12527 }
12528 \def\@PushButton[#1]#2{% parameters, label
12529   \def\Fld@name{#2}%
12530   \begingroup
12531     \expandafter\HyField@SetKeys\expandafter{%
12532       \DefaultOptionsofPushButton,#1%
12533     }%
12534     \ifHy@pdfa
12535       \Hy@Error{%
12536         PDF/A: Push button with JavaScript is prohibited%
12537       }\@ehc
12538       \LayoutPushButtonField{%
12539         \leavevmode
12540         \MakeButtonField{#2}%
12541       }%
12542     \else
12543       \HyField@FlagsPushButton
12544       \ifFld@hidden\def\Fld@width{1sp}\fi
12545       \LayoutPushButtonField{%
12546         \leavevmode
12547         \Hy@escapeform\PDFForm@Push
12548         \pdfmark[\MakeButtonField{#2}]{%
12549           pdfmark=/ANN,Raw={\PDFForm@Push}%
12550         }%
12551       }%
12552     \fi
12553   \endgroup
12554 }
12555 \def\@Submit[#1]#2{%
12556   \def\Fld@width{\DefaultWidthofSubmit}%
12557   \def\Fld@height{\DefaultHeightofSubmit}%
12558   \begingroup
12559     \expandafter\HyField@SetKeys\expandafter{%
12560       \DefaultOptionsofSubmit,#1%
12561     }%
12562     \HyField@FlagsPushButton
12563     \HyField@FlagsSubmit
12564     \ifFld@hidden\def\Fld@width{1sp}\fi
12565     \Hy@escapeform\PDFForm@Submit
12566     \pdfmark[\MakeButtonField{#2}]{%
12567       pdfmark=/ANN,%
12568       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12569     }%
12570   \endgroup
12571 }
12572 \def\@Reset[#1]#2{%
12573   \def\Fld@width{\DefaultWidthofReset}%
12574   \def\Fld@height{\DefaultHeightofReset}%

```

```

12575 \begingroup
12576 \expandafter\HyField@SetKeys\expandafter{%
12577   \DefaultOptionsofReset,#1%
12578 }%
12579 \leavevmode
12580 \ifHy@pdfa
12581   \Hy@Error{%
12582     PDF/A: Reset action is prohibited%
12583   }\@ehc
12584   \MakeButtonField{#2}%
12585 \else
12586   \HyField@FlagsPushButton
12587   \ifFld@hidden\def\Fld@width{1sp}\fi
12588   \Hy@escapeform\PDFForm@Reset
12589   \pdfmark[\MakeButtonField{#2}]{%
12590     pdfmark=/ANN,Raw={\PDFForm@Reset}%
12591   }%
12592   \fi
12593 \endgroup
12594 }%
12595 \def\@CheckBox[#1]#2{% parameters, label
12596   \def\Fld@name{#2}%
12597   \def\Fld@default{0}%
12598   \begingroup
12599     \def\Fld@width{\DefaultWidthofCheckBox}%
12600     \def\Fld@height{\DefaultHeightofCheckBox}%
12601     \expandafter\HyField@SetKeys\expandafter{%
12602       \DefaultOptionsofCheckBox,#1%
12603     }%
12604     \HyField@FlagsCheckBox
12605     \ifFld@hidden\def\Fld@width{1sp}\fi
12606     \LayoutCheckField{#2}{%
12607       \Hy@escapeform\PDFForm@Check
12608       \pdfmark[\MakeCheckField{Fld@width}{Fld@height}]{%
12609         pdfmark=/ANN,Raw={\PDFForm@Check}%
12610       }%
12611     }%
12612   \endgroup
12613 }
12614 \pdfmark

```

47.2 HyperTeX

```

12615 \hypertex
12616 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12617 \let\@endForm\ltx@empty
12618 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12619   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12620 }
12621 \def\@TextField[#1]#2{% parameters, label
12622   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12623 }
12624 \def\@CheckBox[#1]#2{% parameters, label
12625   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12626 }
12627 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12628   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12629 }

```

```

12630 \def\@PushButton[#1]#2{% parameters, label
12631   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12632 }
12633 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12634 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12635 \end{hypertex}

```

47.3 TeX4ht

```

12636 \def\*tex4ht
12637 \def\@Form[#1]{%
12638   \kvsetkeys{Form}{#1}%
12639   \HCode{<form action="\Form@action" method="\Form@method">}%
12640 }
12641 \def\@endForm{\HCode{</form>}}
12642 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12643   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12644 }
12645 \def\@TextField[#1]#2{% parameters, label
12646   \let\Hy@reserved@a\@empty
12647   \def\Fld@name{#2}%
12648   \let\Fld@default\ltx@empty
12649   \bgroup
12650     \Field@toks={ }%
12651     \kvsetkeys{Field}{#1}%
12652     \HCode{<label for="\Fld@name">#2</label>}%
12653     \ifFld@password
12654       \@@PasswordField
12655     \else
12656       \@@TextField
12657     \fi
12658   \egroup
12659 }
12660 \def\@@PasswordField{%
12661   \HCode{%
12662     <input type="password" %
12663       id="\Fld@name" %
12664       name="\Fld@name" %
12665       \ifFld@hidden type="hidden" \fi
12666       value="\Fld@default" %
12667       \the\Field@toks
12668     >%
12669   }%
12670 }
12671 \def\@@TextField{%
12672   \ifFld@multiline
12673     \HCode{<textarea %
12674       \ifFld@readonly readonly \fi
12675       id="\Fld@name" %
12676       name="\Fld@name" %
12677       \ifFld@hidden type="hidden" \fi
12678       \the\Field@toks>%
12679     }%
12680     \Fld@default
12681     \HCode{</textarea>}%
12682   \else
12683     \HCode{<input type="text" %
12684       \ifFld@readonly readonly \fi

```



```

12685     id="\Fld@name" %
12686     name="\Fld@name" %
12687     \ifFld@hidden type="hidden" \fi
12688     value="\Fld@default" %
12689     \the\Field@toks>%
12690 }%
12691 \fi
12692 }
12693 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12694 \def\Fld@name{#2}%
12695 \let\Fld@default\ltx@empty
12696 \let\Hy@reserved@a\relax
12697 \begingroup
12698 \expandafter\Fld@findlength#3\\%
12699 \Field@toks={ }%
12700 \kvsetkeys{Field}{#1}%
12701 #2%
12702 \ifFld@radio
12703 \expandafter\@@Radio#3\\%
12704 \else
12705 \expandafter\@@Menu#3\\%
12706 \fi
12707 \endgroup
12708 }
12709 \def\Fld@findlength#1\\{%
12710 \Fld@menulength=0 %
12711 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12712 }
12713 \def\@@Menu#1\\{%
12714 \HCode{<select size="\the\Fld@menulength" %
12715   name="\Fld@name" %
12716   \the\Field@toks>%
12717 }%
12718 \@for\@curropt:=#1\do{%
12719 \expandafter\Fld@checkequals\@curropt==\\%
12720 \HCode{<option %
12721   \ifx\@curropt\Fld@default selected \fi
12722   value="\@currValue">\@currDisplay</option>%
12723 }%
12724 }%
12725 \HCode{</select>}%
12726 }
12727 \def\@@Radio#1\\{%
12728 \@for\@curropt:=#1\do{%
12729 \expandafter\Fld@checkequals\@curropt==\\%
12730 \HCode{<input type="radio" %
12731   \ifx\@curropt\Fld@default checked \fi
12732   name="\Fld@name" %
12733   value="\@currValue" %
12734   \the\Field@toks>%
12735 }%
12736 \@currDisplay
12737 }%
12738 }
12739 \def\@PushButton[#1]#2{% parameters, label
12740 \def\Fld@name{#2}%
12741 \bgroup

```

```

12742 \Field@toks={ }%
12743 \kvsetkeys{Field}{#1}%
12744 \HCode{<input type="button" %
12745     name="\Fld@name" %
12746     value="#2" %
12747     \the\Field@toks>%
12748 }%
12749 \HCode{</button>}%
12750 \egroup
12751 }
12752 \def\@Submit[#1]#2{%
12753 \HCode{<button type="submit">#2</button>}%
12754 }
12755 \def\@Reset[#1]#2{%
12756 \HCode{<button type="reset">#2</button>}%
12757 }
12758 \def\@CheckBox[#1]#2{% parameters, label
12759 \let\Hy@reserved@a\@empty
12760 \def\Fld@name{#2}%
12761 \def\Fld@default{0}%
12762 \bgroup
12763 \Field@toks={ }%
12764 \kvsetkeys{Field}{#1}%
12765 \HCode{<input type="checkbox" %
12766     \ifFld@checked checked \fi
12767     \ifFld@disabled disabled \fi
12768     \ifFld@readonly readonly \fi
12769     name="\Fld@name" %
12770     \ifFld@hidden type="hidden" \fi
12771     value="\Fld@default" %
12772     \the\Field@toks>%
12773     #2%
12774 }%
12775 \egroup
12776 }
12777 </tex4ht>

```

47.4 pdfTeX

```

12778 <*pdfTeX>
12779 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12780 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12781 }
12782 \def\MakeFieldObject#1#2{\sbox0{#1}%
12783 \immediate\pdfxform0 %
12784 \expandafter\edef\csname #2Object\endcsname{%
12785 \the\pdfastxform\space 0 R%
12786 }%
12787 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12788 }%
12789 \let\HyField@afields\ltx@empty
12790 \begingroup\expandafter\expandafter\expandafter\endgroup
12791 \expandafter\ifx\csname pdfastlink\endcsname\relax
12792 \let\HyField@AddToFields\relax
12793 \PackageInfo{hyperref}{%
12794     You need pdfTeX 1.40.0 for setting the /Fields entry.%
12795 \MessageBreak
12796     Adobe Reader/Acrobat accepts an empty /Field array,%

```

```

12797 \MessageBreak
12798 but other PDF viewers might complain%
12799 }%
12800 \else
12801 \let\HyField@AuxAddToFields\ltx@gobble
12802 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12803 \Hy@AtBeginDocument{%
12804 \if@filesw
12805 \immediate\write\@mainaux{%
12806 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12807 }%
12808 \fi
12809 \let\HyField@AfterAuxOpen\@firstofone
12810 \def\HyField@AuxAddToFields#1{%
12811 \xdef\HyField@afields{%
12812 \ifx\HyField@afields\@empty
12813 \else
12814 \HyField@afields
12815 \space
12816 \fi
12817 #1 0 R%
12818 }%
12819 }%
12820 }%
12821 \def\HyField@AddToFields{%
12822 \expandafter\HyField@@AddToFields\expandafter{%
12823 \the\pdfastlink
12824 }%
12825 }%
12826 \def\HyField@@AddToFields#1{%
12827 \HyField@AfterAuxOpen{%
12828 \if@filesw
12829 \write\@mainaux{%
12830 \string\HyField@AuxAddToFields{#1}%
12831 }%
12832 \fi
12833 }%
12834 }%
12835 \fi
12836 \def\@Form[#1]{%
12837 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12838 \kvsetkeys{Form}{#1}%
12839 \pdf@ifdraftmode{}{%
12840 \Hy@FormObjects
12841 \ifnum\pdfTeXversion>13 %
12842 \pdfrefobj\OBJ@pdfdocencoding
12843 \pdfrefobj\OBJ@ZaDb
12844 \pdfrefobj\OBJ@Helv
12845 \fi
12846 \AtVeryEndDocument{%
12847 \immediate\pdfobj{%
12848 <<%
12849 /Fields[\HyField@afields]%
12850 /DR<<%
12851 /Font<<%
12852 /ZaDb \OBJ@ZaDb\space 0 R%
12853 /Helv \OBJ@Helv\space 0 R%

```

```

12854      >>%
12855      >>%
12856      /DA(/Helv 10 Tf 0 g)%
12857      \ifHy@pdfa
12858      \else
12859      \ifHyField@NeedAppearances
12860      /NeedAppearances true%
12861      \fi
12862      \fi
12863      >>%
12864      }%
12865      \edef\OBJ@acroform{\the\pdfastobj}%
12866      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12867      }%
12868      }%
12869      \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12870      \begingroup
12871      \fontfamily{pzd}%
12872      \fontencoding{U}%
12873      \fontseries{m}%
12874      \fontshape{n}%
12875      \selectfont
12876      \char123 %
12877      \endgroup
12878      }{Ding}%
12879      \MakeFieldObject{%
12880      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12881      }{Submit}%
12882      \MakeFieldObject{%
12883      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12884      }{SubmitP}%
12885      }
12886      \let\@endForm\ltx@empty
12887      \def\@TextField[#1]#2{% parameters, label
12888      \def\Fld@name{#2}%
12889      \let\Fld@default\ltx@empty
12890      \let\Fld@value\@empty
12891      \def\Fld@width{\DefaultWidthofText}%
12892      \def\Fld@height{%
12893      \ifFld@multiline
12894      \DefaultHeightofTextMultiline
12895      \else
12896      \DefaultHeightofText
12897      \fi
12898      }%
12899      \begingroup
12900      \expandafter\HyField@SetKeys\expandafter{%
12901      \DefaultOptionsofText,#1%
12902      }%
12903      \PDFForm@Name
12904      \HyField@FlagsText
12905      \ifFld@hidden\def\Fld@width{1sp}\fi
12906      \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12907      \LayoutTextField{#2}{%
12908      \Hy@escapeform\PDFForm@Text
12909      \pdfstartlink user {\PDFForm@Text}\relax

```

