

Hypertext marks in L^AT_EX

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1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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

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

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

backref.dtx “Back referencing from bibliographical citations”

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

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3 File hyccheck.tex

Many commands of \LaTeX or other packages cannot be overloaded, but have to be redefined by `hyperref` directly. If these commands change in newer versions, these changes are not noticed by `hyperref`. With this test file this situation can be checked. It defines the command `\checkcommand` that is more powerful than \LaTeX 's `\CheckCommand`, because it takes `\DeclareRobustCommand` and optional parameters better into account.

```

1 \check
2 \documentclass{article}
3 \makeatletter

\checklatex Optional argument: release date of  $\LaTeX$ .
4 \newcommand*\checklatex[1]{}{
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }%
```

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

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

```

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

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

```

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

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

```

59 \def\HyC@checkcommand{%
60   \ifx\HyC@next\relax
61     \PackageError{hyccheck}{%
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@secondoftwo
240 }{%
241 \def\pdf@ifdraftmode{%
242 \ifnum\pdfdraftmode=\ltx@one
243 \expandafter\ltx@firstoftwo
244 \else
245 \expandafter\ltx@secondoftwo
246 \fi
247 }%
248 \else
249 \let\pdf@ifdraftmode\ltx@secondoftwo
250 \fi
251 }%
252 }

253 \RequirePackage{infwarerr}[2010/04/08]
254 \RequirePackage{keyval}[1997/11/10]
255 \RequirePackage{kvsetkeys}[2007/09/29]
256 \RequirePackage{pdfescape}[2007/11/11]
257 \RequirePackage{ifvtex}
258 \RequirePackage{ifxetex}[2006/08/21]
259 \RequirePackage{hycolor}
260 \RequirePackage{letltxmacro}[2008/06/13]
261 \def\Hy@Error{\@PackageError{hyperref}}
262 \def\Hy@Warning{\@PackageWarning{hyperref}}
263 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
264 \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@typexml
382 \newif\ifHy@activeanchor
383 \newif\ifHy@backref
384 \newif\ifHy@bookmarks
385 \newif\ifHy@bookmarksnumbered
386 \newif\ifHy@bookmarksopen
387 \newif\ifHy@breaklinks
388 \newif\ifHy@centerwindow
389 \newif\ifHy@CJKbookmarks
390 \newif\ifHy@colorlinks
391 \newif\ifHy@draft
392 \let\Hy@finaltrue\Hy@draftfalse
393 \let\Hy@finalfalse\Hy@drafttrue
394 \newif\ifHy@escapeform
395 \newif\ifHy@figures
396 \newif\ifHy@fitwindow
```

```

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

```

Defaults for the switches are now set.

```

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

```



```

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

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

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

```

5.1 Macros for recursions

```

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

```

476 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
477 \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 `\hypercalcbpdef` (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 \hypercalcbp{\paperheight-\topmargin-1in
    -\headheight-\headsep}
}

\hypercalcbp
478 \begingroup\expandafter\expandafter\expandafter\endgroup
479 \expandafter\ifx\csname dimexpr\endcsname\relax
480 \def\hypercalcbpdef#1#2{%
481   \begingroup
482   \toks@{}%
483   \HyCal@scan#2\hypercalcbp\@nil
484   \expandafter\endgroup
485   \expandafter\def\expandafter#1\expandafter{\the\toks@}%
486 }%
487 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
488   \toks@\expandafter{\the\toks@ #1}%
489   \ifx\#2\%
490   \else
491     \ltx@ReturnAfterFi{%
492       \HyCal@do#2\@nil
493     }%
494   \fi
495 }%
496 \def\HyCal@do#1#2\@nil{%
497   \ifpackageloaded{calc}{}%{}%
498   \Hy@Warning{%
499     For calculations \string\hypercalcbp\space needs\MessageBreak
500     package calc or e-TeX%
501   }%
502 }%
503 \setlength{\dimen@}{#1}%
504 \setlength{\dimen@}{0.99626401\dimen@}%
505 \edef\x{%
506   \toks@{}%
507   \the\toks@
508   \strip@pt\dimen@
509 }%
510 }\x
511 \HyCal@scan#2\@nil
512 }%
513 \else
514 \def\hypercalcbp#1{%
515   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
516 }%
517 \def\hypercalcbpdef{\def}%
518 \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`.

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

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

```
520 \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.

```
521 \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.

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

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

```
538 \@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).

```
539 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
540 \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.

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

```
553 \def\{\pdfstringdefWarn\}%
554 \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.

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

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

```

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

```

Environments.

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

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

```

628 \let\cyr\relax

```

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

```

629 \let\es@roman\@Roman

```

Package german.

```

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

```

```

638 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

639 \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.

```

640 \let\hspace\HyPsd@hspace

```

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

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

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

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

Miscellaneous commands.

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

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

```
652 \def\halign{\pdfstringdefWarn\halign\@gobble}%
653 \let\ignorespaces\HyPsd@ignorespaces
654 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
655 \HyPsd@CJKhook
```

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

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

```
656 \Hy@pdfstringtrue
657 \pdfstringdefPreHook
```

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

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

Package xspace.

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


Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
670 \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:

```
671 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
672 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
673 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
674 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
675 \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 be 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).

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

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

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

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

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

6.2.3 Postprocessing

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

```
693 \ifx#1\@empty
694 \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.

```

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

```

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

```

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

```
711 \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.

```

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

```

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

```

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

```

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

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

```

751 \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.

```

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

```

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

```

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

Try conversion back to PDFDocEncoding.

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

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

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

`\Hy@pdfstringdef`

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

6.3 Encodings

6.3.1 XeTeX

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

```

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

```

```

873 }%
874 \fi
875 \x
876 }%
877 }
878 \Hy@temp

```

6.3.2 Workaround for package linguex

```

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

```

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.

```

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

```

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

```



```

909 }{}%
910 \DeclareFontFamily{PU}{pdf}{}%
911 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
912 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
913 \let\HyPsd@InitUnicode\relax
914 }

```

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.

```

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

```

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`.

```

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

```

`\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`.

```

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

```

`\HyPsd@DisableCommands`

```
933 \long\def\HyPsd@DisableCommands#1{%
934   \toks0=\expandafter{\pdfstringdefPreHook}%
935   \toks1={#1}%
936   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
937   \endgroup
938 }
```

`\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`.

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

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.

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

```
951 \def\HyPsd@BabelPatch{%
952   \let\HyOrg@languageshorthands\languageshorthands
953   \let\languageshorthands\HyPsd@LanguageShorthands
954 }
955 \begingroup\expandafter\expandafter\expandafter\endgroup
```

```

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

  Nothing to do for english.

995 \ltx@ifundefined{danish@sh@"@sel}{-}{%
996   \def\HyPsd@babel@danish{%
997     \declare@shorthand{danish}{-}{-}%
998     \declare@shorthand{danish}{-}{-}%
999   }%
1000 }
1001 \ltx@ifundefined{dutch@sh@"@sel}{-}{%
1002   \def\HyPsd@babel@dutch{%
1003     \declare@shorthand{dutch}{-}{-}%
1004     \declare@shorthand{dutch}{-}{-}%
1005   }%
1006 }
1007 \ltx@ifundefined{finnish@sh@"@sel}{-}{%
1008   \def\HyPsd@babel@finnish{%
1009     \declare@shorthand{finnish}{-}{-}%
1010   }%

```

```

1011 }
1012 \ltx@ifundefined{french@sh@:@sel}{-}{%
1013   \def\HyPsd@babel@frenchb{%
1014     \def\guill@spacing{ }%
1015   }%
1016 }
1017 \ltx@ifundefined{german@sh@"@sel}{-}{%
1018   \def\HyPsd@babel@german{%
1019     \declare@shorthand{german}{-f}{f}%
1020     \declare@shorthand{german}{-|}{|}%
1021     \declare@shorthand{german}{-~}{-}%
1022   }%
1023 }
1024 \ltx@ifundefined{macedonian@sh@"@sel}{-}{%
1025   \def\HyPsd@babel@macedonian{%
1026     \declare@shorthand{macedonian}{-|}{|}%
1027     \declare@shorthand{macedonian}{-~}{-}%
1028   }%
1029 }{}
1030 \ltx@ifundefined{ngerman@sh@"@sel}{-}{%
1031   \def\HyPsd@babel@ngerman{%
1032     \declare@shorthand{ngerman}{-|}{|}%
1033     \declare@shorthand{ngerman}{-~}{-}%
1034   }%
1035 }
1036 \ltx@ifundefined{portuges@sh@"@sel}{-}{%
1037   \def\HyPsd@babel@portuges{%
1038     \declare@shorthand{portuges}{-|}{|}%
1039   }%
1040 }
1041 \ltx@ifundefined{russian@sh@"@sel}{-}{%
1042   \def\HyPsd@babel@russian{%
1043     \declare@shorthand{russian}{-|}{|}%
1044     \declare@shorthand{russian}{-~}{-}%
1045   }%
1046 }
1047 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
1048   \def\HyPsd@babel@slovene{%
1049     \declare@shorthand{slovene}{-|}{|}%
1050   }%
1051 }

```

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

```

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

```

```

1067 }
1068 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1069   \def\HyPsd@babel@ukrainian{%
1070     \declare@shorthand{ukrainian}{-}{-}%
1071     \declare@shorthand{ukrainian}{-}{-}%
1072   }%
1073 }
1074 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1075   \def\HyPsd@babel@usorbian{%
1076     \declare@shorthand{usorbian}{-}{-}%
1077     \declare@shorthand{usorbian}{-}{-}%
1078   }%
1079 }

1080 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1081   \let\HyPsd@GreekPatch\@empty
1082 }{-}%
1083 \def\HyPsd@GreekPatch{%
1084   \let\greeknumeral\HyPsd@greeknumeral
1085   \let\Greeknnumeral\HyPsd@Greeknnumeral
1086 }%
1087 }
1088 \def\HyPsd@greeknumeral#1{%
1089   \HyPsd@GreekNum\@firstoftwo{#1}%
1090 }
1091 \def\HyPsd@Greeknnumeral#1{%
1092   \HyPsd@GreekNum\@secondoftwo{#1}%
1093 }
1094 \def\HyPsd@GreekNum#1#2{%
1095   \ifHy@unicode
1096     \ifnum#2<\@one
1097       \@arabic{#2}%
1098     \else
1099       \ifnum#2<1000000 %
1100         \HyPsd@@GreekNum#1{#2}%
1101       \else
1102         \@arabic{#2}%
1103       \fi
1104     \fi
1105   \else
1106     \@arabic{#2}%
1107   \fi
1108 }
1109 \def\HyPsd@@GreekNum#1#2{%
1110   \ifnum#2<\@m
1111     \ifnum#2<10 %
1112       \expandafter\HyPsd@GreekNumI
1113       \expandafter\@gobble\expandafter#1\number#2%
1114     \else
1115       \ifnum#2<100 %
1116         \expandafter\HyPsd@GreekNumII
1117         \expandafter\@gobble\expandafter#1\number#2%
1118       \else
1119         \expandafter\HyPsd@GreekNumIII
1120         \expandafter\@gobble\expandafter#1\number#2%
1121       \fi
1122     \fi
1123   \ifnum#2>\z@

```

```

1124     \textnumeralsigngreek
1125     \fi
1126 \else
1127     \ifnum#2<\@M
1128         \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1129     \else
1130         \ifnum#2<100000 %
1131             \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1132         \else
1133             \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1134         \fi
1135     \fi
1136 \fi
1137 }
1138 \def\HyPsd@GreekNumI#1#2#3{%
1139     #1{%
1140         \ifnum#3>\z@
1141             \textnumeralsignlowergreek
1142         \fi
1143     }%
1144     \expandafter#2%
1145     \ifcase#3 %
1146         {}{}%
1147         \or\textalpha\textAlpha
1148         \or\textbeta\textBeta
1149         \or\textgamma\textGamma
1150         \or\textdelta\textDelta
1151         \or\textepsilon\textEpsilon
1152         \or\textstigmagreek\textStigmagreek
1153         \or\textzeta\textZeta
1154         \or\texteta\textEta
1155         \or\texttheta\textTheta
1156     \else
1157         {}{}%
1158     \fi
1159 }
1160 \def\HyPsd@GreekNumII#1#2#3#4{%
1161     #1{%
1162         \ifnum#3>\z@
1163             \textnumeralsignlowergreek
1164         \fi
1165     }%
1166     \expandafter#2%
1167     \ifcase#3 %
1168         {}{}%
1169         \or\textiota\textIota
1170         \or\textkappa\textKappa
1171         \or\textlambda\textLambda
1172         \or\textmu\textMu
1173         \or\textnu\textNu
1174         \or\textxi\textXi
1175         \or\textomicron\textOmicron
1176         \or\textpi\textPi
1177         \or\textkoppagreek\textKoppagreek
1178     \else
1179         {}{}%
1180     \fi

```

```

1181 \HyPsd@GreekNumI#1#2#4%
1182 }
1183 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1184   #1{%
1185     \ifnum#3>\z@
1186       \textnumeralsignlowergreek
1187       \fi
1188   }%
1189   \expandafter#2%
1190   \ifcase#3 %
1191     {}{}%
1192   \or\textrho\textRho
1193   \or\textsigma\textSigma
1194   \or\texttau\textTau
1195   \or\textupsilon\textUpsilon
1196   \or\textphi\textPhi
1197   \or\textchi\textChi
1198   \or\textpsi\textPsi
1199   \or\textomega\textOmega
1200   \or\textsampigreek\textSampigreek
1201   \else
1202     {}{}%
1203   \fi
1204 \HyPsd@GreekNumII#1#2#4#5%
1205 }
1206 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1207   \HyPsd@GreekNumI\@firstofone#1#2%
1208   \HyPsd@@GreekNum#1{#3#4#5}%
1209 }
1210 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1211   \HyPsd@GreekNumII\@firstofone#1#2#3%
1212   \HyPsd@@GreekNum#1{#4#5#6}%
1213 }
1214 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1215   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1216   \HyPsd@@GreekNum#1{#5#6#7}%
1217 }
1218 \def\HyPsd@SpanishPatch{%
1219   \ltx@ifundefined{es@save@dot}{}%
1220   }{%
1221     \let\.\es@save@dot
1222   }%
1223 }

```

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

.-

```

1224 \def\HyPsd@RussianPatch{%
1225   \ltx@ifundefined{russian@sh@"@-@}{}%
1226   }{%
1227     \@namedef{russian@sh@"@-@}{-}%
1228   }%
1229 }

```

6.5.3 CJK patch

```

1230 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1231 \def\HyPsd@CJKhook{%
1232   \ltx@ifpackageloaded{CJK}{}%
1233   \let\CJK@kern\relax
1234   \let\CJKkern\relax
1235   \let\CJK@CJK\relax
1236   \ifHy@CJKbookmarks
1237     \HyPsd@CJKhook@bookmarks
1238   \fi
1239   \HyPsd@CJKhook@unicode
1240 }{}%
1241 }

```

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 ($\geq 0x40$).

```

1242 \begingroup
1243   \catcode"7F=\active
1244   \toks@{%
1245     \let\CJK@ignorespaces\empty
1246     \def\CJK@char#1{\@gobbletwo}%
1247     \let\CJK@charx\@gobblefour
1248     \let\CJK@punctchar\@gobblefour
1249     \def\CJK@punctcharx#1{\@gobblefour}%
1250     \catcode"7F=\active
1251     \def^^7f#1^^7f#2^^7f{%
1252       \string #1\HyPsd@DecimalToOctal{#2}%
1253     }%
1254     % ... ?
1255     \ifHy@unicode
1256       \def\Hy@cjkpu{\80}%
1257     \else
1258       \let\Hy@cjkpu\@empty
1259     \fi
1260     \HyPsd@CJKActiveChars
1261   }%
1262   \count@=127 %
1263   \@whilenum\count@<255 \do{%
1264     \advance\count@ by 1 %
1265     \lccode'\~= \count@
1266     \lowercase{%
1267       \toks@\expandafter{\the\toks@ ~}%
1268     }%
1269   }%
1270   \toks@\expandafter{\the\toks@ !}%
1271   \xdef\HyPsd@CJKhook@bookmarks{%
1272     \the\toks@
1273   }%
1274 \endgroup

```


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

```

1275 \def\HyPsd@CJKActiveChars#1{%
1276   \ifx#1!%
1277     \let\HyPsd@CJKActiveChars\relax
1278   \else
1279     \edef#1{\noexpand\Hy@cjku\string#1}%
1280   \fi
1281   \HyPsd@CJKActiveChars
1282 }
```

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

```

1283 \def\HyPsd@DecimalToOctal#1{%
1284   \ifcase #1 %
1285     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1286     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1287     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1288     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1289     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1290     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1291     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1292     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1293     \or @\or A\or B\or C\or D\or E\or F\or G%
1294     \or H\or I\or J\or K\or L\or M\or N\or O%
1295     \or P\or Q\or R\or S\or T\or U\or V\or W%
1296     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1297     \or \140\or a\or b\or c\or d\or e\or f\or g%
1298     \or h\or i\or j\or k\or l\or m\or n\or o%
1299     \or p\or q\or r\or s\or t\or u\or v\or w%
1300     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1301     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1302     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1303     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1304     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1305     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1306     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1307     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1308     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1309     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1310     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1311     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1312     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1313     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1314     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1315     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1316     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1317   \fi
1318 }
```

6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```

1319 \def\HyPsd@CJKhook@unicode{%
1320   \let\Unicode\HyPsd@CJK@Unicode
1321   \let\CJKnumber\HyPsd@CJKnumber
1322   \let\CJKdigits\HyPsd@CJKdigits
1323 }
```

\HyPsd@CJK@Unicode

```
1324 \def\HyPsd@CJK@Unicode#1#2{%
1325   \ifnum#1<256 %
1326     \HyPsd@DecimalToOctalFirst{#1}%
1327     \HyPsd@DecimalToOctalSecond{#2}%
1328   \else
1329     \933%
1330     \expandafter\expandafter\expandafter\HyPsd@HighA
1331     \intcalcDiv{#1}{4}!%
1332     \933%
1333     \ifcase\intcalcMod{#1}{4} %
1334       4\or 5\or 6\or 7%
1335     \fi
1336     \HyPsd@DecimalToOctalSecond{#2}%
1337   \fi
1338 }

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

```

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

```

```

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

```

```

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

```

```

1550 \ifx\|#3\%
1551 \expandafter\@gobble
1552 \else
1553 \expandafter\@firstofone
1554 \fi
1555 {%
1556 \HyPsd@@@CJKdigits#1#3\@nil
1557 }%
1558 }
1559 \def\HyPsd@CJKdigit#1#2{%
1560 \ifcase#2 %
1561 #1\or
1562 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1563 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1564 \fi
1565 }

```

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}

1566 \def\HyPsd@inmathwarn#1#2{%
1567   \ifx#2\expandafter
1568     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1569       \HyPsd@GLYPHERR
1570     \expandafter\@gobble\string#1%
1571     >%
1572     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1573   \else
1574     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1575   \fi
1576 \else
1577   \expandafter#2%
1578 \fi
1579 }
1580 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1581 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1582 \def\HyPsd@add@accent#1#2{%
1583   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1584   #2%
1585 }%

```

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.

```

1586 \def\HyPsd@LetUnexpandableSpace#1{%
1587   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1588 }

```

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

```

1589 \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.

```

1590 \edef\HyPsd@XSPACE{\string#\string X}
1591 \edef\HyPsd@ITALCORR{\string#\string I}
1592 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 \hspace fix

\HyPsd@hspace

```
1593 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1594 \def\HyPsd@@hspace#1*#2\END{%
1595   \ifx\#2\%
1596     \HyPsd@hspacetest{#1}%
1597   \else
1598     \expandafter\HyPsd@hspacetest
1599   \fi
1600 }
```

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

```
1601 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1602 \ltx@ifundefined{tocsection}{%
1603   \let\HyPsd@AMSclassfix\relax
1604 }{%
1605   \def\HyPsd@AMSclassfix{%
1606     \let\tocpart\HyPsd@tocsection
1607     \let\tocchapter\HyPsd@tocsection
1608     \let\tocappendix\HyPsd@tocsection
1609     \let\tocsection\HyPsd@tocsection
1610     \let\tocsubsection\HyPsd@tocsection
1611     \let\tocsubsubsection\HyPsd@tocsection
1612     \let\tocparagraph\HyPsd@tocsection
1613   }%
1614   \def\HyPsd@tocsection#1#2#3{%
1615     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1616     #3%
1617   }%
1618 }
```

6.5.11 Reference commands

\HyPsd@href

```
1619 \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.

```
1620 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1621 \def\HyPsd@@ref#1*#2\END{%
1622   \ifx\#2\%
1623     \HyPsd@@@ref{#1}%
1624   \else
1625     \expandafter\HyPsd@@@ref
1626   \fi
1627 }%
```


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

```
1628 \def\HyPsd@@@ref#1{%
1629   \expandafter\ifx\csname r@#1\endcsname\relax
1630     ??%
1631   \else
1632     \expandafter\expandafter\expandafter
1633     \@car\csname r@#1\endcsname\@nil
1634   \fi
1635 }
```

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

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

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

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

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

```
1644 \def\HyPsd@@@pageref#1{%
1645   \expandafter\ifx\csname r@#1\endcsname\relax
1646     ??%
1647   \else
1648     \expandafter\expandafter\expandafter\expandafter
1649     \expandafter\expandafter\expandafter\@car
1650     \expandafter\expandafter\expandafter\@gobble
1651     \csname r@#1\endcsname{}\@nil
1652   \fi
1653 }
```

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

```
1654 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1655 \def\HyPsd@@nameref#1*#2\END{%
1656   \ifx\#2\%
1657     \HyPsd@@@nameref{#1}%
1658   \else
1659     \expandafter\HyPsd@@@nameref
1660   \fi
1661 }
```

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

```
1662 \def\HyPsd@@@nameref#1{%
1663   \expandafter\ifx\csname r@#1\endcsname\relax
1664     ??%
1665   \else
1666     \expandafter\expandafter\expandafter\expandafter
1667     \expandafter\expandafter\expandafter\@car
1668     \expandafter\expandafter\expandafter\@gobbletwo
```

```

1669 \csname r@#1\endcsname{}\}\@nil
1670 \fi
1671 }

```

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

```

1672 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1673 \def\HyPsd@@autoref#1*#2\END{%
1674 \ifx\#2\%
1675 \HyPsd@@@autoref{#1}%
1676 \else
1677 \expandafter\HyPsd@@@autoref
1678 \fi
1679 }

```

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

```

1680 \def\HyPsd@@@autoref#1{%
1681 \expandafter\ifx\csname r@#1\endcsname\relax
1682 ??%
1683 \else
1684 \expandafter\expandafter\expandafter\HyPsd@autorefname
1685 \csname r@#1\endcsname{}\}\}\}\@nil
1686 \expandafter\expandafter\expandafter
1687 \@car\csname r@#1\endcsname\@nil
1688 \fi
1689 }

```

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

```

1690 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1691 \ifx\#4\%
1692 \else
1693 \HyPsd@@autorefname#4.\@nil
1694 \fi
1695 }

```

`\HyPsd@@autorefname`

```

1696 \def\HyPsd@@autorefname#1.#2\@nil{%
1697 \ltx@ifundefined{#1autorefname}{%
1698 \ltx@ifundefined{#1name}{%
1699 }{%
1700 \csname#1name\endcsname\space
1701 }%
1702 }{%
1703 \csname#1autorefname\endcsname\space
1704 }%
1705 }

```

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

```

```

1738 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1739 \expandafter\expandafter\expandafter{%
1740 \expandafter\@gobble\string#1\@empty
1741 }%
1742 }

```

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).

```

1743 \def\HyPsd@ifnextchar#1{%
1744 \pdfstringdefWarn#1%
1745 \expandafter\@gobbletwo\@gobble
1746 }

```

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`.

```

1747 \def\HyPsd@protected@testopt#1{%
1748 \pdfstringdefWarn#1%
1749 \@gobbletwo
1750 }

```

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:

```

1751 \def\HyPsd@Warning#1{%
1752 \begingroup
1753 \let\space\ltx@space
1754 \Hy@Warning{#1}%
1755 \endgroup
1756 }

```

6.6.2 Protecting spaces

```

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

```

1763 {%

\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.

```
1764 \def\HyPsd@ProtectSpaces#1{%
1765   \iftrue
1766     \expandafter\HyPsd@@ProtectSpacesFi
1767     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1768   \fi
1769 }%
```

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

```
1770 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1771   \fi
1772   \ifx\scrollmode#2\scrollmode
1773     \HyPsd@RemoveMask#1\HyPsd@End#3%
1774   \else
1775     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1776     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1777   \fi
1778 }%
```

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.

```
1779 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1780   \toks@{\expandafter{#1}}%
1781   \xdef#2{\the\toks@}%
1782 }%

1783 }{%
1784   \let\HyPsd@fi\fi
1785   \def\HyPsd@ProtectSpaces#1{%
1786     \xdef#1{%
1787       \iftrue
1788         \expandafter\HyPsd@@ProtectSpacesFi
1789         \expandafter|\expandafter\@empty#1| %
1790       \HyPsd@fi
1791     }%
1792     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1793   }%
1794   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1795     \fi
1796     \etex@unexpanded{#1}%
1797     \ifx\scrollmode#2\scrollmode
1798     \else
1799       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1800     \HyPsd@fi
1801   }%
1802   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1803     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1804   }%
1805 }
```

6.6.3 Remove grouping braces

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

```
1806 \def\HyPsd@RemoveBraces#1{%
1807   \ifx\scrollmode#1\scrollmode
1808   \else
1809     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1810   \fi
1811 }
```

`\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`.

```
1812 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1813   \fi
1814   \def\Hy@temp@A{#1#2}%
1815   \def\Hy@temp@B{#3}%
1816   \ifx\Hy@temp@A\Hy@temp@B
1817     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1818       \HyPsd@String#1%
1819     }%
1820     \ifx\scrollmode#2\scrollmode
1821     \else
1822       \Hy@ReturnAfterFiFiEnd{%
1823         \HyPsd@RemoveBraces{#2}%
1824       }%
1825     \fi
1826   \else
1827     \def\Hy@temp@A{#1}%
1828     \HyPsd@AppendItalcorr\HyPsd@String
1829     \ifx\Hy@temp@A\@empty
1830       \Hy@ReturnAfterElseFiFiEnd{%
1831         \HyPsd@RemoveBraces{#2}%
1832       }%
1833     \else
1834       \HyPsd@ProtectSpaces\Hy@temp@A
1835       \HyPsd@AppendItalcorr\Hy@temp@A
1836       \Hy@ReturnAfterFiFiEnd{%
1837         \expandafter\HyPsd@RemoveBraces\expandafter
1838           {\Hy@temp@A#2}%
1839       }%
1840     \fi
1841   \fi
1842   \Hy@ReturnEnd
1843 }
```