```

12910 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12911 \HyField@AddToFields
12912 }%
12913 \endgroup
12914 }
12915 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12916 \def\Fld@name{#2}%
12917 \let\Fld@default\relax
12918 \let\Fld@value\relax
12919 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12920 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12921 \begingroup
12922 \Fld@menulength=0 %
12923 \@tempdima\z@
12924 \@for\@curropt:=#3\do{%
12925 \expandafter\Fld@checkequals\@curropt==\%
12926 \Hy@StepCount\Fld@menulength
12927 \settowidth{\@tempdimb}{\@currDisplay}%
12928 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12929 }%
12930 \advance\@tempdima by 15\p@
12931 \begingroup
12932 \HyField@SetKeys{#1}%
12933 \edef\x{\endgroup
12934 \noexpand\expandafter
12935 \noexpand\HyField@SetKeys
12936 \noexpand\expandafter{%
12937 \expandafter\noexpand\csname DefaultOptionsof%
12938 \ifFld@radio
12939 Radio%
12940 \else
12941 \ifFld@combo
12942 \ifFld@popdown
12943 PopdownBox%
12944 \else
12945 ComboBox%
12946 \fi
12947 \else
12948 ListBox%
12949 \fi
12950 \fi
12951 \endcsname
12952 }%
12953 }\x
12954 \HyField@SetKeys{#1}%
12955 \PDFForm@Name
12956 \ifFld@hidden\def\Fld@width{1sp}\fi
12957 \ifx\Fld@value\relax
12958 \let\Fld@value\Fld@default
12959 \fi
12960 \LayoutChoiceField{#2}{%
12961 \ifFld@radio
12962 \HyField@FlagsRadioButton
12963 \@@Radio{#3}%
12964 \else
12965 \begingroup
12966 \HyField@FlagsChoice

```

```

12967 \ifdim\Fld@width<\@tempdima
12968 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12969 \edef\Fld@width{\the\@tempdima}%
12970 \fi
12971 \ifFld@combo
12972 \else
12973 \@tempdima=\the\Fld@menulength\Fld@charsize
12974 \advance\@tempdima by \Fld@borderwidth bp %
12975 \advance\@tempdima by \Fld@borderwidth bp %
12976 \edef\Fld@height{\the\@tempdima}%
12977 \fi
12978 \@@ListBox{#3}%
12979 \endgroup
12980 \fi
12981 }%
12982 \endgroup
12983 }
12984 \def\@@Radio#1{%
12985 \Fld@listcount=0 %
12986 \EdefEscapeName\Fld@default{\Fld@default}%
12987 \@for\@curropt:=#1\do{%
12988 \expandafter\Fld@checkequals\@curropt==\%
12989 \EdefEscapeName\@currValue{\@currValue}%
12990 \Hy@StepCount\Fld@listcount
12991 \@currDisplay\space
12992 \leavevmode
12993 \Hy@escapeform\PDFForm@Radio
12994 \pdfstartlink user {%
12995 \PDFForm@Radio
12996 /AP<<%
12997 /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.

```

12998 /\@currValue\space \DingObject
12999 >>%
13000 >>%
13001 }%
13002 \relax
13003 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13004 \ifnum\Fld@listcount=1 %
13005 \HyField@AddToFields
13006 \fi
13007 \space % deliberate space between radio buttons
13008 }%
13009 }
13010 \newcount\Fld@listcount
13011 \def\@@ListBox#1{%
13012 \HyField@PDFChoices{#1}%
13013 \leavevmode
13014 \Hy@escapeform\PDFForm@List
13015 \pdfstartlink user {\PDFForm@List}\relax
13016 \MakeChoiceField{\Fld@width}{\Fld@height}%
13017 \pdfendlink
13018 \HyField@AddToFields
13019 }
13020 \def\@PushButton[#1]#2{% parameters, label

```

```

13021 \def\Fld@name{#2}%
13022 \begingroup
13023 \expandafter\HyField@SetKeys\expandafter{%
13024   \DefaultOptionsofPushButton,#1%
13025 }%
13026 \PDFForm@Name
13027 \ifHy@pdfa
13028   \Hy@Error{%
13029     PDF/A: Push button with JavaScript is prohibited%
13030   }\@ehc
13031   \LayoutPushButtonField{%
13032     \leavevmode
13033     \MakeButtonField{#2}%
13034   }%
13035 \else
13036   \HyField@FlagsPushButton
13037   \ifFld@hidden\def\Fld@width{1sp}\fi
13038   \LayoutPushButtonField{%
13039     \leavevmode
13040     \Hy@escapeform\PDFForm@Push
13041     \pdfstartlink user {\PDFForm@Push}\relax
13042     \MakeButtonField{#2}%
13043     \pdfendlink
13044     \HyField@AddToFields
13045   }%
13046 \fi
13047 \endgroup
13048 }
13049 \def\@Submit[#1]#2{%
13050   \def\Fld@width{\DefaultWidthofSubmit}%
13051   \def\Fld@height{\DefaultHeightofSubmit}%
13052   \begingroup
13053   \expandafter\HyField@SetKeys\expandafter{%
13054     \DefaultOptionsofSubmit,#1%
13055   }%
13056   \HyField@FlagsPushButton
13057   \HyField@FlagsSubmit
13058   \ifFld@hidden\def\Fld@width{1sp}\fi
13059   \leavevmode
13060   \Hy@escapeform\PDFForm@Submit
13061   \pdfstartlink user {%
13062     \PDFForm@Submit
13063     /AP<</N \SubmitObject/D \SubmitPObject>>%
13064   }%
13065   \relax
13066   \MakeButtonField{#2}%
13067   \pdfendlink
13068   \HyField@AddToFields
13069 \endgroup
13070 }
13071 \def\@Reset[#1]#2{%
13072   \def\Fld@width{\DefaultWidthofReset}%
13073   \def\Fld@height{\DefaultHeightofReset}%
13074   \begingroup
13075   \expandafter\HyField@SetKeys\expandafter{%
13076     \DefaultOptionsofReset,#1%
13077   }%

```

```

13078 \leavevmode
13079 \ifHy@pdfa
13080 \Hy@Error{%
13081     PDF/A: Reset action is prohibited%
13082 } \@ehc
13083 \MakeButtonField{#2}%
13084 \else
13085 \HyField@FlagsPushButton
13086 \ifFld@hidden\def\Fld@width{1sp}\fi
13087 \Hy@escapeform\PDFForm@Reset
13088 \pdfstartlink user {\PDFForm@Reset}\relax
13089 \MakeButtonField{#2}%
13090 \pdfendlink
13091 \HyField@AddToFields
13092 \fi
13093 \endgroup
13094 }
13095 \def\@CheckBox[#1]#2{% parameters, label
13096 \def\Fld@name{#2}%
13097 \def\Fld@default{0}%
13098 \begingroup
13099 \def\Fld@width{\DefaultWidthofCheckBox}%
13100 \def\Fld@height{\DefaultHeightofCheckBox}%
13101 \expandafter\HyField@SetKeys\expandafter{%
13102 \DefaultOptionsofCheckBox,#1%
13103 }%
13104 \PDFForm@Name
13105 \HyField@FlagsCheckBox
13106 \ifFld@hidden\def\Fld@width{1sp}\fi
13107 \LayoutCheckField{#2}{%
13108 \Hy@escapeform\PDFForm@Check
13109 \pdfstartlink user {\PDFForm@Check}\relax
13110 \MakeCheckField{\Fld@width}{\Fld@height}%
13111 \pdfendlink
13112 \HyField@AddToFields
13113 }%
13114 \endgroup
13115 }
13116 \def\Hy@FormObjects{%
13117 \pdfobj {%
13118 <<%
13119 /Type/Encoding%
13120 /Differences%
13121 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13122 /ring/tilde %
13123 39/quotesingle %
13124 96/grave %
13125 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13126 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13127 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13128 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13129 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13130 164/currency %
13131 166/brokenbar %
13132 168/dieresis/copyright/ordfeminine %
13133 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13134 /twosuperior/threesuperior/acute/mu %

```



```

13135 183/periodcentered/cedilla/onesuperior/ordmasculine %
13136 188/onequarter/onehalf/threequarters %
13137 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13138 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13139 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13140 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13141 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13142 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13143 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13144 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13145 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13146 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13147 ]%
13148 >>%
13149 }%
13150 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13151 \pdfobj{%
13152 <<%
13153 /Type/Font%
13154 /Subtype/Type1%
13155 /Name/ZaDb%
13156 /BaseFont/ZapfDingbats%
13157 >>%
13158 }%
13159 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13160 \pdfobj{%
13161 <<%
13162 /Type/Font%
13163 /Subtype/Type1%
13164 /Name/Helv%
13165 /BaseFont/Helvetica%
13166 /Encoding \OBJ@pdfdocencoding\space 0 R%
13167 >>%
13168 }%
13169 \xdef\OBJ@Helv{\the\pdflastobj}%
13170 \global\let\Hy@FormObjects\relax
13171 }
13172 </pdftex>

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdf_T_EX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

13173 < *dvipdfm | xetex>

```

\@Gauge

```

13174 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13175 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13176 }

```

\@Form

```

13177 \def\@Form[#1]{%
13178 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13179 \kvsetkeys{Form}{#1}%
13180 \Hy@FormObjects
13181 \@pdfm@mark{obj @afields []}%
13182 \@pdfm@mark{obj @corder []}%
13183 \@pdfm@mark{%

```

```

13184 obj @aform <<%
13185 /Fields @afields%
13186 /DR<<%
13187 /Font<<%
13188 /ZaDb @OBJZaDb%
13189 /Helv @OBJHelv%
13190 >>%
13191 >>%
13192 /DA(/Helv 10 Tf 0 g)%
13193 /CO @corder%
13194 \ifHy@pdfa
13195 \else
13196 \ifHyField@NeedAppearances
13197 /NeedAppearances true%
13198 \fi
13199 \fi
13200 >>%
13201 }%
13202 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13203 }

```

\@endForm

```

13204 \let \@endForm \tx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13205 \def\dvipdfm@setdim{%
13206 height \the\ht\pdfm@box\space
13207 width \the\wd\pdfm@box\space
13208 depth \the\dp\pdfm@box\space
13209 }

```

\HyField@AnnotCount

```

13210 \newcount\HyField@AnnotCount
13211 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13212 \def\HyField@AdvanceAnnotCount{%
13213 \global\advance\HyField@AnnotCount\@ne
13214 }

```

\HyField@TheAnnotCount

```

13215 \def\HyField@TheAnnotCount{%
13216 \the\HyField@AnnotCount
13217 }

```

\@TextField

```

13218 \def\@TextField[#1]#2{% parameters, label
13219 \def\Fld@name{#2}%
13220 \let\Fld@default\tx@empty
13221 \let\Fld@value\@empty
13222 \def\Fld@width{\DefaultWidthofText}%
13223 \def\Fld@height{%
13224 \ifFld@multiline
13225 \DefaultHeightofTextMultiline
13226 \else
13227 \DefaultHeightofText
13228 \fi

```

```

13229 }%
13230 \begingroup
13231 \expandafter\HyField@SetKeys\expandafter{%
13232   \DefaultOptionsofText,#1%
13233 }%
13234 \PDFForm@Name
13235 \HyField@FlagsText
13236 \ifFld@hidden\def\Fld@width{1sp}\fi
13237 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13238 \setbox\pdfm@box=\hbox{%
13239   \MakeTextField{\Fld@width}{\Fld@height}%
13240 }%
13241 \HyField@AdvanceAnnotCount
13242 \LayoutTextField{#2}{%
13243   \Hy@escapeform\PDFForm@Text
13244   \@pdfm@mark{%
13245     ann @text\HyField@TheAnnotCount\space
13246     \dvipdfm@setdim << \PDFForm@Text >>%
13247   }%
13248 }%
13249 \unhbox\pdfm@box
13250 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13251 % record in @afields array
13252 \endgroup
13253 }

```

\@ChoiceMenu

```

13254 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13255   \def\Fld@name{#2}%
13256   \let\Fld@default\relax
13257   \let\Fld@value\relax
13258   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13259   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13260   \begingroup
13261     \Fld@menulength=0 %
13262     \@tempdima\z@
13263     \@for\@curropt:=#3\do{%
13264       \expandafter\Fld@checkequals\@curropt==\%
13265       \Hy@StepCount\Fld@menulength
13266       \settowidth{\@tempdimb}{\@currDisplay}%
13267       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13268     }%
13269     \advance\@tempdima by 15\p@
13270     \begingroup
13271       \HyField@SetKeys{#1}%
13272     \edef\x{\endgroup
13273       \noexpand\expandafter
13274       \noexpand\HyField@SetKeys
13275       \noexpand\expandafter{%
13276         \expandafter\noexpand\csname DefaultOptionsof%
13277           \ifFld@radio
13278             Radio%
13279           \else
13280             \ifFld@combo
13281               \ifFld@popdown
13282                 PopdownBox%
13283               \else
13284                 ComboBox%

```

```

13285         \fi
13286     \else
13287         ListBox%
13288     \fi
13289 \fi
13290 \endcsname
13291 }%
13292 }\x
13293 \HyField@SetKeys{#1}%
13294 \PDFForm@Name
13295 \ifFld@hidden\def\Fld@width{1sp}\fi
13296 \ifx\Fld@value\relax
13297     \let\Fld@value\Fld@default
13298 \fi
13299 \LayoutChoiceField{#2}{%
13300     \ifFld@radio
13301         \HyField@FlagsRadioButton
13302         \@@Radio{#3}%
13303     \else
13304         \begingroup
13305             \HyField@FlagsChoice
13306             \ifdim\Fld@width<\@tempdima
13307                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13308                 \edef\Fld@width{\the\@tempdima}%
13309             \fi
13310             \ifFld@combo
13311             \else
13312                 \@tempdima=\the\Fld@menulength\Fld@charsize
13313                 \advance\@tempdima by \Fld@borderwidth bp %
13314                 \advance\@tempdima by \Fld@borderwidth bp %
13315                 \edef\Fld@height{\the\@tempdima}%
13316             \fi
13317             \@@ListBox{#3}%
13318         \endgroup
13319     \fi
13320 }%
13321 \endgroup
13322 }

\@@Radio
13323 \def\@@Radio#1{%
13324     \Fld@listcount=0 %
13325     \EdefEscapeName\Fld@default{\Fld@default}%
13326     \setbox\pdfm@box=\hbox{%
13327         \MakeRadioField{\Fld@width}{\Fld@height}%
13328     }%
13329     \@for\@curropt:=#1\do{%
13330         \expandafter\Fld@checkequals\@curropt==\%
13331         \EdefEscapeName\@currValue{\@currValue}%
13332         \Hy@StepCount\Fld@listcount
13333         \@currDisplay\space
13334         \leavevmode
13335         \Hy@escapeform\PDFForm@Radio
13336         \ifnum\Fld@listcount=1 %
13337             \HyField@AdvanceAnnotCount
13338         \fi
13339         \@pdfm@mark{%
13340             ann %