`\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`.

```
1844 \def\HyPsd@AppendItalcorr#1{%
1845   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
```

```

1846 }
1847 \def\HyPsd@@AppendItalcrr#1#2{%
1848   \expandafter\def\expandafter#2\expandafter{#2#1}%
1849 }

```

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`).

```

1850 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1851   \global\let\HyPsd@Rest\relax
1852   \ifcat\relax\noexpand#1\relax
1853     \ifx#1\protect
1854       \else
1855         \ifx#1\penalty
1856           \setbox\z@=\hbox{%
1857             \afterassignment\HyPsd@AfterCountRemove
1858             \count@=#2\HyPsd@End
1859           }%
1860         \else
1861           \ifx#1\kern
1862             \setbox\z@=\hbox{%
1863               \afterassignment\HyPsd@AfterDimenRemove
1864               \dimen@=#2\HyPsd@End
1865             }%
1866           \else
1867             \ifx#1\hskip
1868               \setbox\z@=\hbox{%
1869                 \afterassignment\HyPsd@AfterSkipRemove
1870                 \skip@=#2\HyPsd@End
1871               }%
1872             \else
1873               \HyPsd@CatcodeWarning{#1}%
1874             \fi
1875           \fi
1876         \fi
1877       \fi
1878     \else
1879       \ifcat#1A% letter
1880         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1881           \HyPsd@String#1%
1882         }%
1883       \else
1884         \ifcat#1 % SPACE
1885           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1886             \HyPsd@String\HyPsd@SPACEOPTI
1887           }%
1888         \else

```

```

1889 \ifcat$#1%
1890 \HyPsd@CatcodeWarning{math shift}%
1891 \else
1892 \ifcat&#1%
1893 \HyPsd@CatcodeWarning{alignment tab}%
1894 \else
1895 \ifcat^#1%
1896 \HyPsd@CatcodeWarning{superscript}%
1897 \else
1898 \ifcat_#1%
1899 \HyPsd@CatcodeWarning{subscript}%
1900 \else
1901 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1902 \HyPsd@String#1%
1903 }%
1904 \fi
1905 \fi
1906 \fi
1907 \fi
1908 \fi
1909 \fi
1910 \fi
1911 \ifx\HyPsd@Rest\relax
1912 \ifx\scrollmode#2\scrollmode
1913 \else
1914 \Hy@ReturnAfterFiFiEnd{%
1915 \HyPsd@CheckCatcodes#2\HyPsd@End
1916 }%
1917 \fi
1918 \else
1919 \ifx\HyPsd@Rest\@empty
1920 \else
1921 \Hy@ReturnAfterFiFiEnd{%
1922 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1923 }%
1924 \fi
1925 \fi
1926 \Hy@ReturnEnd
1927 }

```

Remove counts, dimens, skips.

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

```

1928 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1929 \gdef\HyPsd@Rest{#1}%
1930 }

```

`\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.

```

1931 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1932 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1933 \HyPsd@ReplaceSpaceWarning{string\kern\space\the\dimen@}%
1934 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1935 \else
1936 \ifdim\dimen@=\z@

```



```

1937 \else
1938 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1939 \fi
1940 \gdef\HyPsd@Rest{#1}%
1941 \fi
1942 }

```

`\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).

```

1943 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1944 \ifdim\ifx\HyPsd@String\@empty\z@ \else \skip@ \fi > 1ex %
1945 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1946 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1947 \else
1948 \ifdim\skip@ = \z@
1949 \else
1950 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1951 \fi
1952 \gdef\HyPsd@Rest{#1}%
1953 \fi
1954 }

```

Catcode warnings.

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

```

1955 \def\HyPsd@CatcodeWarning#1{%
1956 \HyPsd@Warning{%
1957 Token not allowed in a PDF string (%
1958 \ifHy@unicode
1959 Unicode%
1960 \else
1961 PDFDocEncoding%
1962 \fi
1963 ):%
1964 \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1965 }%
1966 }
1967 \begingroup
1968 \catcode'\|=0 %
1969 \catcode'\|=12 %
1970 \gdef\HyPsd@RemoveCmdPrefix#1{%
1971 |expandafter\HyPsd@@RemoveCmdPrefix
1972 |string#1|\@empty\<-|\@empty|\@empty
1973 }%
1974 \gdef\HyPsd@@RemoveCmdPrefix#1\<-#2|\@empty#3|\@empty{#1#2}%
1975 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1976 \def\HyPsd@RemoveSpaceWarning#1{%
1977 \HyPsd@Warning{%
1978 Token not allowed in a PDF string (%
1979 \ifHy@unicode
1980 Unicode%
1981 \else
1982 PDFDocEncoding%
1983 \fi
1984 ):%

```

```

1985 \MessageBreak #1\MessageBreak
1986 removed%
1987 }%
1988 }

```

\HyPsd@ReplaceSpaceWarning

```

1989 \def\HyPsd@ReplaceSpaceWarning#1{%
1990 \HyPsd@Warning{%
1991 Token not allowed in a PDF string (%
1992 \ifHy@unicode
1993 Unicode%
1994 \else
1995 PDFDocEncoding%
1996 \fi
1997 }:%
1998 \MessageBreak #1\MessageBreak
1999 replaced by space%
2000 }%
2001 }

```

6.6.5 Check for wrong glyphs

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

```

2002 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2003 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2004 \HyPsd@String#1%
2005 }%
2006 \ifx\#2\%
2007 \else
2008 \ltx@ReturnAfterFi{%
2009 \HyPsd@GlyphProcessWarning#2\@empty
2010 }%
2011 \fi
2012 }
2013 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2014 \HyPsd@@@GlyphProcessWarning#1++>%
2015 \HyPsd@GlyphProcess#2\@empty
2016 }
2017 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2018 \ifx\#2\%
2019 \HyPsd@Warning{%
2020 Glyph not defined in %
2021 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2022 removing '@backslashchar#1'%
2023 }%
2024 \else
2025 \HyPsd@Warning{%
2026 Composite letter '@backslashchar#1+#2'\MessageBreak
2027 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2028 \MessageBreak
2029 removing '@backslashchar#1'%
2030 }%
2031 \fi
2032 }

```

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`.

```
2033 \def\HyPsd@spaceopti#1{ % first space
2034   \ifx\HyPsd@spaceopti#1%
2035     \040%
2036   \else
2037     #1%
2038   \fi
2039 }%
```

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.

```
2040 \def\HyPsd@Subst#1#2#3{%
2041   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2042     \fi
2043     ##1%
2044     \ifx\scrollmode##2\scrollmode
2045     \else
2046       #2%
2047     \HyPsd@@ReplaceFi##2\END
2048     \fi
2049   }%
2050   \xdef#3{%
2051     \iftrue
2052       \expandafter\HyPsd@@ReplaceFi#3#1\END
2053     \fi
2054   }%
2055 }
```

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

```
2056 \def\HyPsd@StringSubst#1{%
2057   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2058 }
```

`\HyPsd@EscapeTeX`

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

```

2070 \lowercase{\endgroup
2071 \def\HyPsd@EscapeTeX#1{%
2072 \HyPsd@Subst!{|045}#1%
2073 \HyPsd@Subst({|173}#1%
2074 \HyPsd@Subst){|175}#1%
2075 }%
2076 }

```

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.

```

2077 \def\HyPsd@doxspace#1{%
2078 \ifx#1\relax\else
2079 \ifx#1.\else
2080 \ifx#1:\else
2081 \ifx#1,\else
2082 \ifx#1;\else
2083 \ifx#1!\else
2084 \ifx#1?\else
2085 \ifx#1/\else
2086 \ifx#1-\else
2087 \ifx#1'\else
2088 \HyPsd@SPACEOPTI
2089 \fi
2090 \fi
2091 \fi
2092 \fi
2093 \fi
2094 \fi
2095 \fi
2096 \fi
2097 \fi
2098 \fi
2099 #1%
2100 }%

```

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.

```

2101 \begingroup
2102 \catcode'\|=0 %
2103 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

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

```

```

2112     #1%
2113   }%
2114   |fi
2115 }%

```

\HyPsd@DoConvert

```

2116 |gdef|HyPsd@DoConvert#1{%
2117   |ifx#1|@empty
2118   |else
2119     |ltx@ReturnAfterFi{%
2120       |ifx#1\%%
2121       \%%
2122       |expandafter|HyPsd@DoEscape
2123     |else
2124       |HyPsd@Char{#1}%
2125       |expandafter|HyPsd@DoConvert
2126     |fi
2127   }%
2128   |fi
2129 }%

```

\HyPsd@DoEscape

```

2130 |gdef|HyPsd@DoEscape#1{%
2131   |ifx#19%
2132   |expandafter|HyPsd@GetTwoBytes
2133   |else
2134     |ltx@ReturnAfterFi{%
2135       |ifx#18%
2136       00%
2137       |expandafter|HyPsd@GetTwoBytes
2138     |else
2139       #1%
2140       |expandafter|HyPsd@GetOneByte
2141     |fi
2142   }%
2143   |fi
2144 }%

```

\HyPsd@GetTwoBytes

```

2145 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2146   #1\#2#3#4%
2147   |HyPsd@DoConvert
2148 }%

```

\HyPsd@GetOneByte

```

2149 |gdef|HyPsd@GetOneByte#1#2{%
2150   #1#2%
2151   |HyPsd@DoConvert
2152 }%
2153 |endgroup

```

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

```

2154 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2155   \xdef#4{#4#1#2}%
2156   \HyPsd@@ConvertToUnicode#3\END#4%
2157 }

```

\HyPsd@Char

```
2158 \begingroup
2159 \catcode0=9 %
2160 \catcode'\^=7 %
2161 \catcode'\^^=12 %
2162 \def\x{^^^0000}%
2163 \expandafter\endgroup
2164 \ifx\x\@empty
2165 \def\HyPsd@Char#1{%
2166 \ifnum'#1<128 %
2167 \@backslashchar 000#1%
2168 \else
2169 \ifnum'#1<65536 %
2170 \expandafter\HyPsd@CharTwoByte\number'#1%
2171 \else
2172 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2173 \intcalcSub{'#1}{65536}!%
2174 \fi
2175 \fi
2176 }%
2177 \def\HyPsd@CharTwoByte#1!{%
2178 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2179 \IntCalcDiv#1!256!!%
2180 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2181 \IntCalcMod#1!256!!%
2182 }%
2183 \def\HyPsd@CharOctByte#1!{%
2184 \@backslashchar
2185 \IntCalcDiv#1!64!%
2186 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2187 \IntCalcMod#1!8!%
2188 }%
2189 \def\HyPsd@CharSurrogate#1!{%
2190 \@backslashchar 33%
2191 \IntCalcDiv#1!262144!%
2192 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2193 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2194 \@backslashchar 33%
2195 \expandafter\expandafter\expandafter\IntCalcAdd
2196 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2197 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2198 \IntCalcMod#1!256!!%
2199 }%
2200 \else
2201 \def\HyPsd@Char#1{%
2202 \@backslashchar 000#1%
2203 }%
2204 \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

2205 \begingroup\expandafter\expandafter\expandafter\endgroup
2206 \expandafter\ifx\csname numexpr\endcsname\relax
2207 \let\HyPsd@UTFviii\relax
2208 \else
2209 \begingroup
2210 \lccode'\~='^f4\relax
2211 \lowercase{\endgroup
2212 \def\HyPsd@UTFviii{%
2213 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2214 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2215 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2216 \ifx~\HyPsd@UTFviii@ccxliv@undef
2217 \let~\HyPsd@UTFviii@ccxliv@def
2218 \fi
2219 \let\unichar\HyPsd@unichar
2220 }%
2221 }%
2222 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2223 \edef\HyPsd@UTFviii@ccxliv@def{%
2224 \noexpand\UTFviii@four@octets\string ^f4%
2225 }%

```

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.

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

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

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

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

$$(5)$$

```

2226 \def\HyPsd@UTFviii@two#1#2{%
2227 \expandafter\HyPsd@UTFviii@@two
2228 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2229 \number'#1\expandafter| %
2230 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2231 \number'#2 \@nil
2232 }%
2233 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2234 \expandafter\8%
2235 \number\numexpr #1-48\expandafter\relax
2236 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2237 \number\numexpr #3-8*%
2238 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2239 \number\numexpr #4-8*#3\relax
2240 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2241 \def\HyPsd@UTFviii@three#1#2#3{%
2242   \expandafter\HyPsd@UTFviii@@three
2243   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2244   \number'#1\expandafter| %
2245   \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2246   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2247   \number'#2\expandafter| %
2248   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2249   \number'#3 \@nil
2250 }%
2251 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2252   \expandafter\9%
2253   \number\dimexpr #1-56\expandafter\relax
2254   \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2255   \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2256   \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2257   \number\dimexpr #6-16\expandafter\relax
2258   \number\dimexpr #7-8*#6\relax
2259 }%

```

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

```

```

2260 \def\HyPsd@UTFviii@four#1#2{%
2261   \expandafter\HyPsd@@@UTFviii@four\number
2262   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2263   \expandafter|\number
2264   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2265 }%
2266 \def\HyPsd@@@UTFviii@four#1|#2|#3{%
2267   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2268   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2269   \ifodd#2 %
2270     \number\dimexpr(#2-1)/2\relax
2271   \else
2272     \number\dimexpr#2/2\relax
2273   \fi
2274   \number\dimexpr\ifodd#2 4+\fi
2275   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2276   \933%
2277   \expandafter\HyPsd@@@UTFviii@four\number
2278   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2279 }%
2280 \def\HyPsd@@@UTFviii@four#1|#2{%
2281   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2282   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname

```



```

2283 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2284 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2285 }%

```

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

```

2286 \def\HyPsd@unichar#1{%
2287 \ifHy@unicode
2288 \ifnum#1>"10FFFF %
2289 \HyPsd@UnicodeReplacementCharacter % illegal
2290 \else
2291 \ifnum#1>"FFFF %

```

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

```

2292 \expandafter\HyPsd@unichar\expandafter{%
2293 \number\dimexpr 55296+%
2294 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2295 \relax\relax\relax
2296 }%

```

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

```

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

```

```

2334 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2335 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2336 \number
2337 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2338 \relax\relax\relax
2339 }%
2340 }%
2341 \def\HyPsd@unichar@octtwo#1{%
2342 \number\dimexpr.125\dimexpr#1sp\relax\relax
2343 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2344 \relax\relax\relax
2345 }%
2346 \fi

```

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

```

2347 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2348 \ifx\@gobble#1%
2349 \else
2350 [Please insert \textbackslash PrerenderUnicode%
2351 \textbraceleft#1\textbraceright\space
2352 into preamble]%
2353 \fi
2354 }%

```

7 Support of other packages

7.1 Class memoir

```

2355 \@ifclassloaded{memoir}{%
2356 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2357 }{}

```

7.2 Package subfigure

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

```

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

```

```

2379      {}%
2380    }%
2381  }%
2382  \endgroup
2383  \fi
2384  \@esphack
2385 }%
2386 \@ifpackagelater{subfigure}{2002/03/26}{}%
2387   \providecommand*{\toclevel@subfigure}{1}%
2388   \providecommand*{\toclevel@subtable}{1}%
2389 }%
2390 }%
2391 }{}

```

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:

```

2392 \ltx@ifundefined{XR@addURL}{%
2393 }{%

```

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.

```

2394 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2395 \def\XR@dURL#1#2#3#4#5\\{%
2396   {#1}{#2}%
2397   \if!#4!%
2398   \else
2399     {#3}{#4}{\XR@URL}%
2400   \fi
2401 }%
2402 }

2403 \def\Hy@true{true}
2404 \def\Hy@false{false}

```

Providing dummy definitions.

```

2405 \let\literalps@out\@gobble
2406 \newcommand\pdfbookmark[3]{}{}
2407 \def\Acrobatmenu#1#2{\leavevmode#2}
2408 \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

```

2409 \let\HyperRaiseLinkHook\@empty
2410 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2411 \newcount\Hy@SavedSpaceFactor
2412 \def\Hy@SaveSpaceFactor{%
2413   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2414 }
2415 \def\Hy@RestoreSpaceFactor{%
2416   \relax
2417   \ifhmode
2418     \ifnum\Hy@SavedSpaceFactor>\z@
2419       \spacefactor=\Hy@SavedSpaceFactor
2420     \fi
2421   \fi
2422 }
2423 \def\Hy@SaveSavedSpaceFactor{%
2424   \edef\Hy@RestoreSavedSpaceFactor{%
2425     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2426   }%
2427 }
2428 \def\Hy@raisedlink#1{%
2429   \ifvmode
2430     #1%
2431   \else
2432     \Hy@SaveSpaceFactor
2433     \penalty\@M
2434     \smash{%
2435       \begingroup
2436         \let\HyperRaiseLinkLength\@tempdima
2437         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2438         \HyperRaiseLinkHook
2439       \expandafter\endgroup
2440       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2441         \Hy@RestoreSpaceFactor
2442         #1%
2443         \Hy@SaveSpaceFactor
2444       }%
2445     }%
2446     \Hy@RestoreSpaceFactor
2447   \fi
2448 }

```

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

```

2449 \def\Hy@SaveLastskip{%
2450   \let\Hy@RestoreLastskip\relax
2451   \ifvmode
2452     \ifdim\lastskip=\z@
2453       \let\Hy@RestoreLastskip\nobreak
2454     \else
2455       \begingroup
2456         \skip@=-\lastskip
2457       \edef\x{%
2458         \endgroup
2459         \def\noexpand\Hy@RestoreLastskip{%
2460           \noexpand\ifvmode
2461             \noexpand\nobreak
2462             \vskip\the\skip@
2463             \vskip\the\lastskip\relax
2464           \noexpand\fi

```

```

2465     }%
2466     }%
2467     \x
2468     \fi
2469 \else
2470 \ifhmode
2471   \ifdim\lastskip=\z@
2472     \let\Hy@RestoreLastskip\nobreak
2473   \else
2474     \begingroup
2475     \skip@=-\lastskip
2476     \edef\x{%
2477       \endgroup
2478       \def\noexpand\Hy@RestoreLastskip{%
2479         \noexpand\ifhmode
2480         \noexpand\nobreak
2481         \hskip\the\skip@
2482         \hskip\the\lastskip\relax
2483         \noexpand\fi
2484       }%
2485     }%
2486     \x
2487     \fi
2488   \fi
2489 \fi
2490 }%

```

9 Options

```

2491 \SetupKeyvalOptions{%
2492   family=Hyp,%
2493   prefix=HyOpt%
2494 }

```

9.1 Help macros

\Hy@boolkey

```

2495 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2496 \def\Hy@@boolkey[#1]#2#3{%
2497   \edef\Hy@tempa{#3}%
2498   \lowercase\expandafter{%
2499     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2500   }%
2501   \ifx\Hy@tempa\@empty
2502     \let\Hy@tempa\Hy@true
2503   \fi
2504   \ifx\Hy@tempa\Hy@true
2505   \else
2506     \ifx\Hy@tempa\Hy@false
2507     \else
2508       \let\Hy@tempa\relax
2509     \fi
2510   \fi
2511   \ifx\Hy@tempa\relax
2512     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2513   \else
2514     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%

```

```

2515 \csname Hy@#2\Hy@tempa\endcsname
2516 \fi
2517 }

```

\Hy@WarnOptionValue

```

2518 \def\Hy@WarnOptionValue#1#2#3{%
2519 \Hy@Warning{%
2520 Unexpected value '#1'\MessageBreak
2521 of option '#2' instead of\MessageBreak
2522 #3%
2523 }%
2524 }

```

\Hy@DisableOption

```

2525 \def\Hy@DisableOption#1{%
2526 \@ifundefined{KV@Hyp@#1@default}{%
2527 \define@key{Hyp}{#1}%
2528 }{%
2529 \define@key{Hyp}{#1}[]%
2530 }%
2531 {\Hy@WarnOptionDisabled{#1}}%
2532 }

```

\Hy@WarnOptionDisabled

```

2533 \def\Hy@WarnOptionDisabled#1{%
2534 \Hy@Warning{%
2535 Option '#1' has already been used,\MessageBreak
2536 setting the option has no effect%
2537 }%
2538 }

```

\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.

```

2539 \def\Hy@CheckOptionValue#1#2#3{%
2540 \begingroup
2541 \edef\x{#1}%
2542 \@onelevel@sanitize\x
2543 \let\y=y%
2544 \def\do##1##2{%
2545 \def\z{##1}%
2546 \@onelevel@sanitize\z
2547 \ifx\x\z
2548 \let\y=n%
2549 \let\do\@gobbletwo
2550 \fi
2551 }%
2552 #3%
2553 \ifx\y y%
2554 \def\do##1##2{%
2555 * '#1'%
2556 \ifx\##2\\\else\space(##2)\fi
2557 \MessageBreak
2558 }%
2559 \Hy@Warning{%
2560 Values of option '#2':\MessageBreak
2561 #3%
2562 * An empty value disables the option.\MessageBreak

```

```

2563     Unknown value '\x'%
2564   }%
2565   \fi
2566 \endgroup
2567 }

```

```

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument is a
comment.
2568 \def\Hy@DefNameKey#1{%
2569   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2570 }

```

```

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2571 \def\Hy@@DefNameKey#1#2#3{%
2572   \define@key{Hyp}{#2}{%
2573     \edef#1{#1}%
2574     \ifx#1\@empty
2575       \else
2576         \Hy@CheckOptionValue{#1}{#2}{#3}%
2577       \fi
2578   }%
2579   \let#1\@empty
2580 }

```

```

\Hy@UseNameKey
2581 \def\Hy@UseNameKey#1#2{%
2582   \ifx#2\@empty
2583     \else
2584       /#1/#2%
2585     \fi
2586 }

```

9.2 Defining the options

```

2587 \define@key{Hyp}{implicit}[true]{%
2588   \Hy@boolkey{implicit}{#1}%
2589 }
2590 \define@key{Hyp}{draft}[true]{%
2591   \Hy@boolkey{draft}{#1}%
2592 }
2593 \define@key{Hyp}{final}[true]{%
2594   \Hy@boolkey{final}{#1}%
2595 }
2596 \let\KV@Hyp@nolinks\KV@Hyp@draft
2597 \def\Hy@ObsoletePaperOption#1{%
2598   \Hy@WarningNoLine{%
2599     Option '#1' is no longer used%
2600   }%
2601   \define@key{Hyp}{#1}[true]{}%
2602 }
2603 \def\Hy@temp#1{%
2604   \define@key{Hyp}{#1}[true]{%
2605     \Hy@ObsoletePaperOption{#1}%

```

```

2606 }%
2607 }
2608 \Hy@temp{a4paper}
2609 \Hy@temp{a5paper}
2610 \Hy@temp{b5paper}
2611 \Hy@temp{letterpaper}
2612 \Hy@temp{legalpaper}
2613 \Hy@temp{executivepaper}

2614 \define@key{Hyp}{setpagesize}[true]{%
2615   \Hy@boolkey{setpagesize}{#1}%
2616 }
2617 \define@key{Hyp}{debug}[true]{%
2618   \Hy@boolkey{debug}{verbose}{#1}%
2619 }
2620 \define@key{Hyp}{linktocpage}[true]{%
2621   \Hy@boolkey{linktocpage}{#1}%
2622   \ifHy@linktocpage
2623     \let\Hy@linktoc\Hy@linktoc@page
2624   \else
2625     \let\Hy@linktoc\Hy@linktoc@section
2626   \fi
2627 }
2628 \chardef\Hy@linktoc@none=0 %
2629 \chardef\Hy@linktoc@section=1 %
2630 \chardef\Hy@linktoc@page=2 %
2631 \chardef\Hy@linktoc@all=3 %
2632 \ifHy@linktocpage
2633   \let\Hy@linktoc\Hy@linktoc@page
2634 \else
2635   \let\Hy@linktoc\Hy@linktoc@section
2636 \fi
2637 \define@key{Hyp}{linktoc}{%
2638   \ifundefined{Hy@linktoc@#1}{%
2639     \Hy@Warning{%
2640       Unexpected value ‘#1’ of\MessageBreak
2641       option ‘linktoc’ instead of ‘none’,\MessageBreak
2642       ‘section’, ‘page’ or ‘all’%
2643     }%
2644   }{%
2645     \expandafter\let\expandafter\Hy@linktoc
2646       \csname Hy@linktoc@#1\endcsname
2647   }%
2648 }
2649 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2650 \let\XR@ext\relax
2651 \define@key{Hyp}{verbose}[true]{%
2652   \Hy@boolkey{verbose}{#1}%
2653 }
2654 \define@key{Hyp}{typexml}[true]{%
2655   \Hy@boolkey{typexml}{#1}%
2656 }

```

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.

```

2657 \define@key{Hyp}{raiselinks}[true]{%

```



```

2658 \Hy@boolkey{raiselinks}{#1}%
2659 }

```

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

```

2660 \def\Hy@setbreaklinks#1{%
2661   \csname breaklinks#1\endcsname
2662 }

2663 \def\Hy@breaklinks@unsupported{%
2664   \ifx\Hy@setbreaklinks\@gobble
2665     \ifHy@breaklinks
2666       \Hy@WarningNoLine{%
2667         You have enabled option 'breaklinks'.\MessageBreak
2668         But driver '\Hy@driver.def' does not support this.\MessageBreak
2669         Expect trouble with the link areas of broken links%
2670       }%
2671     \fi
2672   \fi
2673 }

2674 \define@key{Hyp}{breaklinks}[true]{%
2675   \Hy@boolkey{breaklinks}{#1}%
2676   \let\Hy@setbreaklinks\@gobble
2677 }

2678 \define@key{Hyp}{localanchorname}[true]{%
2679   \Hy@boolkey{localanchorname}{#1}%
2680 }

```

Determines whether an automatic anchor is put on each page

```

2681 \define@key{Hyp}{pageanchor}[true]{%
2682   \Hy@boolkey{pageanchor}{#1}%
2683 }

```

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.

```

2684 \define@key{Hyp}{plainpages}[true]{%
2685   \Hy@boolkey{plainpages}{#1}%
2686 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what \LaTeX provides?