```

```

13341 \ifnum\Fld@listcount=1 %
13342   @radio\HyField@TheAnnotCount%
13343   \space
13344 \fi
13345 \dvi pdfm@setdim
13346 <<%
13347   \PDFForm@Radio
13348   /AP<</N<</\@currValue /null>>>>%
13349 >>%
13350 }%
13351 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13352 \ifnum\Fld@listcount=1 %
13353   \@pdfm@mark{%
13354     put @afields @radio\HyField@TheAnnotCount
13355   }%
13356 \fi
13357 }%
13358 }

\Fld@listcount
13359 \newcount\Fld@listcount

@@@Listbox
13360 \def\@@Listbox#1{%
13361   \HyField@PDFChoices{#1}%
13362   \setbox\pdfm@box=\hbox{%
13363     \MakeChoiceField{\Fld@width}{\Fld@height}%
13364   }%
13365   \leavevmode
13366   \Hy@escapeform\PDFForm@List
13367   \HyField@AdvanceAnnotCount
13368   \@pdfm@mark{%
13369     ann @list\HyField@TheAnnotCount\space
13370     \dvi pdfm@setdim
13371     <<\PDFForm@List>>%
13372   }%
13373   \unhbox\pdfm@box
13374   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13375 }

\@PushButton
13376 \def\@PushButton[#1]#2{% parameters, label
13377   \def\Fld@name{#2}%
13378   \begingroup
13379     \expandafter\HyField@SetKeys\expandafter{%
13380       \DefaultOptionsofPushButton,#1%
13381     }%
13382     \PDFForm@Name
13383     \ifHy@pdfa
13384       \Hy@Error{%
13385         PDF/A: Push button with JavaScript is prohibited%
13386       }\@ehc
13387     \LayoutPushButtonField{%
13388       \leavevmode
13389       \MakeButtonField{#2}%
13390     }%
13391   \else

```

```

13392 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13393 \HyField@FlagsPushButton
13394 \ifFld@hidden\def\Fld@width{1sp}\fi
13395 \HyField@AdvanceAnnotCount
13396 \LayoutPushButtonField{%
13397 \leavevmode
13398 \Hy@escapeform\PDFForm@Push
13399 \@pdfm@mark{%
13400 ann @push\HyField@TheAnnotCount\space
13401 \dvipdfm@setdim
13402 <<\PDFForm@Push>>%
13403 }%
13404 }%
13405 \unhbox\pdfm@box
13406 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13407 \fi
13408 \endgroup
13409 }

\@Submit
13410 \def\@Submit[#1]#2{%
13411 \def\Fld@width{\DefaultWidthofSubmit}%
13412 \def\Fld@height{\DefaultHeightofSubmit}%
13413 \begingroup
13414 \expandafter\HyField@SetKeys\expandafter{%
13415 \DefaultOptionsofSubmit,#1%
13416 }%
13417 \HyField@FlagsPushButton
13418 \HyField@FlagsSubmit
13419 \ifFld@hidden\def\Fld@width{1sp}\fi
13420 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13421 \leavevmode
13422 \Hy@escapeform\PDFForm@Submit
13423 \HyField@AdvanceAnnotCount
13424 \@pdfm@mark{%
13425 ann @submit\HyField@TheAnnotCount\space
13426 \dvipdfm@setdim
13427 <<\PDFForm@Submit>>%
13428 }%
13429 \unhbox\pdfm@box%
13430 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13431 \endgroup
13432 }

\@Reset
13433 \def\@Reset[#1]#2{%
13434 \def\Fld@width{\DefaultWidthofReset}%
13435 \def\Fld@height{\DefaultHeightofReset}%
13436 \begingroup
13437 \expandafter\HyField@SetKeys\expandafter{%
13438 \DefaultOptionsofReset,#1%
13439 }%
13440 \leavevmode
13441 \ifHy@pdfa
13442 \Hy@Error{%
13443 PDF/A: Reset action is prohibited%
13444 }\@ehc

```

```

13445 \MakeButtonField{#2}%
13446 \else
13447 \HyField@FlagsPushButton
13448 \ifFld@hidden\def\Fld@width{1sp}\fi
13449 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13450 \Hy@escapeform\PDFForm@Reset
13451 \HyField@AdvanceAnnotCount
13452 \@pdfm@mark{%
13453 ann @reset\HyField@TheAnnotCount\space
13454 \dvipdfm@setdim
13455 <<\PDFForm@Reset>>%
13456 }%
13457 \unhbox\pdfm@box
13458 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13459 \fi
13460 \endgroup
13461 }

```

\@CheckBox

```

13462 \def\@CheckBox[#1]#2{% parameters, label
13463 \def\Fld@name{#2}%
13464 \def\Fld@default{0}%
13465 \begingroup
13466 \def\Fld@width{\DefaultWidthofCheckBox}%
13467 \def\Fld@height{\DefaultHeightofCheckBox}%
13468 \expandafter\HyField@SetKeys\expandafter{%
13469 \DefaultOptionsofCheckBox,#1%
13470 }%
13471 \PDFForm@Name
13472 \HyField@FlagsCheckBox
13473 \ifFld@hidden\def\Fld@width{1sp}\fi
13474 \setbox\pdfm@box=\hbox{%
13475 \MakeCheckField{\Fld@width}{\Fld@height}%
13476 }%
13477 \HyField@AdvanceAnnotCount
13478 \LayoutCheckField{#2}{%
13479 \Hy@escapeform\PDFForm@Check
13480 \@pdfm@mark{%
13481 ann @check\HyField@TheAnnotCount\space
13482 \dvipdfm@setdim
13483 <<\PDFForm@Check>>%
13484 }%
13485 \unhbox\pdfm@box
13486 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13487 }%
13488 \endgroup
13489 }

13490 \def\Hy@FormObjects{%
13491 \@pdfm@mark{obj @OBJpdfdocencoding%
13492 <<%
13493 /Type/Encoding%
13494 /Differences[%
13495 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13496 39/quotesingle %
13497 96/grave %
13498 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13499 /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

```

13500 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13501 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13502 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13503 164/currency %
13504 166/brokenbar %
13505 168/dieresis/copyright/ordfeminine %
13506 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13507 /twosuperior/threesuperior/acute/mu %
13508 183/periodcentered/cedilla/onesuperior/ordmasculine %
13509 188/onequarter/onehalf/threequarters %
13510 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13511 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13512 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13513 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13514 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13515 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13516 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13517 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13518 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13519 /thorn/ydieresis%
13520 }%
13521 >>%
13522 }%
13523 \@pdfm@mark{obj @OBJZaDb%
13524 <<%
13525 /Type/Font%
13526 /Subtype/Type1%
13527 /Name/ZaDb%
13528 /BaseFont/ZapfDingbats%
13529 >>%
13530 }%
13531 \@pdfm@mark{obj @OBJHelv%
13532 <<%
13533 /Type/Font%
13534 /Subtype/Type1%
13535 /Name/Helv%
13536 /BaseFont/Helvetica%
13537 /Encoding @OBJpdfdocencoding%
13538 >>%
13539 }%
13540 \global\let\Hy@FormObjects\relax
13541 }
13542 \</dvipdfm | xetex>

```

47.6 Common forms part

```
13543 <*pdfform>
```

\Hy@escapestring

```

13544 \begingroup\expandafter\expandafter\expandafter\endgroup
13545 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13546 \let\Hy@escapestring\@firstofone
13547 \def\Hy@escapeform#1{%
13548 \ifHy@pdfescapeform
13549 \def\Hy@escapestring##1{%
13550 \noexpand\Hy@escapestring{\noexpand##1}%
13551 }%
13552 \edef\Hy@temp{#1}%

```



```

13553 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}}\@nil
13554 \def\Hy@escapestring##1{%
13555 \@ifundefined{Hy@esc@\string##1}{%
13556 ##1%
13557 \ThisShouldNotHappen
13558 }{%
13559 \csname Hy@esc@\string##1\endcsname
13560 }%
13561 }%
13562 \else
13563 \let\Hy@escapestring\@firstofone
13564 \fi
13565 }%
13566 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13567 \ifx\#3\%
13568 \else
13569 \expandafter
13570 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13571 \ltx@ReturnAfterFi{%
13572 \Hy@@escapeform#3\@nil
13573 }%
13574 \fi
13575 }%
13576 \else
13577 \def\Hy@escapeform#1{%
13578 \ifHy@pdfescapeform
13579 \let\Hy@escapestring\pdfescapestring
13580 \else
13581 \let\Hy@escapestring\@firstofone
13582 \fi
13583 }%
13584 \Hy@escapeform{}}%
13585 \fi

```

\PDFForm@Name

```

13586 \def\PDFForm@Name{%
13587 \PDFForm@@Name\Fld@name
13588 \ifx\Fld@altname\relax
13589 \else
13590 \PDFForm@@Name\Fld@altname
13591 \fi
13592 \ifx\Fld@mappingname\relax
13593 \else
13594 \PDFForm@@Name\Fld@mappingname
13595 \fi
13596 }

```

\PDFForm@@Name

```

13597 \def\PDFForm@@Name#1{%
13598 \begingroup
13599 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13600 \ifHy@unicode
13601 \Hy@unicodfalse
13602 \fi
13603 \fi
13604 \HyPsd@XeTeXBigCharstrue
13605 \pdfstringdef\Hy@gtemp#1%

```

```

13606 \endgroup
13607 \let#1\Hy@gtemp
13608 }

```

\Fld@additionalactions

```

13609 \def\Fld@@additionalactions{%

```

K input (keystroke) format

```

13610 \ifx\Fld@keystroke@code\@empty
13611 \else
13612 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13613 \fi

```

F display format

```

13614 \ifx\Fld@format@code\@empty
13615 \else
13616 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13617 \fi

```

V validation

```

13618 \ifx\Fld@validate@code\@empty
13619 \else
13620 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13621 \fi

```

C calculation

```

13622 \ifx\Fld@calculate@code\@empty
13623 \else
13624 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13625 \fi

```

Fo receiving the input focus

```

13626 \ifx\Fld@onfocus@code\@empty
13627 \else
13628 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13629 \fi

```

Bl loosing the input focus (blurred)

```

13630 \ifx\Fld@onblur@code\@empty
13631 \else
13632 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13633 \fi

```

D pressing the mouse button (down)

```

13634 \ifx\Fld@onmousedown@code\@empty
13635 \else
13636 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13637 \fi

```

U releasing the mouse button (up)

```

13638 \ifx\Fld@onmouseup@code\@empty
13639 \else
13640 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13641 \fi

```

E cursor enters the annotation's active area.

```

13642 \ifx\Fld@onenter@code\@empty
13643 \else
13644 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13645 \fi

```

X cursor exits the annotation's active area.

```
13646 \ifx\Fld@onexit@code\@empty
13647 \else
13648 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13649 \fi
13650 }
13651 \def\Fld@additionalactions{%
13652 \if\Fld@@additionalactions-%
13653 \else
13654 \ifHy@pdfa
13655 \else
13656 /AA<<\Fld@@additionalactions>>%
13657 \fi
13658 \fi
13659 }
```

\Fld@annotnames

```
13660 \def\Fld@annotnames{%
13661 /T(\Fld@name)%
13662 \ifx\Fld@altname\relax
13663 \else
13664 /TU(\Fld@altname)%
13665 \fi
13666 \ifx\Fld@mappingname\relax
13667 \else
13668 /TM(\Fld@mappingname)%
13669 \fi
13670 }
```

\PDFForm@Check

```
13671 \def\PDFForm@Check{%
13672 /Subtype/Widget%
13673 \Fld@annotflags
13674 \Fld@annotnames
13675 /FT/Btn%
13676 \Fld@flags
13677 /Q \Fld@align
13678 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13679 /MK<<%
13680 \ifnum\Fld@rotation=\z@
13681 \else
13682 /R \Fld@rotation
13683 \fi
13684 \ifx\Fld@bordercolor\relax
13685 \else
13686 /BC[\Fld@bordercolor]%
13687 \fi
13688 \ifx\Fld@bcolor\relax
13689 \else
13690 /BG[\Fld@bcolor]%
13691 \fi
13692 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13693 >>%
13694 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13695 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13696 /H/P%
13697 \ifFld@checked /V/Yes\else /V/Off\fi
```

```
13698 \Fld@additionalactions
13699 }
```

\PDFForm@Push

```
13700 \ifHy@pdfa
13701 \else
13702 \def\PDFForm@Push{%
13703 /Subtype/Widget%
13704 \Fld@annotflags
13705 \Fld@annotnames
13706 /FT/Btn%
13707 \Fld@flags
13708 /H/P%
13709 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13710 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13711 \ifx\Fld@bordercolor\relax\else 1\fi
13712 \space
13713 \else
13714 /MK<<%
13715 \ifnum\Fld@rotation=\z@
13716 \else
13717 /R \Fld@rotation
13718 \fi
13719 \ifx\Fld@bordercolor\relax
13720 \else
13721 /BC[\Fld@bordercolor]%
13722 \fi
13723 >>%
13724 \fi
13725 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13726 \Fld@additionalactions
13727 }%
13728 \fi
```

\PDFForm@List