```

2687 \define@key{Hyp}{naturalnames}[true]{%
2688   \Hy@boolkey{naturalnames}{#1}%
2689 }

```

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

```

2690 \define@key{Hyp}{hypertextnames}[true]{%
2691   \Hy@boolkey{hypertextnames}{#1}%
2692 }

```

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

```

2693 \define@key{Hyp}{nesting}[true]{%
2694   \Hy@boolkey{nesting}{#1}%
2695 }

2696 \define@key{Hyp}{unicode}[true]{%
2697   \Hy@boolkey{unicode}{#1}%
2698   \ifHy@unicode
2699     \def\HyPsd@pdfencoding{unicode}%
2700     \HyPsd@LoadUnicode
2701   \else
2702     \def\HyPsd@pdfencoding{pdfdoc}%

```

```

2703 \fi
2704 }
2705 \def\HyPsd@LoadUnicode{%
2706 \ifundefined{T@PU}{%
2707 \input{puenc.def}%
2708 \HyLinguex@Restore
2709 }{}%
2710 \DeclareFontFamily{PU}{pdf}{}%
2711 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2712 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2713 \global\let\HyPsd@LoadUnicode\relax
2714 }
2715 \Hy@AtBeginDocument{%
2716 \ifx\HyPsd@LoadUnicode\relax
2717 \else
2718 \def\HyPsd@LoadUnicode{%
2719 \Hy@Error{%
2720 Unicode support for bookmarks is not available.\MessageBreak
2721 Activate unicode support by using one of the options\MessageBreak
2722 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2723 in the preamble%
2724 }\@ehc
2725 \global\let\HyPsd@LoadUnicode\relax
2726 \global\Hy@unicodedefalse
2727 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2728 }%
2729 \fi
2730 }
2731 \define@key{Hyp}{pdfencoding}{%
2732 \edef\HyPsd@temp{#1}%
2733 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2734 \let\HyPsd@pdfencoding\HyPsd@temp
2735 \Hy@unicodedefalse
2736 \else
2737 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2738 \z@
2739 \else
2740 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2741 \z@
2742 \else
2743 \@ne
2744 \fi
2745 \fi
2746 \let\HyPsd@pdfencoding\HyPsd@temp
2747 \hypersetup{unicode}%
2748 \ifHy@unicode
2749 \def\HyPsd@pdfencoding{#1}%
2750 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2751 \HyPsd@LoadStringEnc
2752 \fi
2753 \else
2754 \Hy@Warning{Cannot switch to unicode bookmarks}%
2755 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2756 \fi
2757 \else
2758 \@onelevel@sanitize\HyPsd@temp
2759 \Hy@Warning{%

```

```

2760      Values of option 'pdfencoding':\MessageBreak
2761      'pdfdoc', 'unicode', 'auto':\MessageBreak
2762      Ignoring unknown value '\HyPsd@temp'%
2763    }%
2764  \fi
2765 \fi
2766 }
2767 \def\HyPsd@pdfencoding@auto{auto}
2768 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2769 \def\HyPsd@pdfencoding@unicode{unicode}
2770 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2771 \def\HyPsd@LoadStringEnc{%
2772   \RequirePackage{stringenc}[2009/12/15]%
2773   \let\HyPsd@LoadStringEnc\relax
2774 }
2775 \Hy@AtBeginDocument{%
2776   \ifpackageloaded{stringenc}{%
2777     \let\HyPsd@LoadStringEnc\relax
2778   }{%
2779     \def\HyPsd@LoadStringEnc{%
2780       \Hy@WarningNoLine{%
2781         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2782         in the preamble or load the package there%
2783       }%
2784     }%
2785   }%
2786 }
2787 \def\hypersetup{\kvsetkeys{Hyp}}
2788 \newif\ifHy@setpdfversion
2789 \define@key{Hyp}{pdfversion}{%
2790   \ifundefined{Hy@pdfversion@#1}{%
2791     \PackageWarning{hyperref}{%
2792       Unsupported PDF version '#1'.\MessageBreak
2793       Valid values: 1.2 until 1.9%
2794     }%
2795   }{%
2796     \Hy@setpdfversiontrue
2797     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2798   }%
2799 }
2800 \@namedef{Hy@pdfversion@1.2}{2}%
2801 \@namedef{Hy@pdfversion@1.3}{3}%
2802 \@namedef{Hy@pdfversion@1.4}{4}%
2803 \@namedef{Hy@pdfversion@1.5}{5}%
2804 \@namedef{Hy@pdfversion@1.6}{6}%
2805 \@namedef{Hy@pdfversion@1.7}{7}%
2806 \@namedef{Hy@pdfversion@1.8}{8}%
2807 \@namedef{Hy@pdfversion@1.9}{9}%
2808 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2809 \newif\ifHy@DviMode
2810 \let\Hy@DviErrMsg\ltx@empty
2811 \ifpdf
2812   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2813 \else

```

```

2814 \ifxetex
2815   \def\Hy@DviErrMsg{XeTeX is running}%
2816 \else
2817   \ifvtex
2818     \ifvtexdvi
2819       \Hy@DviModetrue
2820     \else
2821       \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2822     \fi
2823   \else
2824     \Hy@DviModetrue
2825   \fi
2826 \fi
2827 \fi
2828 \def\HyOpt@CheckDvi#1{%
2829   \ifHy@DviMode
2830     \expandafter\ltx@firstofone
2831   \else
2832     \Hy@Error{%
2833       Wrong DVI mode driver option ‘#1’,\MessageBreak
2834       because \Hy@DviErrMsg
2835     }\@ehc
2836     \expandafter\ltx@gobble
2837   \fi
2838 }
2839 \DeclareVoidOption{tex4ht}{%
2840   \Hy@texhttrue
2841   \kvsetkeys{Hyp}{colorlinks=true}%
2842   \def\BeforeTeXIVht{\RequirePackage{color}}%
2843   \def\Hy@driver{htex4ht}%
2844   \def\MaybeStopEarly{%
2845     \Hy@Message{Stopped early}%
2846     \Hy@AtBeginDocument{%
2847       \PDF@FinishDoc
2848       \gdef\PDF@FinishDoc{}%
2849     }%
2850   \endinput
2851   }%
2852 }
2853 \DeclareVoidOption{pdftex}{%
2854   \ifpdf
2855     \def\Hy@driver{hpdftex}%
2856   \else
2857     \Hy@Error{%
2858       Wrong driver option ‘pdftex’,\MessageBreak
2859       because pdfTeX in PDF mode is not detected%
2860     }\@ehc
2861   \fi
2862 }
2863 \DeclareVoidOption{nativepdf}{%
2864   \HyOpt@CheckDvi{nativepdf}{%
2865     \def\Hy@driver{hdvips}%
2866   }%
2867 }
2868 \DeclareVoidOption{dvipdfm}{%
2869   \HyOpt@CheckDvi{dvipdfm}{%
2870     \def\Hy@driver{hdvipdfm}%

```

```

2871 }%
2872 }
2873 \DeclareVoidOption{dvipdfmx}{%
2874   \HyOpt@CheckDvi{dvipdfmx}{%
2875     \def\Hy@driver{hdvipdfm}%
2876   }%
2877 }
2878 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2879   \expandafter\ifx\cename if#1\expandafter\endcsname
2880     \cename iftrue\endcsname
2881   \chardef\SpecialDvipdfmxOutlineOpen\@ne
2882   \else
2883     \chardef\SpecialDvipdfmxOutlineOpen\z@
2884   \fi
2885 }
2886 \DeclareVoidOption{xetex}{%
2887   \ifxetex
2888     \def\Hy@driver{hxetex}%
2889   \else
2890     \Hy@Error{%
2891       Wrong driver option 'xetex',\MessageBreak
2892       because XeTeX is not detected%
2893     }\@ehc
2894   \fi
2895 }
2896 \DeclareVoidOption{pdfmark}{%
2897   \HyOpt@CheckDvi{pdfmark}{%
2898     \def\Hy@driver{hdvips}%
2899   }%
2900 }
2901 \DeclareVoidOption{dvips}{%
2902   \HyOpt@CheckDvi{dvips}{%
2903     \def\Hy@driver{hdvips}%
2904   }%
2905 }
2906 \DeclareVoidOption{hypertex}{%
2907   \HyOpt@CheckDvi{hypertex}{%
2908     \def\Hy@driver{hypertex}%
2909   }%
2910 }
2911 \let\Hy@MaybeStopNow\relax
2912 \DeclareVoidOption{vtex}{%
2913   \ifvtex
2914     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2915     \def\Hy@driver{hvtex}%
2916   \else
2917     \ifnum\OpMode=10\relax
2918       \def\Hy@driver{hvtexhtm}%
2919       \def\MaybeStopEarly{%
2920         \Hy@Message{Stopped early}%
2921         \Hy@AtBeginDocument{%
2922           \PDF@FinishDoc
2923         }\gdef\PDF@FinishDoc{}}%
2924     }%
2925     \endinput
2926   }%
2927   \else

```

```

2928     \Hy@Error{%
2929         Wrong driver option 'vtex',\MessageBreak
2930         because of wrong OpMode (\the\OpMode)%
2931     }\@ehc
2932 \fi
2933 \fi
2934 \else
2935     \Hy@Error{%
2936         Wrong driver option 'vtex',\MessageBreak
2937         because VTeX is not running%
2938     }\@ehc
2939 \fi
2940 }
2941 \DeclareVoidOption{vtexpdfmark}{%
2942     \ifvtex
2943         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2944         \def\Hy@driver{hvtexmrk}%
2945     \else
2946         \Hy@Error{%
2947             Wrong driver option 'vtexpdfmark',\MessageBreak
2948             because of wrong OpMode (\the\OpMode)%
2949         }\@ehc
2950     \fi
2951 \else
2952     \Hy@Error{%
2953         Wrong driver option 'vtexpdfmark,\MessageBreak
2954         because VTeX is not running%
2955     }\@ehc
2956 \fi
2957 }
2958 \DeclareVoidOption{dviwindo}{%
2959     \HyOpt@CheckDvi{dviwindo}{%
2960         \def\Hy@driver{hdviwind}%
2961         \kvsetkeys{Hyp}{colorlinks}%
2962         \PassOptionsToPackage{dviwindo}{color}%
2963     }%
2964 }
2965 \DeclareVoidOption{dvipsone}{%
2966     \HyOpt@CheckDvi{dvipsone}{%
2967         \def\Hy@driver{hdvipson}%
2968     }%
2969 }
2970 \DeclareVoidOption{textures}{%
2971     \HyOpt@CheckDvi{textures}{%
2972         \def\Hy@driver{htexture}%
2973     }%
2974 }
2975 \DeclareVoidOption{latex2html}{%
2976     \HyOpt@CheckDvi{latex2html}{%
2977         \Hy@AtBeginDocument{\@@latextohtmlX}%
2978     }%
2979 }

```

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

```

2980 \DeclareVoidOption{ps2pdf}{%
2981     \HyOpt@CheckDvi{ps2pdf}{%
2982         \def\Hy@driver{hdvips}%
2983     }%

```

```

2984 }
2985 \let\HyOpt@DriverFallback\ltx@empty
2986 \define@key{Hyp}{driverfallback}{%
2987   \ifHy@DviMode
2988     \def\HyOpt@DriverFallback{#1}%
2989     \Hy@Match\HyOpt@DriverFallback{%
2990       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf| %
2991       latex2html|tex4ht)$%
2992     }{}{%
2993       \let\HyOpt@DriverFallback\ltx@empty
2994     }%
2995   \fi
2996 }

```

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.

```

2997 \define@key{Hyp}{hyperfigures}[true]{%
2998   \Hy@boolkey[hyperfigures]{figures}{#1}%
2999 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3000 \define@key{Hyp}{hyperfootnotes}[true]{%
3001   \Hy@boolkey[hyperfootnotes]{#1}%
3002 }

```

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

```

3003 \def\back@none{none}
3004 \def\back@section{section}
3005 \def\back@page{page}
3006 \def\back@slide{slide}
3007 \define@key{Hyp}{backref}[section]{%
3008   \lowercase{\def\Hy@tempa{#1}}%
3009   \ifx\Hy@tempa@empty
3010     \let\Hy@tempa\back@section
3011   \fi
3012   \ifx\Hy@tempa\Hy@false
3013     \let\Hy@tempa\back@none
3014   \fi
3015   \ifx\Hy@tempa\back@slide
3016     \let\Hy@tempa\back@section
3017   \fi
3018   \ifx\Hy@tempa\back@page
3019     \PassOptionsToPackage{hyperpageref}{backref}%
3020     \Hy@backreftrue
3021   \else
3022     \ifx\Hy@tempa\back@section
3023       \PassOptionsToPackage{hyperref}{backref}%
3024       \Hy@backreftrue
3025     \else
3026       \ifx\Hy@tempa\back@none
3027         \Hy@backreffalse
3028       \else
3029         \Hy@WarnOptionValue{#1}{backref}{%
3030           'section', 'slide', 'page', 'none',\MessageBreak
3031           or 'false'}%
3032       \fi

```

```

3033 \fi
3034 \fi
3035 }
3036 \define@key{Hyp}{pagebackref}[true]{%
3037 \edef\Hy@tempa{#1}%
3038 \lowercase\expandafter{%
3039 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3040 }%
3041 \ifx\Hy@tempa\@empty
3042 \let\Hy@tempa\Hy@true
3043 \fi
3044 \ifx\Hy@tempa\Hy@true
3045 \PassOptionsToPackage{hyperpageref}{backref}%
3046 \Hy@backreftrue
3047 \else
3048 \ifx\Hy@tempa\Hy@false
3049 \Hy@backreffalse
3050 \else
3051 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3052 \fi
3053 \fi
3054 }

```

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

```

3055 \define@key{Hyp}{hyperindex}[true]{%
3056 \Hy@boolkey{hyperindex}{#1}%
3057 }

```

Configuration of encap char.

```

3058 \define@key{Hyp}{encap}[|]{%
3059 \def\HyInd@EncapChar{#1}%
3060 }

```

12 Language options

The `\autoref` feature depends on the language.

```

3061 \def\HyLang@afrikaans{%
3062 \def\equationautorefname{Vergelyking}%
3063 \def\footnoteautorefname{Voetnota}%
3064 \def\itemautorefname{Item}%
3065 \def\figureautorefname{Figuur}%
3066 \def\tableautorefname{Tabel}%
3067 \def\partautorefname{Deel}%
3068 \def\appendixautorefname{Bylae}%
3069 \def\chapterautorefname{Hoofstuk}%
3070 \def\sectionautorefname{Afdeling}%
3071 \def\subsectionautorefname{Subafdeling}%
3072 \def\subsubsectionautorefname{Subsubafdeling}%
3073 \def\paragraphautorefname{Paragraaf}%
3074 \def\subparagraphautorefname{Subparagraaf}%
3075 \def\FancyVerbLineautorefname{Lyn}%
3076 \def\theoremautorefname{Teorema}%
3077 \def\pageautorefname{Bladsy}%
3078 }
3079 \def\HyLang@english{%
3080 \def\equationautorefname{Equation}%

```



```

3081 \def\footnoteautorefname{footnote}%
3082 \def\itemautorefname{item}%
3083 \def\figureautorefname{Figure}%
3084 \def\tableautorefname{Table}%
3085 \def\partautorefname{Part}%
3086 \def\appendixautorefname{Appendix}%
3087 \def\chapterautorefname{chapter}%
3088 \def\sectionautorefname{section}%
3089 \def\subsectionautorefname{subsection}%
3090 \def\subsubsectionautorefname{subsubsection}%
3091 \def\paragraphautorefname{paragraph}%
3092 \def\subparagraphautorefname{subparagraph}%
3093 \def\FancyVerbLineautorefname{line}%
3094 \def\theoremautorefname{Theorem}%
3095 \def\pageautorefname{page}%
3096 }
3097 \def\HyLang@french{%
3098 \def\equationautorefname{'Equation}%
3099 \def\footnoteautorefname{note}%
3100 \def\itemautorefname{item}%
3101 \def\figureautorefname{Figure}%
3102 \def\tableautorefname{Tableau}%
3103 \def\partautorefname{Partie}%
3104 \def\appendixautorefname{Appendice}%
3105 \def\chapterautorefname{chapitre}%
3106 \def\sectionautorefname{section}%
3107 \def\subsectionautorefname{sous-section}%
3108 \def\subsubsectionautorefname{sous-sous-section}%
3109 \def\paragraphautorefname{paragraphe}%
3110 \def\subparagraphautorefname{sous-paragraphe}%
3111 \def\FancyVerbLineautorefname{ligne}%
3112 \def\theoremautorefname{Th\'eor\`eme}%
3113 \def\pageautorefname{page}%
3114 }
3115 \def\HyLang@german{%
3116 \def\equationautorefname{Gleichung}%
3117 \def\footnoteautorefname{Fu\ss note}%
3118 \def\itemautorefname{Punkt}%
3119 \def\figureautorefname{Abbildung}%
3120 \def\tableautorefname{Tabelle}%
3121 \def\partautorefname{Teil}%
3122 \def\appendixautorefname{Anhang}%
3123 \def\chapterautorefname{Kapitel}%
3124 \def\sectionautorefname{Abschnitt}%
3125 \def\subsectionautorefname{Unterabschnitt}%
3126 \def\subsubsectionautorefname{Unterunterabschnitt}%
3127 \def\paragraphautorefname{Absatz}%
3128 \def\subparagraphautorefname{Unterabsatz}%
3129 \def\FancyVerbLineautorefname{Zeile}%
3130 \def\theoremautorefname{Theorem}%
3131 \def\pageautorefname{Seite}%
3132 }
3133 \def\HyLang@italian{%
3134 \def\equationautorefname{Equazione}%
3135 \def\footnoteautorefname{nota}%
3136 \def\itemautorefname{punto}%
3137 \def\figureautorefname{Figura}%

```

```

3138 \def\tableautorefname{Tabella}%
3139 \def\partautorefname{Parte}%
3140 \def\appendixautorefname{Appendice}%
3141 \def\chapterautorefname{Capitolo}%
3142 \def\sectionautorefname{sezione}%
3143 \def\subsectionautorefname{sottosezione}%
3144 \def\subsubsectionautorefname{sottosottosezione}%
3145 \def\paragraphautorefname{paragrafo}%
3146 \def\subparagraphautorefname{sottoparagrafo}%
3147 \def\FancyVerbLineautorefname{linea}%
3148 \def\theoremautorefname{Teorema}%
3149 \def\pageautorefname{Pag.\@}%
3150 }
3151 \def\HyLang@magyar{%
3152 \def\equationautorefname{Egyenlet}%
3153 \def\footnoteautorefname{l\'abjegyzet}%
3154 \def\itemautorefname{Elem}%
3155 \def\figureautorefname{'Abra}%
3156 \def\tableautorefname{T\'abl\'azat}%
3157 \def\partautorefname{R\'esz}%
3158 \def\appendixautorefname{F\'uggel\'ek}%
3159 \def\chapterautorefname{fejezet}%
3160 \def\sectionautorefname{szakasz}%
3161 \def\subsectionautorefname{alszakasz}%
3162 \def\subsubsectionautorefname{alalszakasz}%
3163 \def\paragraphautorefname{bekezd\'es}%
3164 \def\subparagraphautorefname{albekezd\'es}%
3165 \def\FancyVerbLineautorefname{sor}%
3166 \def\theoremautorefname{T\'etel}%
3167 \def\pageautorefname{oldal}%
3168 }
3169 \def\HyLang@portuges{%
3170 \def\equationautorefname{Equa\c c\~ao}%
3171 \def\footnoteautorefname{Nota de rodap\'e}%
3172 \def\itemautorefname{Item}%
3173 \def\figureautorefname{Figura}%
3174 \def\tableautorefname{Tabela}%
3175 \def\partautorefname{Parte}%
3176 \def\appendixautorefname{Ap\^endice}%
3177 \def\chapterautorefname{Cap\'itulo}%
3178 \def\sectionautorefname{Se\c c\~ao}%
3179 \def\subsectionautorefname{Subse\c c\~ao}%
3180 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3181 \def\paragraphautorefname{par\'agrafo}%
3182 \def\subparagraphautorefname{subpar\'agrafo}%
3183 \def\FancyVerbLineautorefname{linha}%
3184 \def\theoremautorefname{Teorema}%
3185 \def\pageautorefname{P\'agina}%
3186 }

```

Next commented section for Russian is provided by Olga Lapko.

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

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

is the \appendixautorefname.

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

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

```
3188 \def\equationautorefname{\cyr\cyrv\cyrrery\cyrr.}%
```

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

```
3189 % \def\equationautorefname{%
```

```
3190 % \cyr\cyrv\cyrrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
```

```
3191 % }%
```

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

```
3192 \def\footnoteautorefname{%
```

```
3193 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3194 }%
```

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

```
3195 % \def\footnoteautorefname{%
```

```
3196 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrch\cyrn\cyro\cyre\ %
```

```
3197 % \cyrp\cyrr\cyri\cyrm\cyre\cyrrch\cyra\cyrn\cyri\cyre
```

```
3198 % }%
```

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

```
3199 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3200 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%
```

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

```
3201 \def\itemautorefname{\cyr\cyrp.}%
```

```
3202 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

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

```
3203 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3204 \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.

```
3205 \def\partautorefname{\cyr\cyrrch.}%
```

```
3206 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
```

```
3207 \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.

```
3208 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
```

```
3209 % \def\appendixautorefname{%
```

```
3210 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
```

```
3211 % }%
```

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.

```
3212 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3213 \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.

```
3214 \def\paragraphautorefname{\cyr\cyrp.}%
3215 \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.

```
3216 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3217 % \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.

```
3218 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3219 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3220 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3221 % \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 . . .

```
3222 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3223 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3224 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3225 \def\pageautorefname{\cyr\cyrs.}%
3226 }
```

```
3227 \def\HyLang@spanish{%
3228 \def\equationautorefname{Ecuaci'on}%
3229 \def\footnoteautorefname{Nota a pie de p'agina}%
3230 \def\itemautorefname{Elemento}%
3231 \def\figureautorefname{Figura}%
3232 \def\tableautorefname{Tabla}%
3233 \def\partautorefname{Parte}%
3234 \def\appendixautorefname{Ap'endice}%
3235 \def\chapterautorefname{Cap'itulo}%
3236 \def\sectionautorefname{Secci'on}%
3237 \def\subsectionautorefname{Subsecci'on}%
3238 \def\subsubsectionautorefname{Subsubsecci'on}%
3239 \def\paragraphautorefname{P'arrafo}%
3240 \def\subparagraphautorefname{Subp'arrafo}%
3241 \def\FancyVerbLineautorefname{L'inea}%
```

```

3242 \def\theoremautorefname{Teorema}%
3243 \def\pageautorefname{P\'agina}%
3244 }
3245 \def\HyLang@vietnamese{%
3246 \def\equationautorefname{Ph\uhorn{}}\ohorn{ng tr\'inh}%
3247 \def\footnoteautorefname{Ch\'u th\'ich}%
3248 \def\itemautorefname{m\du{c}}%
3249 \def\figureautorefname{H\'inh}%
3250 \def\tableautorefname{B\h{a}ng}%
3251 \def\partautorefname{Ph\'acircumflex{n}}%
3252 \def\appendixautorefname{Ph\du{ }l\du{c}}%
3253 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
3254 \def\sectionautorefname{m\du{c}}%
3255 \def\subsectionautorefname{m\du{c}}%
3256 \def\subsubsectionautorefname{m\du{c}}%
3257 \def\paragraphautorefname{\dj{ }o\da{n}}%
3258 \def\subparagraphautorefname{\dj{ }o\da{n}}%
3259 \def\FancyVerbLineautorefname{d\'ong}%
3260 \def\theoremautorefname{DJ{ }d{i}nh l\'y}%
3261 \def\pageautorefname{Trang}%
3262 }

```

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

```

3263 \def\HyLang@addto#1#2{%
3264   #2%
3265   \@temptokena{#2}%
3266   \ifx#1\relax
3267     \let#1\@empty
3268   \fi
3269   \ifx#1\@undefined
3270     \edef#1{\the\@temptokena}%
3271   \else
3272     \toks@\expandafter{#1}%
3273     \edef#1{\the\toks@\the\@temptokena}%
3274   \fi
3275   \@temptokena{}\toks@\@temptokena
3276 }
3277 \def\HyLang@DeclareLang#1#2#3{%
3278   \ifpackagewith{babel}{#1}{%
3279     \expandafter\HyLang@addto
3280     \csname extras#1\expandafter\endcsname
3281     \csname HyLang@#2\endcsname
3282     \begingroup
3283     \edef\x{\endgroup
3284       #3%
3285     }%
3286     \x
3287     \@namedef{HyLang@#1@done}{}%
3288   }{%
3289     \begingroup
3290     \edef\x##1##2{%
3291       \noexpand\ifx##2\relax
3292         \errmessage{No definitions for language #2' found!}%
3293       \noexpand\fi
3294     }%
3295     \noexpand\define@key{Hyp}{#1}[]{}%

```

```

3296 \noexpand\@ifundefined{HyLang@#1@done}{}%
3297 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3298 #3%
3299 \noexpand\@namedef{HyLang@#1@done}{}%
3300 }{}%
3301 }%
3302 }%
3303 \expandafter\x\csname extras#1\expandafter\endcsname
3304 \csname HyLang@#2\endcsname
3305 }
3306 \HyLang@DeclareLang{english}{english}{}
3307 \HyLang@DeclareLang{UKenglish}{english}{}
3308 \HyLang@DeclareLang{british}{english}{}
3309 \HyLang@DeclareLang{USenglish}{english}{}
3310 \HyLang@DeclareLang{american}{english}{}
3311 \HyLang@DeclareLang{german}{german}{}
3312 \HyLang@DeclareLang{austrian}{german}{}
3313 \HyLang@DeclareLang{ngerman}{german}{}
3314 \HyLang@DeclareLang{naustrian}{german}{}
3315 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3316 \HyLang@DeclareLang{brazil}{portuges}{}
3317 \HyLang@DeclareLang{brazilian}{portuges}{}
3318 \HyLang@DeclareLang{portuguese}{portuges}{}
3319 \HyLang@DeclareLang{spanish}{spanish}{}
3320 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3321 \HyLang@DeclareLang{french}{french}{}
3322 \HyLang@DeclareLang{frenchb}{french}{}
3323 \HyLang@DeclareLang{français}{french}{}
3324 \HyLang@DeclareLang{acadian}{french}{}
3325 \HyLang@DeclareLang{canadien}{french}{}
3326 \HyLang@DeclareLang{italian}{italian}{}
3327 \HyLang@DeclareLang{magyar}{magyar}{}
3328 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3329 \DeclareVoidOption{vietnamese}{}%
3330 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3331 \Hy@AtEndOfPackage{%
3332 \@ifundefined{T@PU}{}{}%
3333 \input{pvnenc.def}%
3334 }%
3335 }%
3336 }
3337 \DeclareVoidOption{vietnam}{}%
3338 \HyLang@addto\extravietnam\HyLang@vietnamese
3339 \Hy@AtEndOfPackage{%
3340 \@ifundefined{T@PU}{}{}%
3341 \input{pvnenc.def}%
3342 }%
3343 }%
3344 }