```
13729 \def\PDFForm@List{%
13730 /Subtype/Widget%
13731 \Fld@annotflags
13732 \Fld@annotnames
13733 /FT/Ch%
13734 \Fld@flags
13735 /Q \Fld@align
13736 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13737 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13738 \ifx\Fld@bordercolor\relax\else 1\fi
13739 \ifx\Fld@bcolor\relax \else 1\fi
13740 \space
13741 \else
13742 /MK<<%
13743 \ifnum\Fld@rotation=\z@
13744 \else
13745 /R \Fld@rotation
13746 \fi
13747 \ifx\Fld@bordercolor\relax
13748 \else
13749 /BC[\Fld@bordercolor]%
13750 \fi
```

```

13751     \ifx\Fld@bcolor\relax
13752     \else
13753     /BG[\Fld@bcolor]%
13754     \fi
13755     >>%
13756 \fi
13757 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13758     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13759 \Fld@choices
13760 \Fld@additionalactions
13761 }

```

\PDFForm@Radio

```

13762 \def\PDFForm@Radio{%
13763   /Subtype/Widget%
13764   \Fld@annotflags
13765   \Fld@annotnames
13766   /FT/Btn%
13767   \Fld@flags
13768   /H/P%
13769   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13770   /MK<<%
13771     \ifnum\Fld@rotation=\z@
13772     \else
13773     /R \Fld@rotation
13774     \fi
13775     \ifx\Fld@bordercolor\relax
13776     \else
13777     /BC[\Fld@bordercolor]%
13778     \fi
13779     \ifx\Fld@bcolor\relax
13780     \else
13781     /BG[\Fld@bcolor]%
13782     \fi
13783     /CA(\Fld@radiosymbol)%
13784     >>%
13785   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13786       \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13787   \ifx\@currValue\Fld@default
13788     /V/\Fld@default
13789     /DV/\Fld@default
13790   \else
13791     /V/Off%
13792     /DV/Off%
13793   \fi
13794   \Fld@additionalactions
13795 }

```

\PDFForm@Text

```

13796 \def\PDFForm@Text{%
13797   /Subtype/Widget%
13798   \Fld@annotflags
13799   \Fld@annotnames
13800   /FT/Tx%
13801   \Fld@flags
13802   /Q \Fld@align
13803   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%

```

```

13804 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13805     \ifx\Fld@bordercolor\relax\else 1\fi
13806     \ifx\Fld@bcolor\relax \else 1\fi
13807     \space
13808 \else
13809     /MK<<%
13810     \ifnum\Fld@rotation=\z@
13811     \else
13812     /R \Fld@rotation
13813     \fi
13814     \ifx\Fld@bordercolor\relax
13815     \else
13816     /BC[\Fld@bordercolor]%
13817     \fi
13818     \ifx\Fld@bcolor\relax
13819     \else
13820     /BG[\Fld@bcolor]%
13821     \fi
13822     >>%
13823 \fi
13824 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13825     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13826 /DV(\Hy@escapestring{\Fld@default})%
13827 /V(\Hy@escapestring{\Fld@value})%
13828 \Fld@additionalactions
13829 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13830 }

```

\PDFForm@Submit

```

13831 \def\PDFForm@Submit{%
13832 /Subtype/Widget%
13833 \Fld@annotflags
13834 \Fld@annotnames
13835 /FT/Btn%
13836 \Fld@flags
13837 /H/P%
13838 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
13839 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13840     \ifx\Fld@bordercolor\relax\else 1\fi
13841     \space
13842 \else
13843     /MK<<%
13844     \ifnum\Fld@rotation=\z@
13845     \else
13846     /R \Fld@rotation
13847     \fi
13848     \ifx\Fld@bordercolor\relax
13849     \else
13850     /BC[\Fld@bordercolor]%
13851     \fi
13852     >>%
13853 \fi
13854 /A<<%
13855 /S/SubmitForm%
13856 /F<<%
13857 /FS/URL%
13858 /F(\Hy@escapestring{\Form@action})%
13859 >>%

```

```

13860 \Fld@submitflags
13861 >>%
13862 \Fld@additionalactions
13863 }

```

\PDFForm@Reset

```

13864 \ifHy@pdfa
13865 \else
13866 \def\PDFForm@Reset{%
13867 /Subtype/Widget%
13868 \Fld@annotflags
13869 \Fld@annotnames
13870 /FT/Btn%
13871 \Fld@flags
13872 /H/P%
13873 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13874 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13875 \ifx\Fld@bordercolor\relax\else 1\fi
13876 \space
13877 \else
13878 /MK<<%
13879 \ifnum\Fld@rotation=\z@
13880 \else
13881 /R \Fld@rotation
13882 \fi
13883 \ifx\Fld@bordercolor\relax
13884 \else
13885 /BC[\Fld@bordercolor]%
13886 \fi
13887 % /CA (Clear)
13888 % /AC (Done)
13889 >>%
13890 \fi
13891 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13892 /A<</S/ResetForm>>%
13893 \Fld@additionalactions
13894 }%
13895 \fi

13896 \end{pdfform}
13897 \end{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`

```

13898 \def\phantomsection{%
13899 \Hy@MakeCurrentHrefAuto{section*}%
13900 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13901 }
13902 \end{package}

```

48.1 Bookmarks

13903 \langle *outlines \rangle

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.

```
13904 \def\Hy@writebookmark#1#2#3#4#5{%
13905   % section number, text, label, level, file
13906   \ifx\WriteBookmarks\relax%
13907   \else
13908     \ifnum#4>\Hy@bookmarksdepth\relax
13909     \else
13910       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13911       \fi
13912     \fi
13913 }
13914 \def\Hy@currentbookmarklevel{0}
13915 \def\Hy@numberline#1{#1 }
13916 \def\@@writetorep#1#2#3#4#5{%
13917   \begingroup
13918     \edef\Hy@tempa{#5}%
13919     \ifx\Hy@tempa\Hy@bookmarkstype
13920       \edef\Hy@level{#4}%
13921       \ifx\Hy@levelcheck Y%
13922         \@tempcnta\Hy@level\relax
13923         \advance\@tempcnta by -1 %
13924         \ifnum\Hy@currentbookmarklevel<\@tempcnta
13925           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13926           \advance\@tempcnta by 1 %
13927           \Hy@Warning{%
13928             Difference (\the\@tempcnta) between bookmark levels is %
13929             greater \MessageBreak than one, level fixed%
13930           }%
13931           \@tempcnta\Hy@currentbookmarklevel
13932           \advance\@tempcnta by 1 %
13933           \edef\Hy@level{\the\@tempcnta}%
13934         \fi
13935       \else
13936         \global\let\Hy@levelcheck Y%
13937       \fi
13938       \global\let\Hy@currentbookmarklevel\Hy@level
13939       \@tempcnta\Hy@level\relax
13940       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13941       \advance\@tempcnta by -1 %
13942       \edef\Hy@tempa{#3}%
```



```

13943 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13944 \ifx\Hy@tempa\Hy@tempb
13945 \Hy@Warning{%
13946 The anchor of a bookmark and its parent's must not%
13947 \MessageBreak be the same. Added a new anchor%
13948 }%
13949 \phantomsection
13950 \fi
13951 \ifHy@bookmarksnumbered
13952 \let\numberline\Hy@numberline
13953 \let\booknumberline\Hy@numberline
13954 \let\partnumberline\Hy@numberline
13955 \let\chapternumberline\Hy@numberline
13956 \else
13957 \let\numberline\@gobble
13958 \let\booknumberline\@gobble
13959 \let\partnumberline\@gobble
13960 \let\chapternumberline\@gobble
13961 \fi
13962 \HyPsd@XeTeXBigCharstrue
13963 \pdfstringdef\Hy@tempa{#2}%
13964 \HyPsd@SanitizeForOutFile\Hy@tempa
13965 \if@filesw
13966 \stepcounter{bookmark@seq@number}%
13967 \@ifundefined{@outlinefile}{%
13968 }{%
13969 \protected@write\@outlinefile{}{%
13970 \protect\BOOKMARK
13971 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13972 {\Hy@tempa}{\Hy@tempb}%
13973 \@percentchar\space\thebookmark@seq@number
13974 }%
13975 }%
13976 \fi
13977 \fi
13978 \endgroup
13979 }
13980 \newcounter{bookmark@seq@number}

13981 \begingroup
13982 \lccode'('= '{%
13983 \lccode')='}%
13984 \lccode'1=\z@
13985 \lccode'2=\z@
13986 \lccode'3=\z@
13987 \lccode'5=\z@
13988 \lccode'7=\z@
13989 \lccode'\#=\z@
13990 \lccode'\='=\z@
13991 \lccode'\{=\z@
13992 \lccode'\}=\z@
13993 \lowercase{%
13994 \endgroup
13995 \def\HyPsd@SanitizeForOutFile#1{%
13996 \@onelevel@sanitize\Hy@tempa
13997 \escapechar'\%
13998 \edef\Hy@tempa{%
13999 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil

```

```

14000 }%
14001 \edef\Hy@tempa{%
14002   \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14003 }%
14004 }%
14005 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14006   #1%
14007   \ifx\#2\%
14008     \expandafter\ltx@gobble
14009   \else
14010     \expandafter\ltx@firstofone
14011   \fi
14012   {%
14013     \string\173%
14014     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14015   }%
14016 }%
14017 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14018   #1%
14019   \ifx\#2\%
14020     \expandafter\ltx@gobble
14021   \else
14022     \expandafter\ltx@firstofone
14023   \fi
14024   {%
14025     \string\175%
14026     \HyPsd@SanitizeOut@BraceRight#2\@nil
14027   }%
14028 }%
14029 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14030 \newcommand{\currentpdfbookmark}{%
14031   \pdfbookmark[\Hy@currentbookmarklevel]%
14032 }
14033 \newcommand{\subpdfbookmark}{%
14034   \@tempcnta\Hy@currentbookmarklevel
14035   \Hy@StepCount\@tempcnta
14036   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14037 }
14038 \newcommand{\belowpdfbookmark}[2]{%
14039   \@tempcnta\Hy@currentbookmarklevel
14040   \Hy@StepCount\@tempcnta
14041   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14042   \advance\@tempcnta by -1 %
14043   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14044 }

```

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.

```

14045 \renewcommand\pdfbookmark[3][0]{%
14046   \Hy@writebookmark[{#2}]{#3.#1}{#1}{toc}%
14047   \hyper@anchorstart{#3.#1}\hyper@anchorend
14048 }
14049 \def\BOOKMARK{%
14050   \ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%

```

```

14051 }
14052 \def\@BOOKMARK[#1]{%
14053   \ifnextchar[{\@BOOKMARK[{#1}]}{\@BOOKMARK[{#1}][-]}%
14054 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo.pdf macros.

48.1.1 Rerun warning

\Hy@OutlineRerunCheck

```

14055 \RequirePackage{rerunfilecheck}[2009/12/10]
14056 \def\Hy@OutlineRerunCheck{%
14057   \RerunFileCheck{\jobname.out}{%
14058     \immediate\closeout\@outlinefile
14059   }{%
14060     Rerun to get outlines right\MessageBreak
14061     or use package 'bookmark'%
14062   }%
14063 }

```

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 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.

```

14064 (*vtex)
14065 \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.

```

14066 \begingroup
14067   \catcode'\='=12 %
14068   \ifnum\Hy@VTeXversion<650 %
14069     \catcode'\="=12 %
14070     \gdef\hv@pdf@char#1#2#3{%
14071       \char
14072       \ifcase'#1#2#3 %
14073         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14074         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14075         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14076         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14077         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14078         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14079         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14080         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14081         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14082         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14083         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14084         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14085         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14086         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14087         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14088         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14089         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14090         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%

```

```

14091 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14092 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14093 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14094 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14095 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14096 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14097 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14098 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14099 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14100 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14101 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14102 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14103 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14104 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14105 \fi
14106 }%
14107 \else
14108 \gdef\hv@pdf@char{\char'}%
14109 \fi
14110 \endgroup

```

\@@BOOKMARK

```

14111 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14112 \expandafter\edef\csname @count@#3\endcsname{%
14113 \the\@serial@counter
14114 }%
14115 \edef\@mycount{\the\@serial@counter}%
14116 \Hy@StepCount\@serial@counter
14117 \edef\@parcount{%
14118 \expandafter\ifx\csname @count@#5\endcsname\relax
14119 0%
14120 \else
14121 \csname @count@#5\endcsname
14122 \fi
14123 }%
14124 \immediate\special{%
14125 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14126 s=\ifx#2-c\else o\fi,t=#4%
14127 }%
14128 }%

```

\ReadBookmarks

```

14129 \def\ReadBookmarks{%
14130 \begingroup
14131 \def\0{\hv@pdf@char 0}%
14132 \def\1{\hv@pdf@char 1}%
14133 \def\2{\hv@pdf@char 2}%
14134 \def\3{\hv@pdf@char 3}%
14135 \def\{({}%
14136 \def\)}{)%
14137 \def\do##1{%
14138 \ifnum\catcode'##1=\active
14139 \@makeother##1%
14140 \else
14141 \ifnum\catcode'##1=6 %
14142 \@makeother##1%
14143 \fi

```

```

14144 \fi
14145 }%
14146 \dospecials
14147 \Hy@safe@activetrue
14148 \InputIfFileExists{\jobname.out}{-}{-}%
14149 \endgroup
14150 \ifx\WriteBookmarks\relax
14151 \else
14152 \if@filesw
14153 \newwrite\@outlinefile
14154 \Hy@OutlineRerunCheck
14155 \immediate\openout\@outlinefile=\jobname.out\relax
14156 \ifHy@typexml
14157 \immediate\write\@outlinefile{<relaxxml>\relax}%
14158 \fi
14159 \fi
14160 \fi
14161 }

14162 </vtex>
14163 <!*vtex>
14164 \def\ReadBookmarks{%
14165 \pdf@ifdraftmode{-}{-}%
14166 \begingroup
14167 \def\do##1{%
14168 \ifnum\catcode'##1=\active
14169 \@makeother##1%
14170 \else
14171 \ifnum\catcode'##1=6 %
14172 \@makeother##1%
14173 \fi
14174 \fi
14175 }%
14176 \dospecials
14177 \Hy@safe@activetrue
14178 \escapechar='\'%
14179 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14180 \calc@bm@number{##5}%
14181 }%
14182 \InputIfFileExists{\jobname.out}{-}{-}%
14183 \ifx\WriteBookmarks\relax
14184 \global\let\WriteBookmarks\relax
14185 \fi
14186 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14187 \def\Hy@temp{##4}%
14188 <*pdftex>
14189 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14190 \Hy@OutlineName{\Hy@pstringName{
14191 ##2\check@bm@number{##3}}%
14192 }{-}%
14193 \expandafter\strip@prefix\meaning\Hy@temp
14194 }%
14195 </pdftex>
14196 <*pdfmark>
14197 \pdfmark{%
14198 pdfmark=/OUT,%
14199 Count={##2\check@bm@number{##3}},%
14200 Dest={##3},%