```

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

```

3345 \DeclareVoidOption{arabic}{}%
3346 \Hy@AtEndOfPackage{%
3347 \@ifundefined{T@PU}{}{}%
3348 \input{puarenc.def}%
3349 }%

```

```

3350 }%
3351 }

```

13 Options to change appearance of links

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

```

3352 \define@key{Hyp}{colorlinks}[true]{%
3353   \Hy@boolkey{colorlinks}{#1}%
3354 }
3355 \DeclareVoidOption{hidelinks}{%
3356   \Hy@colorlinksfalse
3357   \Hy@ocgcolorlinksfalse
3358   \Hy@frenchlinksfalse
3359   \def\Hy@colorlink##1{\begingroup}%
3360   \def\Hy@endcolorlink{\endgroup}%
3361   \def\@pdfborder{0 0 0}%
3362   \let\@pdfborderstyle\ltx@empty
3363 }
3364 \define@key{Hyp}{ocgcolorlinks}[true]{%
3365   \Hy@boolkey{ocgcolorlinks}{#1}%
3366 }
3367 \Hy@AtBeginDocument{%
3368   \begingroup
3369   \@ifundefined{OBJ@OCG@view}{%
3370     \ifHy@ocgcolorlinks
3371       \Hy@Warning{%
3372         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3373         using ‘colorlinks’ instead%
3374       }%
3375     \fi
3376   }{}%
3377   \endgroup
3378 }
3379 \define@key{Hyp}{frenchlinks}[true]{%
3380   \Hy@boolkey{frenchlinks}{#1}%
3381 }

```

14 Bookmarking

```

3382 \begingroup\expandafter\expandafter\expandafter\endgroup
3383 \expandafter\ifx\csname chapter\endcsname\relax
3384   \def\toclevel@part{0}%
3385 \else
3386   \def\toclevel@part{-1}%
3387 \fi
3388 \def\toclevel@chapter{0}
3389 \def\toclevel@section{1}
3390 \def\toclevel@subsection{2}
3391 \def\toclevel@subsubsection{3}
3392 \def\toclevel@paragraph{4}
3393 \def\toclevel@subparagraph{5}
3394 \def\toclevel@figure{0}
3395 \def\toclevel@table{0}
3396 \@ifpackageloaded{listings}{%
3397   \providecommand*\theHlstlisting{\thelstlisting}%

```

```

3398 \providecommand*\toclevel@lstlisting{0}%
3399 }{}
3400 \@ifpackageloaded{listing}{%
3401 \providecommand*\theHlisting{\thelisting}%
3402 \providecommand*\toclevel@listing{0}%
3403 }{}

3404 \define@key{Hyp}{bookmarks}[true]{%
3405 \Hy@boolkey{bookmarks}{#1}%
3406 }

3407 \define@key{Hyp}{bookmarksopen}[true]{%
3408 \Hy@boolkey{bookmarksopen}{#1}%
3409 }

```

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.

```

3410 \let\Hy@bookmarksdepth\c@tocdepth
3411 \define@key{Hyp}{bookmarksdepth}[]{%
3412 \begingroup
3413 \edef\x{#1}%
3414 \ifx\x\empty
3415 \global\let\Hy@bookmarksdepth\c@tocdepth
3416 \else
3417 \@ifundefined{toclevel@\x}{%
3418 \@onelevel@sanitize\x
3419 \edef\y{\expandafter\@car\x\@nil}%
3420 \ifcase 0\expandafter\ifx\y-1\fi
3421 \expandafter\ifnum\expandafter\y>47 %
3422 \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3423 \Hy@Warning{Unknown document division name (\x)}%
3424 \else
3425 \setbox\z@=\hbox{%
3426 \count@=\x
3427 \xdef\Hy@bookmarksdepth{\the\count@}%
3428 }%
3429 \fi
3430 }{%
3431 \setbox\z@=\hbox{%
3432 \count@=\csname toclevel@\x\endcsname
3433 \xdef\Hy@bookmarksdepth{\the\count@}%
3434 }%
3435 }%
3436 \fi
3437 \endgroup
3438 }

```

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

```

3439 \define@key{Hyp}{bookmarksopenlevel}{%
3440 \def\@bookmarksopenlevel{#1}%
3441 }

```



```

3442 \def\@bookmarksopenlevel{\maxdimen}
3443 % 'bookmarkstype' to specify which 'toc' file to mimic
3444 \define@key{Hyp}{bookmarkstype}{%
3445   \def\Hy@bookmarkstype{#1}%
3446 }
3447 \def\Hy@bookmarkstype{toc}

```

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

```

3448 \define@key{Hyp}{bookmarksnumbered}[true]{%
3449   \Hy@boolkey{bookmarksnumbered}{#1}%
3450 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3451 \define@key{Hyp}{CJKbookmarks}[true]{%
3452   \Hy@boolkey{CJKbookmarks}{#1}%
3453 }

3454 \def\Hy@temp#1{%
3455   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3456 }

3457 \def\Hy@@temp#1#2#3{%
3458   \define@key{Hyp}{#2color}{%
3459     \HyColor@HyperrefColor{##1}#1%
3460   }%
3461   \def##1{#3}%
3462 }

3463 \Hy@temp{link}{red}
3464 \Hy@temp{anchor}{black}
3465 \Hy@temp{cite}{green}
3466 \Hy@temp{file}{cyan}
3467 \Hy@temp{url}{magenta}
3468 \Hy@temp{menu}{red}
3469 \Hy@temp{run}{\@filecolor}
3470 \define@key{Hyp}{pagecolor}{%
3471   \Hy@WarningPageColor
3472 }
3473 \def\Hy@WarningPageColor{%
3474   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3475   \global\let\Hy@WarningPageColor\relax
3476 }

3477 \define@key{Hyp}{allcolors}{%
3478   \HyColor@HyperrefColor{#1}\@linkcolor
3479   \HyColor@HyperrefColor{#1}\@anchorcolor
3480   \HyColor@HyperrefColor{#1}\@citecolor
3481   \HyColor@HyperrefColor{#1}\@filecolor
3482   \HyColor@HyperrefColor{#1}\@urlcolor
3483   \HyColor@HyperrefColor{#1}\@menucolor
3484   \HyColor@HyperrefColor{#1}\@runcolor
3485 }

3486 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3487 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3488 \let\@baseurl\@empty
3489 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3490 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3491 \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.

```
3492 \let\@pdfpagetransition\relax
3493 \define@key{Hyp}{pdfpagetransition}{%
3494   \def\@pdfpagetransition{#1}%
3495 }
```

`\@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.

```
3496 \let\@pdfpageduration\relax
3497 \define@key{Hyp}{pdfpageduration}{%
3498   \def\@pdfpageduration{#1}%
3499   \Hy@Match\@pdfpageduration{%
3500     ^([0-9]+\.[0-9]*|0-9)*\.[0-9]+)$%
3501   }{%
3502     \Hy@Warning{%
3503       Invalid value '\@pdfpageduration'\MessageBreak
3504       of option 'pdfpageduration'\MessageBreak
3505       is replaced by an empty value%
3506     }%
3507     \let\@pdfpageduration\ltx@empty
3508   }%
3509 }
```

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.

```
3510 \newif\ifHy@useHidKey
3511 \Hy@useHidKeyfalse
3512 \define@key{Hyp}{pdfpagehidden}[true]{%
3513   \Hy@boolkey{pdfpagehidden}{#1}%
3514   \ifHy@pdfpagehidden
3515     \global\Hy@useHidKeytrue
3516   \fi
3517 }
```

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).

```
3518 \def\Hy@ColorList{cite,file,link,menu,run,url}
3519 \@for\Hy@temp:=\Hy@ColorList\do{%
3520   \edef\Hy@temp{%
3521     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3522       \noexpand\Hy@Color@HyperrefBorderColor
3523       {##1}%
3524       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3525       {hyperref}%
3526       {\Hy@temp bordercolor}%
3527     }%
3528   }%
3529 }
```

```

3527 }%
3528 }%
3529 \Hy@temp
3530 }
3531 \define@key{Hyp}{pagebordercolor}{%
3532 \Hy@WarningPageBorderColor
3533 }
3534 \def\Hy@WarningPageBorderColor{%
3535 \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3536 \global\let\Hy@WarningPageBorderColor\relax
3537 }
3538 \define@key{Hyp}{allbordercolors}{%
3539 \def\Hy@temp##1##2{%
3540 \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3541 }%
3542 \Hy@temp\@citebordercolor{cite}%
3543 \Hy@temp\@filebordercolor{file}%
3544 \Hy@temp\@linkbordercolor{link}%
3545 \Hy@temp\@menubordercolor{menu}%
3546 \Hy@temp\@runbordercolor{run}%
3547 \Hy@temp\@urlbordercolor{url}%
3548 }
3549 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3550 \Hy@DefNameKey{pdfhighlight}{%
3551 \do{/I}{Invert}%
3552 \do{/N}{None}%
3553 \do{/O}{Outline}%
3554 \do{/P}{Push}%
3555 }
3556 \define@key{Hyp}{pdfborder}{%
3557 \let\Hy@temp\@pdfborder
3558 \def\@pdfborder{#1}%
3559 \Hy@Match\@pdfborder{%
3560 ^\HyPat@NonNegativeReal/ %
3561 \HyPat@NonNegativeReal/ %
3562 \HyPat@NonNegativeReal/%
3563 ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?}%
3564 }{}{%
3565 \Hy@Warning{%
3566 Invalid value '\@pdfborder'\MessageBreak
3567 for option 'pdfborder'\MessageBreak
3568 Option setting is ignored%
3569 }%
3570 \let\@pdfborder\Hy@temp
3571 }%
3572 }
3573 \define@key{Hyp}{pdfborderstyle}{%
3574 \let\Hy@temp\@pdfborderstyle
3575 \def\@pdfborderstyle{#1}%
3576 \Hy@Match\@pdfborderstyle{%
3577 ^%
3578 ( */Type */Border%
3579 | */W +\HyPat@NonNegativeReal/%
3580 | */S */[SDBIU]%
3581 | */D *[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?]?}%
3582 )* *}%
3583 }{}{%

```

```

3584 \Hy@Warning{%
3585   Invalid value '\@pdfborderstyle'\MessageBreak
3586   for option 'pdfborderstyle'\MessageBreak
3587   Option setting is ignored%
3588 }%
3589 \let\@pdfborderstyle\Hy@temp
3590 }%
3591 }
3592 \def\Hy@setpdfborder{%
3593   \ifx\@pdfborder\@empty
3594   \else
3595     /Border[\@pdfborder]%
3596   \fi
3597   \ifx\@pdfborderstyle\@empty
3598   \else
3599     /BS<<\@pdfborderstyle>>%
3600   \fi
3601 }
3602 \Hy@DefNameKey{pdfpagemode}{%
3603   \do{UseNone}{}%
3604   \do{UseOutlines}{}%
3605   \do{UseThumbs}{}%
3606   \do{FullScreen}{}%
3607   \do{UseOC}{PDF 1.5}%
3608   \do{UseAttachments}{PDF 1.6}%
3609 }
3610 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3611   \do{UseNone}{}%
3612   \do{UseOutlines}{}%
3613   \do{UseThumbs}{}%
3614   \do{FullScreen}{}%
3615   \do{UseOC}{PDF 1.5}%
3616   \do{UseAttachments}{PDF 1.6}%
3617 }
3618 \Hy@DefNameKey{pdfdirection}{%
3619   \do{L2R}{Left to right}%
3620   \do{R2L}{Right to left}%
3621 }
3622 \Hy@DefNameKey{pdfviewarea}{%
3623   \do{MediaBox}{}%
3624   \do{CropBox}{}%
3625   \do{BleedBox}{}%
3626   \do{TrimBox}{}%
3627   \do{ArtBox}{}%
3628 }
3629 \Hy@DefNameKey{pdfviewclip}{%
3630   \do{MediaBox}{}%
3631   \do{CropBox}{}%
3632   \do{BleedBox}{}%
3633   \do{TrimBox}{}%
3634   \do{ArtBox}{}%
3635 }
3636 \Hy@DefNameKey{pdfprintarea}{%
3637   \do{MediaBox}{}%
3638   \do{CropBox}{}%
3639   \do{BleedBox}{}%
3640   \do{TrimBox}{}%

```