```

```

14201         Title=\expandafter\strip@prefix\meaning\Hy@temp
14202     }%
14203 \
```

pdfmark

```

14204 {*dvipdfm | xetex}
14205     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{###3}}%
14206     \@pdfm@mark{%
14207         outline \ifHy@DvipdfmxOutlineOpen
14208             [%
14209                 \ifnum##21>\z@
14210                 \else
14211                 -%
14212                 \fi
14213             ] %
14214         \fi
14215         ##1<<%
14216         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14217         /A<<%
14218         /S/GoTo%
14219         /D(\Hy@pstringName)%
14220         >>%
14221         >>%
14222     }%
14223 \
```

dvipdfm | xetex

```

14224 }%
14225 \begingroup
14226     \def\WriteBookmarks{0}%
14227     \InputIfFileExists{\jobname.out}{-}{-}%
14228 \endgroup
14229 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14230 \endgroup
14231 }%
14232 \ifx\WriteBookmarks\relax
14233 \else
14234     \if@filesw
14235         \newwrite\@outlinefile
14236         \Hy@OutlineRerunCheck
14237         \immediate\openout\@outlinefile=\jobname.out\relax
14238         \ifHy@typexml
14239             \immediate\write\@outlinefile{<relaxxml>\relax}%
14240         \fi
14241     \fi
14242 \fi
14243 }
14244 {*pdftex}
14245 \def\Hy@OutlineName#1#2#3#4{%
14246     \pdfoutline goto name{#2}count#3{#4}%
14247 }
14248 \
```

pdftex

```

14249 \def\check@bm@number#1{%
14250     \expandafter\ifx\csname B_#1\endcsname\relax
14251         0%
14252     \else
14253         \csname B_#1\endcsname
14254     \fi
14255 }
14256 \def\calc@bm@number#1{%
14257     \@tempcnta=\check@bm@number{#1}\relax

```

```

14258 \advance\@tempcnta by 1 %
14259 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14260 }
14261 </!vtex>

14262 \ifHy@implicit
14263 \else
14264 \expandafter\endinput
14265 \fi

14266 </outlines>
14267 <*outlines | hypertex>

14268 \newlength\Hy@SectionHShift
14269 \def\Hy@SectionAnchorHref#1{%
14270 \ifx\protect\@typeset@protect
14271 \Hy@@@SectionAnchor{#1}%
14272 \fi
14273 }
14274 \DeclareRobustCommand*\Hy@@@SectionAnchor}[1]{%
14275 \leavevmode
14276 \hbox to 0pt{%
14277 \kern-\Hy@SectionHShift
14278 \Hy@raisedlink{%
14279 \hyper@anchorstart{#1}\hyper@anchorend
14280 }%
14281 \hss
14282 }%
14283 }
14284 \let\H@old@ssect\@ssect
14285 \def\@ssect#1#2#3#4#5{%
14286 \Hy@MakeCurrentHrefAuto{section*}%
14287 \setlength{\Hy@SectionHShift}{#1}%
14288 \begingroup
14289 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14290 \toks\tw@\expandafter{%
14291 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14292 #5%
14293 }%
14294 \edef\x{\endgroup
14295 \the\toks@{\the\toks\tw@}}%
14296 }\x
14297 }
14298 \let\H@old@schapter\@schapter
14299 \def\@schapter#1{%
14300 \begingroup
14301 \let\@mkboth\@gobbletwo
14302 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14303 \Hy@raisedlink{%
14304 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14305 }%
14306 \endgroup
14307 \H@old@schapter{#1}%
14308 }

```

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:

```

14309 \ltx@ifundefined{@chapter}{-}{%

```

```

14310 \let\Hy@org@chapter\@chapter
14311 \def\@chapter{%
14312   \def\Hy@next{%
14313     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14314     \Hy@raisedlink{%
14315       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14316     }%
14317   }%
14318   \ifnum\c@secnumdepth>\m@ne
14319     \ltx@ifundefined{if@mainmatter}%
14320     \iftrue{\csname if@mainmatter\endcsname}%
14321     \let\Hy@next\relax
14322   \fi
14323   \fi
14324   \Hy@next
14325   \Hy@org@chapter
14326 }%
14327 }

14328 \let\H@old@part\@part
14329 \begingroup\expandafter\expandafter\expandafter\endgroup
14330 \expandafter\ifx\csname chapter\endcsname\relax
14331   \let\Hy@secnum@part\z@
14332 \else
14333   \let\Hy@secnum@part\m@ne
14334 \fi
14335 \def\@part{%
14336   \ifnum\Hy@secnum@part>\c@secnumdepth
14337     \phantomsection
14338   \fi
14339   \H@old@part
14340 }

14341 \let\H@old@spart\@spart
14342 \def\@spart#1{%
14343   \Hy@MakeCurrentHrefAuto{part*}%
14344   \Hy@raisedlink{%
14345     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14346   }%
14347   \H@old@spart{#1}%
14348 }

14349 \let\H@old@sect\@sect
14350 \def\@sect#1#2#3#4#5#6[#7]#8{%
14351   \ifnum #2>\c@secnumdepth
14352     \expandafter\@firstoftwo
14353   \else
14354     \expandafter\@secondoftwo
14355   \fi
14356   {%
14357     \Hy@MakeCurrentHrefAuto{section*}%
14358     \setlength{\Hy@SectionHShift}{#3}%
14359     \begingroup
14360       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14361       \toks\tw@\expandafter{%
14362         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14363         #8%
14364       }%
14365     \edef\x{\endgroup
14366       \the\toks@{\the\toks\tw@}}%

```



```

14367 } \x
14368 } { %
14369 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14370 } %
14371 }

14372 </outlines | hypertex>
14373 <*outlines>

14374 \expandafter\def\csname Parent-4\endcsname{}
14375 \expandafter\def\csname Parent-3\endcsname{}
14376 \expandafter\def\csname Parent-2\endcsname{}
14377 \expandafter\def\csname Parent-1\endcsname{}
14378 \expandafter\def\csname Parent0\endcsname{}
14379 \expandafter\def\csname Parent1\endcsname{}
14380 \expandafter\def\csname Parent2\endcsname{}
14381 \expandafter\def\csname Parent3\endcsname{}
14382 \expandafter\def\csname Parent4\endcsname{}

14383 </outlines>

```

49 Compatibility with koma-script classes

```

14384 <*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.

```

14385 \def\Hy@tempa{%
14386 \def\@addchap{##1}##2{%
14387 \typeout{##2}%
14388 \if@twoside
14389 \@mkboth{##1}{}%
14390 \else
14391 \@mkboth{}{##1}%
14392 \fi
14393 \addtocontents{lof}{\protect\addvspace{10\p@}}%
14394 \addtocontents{lot}{\protect\addvspace{10\p@}}%
14395 \Hy@MakeCurrentHrefAuto{\Hy@chapapp}%
14396 \Hy@raisedlink{%
14397 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14398 }%
14399 \if@twocolumn
14400 \@topnewpage[\@makeschapterhead{##2}]%
14401 \else
14402 \@makeschapterhead{##2}%
14403 \@afterheading
14404 \fi
14405 \addcontentsline{toc}{chapter}{##1}%
14406 }%
14407 }

14408 \ifclassloaded{scrbook}{%
14409 \ifclasslater{scrbook}{2001/01/01}{%
14410 \let\Hy@tempa\@empty
14411 }{}%
14412 }{%
14413 \ifclassloaded{scrreprt}{%

```

```

14414 \ifclasslater{scrreprt}{2001/01/01}{%
14415 \let\Hy@tempa\@empty
14416 }{}%
14417 }{}%
14418 \let\Hy@tempa\@empty
14419 }%
14420 }%
14421 \Hy@tempa
14422 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

14423 <*pd1enc>
14424 \DeclareFontEncoding{PD1}{}{}

Accents
14425 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14426 \DeclareTextAccent{\'}{PD1}{\textacute}
14427 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14428 \DeclareTextAccent{\~}{PD1}{\texttilde}
14429 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14430 \DeclareTextAccent{\r}{PD1}{\textring}
14431 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14432 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14433 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14434 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14435 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14436 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14437 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14438 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14439 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14440 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14441 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14442 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14443 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14444 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14445 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14446 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14447 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14448 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14449 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14450 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14451 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14452 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14453 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14454 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14455 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14456 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14457 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14458 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14459 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14460 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14461 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}{#1}}

```

```

14462 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14463 \DeclareTextCommand{\newtie}{PD1}[1]{%
14464 \TextSymbolUnavailable{\newtie{#1}}#1%
14465 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14466 % U+0009 (CHARACTER TABULATION)
14467 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14468 % U+000A (LINE FEED)
14469 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14470 % U+000D (CARRIAGE RETURN)
14471 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14472 % U+02D8 BREVE; breve
14473 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14474 % U+02C7 CARON; caron
14475 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14476 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14477 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14478 % U+02D9 DOT ABOVE; dotaccent
14479 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14480 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14481 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14482 % U+02DB OGONEK; ogonek
14483 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14484 % U+02DA RING ABOVE; ring
14485 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14486 % U+02DC SMALL TILDE; ilde, *tilde
14487 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

14488 % U+0022 QUOTATION MARK; quotedbl
14489 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14490 % U+0023 NUMBER SIGN; numbersign
14491 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14492 % U+0024 DOLLAR SIGN; dollar
14493 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14494 % U+0025 PERCENT SIGN; percent
14495 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14496 % U+0026 AMPERSAND; ampersand
14497 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

```

14498 % U+0028 LEFT PARENTHESIS; parenleft
14499 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14500 % U+0029 RIGHT PARENTHESIS; parenright
14501 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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

```

14502 % U+002E FULL STOP; period
14503 \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

14504 % U+003C LESS-THAN SIGN; less

14505 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal

14506 % U+003E GREATER-THAN SIGN; greater

14507 \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

14508 % U+005C REVERSE SOLIDUS; backslash

14509 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C

\135: U+005D RIGHT SQUARE BRACKET; bracketright

14510 % U+005E CIRCUMFLEX ACCENT; asciicircum

14511 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E

14512 % U+005F LOW LINE; underscore

14513 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F

14514 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F

14515 % U+0060 GRAVE ACCENT; grave

14516 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

\141: U+0061 LATIN SMALL LETTER A; a

...

\150: U+0068 LATIN SMALL LETTER H; h

14517 % U+0069 LATIN SMALL LETTER I; i

14518 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069

\152: U+006A LATIN SMALL LETTER J; j

...

\172: U+007A LATIN SMALL LETTER Z; z

14519 % U+007B LEFT CURLY BRACKET; braceleft

14520 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B

14521 % U+007C VERTICAL LINE; *bar, verticalbar

14522 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C

14523 % U+007D RIGHT CURLY BRACKET; braceright

14524 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D

14525 % U+007E TILDE; asciitilde

14526 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E

Slot \177 (0x7F) is undefined in PDFDocEncoding.

14527 % U+2022 BULLET; bullet

14528 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022

14529 % U+2020 DAGGER; dagger

14530 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020

14531 % U+2021 DOUBLE DAGGER; daggerdbl

14532 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021

14533 % U+2026 HORIZONTAL ELLIPSIS; ellipsis

14534 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026

14535 % U+2014 EM DASH; emdash

14536 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014

14537 % U+2013 EN DASH; endash

14538 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013

14539 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14540 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14541 % U+2044 FRACTION SLASH; fraction
 14542 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14543 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14544 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14545 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 ingright
 14546 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14547 % U+2212 MINUS SIGN; minus
 14548 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14549 % U+2030 PER MILLE SIGN; perthousand
 14550 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14551 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14552 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14553 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14554 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14555 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14556 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14557 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14558 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14559 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14560 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14561 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14562 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14563 % U+2122 TRADE MARK SIGN; trademark
 14564 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14565 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14566 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 14567 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14568 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 14569 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14570 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 14571 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14572 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 14573 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 14574 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 14575 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14576 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 14577 \DeclareTextCommand{\IJ}{PD1}{\230}
 14578 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14579 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 14580 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 14581 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 14582 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14583 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 14584 % U+0153 LATIN SMALL LIGATURE OE; oe
 14585 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 14586 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 14587 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 14588 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14589 \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.
 14590 % U+20AC EURO SIGN; *Euro, euro
 14591 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC

14592 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14593 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14594 % U+00A2 CENT SIGN; cent
 14595 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14596 % U+00A3 POUND SIGN; sterling
 14597 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14598 % U+00A4 CURRENCY SIGN; currency
 14599 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14600 % U+00A5 YEN SIGN; yen
 14601 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14602 % U+00A6 BROKEN BAR; brokenbar
 14603 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14604 % U+00A7 SECTION SIGN; section
 14605 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14606 % U+00A8 DIAERESIS; dieresis
 14607 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14608 % U+00A9 COPYRIGHT SIGN; copyright
 14609 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14610 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14611 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14612 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 14613 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14614 % U+00AC NOT SIGN; logicalnot
 14615 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14616 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14617 % U+00AE REGISTERED SIGN; registered
 14618 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14619 % U+00AF MACRON; *macron, overscore
 14620 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 14621 % U+00B0 DEGREE SIGN; degree
 14622 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 14623 % U+00B1 PLUS-MINUS SIGN; plusminus
 14624 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 14625 % U+00B2 SUPERSCRIFT TWO; twosuperior
 14626 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 14627 % U+00B3 SUPERSCRIFT THREE; threesuperior
 14628 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 14629 % U+00B4 ACUTE ACCENT; acute
 14630 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 14631 % U+00B5 MICRO SIGN; mu, mu1
 14632 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 14633 % U+00B6 PILCROW SIGN; paragraph
 14634 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 14635 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14636 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 14637 % U+00B8 CEDILLA; cedilla
 14638 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 14639 % U+00B9 SUPERSCRIFT ONE; onesuperior
 14640 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 14641 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 14642 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 14643 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 14644 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 14645 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter

14646 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14647 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14648 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14649 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14650 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14651 % U+00BF INVERTED QUESTION MARK; questiondown
14652 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14653 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14654 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14655 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14656 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14657 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14658 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14659 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14660 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14661 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14662 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14663 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14664 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14665 % U+00C6 LATIN CAPITAL LETTER AE; AE
14666 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14667 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14668 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14669 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14670 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14671 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14672 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14673 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14674 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14675 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14676 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14677 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14678 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14679 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14680 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14681 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14682 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14683 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14684 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14685 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14686 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14687 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14688 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14689 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14690 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14691 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14692 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14693 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14694 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14695 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14696 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14697 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14698 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14699 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14700 % U+00D7 MULTIPLICATION SIGN; multiply
14701 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14702 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash

14703 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14704 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14705 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9
14706 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14707 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14708 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14709 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14710 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14711 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14712 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14713 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14714 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14715 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14716 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14717 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14718 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14719 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0
14720 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14721 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14722 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14723 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14724 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14725 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14726 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14727 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14728 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14729 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14730 % U+00E6 LATIN SMALL LETTER AE; ae
14731 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14732 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14733 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14734 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14735 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8
14736 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14737 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14738 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14739 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14740 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14741 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14742 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14743 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14744 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14745 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14746 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14747 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14748 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14749 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14750 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14751 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14752 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14753 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14754 % U+00F0 LATIN SMALL LETTER ETH; eth
14755 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14756 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14757 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14758 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14759 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2

14760 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14761 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14762 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14763 \DeclareTextCompositeCommand{\~}{PD1}{o}{\364}% U+00F4
14764 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14765 \DeclareTextCompositeCommand{\-}{PD1}{o}{\365}% U+00F5
14766 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14767 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14768 % U+00F7 DIVISION SIGN; divide
14769 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14770 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14771 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14772 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14773 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
14774 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14775 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14776 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14777 \DeclareTextCompositeCommand{\~}{PD1}{u}{\373}% U+00FB
14778 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14779 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
14780 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14781 \DeclareTextCompositeCommand{\`}{PD1}{y}{\375}% U+00FD
14782 % U+00FE LATIN SMALL LETTER THORN; thorn
14783 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14784 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14785 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
14786 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14787 \DeclareTextCommand{\SS}{PD1}{SS}
14788 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

14789 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14790 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14791 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14792 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14793 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14794 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14795 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14796 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

14797 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14798 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14799 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14800 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14801 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14802 \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).

14803 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14804 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
14805 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14806 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
14807 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
14808 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
14809 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot

```

14810 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14811 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
14812 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14813 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
14814 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
14815 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
14816 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
14817 </pd1enc>

```

50.2 PU encoding

```

14818 <*puenc>
14819 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

14820 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14821 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
14822 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14823 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
14824 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14825 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
14826 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14827 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14828 % U+0304 COMBINING MACRON; macroncmb
14829 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14830 % U+0306 COMBINING BREVE; brevecmb
14831 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14832 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14833 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14834 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14835 % U+0308 COMBINING DIAERESIS; dieresiscmb
14836 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14837 % U+030A COMBINING RING ABOVE; ringcmb
14838 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14839 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14840 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14841 % U+030C COMBINING CARON; caroncmb
14842 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14843 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14844 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14845 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14846 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14847 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14848 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
14849 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14850 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14851 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14852 % U+0327 COMBINING CEDILLA; cedillacmb
14853 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14854 % U+0328 COMBINING OGONEK; ogonekcmb
14855 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14856 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14857 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14858 % U+20DD COMBINING ENCLOSING CIRCLE
14859 \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.

```

14860 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
14861 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14862 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
14863 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
14864 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14865 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14866 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14867 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14868 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14869 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14870 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14871 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14872 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14873 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14874 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14875 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14876 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14877 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14878 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

14879 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
14880 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14881 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14882 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
14883 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14884 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14885 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14886 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14887 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14888 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14889 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14890 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14891 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14892 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14893 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14894 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14895 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14896 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14897 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14898 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14899 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14900 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14901 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14902 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\~{#1}}
14903 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14904 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
14905 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14906 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14907 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14908 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14909 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14910 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14911 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14912 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```
14913 % U+0009 (CHARACTER TABULATION)
14914 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14915 % U+000A (LINE FEED)
14916 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14917 % U+000D (CARRIAGE RETURN)
14918 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
14919 % U+0022 QUOTATION MARK; quotedbl
14920 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14921 % U+0023 NUMBER SIGN; numbersign
14922 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14923 % U+0024 DOLLAR SIGN; dollar
14924 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14925 % U+0025 PERCENT SIGN; percent
14926 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14927 % U+0026 AMPERSAND; ampersand
14928 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14929 % U+0027 APOSTROPHE; quotesingle
14930 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14931 % U+0028 LEFT PARENTHESIS; parenleft
14932 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14933 % U+0029 RIGHT PARENTHESIS; parenright
14934 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14935 % U+002A ASTERISK; asterisk
14936 \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
14937 % U+003C LESS-THAN SIGN; less
14938 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
14939 % U+003E GREATER-THAN SIGN; greater
14940 \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
14941 % U+005C REVERSE SOLIDUS; backslash
14942 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
```

14943 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14944 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14945 % U+005F LOW LINE; underscore
 14946 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14947 % U+0060 GRAVE ACCENT; grave
 14948 \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
 14949 % U+0069 LATIN SMALL LETTER I; i
 14950 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 14951 \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
 14952 % U+007B LEFT CURLY BRACKET; braceleft
 14953 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14954 % U+007C VERTICAL LINE; *bar, verticalbar
 14955 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14956 % U+007D RIGHT CURLY BRACKET; braceright
 14957 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14958 % U+007E TILDE; asciitilde
 14959 \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
 14960 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14961 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14962 % U+00A2 CENT SIGN; cent
 14963 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14964 % U+00A3 POUND SIGN; sterling
 14965 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14966 % U+00A4 CURRENCY SIGN; currency
 14967 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14968 % U+00A5 YEN SIGN; yen
 14969 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14970 % U+00A6 BROKEN BAR; brokenbar
 14971 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14972 % U+00A7 SECTION SIGN; section
 14973 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14974 % U+00A8 DIAERESIS; dieresis
 14975 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14976 % U+00A9 COPYRIGHT SIGN; copyright
 14977 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14978 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14979 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14980 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14981 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14982 % U+00AC NOT SIGN; logicalnot
 14983 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14984 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14985 % U+00AE REGISTERED SIGN; registered

14986 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
14987 % U+00AF MACRON; *macron, overscore
14988 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
14989 % U+00B0 DEGREE SIGN; degree
14990 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
14991 % U+00B1 PLUS-MINUS SIGN; plusminus
14992 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
14993 % U+00B2 SUPERSCRIPT TWO; twosuperior
14994 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
14995 % U+00B3 SUPERSCRIPT THREE; threesuperior
14996 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
14997 % U+00B4 ACUTE ACCENT; acute
14998 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14999 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15000 % U+00B5 MICRO SIGN; mu, mu1
15001 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15002 % U+00B6 PILCROW SIGN; paragraph
15003 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15004 % U+00B7 MIDDLE DOT; middot, *periodcentered
15005 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15006 % U+00B8 CEDILLA; cedilla
15007 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15008 % U+00B9 SUPERSCRIPT ONE; onesuperior
15009 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
15010 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15011 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15012 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
15013 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15014 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15015 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15016 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15017 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15018 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15019 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15020 % U+00BF INVERTED QUESTION MARK; questiondown
15021 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15022 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15023 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15024 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15025 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15026 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15027 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15028 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15029 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15030 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15031 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4
15032 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15033 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15034 % U+00C6 LATIN CAPITAL LETTER AE; AE
15035 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15036 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15037 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15038 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15039 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15040 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15041 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9

15042 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 15043 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
 15044 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 15045 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
 15046 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 15047 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
 15048 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 15049 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 15050 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 15051 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
 15052 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 15053 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
 15054 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
 15055 \DeclareTextCompositeCommand{\DH}{PU}{\80\320}% U+00D0
 15056 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
 15057 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
 15058 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
 15059 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
 15060 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
 15061 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
 15062 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
 15063 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
 15064 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
 15065 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
 15066 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
 15067 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
 15068 % U+00D7 MULTIPLICATION SIGN; multiply
 15069 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
 15070 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
 15071 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
 15072 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
 15073 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
 15074 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
 15075 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
 15076 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
 15077 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
 15078 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
 15079 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
 15080 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
 15081 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
 15082 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
 15083 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
 15084 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
 15085 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
 15086 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
 15087 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
 15088 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
 15089 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
 15090 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
 15091 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
 15092 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
 15093 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
 15094 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
 15095 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
 15096 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
 15097 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
 15098 % U+00E6 LATIN SMALL LETTER AE; ae

15099 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15100 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15101 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15102 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15103 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15104 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15105 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15106 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15107 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15108 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15109 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15110 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15111 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15112 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15113 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15114 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\355}% U+00ED
15115 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15116 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15117 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15118 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15119 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15120 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15121 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15122 % U+00F0 LATIN SMALL LETTER ETH; eth
15123 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15124 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15125 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
15126 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15127 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
15128 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15129 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
15130 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15131 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
15132 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15133 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
15134 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15135 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
15136 % U+00F7 DIVISION SIGN; divide
15137 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15138 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15139 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15140 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15141 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
15142 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15143 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
15144 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15145 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
15146 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15147 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
15148 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15149 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
15150 % U+00FE LATIN SMALL LETTER THORN; thorn
15151 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
15152 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15153 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15154 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
15155 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
15156 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
15157 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
15158 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
15159 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
15160 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
15161 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
15162 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
15163 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
15164 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
15165 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15166 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15167 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15168 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15169 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
15170 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15171 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15172 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15173 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15174 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
15175 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15176 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15177 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15178 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15179 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15180 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15181 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15182 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15183 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15184 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15185 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15186 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15187 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15188 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15189 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15190 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15191 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15192 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15193 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15194 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15195 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15196 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15197 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15198 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15199 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15200 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15201 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15202 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15203 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15204 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15205 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15206 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15207 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15208 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15209 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B

15210 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
 15211 \DeclareTextCompositeCommand{\~}{PU}{G}{\81\034}% U+011C
 15212 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
 15213 \DeclareTextCompositeCommand{\~}{PU}{g}{\81\035}% U+011D
 15214 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
 15215 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
 15216 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
 15217 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
 15218 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
 15219 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
 15220 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
 15221 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
 15222 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
 cent
 15223 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15224 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15225 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15226 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15227 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
 15228 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
 15229 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
 15230 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
 15231 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
 15232 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
 15233 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
 15234 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
 15235 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
 15236 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
 15237 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15238 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15239 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
 15240 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
 15241 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
 15242 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15243 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15244 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 15245 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 15246 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 15247 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15248 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15249 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 15250 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 15251 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 15252 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15253 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15254 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 15255 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 15256 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 15257 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 15258 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 15259 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 15260 % U+0133 LATIN SMALL LIGATURE IJ; ij
 15261 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 15262 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 15263 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 15264 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 15265 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

15266 \DeclareTextCompositeCommand{\~}{PU}{j}{\81\065}% U+0135
 15267 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 15268 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15269 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15270 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be \textkgreenlandic, following the glyph naming convention. However latex/base/inputenc.dtx has choosen \textkra.

15271 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 15272 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 15273 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 15274 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 15275 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 15276 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 15277 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
 15278 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 15279 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 15280 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 15281 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 15282 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 15283 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 15284 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters 'L' and 'l' with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.

15285 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
 15286 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 15287 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 15288 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 15289 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 15290 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 15291 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 15292 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 15293 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 15294 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 15295 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 15296 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 15297 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
 15298 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 15299 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 15300 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 15301 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 15302 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 15303 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 15304 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 15305 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
 15306 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 15307 % U+014A LATIN CAPITAL LETTER ENG; Eng
 15308 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 15309 % U+014B LATIN SMALL LETTER ENG; eng
 15310 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 15311 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 15312 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C

15313 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 15314 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
 15315 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 15316 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 15317 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 15318 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 15319 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
 15320 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 15321 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
 15322 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 15323 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 15324 \DeclareTextCompositeCommand{\OE}{PU}{\81\122}% U+0152
 15325 % U+0153 LATIN SMALL LIGATURE OE; oe
 15326 \DeclareTextCompositeCommand{\oe}{PU}{\81\123}% U+0153
 15327 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 15328 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 15329 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 15330 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 15331 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
 15332 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 15333 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 15334 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 15335 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 15336 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 15337 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 15338 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 15339 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 15340 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 15341 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 15342 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
 15343 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
 15344 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
 15345 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
 15346 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
 15347 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
 15348 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
 15349 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
 15350 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
 15351 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 15352 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
 15353 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 15354 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
 15355 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
 15356 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
 15357 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
 15358 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
 15359 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
 15360 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
 15361 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
 15362 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
 15363 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
 15364 \DeclareTextCompositeCommand{\textTslash}{PU}{\81\146}% U+0166
 15365 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar

15366 \DeclareTextCommand{\textslash}{PU}{\81\147}% U+0167
 15367 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 15368 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 15369 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 15370 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 15371 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 15372 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 15373 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 15374 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 15375 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 15376 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 15377 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 15378 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 15379 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15380 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15381 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15382 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 15383 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 15384 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15385 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 15386 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 15387 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15388 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15389 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15390 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15391 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15392 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15393 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15394 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15395 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15396 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15397 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15398 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15399 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15400 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15401 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15402 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15403 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15404 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15405 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15406 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15407 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15408 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15409 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15410 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15411 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15412 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15413 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15414 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15415 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15416 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15417 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15418 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD

15419 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
15420 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
15421 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
15422 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
15423 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
15424 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15425 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15426 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15427 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15428 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15429 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15430 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15431 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15432 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15433 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15434 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15435 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15436 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15437 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15438 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15439 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15440 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15441 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15442 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15443 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15444 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15445 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15446 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15447 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15448 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15449 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15450 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15451 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15452 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15453 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15454 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15455 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15456 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15457 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15458 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15459 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15460 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
15461 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15462 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15463 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15464 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15465 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslash-
acute, Ostrokeacut
15466 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15467 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslash-
acute, ostrokeacute
15468 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15469 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15470 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15471 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15472 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15473 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave

15474 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 15475 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 15476 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 15477 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 15478 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 15479 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 15480 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15481 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15482 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 15483 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 15484 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 15485 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 15486 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 15487 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15488 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15489 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15490 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15491 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15492 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15493 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15494 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15495 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15496 % U+021F LATIN SMALL LETTER H WITH CARON
 15497 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15498 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15499 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15500 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15501 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15502 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15503 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15504 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15505 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15506 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15507 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15508 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15509 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15510 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15511 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15512 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15513 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15514 % U+0237 LATIN SMALL LETTER DOTLESS J
 15515 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15516 % U+02C7 CARON; caron
 15517 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15518 % U+02D8 BREVE; breve
 15519 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15520 % U+02D9 DOT ABOVE; dotaccent
 15521 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15522 % U+02DA RING ABOVE; ring
 15523 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15524 % U+02DB OGONEK; ogonek
 15525 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15526 % U+02DC SMALL TILDE; ilde, *tilde
 15527 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15528 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

15529 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15530 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15531 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15532 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15533 % U+02F7 MODIFIER LETTER LOW TILDE
 15534 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15535 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15536 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15537 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15538 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15539 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15540 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15541 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15542 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15543 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15544 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15545 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15546 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15547 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15548 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15549 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 15550 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15551 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15552 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15553 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15554 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15555 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15556 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 15557 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
 cronos
 15558 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 15559 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos
 15560 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 15561 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15562 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 15563 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
 tadiesistonos
 15564 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
 15565 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15566 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15567 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15568 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15569 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15570 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15571 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15572 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15573 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15574 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15575 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15576 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15577 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15578 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15579 % U+0398 GREEK CAPITAL LETTER THETA; Theta

15580 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15581 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15582 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15583 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
15584 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15585 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15586 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15587 % U+039C GREEK CAPITAL LETTER MU; Mu
15588 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15589 % U+039D GREEK CAPITAL LETTER NU; Nu
15590 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15591 % U+039E GREEK CAPITAL LETTER XI; Xi
15592 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15593 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15594 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15595 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15596 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15597 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15598 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15599 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15600 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15601 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15602 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15603 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15604 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15605 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15606 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15607 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15608 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15609 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15610 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15611 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15612 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15613 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15614 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15615 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15616 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilon
15617 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15618 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15619 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15620 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
15621 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15622 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15623 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15624 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15625 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15626 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilon
15627 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
15628 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15629 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15630 % U+03B2 GREEK SMALL LETTER BETA; beta
15631 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15632 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15633 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15634 % U+03B4 GREEK SMALL LETTER DELTA; delta

15635 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15636 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15637 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15638 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15639 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15640 % U+03B7 GREEK SMALL LETTER ETA; eta
15641 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15642 % U+03B8 GREEK SMALL LETTER THETA; theta
15643 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15644 % U+03B9 GREEK SMALL LETTER IOTA; iota
15645 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15646 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15647 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15648 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15649 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15650 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15651 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15652 % U+03BD GREEK SMALL LETTER NU; nu
15653 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15654 % U+03BE GREEK SMALL LETTER XI; xi
15655 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15656 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15657 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15658 % U+03C0 GREEK SMALL LETTER PI; pi
15659 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15660 % U+03C1 GREEK SMALL LETTER RHO; rho
15661 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15662 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15663 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15664 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15665 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15666 % U+03C4 GREEK SMALL LETTER TAU; tau
15667 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15668 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15669 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15670 % U+03C6 GREEK SMALL LETTER PHI; phi
15671 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15672 % U+03C7 GREEK SMALL LETTER CHI; chi
15673 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15674 % U+03C8 GREEK SMALL LETTER PSI; psi
15675 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15676 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15677 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15678 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
15679 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
15680 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
15681 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
15682 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15683 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
15684 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15685 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15686 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
15687 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15688 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
15689 % U+03DA GREEK LETTER STIGMA; Stigmagreek
15690 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA

15691 % U+03DB GREEK SMALL LETTER STIGMA
 15692 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15693 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15694 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15695 % U+03DD GREEK SMALL LETTER DIGAMMA
 15696 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15697 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15698 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15699 % U+03DF GREEK SMALL LETTER KOPPA
 15700 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15701 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15702 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15703 % U+03E1 GREEK SMALL LETTER SAMPI
 15704 \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.

15705 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15706 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
 15707 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 15708 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 15709 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
 15710 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 15711 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 15712 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 15713 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
 15714 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 15715 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 15716 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 15717 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 15718 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-
 lic, *afii10055
 15719 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
 15720 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
 15721 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
 15722 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
 15723 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
 15724 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
 15725 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
 15726 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
 15727 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
 15728 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
 15729 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
 15730 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
 15731 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
 15732 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
 15733 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
 15734 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
 15735 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
 15736 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
 15737 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
 15738 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
 15739 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
 15740 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
 15741 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
 15742 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018

15743 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15744 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15745 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15746 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15747 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15748 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15749 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15750 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15751 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15752 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15753 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15754 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15755 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15756 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15757 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15758 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15759 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15760 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15761 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15762 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15763 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15764 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15765 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15766 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15767 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15768 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15769 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15770 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15771 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15772 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15773 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15774 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15775 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15776 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15777 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15778 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15779 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15780 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15781 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15782 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15783 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15784 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15785 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15786 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15787 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15788 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15789 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15790 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15791 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15792 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15793 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15794 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15795 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15796 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15797 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15798 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15799 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047

15800 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15801 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15802 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15803 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15804 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15805 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15806 \DeclareTextCommand{\cyr a}{PU}{\84\060}% U+0430
15807 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15808 \DeclareTextCommand{\cyr b}{PU}{\84\061}% U+0431
15809 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15810 \DeclareTextCommand{\cyr v}{PU}{\84\062}% U+0432
15811 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15812 \DeclareTextCommand{\cyr g}{PU}{\84\063}% U+0433
15813 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15814 \DeclareTextCommand{\cyr d}{PU}{\84\064}% U+0434
15815 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15816 \DeclareTextCommand{\cyr e}{PU}{\84\065}% U+0435
15817 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15818 \DeclareTextCommand{\cyr zh}{PU}{\84\066}% U+0436
15819 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15820 \DeclareTextCommand{\cyr z}{PU}{\84\067}% U+0437
15821 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15822 \DeclareTextCommand{\cyr i}{PU}{\84\070}% U+0438
15823 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15824 \DeclareTextCommand{\cyr ishrt}{PU}{\84\071}% U+0439
15825 \DeclareTextCompositeCommand{\U}{PU}{\cyr i}{\84\071}% U+0439
15826 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15827 \DeclareTextCommand{\cyr k}{PU}{\84\072}% U+043A
15828 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15829 \DeclareTextCommand{\cyr l}{PU}{\84\073}% U+043B
15830 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15831 \DeclareTextCommand{\cyr m}{PU}{\84\074}% U+043C
15832 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15833 \DeclareTextCommand{\cyr n}{PU}{\84\075}% U+043D
15834 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15835 \DeclareTextCommand{\cyr o}{PU}{\84\076}% U+043E
15836 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15837 \DeclareTextCommand{\cyr p}{PU}{\84\077}% U+043F
15838 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15839 \DeclareTextCommand{\cyr r}{PU}{\84\100}% U+0440
15840 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15841 \DeclareTextCommand{\cyr s}{PU}{\84\101}% U+0441
15842 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15843 \DeclareTextCommand{\cyr t}{PU}{\84\102}% U+0442
15844 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15845 \DeclareTextCommand{\cyr u}{PU}{\84\103}% U+0443
15846 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15847 \DeclareTextCommand{\cyr f}{PU}{\84\104}% U+0444
15848 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15849 \DeclareTextCommand{\cyr h}{PU}{\84\105}% U+0445
15850 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15851 \DeclareTextCommand{\cyr c}{PU}{\84\106}% U+0446
15852 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15853 \DeclareTextCommand{\cyr ch}{PU}{\84\107}% U+0447
15854 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15855 \DeclareTextCommand{\cyr sh}{PU}{\84\110}% U+0448
15856 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic

15857 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15858 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15859 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15860 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15861 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15862 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15863 \DeclareTextCommand{\cyrstfn}{PU}{\84\114}% U+044C
15864 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15865 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
15866 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15867 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E
15868 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15869 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F
15870 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15871 \DeclareTextCompositeCommand{\'}{PU}{\cyrYe}{\84\120}% U+0450
15872 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15873 \DeclareTextCommand{\cyrYo}{PU}{\84\121}% U+0451
15874 \DeclareTextCompositeCommand{\"}{PU}{\cyrYe}{\84\121}% U+0451
15875 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15876 \DeclareTextCommand{\cyrDje}{PU}{\84\122}% U+0452
15877 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15878 \DeclareTextCompositeCommand{\'}{PU}{\cyrG}{\84\123}% U+0453
15879 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
15880 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% U+0454
15881 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
15882 \DeclareTextCommand{\cyrDze}{PU}{\84\125}% U+0455
15883 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
15884 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% U+0456
15885 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
15886 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% U+0457
15887 \DeclareTextCompositeCommand{\"}{PU}{\cyrIi}{\84\127}% U+0457
15888 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15889 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% U+0458
15890 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15891 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459
15892 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15893 \DeclareTextCommand{\cyrNje}{PU}{\84\132}% U+045A
15894 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15895 \DeclareTextCommand{\cyrTshe}{PU}{\84\133}% U+045B
15896 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15897 \DeclareTextCompositeCommand{\'}{PU}{\cyrK}{\84\134}% U+045C
15898 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15899 \DeclareTextCompositeCommand{\'}{PU}{\cyrI}{\84\135}% U+045D
15900 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
15901 \DeclareTextCommand{\cyrUshrt}{PU}{\84\136}% U+045E
15902 \DeclareTextCompositeCommand{\U}{PU}{\cyrU}{\84\136}% U+045E
15903 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15904 \DeclareTextCommand{\cyrDzhe}{PU}{\84\137}% U+045F
15905 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
15906 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15907 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
15908 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15909 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
15910 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15911 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
15912 \DeclareTextCommand{\cyrYat}{PU}{\84\143}% U+0463

15913 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 15914 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 15915 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 15916 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 15917 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 15918 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 15919 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 15920 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 15921 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
 tifiedcyrillic
 15922 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 15923 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
 fiedcyrillic
 15924 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 15925 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigncyrillic
 15926 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 15927 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigncyrillic
 15928 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 15929 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbignotified-
 cyrillic
 15930 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 15931 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbignotifiedcyril-
 lic
 15932 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 15933 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 15934 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15935 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15936 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15937 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15938 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15939 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15940 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15941 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15942 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15943 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15944 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15945 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15946 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15947 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15948 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15949 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 15950 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15951 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 15952 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15953 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15954 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15955 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15956 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15957 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 15958 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15959 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15960 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15961 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic

15962 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15963 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-cyrillic
 15964 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15965 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15966 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15967 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15968 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15969 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15970 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15971 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15972 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15973 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 15974 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 15975 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15976 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15977 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15978 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15979 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15980 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15981 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15982 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15983 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15984 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15985 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15986 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15987 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, *afii10050
 15988 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15989 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 15990 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15991 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic
 15992 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15993 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15994 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15995 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 15996 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15997 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 15998 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15999 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 16000 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496

16001 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 16002 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16003 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 16004 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16005 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16006 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 16007 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
 16008 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16009 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 16010 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16011 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 16012 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 16013 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavericalstrokecyrillic
 16014 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16015 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavericalstrokecyrillic
 16016 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16017 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16018 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16019 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16020 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 16021 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16022 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16023 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16024 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16025 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 16026 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16027 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 16028 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16029 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16030 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16031 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16032 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16033 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 16034 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16035 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 16036 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16037 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 16038 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16039 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16040 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16041 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 16042 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16043 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA

16044 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-cyrillic
 16045 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16046 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
 16047 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 16048 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16049 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-cyrillic
 16050 \DeclareTextCommand{\cyrtldsc}{PU}{\84\255}% U+04AD
 16051 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16052 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16053 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16054 \DeclareTextCommand{\cyrly}{PU}{\84\257}% U+04AF
 16055 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 16056 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16057 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
 16058 \DeclareTextCommand{\cyrlyhcrs}{PU}{\84\261}% U+04B1
 16059 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
 16060 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16061 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescender-cyrillic
 16062 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 16063 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16064 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16065 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16066 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16067 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 16068 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16069 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 16070 \DeclareTextCommand{\cyrchrldsc}{PU}{\84\267}% U+04B7
 16071 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
 16072 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16073 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
 16074 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16075 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16076 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16077 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16078 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16079 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic
 16080 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16081 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 16082 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16083 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 16084 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16085 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE

16086 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 16087 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 16088 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16089 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 16090 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 16091 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 16092 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16093 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16094 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 16095 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16096 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16097 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16098 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16099 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 16100 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16101 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16102 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 16103 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16104 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16105 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16106 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16107 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
 16108 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16109 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
 16110 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16111 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16112 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16113 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16114 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16115 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 16116 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16117 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 16118 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16119 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
 16120 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
 16121 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 16122 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
 16123 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 16124 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 16125 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 16126 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 16127 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
 16128 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 16129 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
 16130 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 16131 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 16132 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 16133 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 16134 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
 16135 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic
 16136 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA

16137 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrillic
16138 \DeclareTextCompositeCommand{"}{PU}{\cyrswa}{\84\333}% U+04DB
16139 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrillic
16140 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
16141 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
cyrillic
16142 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
16143 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
cyrillic
16144 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
16145 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
16146 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
16147 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
cyrillic
16148 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16149 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
16150 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16151 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
16152 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
16153 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
16154 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
16155 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
16156 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
16157 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
16158 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
16159 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
lic
16160 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
16161 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
16162 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
16163 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarreddcyrillic
16164 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16165 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarreddcyrillic
16166 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16167 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
SIS; Obarreddieresiscyrillic
16168 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
16169 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
dieresiscyrillic
16170 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
16171 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16172 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
16173 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16174 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
16175 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16176 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
16177 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16178 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
16179 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
16180 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
16181 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
16182 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
16183 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
garumlautcyrillic
16184 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2

16185 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 16186 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 16187 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 16188 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
 16189 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 16190 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
 16191 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16192 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16193 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 16194 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16195 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 16196 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
 16197 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 16198 \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
 16199 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16200 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16201 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16202 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

16203 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 16204 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16205 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16206 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 16207 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16208 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 16209 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 16210 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 16211 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 16212 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 16213 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 16214 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 16215 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 16216 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 16217 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 16218 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 16219 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 16220 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 16221 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 16222 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 16223 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 16224 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 16225 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 16226 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E

16227 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16228 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
16229 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16230 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
16231 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16232 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
16233 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16234 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
16235 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16236 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
16237 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16238 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
16239 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
16240 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
16241 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16242 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
16243 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16244 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
16245 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16246 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
16247 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16248 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
16249 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16250 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
16251 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16252 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
16253 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16254 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
16255 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16256 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
16257 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16258 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
16259 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16260 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
16261 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16262 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
16263 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16264 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
16265 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16266 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
16267 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16268 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
16269 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16270 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
16271 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16272 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
16273 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16274 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
16275 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16276 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
16277 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16278 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
16279 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16280 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
16281 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16282 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
16283 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent

16284 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
16285 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16286 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
16287 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16288 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
16289 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16290 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
16291 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16292 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
16293 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16294 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16295 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16296 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
16297 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16298 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16299 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16300 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16301 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16302 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16303 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16304 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16305 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16306 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82
16307 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16308 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83
16309 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16310 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16311 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16312 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16313 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16314 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
16315 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16316 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
16317 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16318 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
16319 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16320 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
16321 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16322 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
16323 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16324 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
16325 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16326 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
16327 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16328 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
16329 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16330 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16331 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16332 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16333 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16334 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16335 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16336 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16337 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16338 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16339 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16340 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97

16341 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
16342 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
16343 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
16344 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
16345 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
cent
16346 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
16347 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
16348 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
16349 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
16350 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
16351 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
16352 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
16353 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
16354 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
16355 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
16356 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
16357 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
16358 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16359 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
16360 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
16361 % U+2013 EN DASH; endash
16362 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
16363 % U+2014 EM DASH; emdash
16364 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
16365 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
16366 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
16367 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
16368 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
16369 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
16370 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
16371 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
16372 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
16373 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
16374 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
16375 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
16376 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
16377 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
16378 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
16379 % U+2020 DAGGER; dagger
16380 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
16381 % U+2021 DOUBLE DAGGER; daggerdbl
16382 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
16383 % U+2022 BULLET; bullet
16384 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
16385 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
16386 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
16387 % U+2030 PER MILLE SIGN; perthousand
16388 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
16389 % U+2031 PER TEN THOUSAND SIGN
16390 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
16391 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
lingleft
16392 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039

16393 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guiltingright
16394 \DeclareTextCommand{\guiltingright}{PU}{\9040\072}% U+203A
16395 % U+203B REFERENCE MARK; referencemark
16396 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
16397 % U+203D INTERROBANG
16398 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
16399 % U+2044 FRACTION SLASH; fraction
16400 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
16401 % U+2045 LEFT SQUARE BRACKET WITH QUILL
16402 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
16403 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
16404 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
16405 % U+2052 COMMERCIAL MINUS SIGN
16406 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16407 % U+2070 SUPERSCRIPT ZERO; zerosuperior
16408 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
16409 % U+2074 SUPERSCRIPT FOUR; foursuperior
16410 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
16411 % U+2075 SUPERSCRIPT FIVE; fivesuperior
16412 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
16413 % U+2076 SUPERSCRIPT SIX; sixsuperior
16414 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
16415 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
16416 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
16417 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
16418 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
16419 % U+2079 SUPERSCRIPT NINE; ninesuperior
16420 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
16421 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
16422 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
16423 % U+207B SUPERSCRIPT MINUS
16424 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
16425 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
16426 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}
16427 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
16428 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
16429 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
16430 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
16431 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
16432 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
16433 % U+2080 SUBSCRIPT ZERO; zeroinferior
16434 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
16435 % U+2081 SUBSCRIPT ONE; oneinferior
16436 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
16437 % U+2082 SUBSCRIPT TWO; twoinferior
16438 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
16439 % U+2083 SUBSCRIPT THREE; threeinferior
16440 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
16441 % U+2084 SUBSCRIPT FOUR; fourinferior
16442 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
16443 % U+2085 SUBSCRIPT FIVE; fiveinferior
16444 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
16445 % U+2086 SUBSCRIPT SIX; sixinferior
16446 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086

16447 % U+2087 SUBSCRIPT SEVEN; seveninferior
16448 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
16449 % U+2088 SUBSCRIPT EIGHT; eightinferior
16450 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
16451 % U+2089 SUBSCRIPT NINE; nineinferior
16452 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
16453 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
16454 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
16455 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
16456 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16457 % U+20A1 COLON SIGN; *colonmonetary, colonsign
16458 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
16459 % U+20A4 LIRA SIGN; afii08941, *lira
16460 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
16461 % U+20A6 NAIRA SIGN
16462 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
16463 % U+20A7 PESETA SIGN; peseta
16464 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
16465 % U+20A9 WON SIGN; won
16466 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
16467 % U+20AB DONG SIGN; dong
16468 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
16469 % U+20AC EURO SIGN; *Euro, euro
16470 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
16471 % U+20B1 PESO SIGN
16472 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
16473 % U+20B2 GUARANI SIGN
16474 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16475 % U+2103 DEGREE CELSIUS; centigrade
16476 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
16477 % U+2116 NUMERO SIGN; *afii61352, numero
16478 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
16479 % U+2117 SOUND RECORDING COPYRIGHT
16480 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
16481 % U+211E PRESCRIPTION TAKE; prescription
16482 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
16483 % U+2120 SERVICE MARK
16484 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
16485 % U+2122 TRADE MARK SIGN; trademark
16486 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
16487 % U+2126 OHM SIGN; Ohm, Omega
16488 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
16489 % U+2127 INVERTED OHM SIGN
16490 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
16491 % U+212B ANGSTROM SIGN; angstrom
16492 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
16493 % U+212E ESTIMATED SYMBOL; estimated
16494 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
16495 % U+2135 ALEF SYMBOL; aleph
16496 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16497 % U+2190 LEFTWARDS ARROW; arrowleft

16498 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 16499 % U+2191 UPWARDS ARROW; arrowup
 16500 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16501 % U+2192 RIGHTWARDS ARROW; arrowright
 16502 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16503 % U+2193 DOWNWARDS ARROW; arrowdown
 16504 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16505 % U+2212 MINUS SIGN; minus
 16506 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16507 % U+221A SQUARE ROOT; radical
 16508 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16509 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16510 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16511 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16512 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16513 % U+2422 BLANK SYMBOL
 16514 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16515 % U+2423 OPEN BOX; blank
 16516 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16517 % U+2460 CIRCLED DIGIT ONE; onecircle
 16518 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 16519 % U+2461 CIRCLED DIGIT TWO; twocircle
 16520 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 16521 % U+2462 CIRCLED DIGIT THREE; threecircle
 16522 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 16523 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16524 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 16525 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16526 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16527 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16528 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16529 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 16530 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16531 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16532 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16533 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16534 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16535 % U+2469 CIRCLED NUMBER TEN; tencircle
 16536 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16537 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16538 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16539 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16540 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16541 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16542 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16543 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16544 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16545 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16546 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E

16547 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16548 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16549 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16550 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16551 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16552 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16553 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16554 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16555 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16556 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16557 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 16558 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 16559 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 16560 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 16561 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16562 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16563 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16564 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16565 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16566 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16567 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16568 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16569 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16570 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16571 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16572 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16573 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16574 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16575 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16576 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16577 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16578 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16579 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16580 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16581 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16582 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16583 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16584 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16585 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16586 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16587 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16588 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16589 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16590 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16591 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16592 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16593 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16594 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16595 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16596 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16597 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16598 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16599 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16600 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16601 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16602 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16603 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle

16604 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16605 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16606 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16607 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16608 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16609 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16610 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16611 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16612 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16613 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16614 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16615 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16616 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16617 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
16618 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16619 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16620 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16621 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16622 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16623 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16624 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16625 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16626 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16627 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16628 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16629 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16630 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16631 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16632 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16633 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16634 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16635 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16636 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16637 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16638 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
16639 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16640 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16641 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16642 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16643 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16644 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16645 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16646 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16647 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16648 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16649 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16650 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16651 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16652 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16653 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16654 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16655 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16656 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16657 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16658 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16659 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16660 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9

16661 % U+24EA CIRCLED DIGIT ZERO
 16662 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16663 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16664 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16665 % U+25EF LARGE CIRCLE; largecircle
 16666 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16667 % U+266A EIGHTH NOTE; musicalnote
 16668 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16669 % U+26AD MARRIAGE SYMBOL
 16670 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 16671 % U+26AE DIVORCE SYMBOL
 16672 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16673 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16674 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16675 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16676 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16677 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16678 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16679 % U+FB02 LATIN SMALL LIGATURE FL; fl
 16680 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16681 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

16682 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
 16683 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
 16684 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
 16685 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
 16686 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
 16687 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
 16688 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
 16689 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16690 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
 16691 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
 16692 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
 16693 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
 16694 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
 16695 </puenc>

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

16696 <*puvnenc>

16697 \DeclareTextCommand{\abreve}{PU}{\81\003}
16698 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16699 \DeclareTextCommand{\dj}{PU}{\81\021}
16700 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16701 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16702 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16703 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16704 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16705 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16706 \DeclareTextCommand{\DJ}{PU}{\81\020}
16707 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16708 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16709 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16710 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16711 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16712 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16713 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16714 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16715 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16716 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16717 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16718 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16719 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16720 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16721 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16722 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16723 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16724 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16725 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16726 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16727 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16728 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16729 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16730 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16731 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16732 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
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16738 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16739 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16740 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16741 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16742 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16743 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16744 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16745 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16746 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16747 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16748 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16749 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16750 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16751 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16752 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16753 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}

16754 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16755 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16756 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16757 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16758 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16759 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16760 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16761 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16762 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16763 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16764 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16765 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16766 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16767 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16768 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16769 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16770 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16771 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16772 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16773 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16774 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16775 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16776 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16777 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16778 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16779 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16780 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
16781 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16782 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16783 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16784 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16785 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
16786 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
16787 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
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16789 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16790 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
16791 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
16792 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16793 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
16794 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16795 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
16796 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
16797 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16798 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
16799 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16800 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
16801 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
16802 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16803 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
16804 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16805 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
16806 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
16807 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16808 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
16809 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16810 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}


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16811 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\332}
16812 \DeclareTextCompositeCommand{d}{PU}{\OHORN}{\9036\342}
16813 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\334}
16814 \DeclareTextCompositeCommand{h}{PU}{\OHORN}{\9036\336}
16815 \DeclareTextCompositeCommand{~}{PU}{\OHORN}{\9036\340}
16816 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}
16817 \DeclareTextCompositeCommand{d}{PU}{U}{\9036\344}
16818 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}
16819 \DeclareTextCompositeCommand{h}{PU}{U}{\9036\346}
16820 \DeclareTextCompositeCommand{~}{PU}{U}{\81\150}
16821 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\350}
16822 \DeclareTextCompositeCommand{d}{PU}{\UHORN}{\9036\360}
16823 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}
16824 \DeclareTextCompositeCommand{h}{PU}{\UHORN}{\9036\354}
16825 \DeclareTextCompositeCommand{~}{PU}{\UHORN}{\9036\356}
16826 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}
16827 \DeclareTextCompositeCommand{d}{PU}{Y}{\9036\364}
16828 \DeclareTextCompositeCommand{'}{PU}{Y}{\9036\362}
16829 \DeclareTextCompositeCommand{h}{PU}{Y}{\9036\366}
16830 \DeclareTextCompositeCommand{~}{PU}{Y}{\9036\370}
16831 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

16832 <*puarenc>
16833 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16834 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16835 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16836 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16837 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
16838 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16839 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16840 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16841 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16842 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16843 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16844 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16845 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
16846 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
16847 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16848 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL
16849 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16850 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16851 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN
16852 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
TER SHEEN
16853 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD

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16854 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16855 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16856 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16857 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16858 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16859 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16860 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16861 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16862 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16863 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16864 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
16865 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON
16866 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16867 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
16868 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
16869 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16870 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16871 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16872 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
16873 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
16874 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
16875 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
16876 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
16877 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi
16878 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16879 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
16880 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16881 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16882 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16883 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

16884 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16885 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16886 </puarenc>

```

51 End of file hycheck.tex

```

16887 < *check>
16888 \typeout{}
16889 \begin{document}
16890 \end{document}
16891 </check>

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52 Index

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