```

3641 \do{ArtBox}{}%
3642 }
3643 \Hy@DefNameKey{pdfprintclip}{%
3644 \do{MediaBox}{}%
3645 \do{CropBox}{}%
3646 \do{BleedBox}{}%
3647 \do{TrimBox}{}%
3648 \do{ArtBox}{}%
3649 }
3650 \Hy@DefNameKey{pdfprintscaling}{%
3651 \do{AppDefault}{}%
3652 \do{None}{}%
3653 }
3654 \Hy@DefNameKey{pdfduplex}{%
3655 \do{Simplex}{}%
3656 \do{DuplexFlipShortEdge}{}%
3657 \do{DuplexFlipLongEdge}{}%
3658 }
3659 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3660 \do{true}{}%
3661 \do{false}{}%
3662 }
3663 \define@key{Hyp}{pdfprintpagerange}{%
3664 \def\@pdfprintpagerange{#1}%
3665 }
3666 \Hy@DefNameKey{pdfnumcopies}{%
3667 \do{2}{two copies}%
3668 \do{3}{three copies}%
3669 \do{4}{four copies}%
3670 \do{5}{five copies}%
3671 }
3672 \define@key{Hyp}{pdfusetitle}[true]{%
3673 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3674 }
3675 \def\HyXeTeX@CheckUnicode{%
3676 \ifxetex
3677 \ifHy@unicode
3678 \else
3679 \Hy@WarningNoLine{%
3680 XeTeX driver only supports unicode.\MessageBreak
3681 Enabling option 'unicode'%
3682 }%
3683 \kvsetkeys{Hyp}{unicode}%
3684 \fi
3685 \else
3686 \let\HyXeTeX@CheckUnicode\relax
3687 \fi
3688 }
3689 \def\HyPsd@PrerenderUnicode#1{%
3690 \begingroup
3691 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3692 \else
3693 \sbox0{%
3694 \let\GenericInfo\@gobbletwo
3695 \let\GenericWarning\@gobbletwo
3696 \let\GenericError\@gobblefour
3697 \PrerenderUnicode{#1}%

```

```

3698     }%
3699     \fi
3700 \endgroup
3701 }
3702 \define@key{Hyp}{pdftitle}{%
3703   \HyXeTeX@CheckUnicode
3704   \HyPsd@XeTeXBigCharstrue
3705   \HyPsd@PrerenderUnicode{#1}%
3706   \pdfstringdef\@pdftitle{#1}%
3707 }
3708 \define@key{Hyp}{pdfauthor}{%
3709   \HyXeTeX@CheckUnicode
3710   \HyPsd@XeTeXBigCharstrue
3711   \HyPsd@PrerenderUnicode{#1}%
3712   \pdfstringdef\@pdfauthor{#1}%
3713 }
3714 \define@key{Hyp}{pdfproducer}{%
3715   \HyXeTeX@CheckUnicode
3716   \HyPsd@XeTeXBigCharstrue
3717   \HyPsd@PrerenderUnicode{#1}%
3718   \pdfstringdef\@pdfproducer{#1}%
3719 }
3720 \define@key{Hyp}{pdfcreator}{%
3721   \HyXeTeX@CheckUnicode
3722   \HyPsd@XeTeXBigCharstrue
3723   \HyPsd@PrerenderUnicode{#1}%
3724   \pdfstringdef\@pdfcreator{#1}%
3725 }
3726 \define@key{Hyp}{pdfcreationdate}{%
3727   \begingroup
3728     \Hy@unicodedefalse
3729     \pdfstringdef\@pdfcreationdate{#1}%
3730   \endgroup
3731 }
3732 \define@key{Hyp}{pdfmoddate}{%
3733   \begingroup
3734     \Hy@unicodedefalse
3735     \pdfstringdef\@pdfmoddate{#1}%
3736   \endgroup
3737 }
3738 \define@key{Hyp}{pdfsubject}{%
3739   \HyXeTeX@CheckUnicode
3740   \HyPsd@XeTeXBigCharstrue
3741   \HyPsd@PrerenderUnicode{#1}%
3742   \pdfstringdef\@pdfsubject{#1}%
3743 }
3744 \define@key{Hyp}{pdfkeywords}{%
3745   \HyXeTeX@CheckUnicode
3746   \HyPsd@XeTeXBigCharstrue
3747   \HyPsd@PrerenderUnicode{#1}%
3748   \pdfstringdef\@pdfkeywords{#1}%
3749 }
3750 \define@key{Hyp}{pdftrapped}{%
3751   \lowercase{\edef\Hy@temp{#1}}%
3752   \ifx\Hy@temp\HyInfo@trapped@true
3753     \def\@pdftrapped{True}%
3754   \else

```

```

3755 \ifx\Hy@temp\HyInfo@trapped@false
3756 \def\@pdftrapped{False}%
3757 \else
3758 \ifx\Hy@temp\HyInfo@trapped@unknown
3759 \def\@pdftrapped{Unknown}%
3760 \else
3761 \ifx\Hy@temp\@empty
3762 \else
3763 \Hy@Warning{%
3764     Unsupported value '#1'\MessageBreak
3765     for option 'pdftrapped'%
3766 }%
3767 \fi
3768 \def\@pdftrapped{}%
3769 \fi
3770 \fi
3771 \fi
3772 }
3773 \def\HyInfo@trapped@true{true}
3774 \def\HyInfo@trapped@false{false}
3775 \def\HyInfo@trapped@unknown{unknown}
3776 \def\HyInfo@TrappedUnsupported{%
3777 \ifx\@pdftrapped\@empty
3778 \else
3779 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3780 \gdef\HyInfo@TrappedUnsupported{}%
3781 \fi
3782 }
3783 \define@key{Hyp}{pdfinfo}{%
3784 \kvsetkeys{pdfinfo}{#1}%
3785 }
3786 \def\Hy@temp#1{%
3787 \lowercase{\Hy@temp@A{#1}}{#1}%
3788 }
3789 \def\Hy@temp@A#1#2{%
3790 \define@key{pdfinfo}{#2}{%
3791 \hypersetup{pdf#1={##1}}}%
3792 }%
3793 }
3794 \Hy@temp{Title}
3795 \Hy@temp{Author}
3796 \Hy@temp{Keywords}
3797 \Hy@temp{Subject}
3798 \Hy@temp{Creator}
3799 \Hy@temp{Producer}
3800 \Hy@temp{CreationDate}
3801 \Hy@temp{ModDate}
3802 \Hy@temp{Trapped}
3803 \newif\ifHyInfo@AddonUnsupported
3804 \kv@set@family@handler{pdfinfo}{%
3805 \HyInfo@AddonHandler{#1}{#2}%
3806 }
3807 \let\HyInfo@do\relax
3808 \def\HyInfo@AddonHandler#1#2{%
3809 \ifx\kv@value\relax
3810 \Hy@Warning{%
3811 Option 'pdfinfo': ignoring key '\kv@key' without value%

```

```

3812 }%
3813 \else
3814 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3815 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3816 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3817 \ifHyInfo@AddonUnsupported
3818 \Hy@Warning{%
3819 This driver does not support additional\MessageBreak
3820 information entries, therefore\MessageBreak
3821 '\kv@key' is ignored%
3822 }%
3823 \else
3824 \define@key{pdfinfo}{\HyInfo@Key}{%
3825 \HyXeTeX@CheckUnicode
3826 \HyPsd@XeTeXBigCharstrue
3827 \HyPsd@PrerenderUnicode{##1}%
3828 \pdfstringdef\HyInfo@Value{##1}%
3829 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3830 \HyInfo@Value
3831 }%
3832 \edef\HyInfo@AddonList{%
3833 \HyInfo@AddonList
3834 \HyInfo@do{\HyInfo@Key}%
3835 }%
3836 \kv@parse@normalized{%
3837 \HyInfo@Key={#2}%
3838 }{%
3839 \kv@processor@default{pdfinfo}%
3840 }%
3841 \fi
3842 \else
3843 \kv@parse@normalized{%
3844 \HyInfo@Key={#2}%
3845 }{%
3846 \kv@processor@default{pdfinfo}%
3847 }%
3848 \fi
3849 \fi
3850 }
3851 \def\HyInfo@GenerateAddons{%
3852 \ifHyInfo@AddonUnsupported
3853 \def\HyInfo@Addons{}%
3854 \else
3855 \begingroup
3856 \toks@{}%
3857 \def\HyInfo@do##1{%
3858 \EdefEscapeName\HyInfo@Key{##1}%
3859 \edef\x{%
3860 \toks@{%
3861 \the\toks@
3862 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3863 }%
3864 }%
3865 \x
3866 }%
3867 \HyInfo@AddonList
3868 \edef\x{\endgroup

```



```

3869 \def\noexpand\HyInfo@Addons{\the\toks@}%
3870 }%
3871 \x
3872 \fi
3873 }
3874 \let\HyInfo@AddonList\ltx@empty

3875 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3876 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3877 \let\setpdfinkmargin\@gobble
3878 \def\calculate@pdfview#1 #2\{\%
3879 \def\@pdfview{#1}%
3880 \ifx\#2\{\%
3881 \def\@pdfviewparams{ -32768}%
3882 \else
3883 \def\@pdfviewparams{ #2}%
3884 \fi
3885 }

3886 \begingroup\expandafter\expandafter\expandafter\endgroup
3887 \expandafter\ifx\csname numexpr\endcsname\relax
3888 \def\Hy@number#1{%
3889 \expandafter\@firstofone\expandafter{\number#1}%
3890 }%
3891 \else
3892 \def\Hy@number#1{%
3893 \the\numexpr#1\relax
3894 }%
3895 \fi

3896 \define@key{Hyp}{pdfstartpage}{%
3897 \ifx\#1\%
3898 \let\@pdfstartpage\ltx@empty
3899 \else
3900 \edef\@pdfstartpage{\Hy@number{#1}}%
3901 \fi
3902 }%

3903 \define@key{Hyp}{pdfstartview}{%
3904 \ifx\#1\%
3905 \let\@pdfstartview\ltx@empty
3906 \else
3907 \hypercalcbpdef\@pdfstartview{/#1}%
3908 \fi
3909 }

3910 \def\HyPat@NonNegativeReal/{%
3911 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3912 }

3913 \define@key{Hyp}{pdfremotestartview}{%
3914 \ifx\#1\%
3915 \def\@pdfremotestartview{/Fit}%
3916 \else
3917 \hypercalcbpdef\@pdfremotestartview{#1}%
3918 \edef\@pdfremotestartview{\@pdfremotestartview}%
3919 \Hy@Match\@pdfremotestartview{%
3920 ^{XYZ} -?(null|\HyPat@NonNegativeReal/) %
3921 -?(null|\HyPat@NonNegativeReal/) %
3922 (null|\HyPat@NonNegativeReal/)|%
3923 Fit(|B| %
3924 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3925 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %

```

```

3926      \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3927    )$%
3928  }{}{%
3929    \Hy@Warning{%
3930      Invalid value '@pdfremotestartview'\MessageBreak
3931      of 'pdfremotestartview'\MessageBreak
3932      is replaced by 'Fit'%
3933    }%
3934    \let\@pdfremotestartview\@empty
3935  }%
3936  \ifx\@pdfremotestartview\@empty
3937    \def\@pdfremotestartview{/Fit}%
3938  \else
3939    \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3940  \fi
3941 \fi
3942 }
3943 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3944 \define@key{Hyp}{pdftoolbar}[true]{%
3945   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3946 }
3947 \define@key{Hyp}{pdfmenubar}[true]{%
3948   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3949 }
3950 \define@key{Hyp}{pdfwindowui}[true]{%
3951   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3952 }
3953 \define@key{Hyp}{pdffitwindow}[true]{%
3954   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3955 }
3956 \define@key{Hyp}{pdfcenterwindow}[true]{%
3957   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3958 }
3959 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3960   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3961 }
3962 \define@key{Hyp}{pdfa}[true]{%
3963   \Hy@boolkey{pdfa}{#1}%
3964 }
3965 \define@key{Hyp}{pdfnewwindow}[true]{%
3966   \def\Hy@temp{#1}%
3967   \ifx\Hy@temp\@empty
3968     \Hy@newwindowsetfalse
3969   \else
3970     \Hy@newwindowsettrue
3971     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3972   \fi
3973 }
3974 \def\Hy@SetNewWindow{%
3975   \ifHy@newwindowset
3976     /NewWindow %
3977   \ifHy@newwindow true\else false\fi
3978 \fi
3979 }
3980 \Hy@DefNameKey{pdfpagelayout}{%
3981   \do{SinglePage}{}%
3982   \do{OneColumn}{}%

```

```

3983 \do{TwoColumnLeft}{}%
3984 \do{TwoColumnRight}{}%
3985 \do{TwoPageLeft}{PDF 1.5}%
3986 \do{TwoPageRight}{PDF 1.5}%
3987 }
3988 \define@key{Hyp}{pdflang}{%
3989 \def\@pdflang{#1}%
3990 }
3991 \define@key{Hyp}{pdfpagelabels}[true]{%
3992 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3993 }
3994 \define@key{Hyp}{pdfescapeform}[true]{%
3995 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3996 }

```

Default values:

```

3997 \def\@linkbordercolor{1 0 0}
3998 \def\@urlbordercolor{0 1 1}
3999 \def\@menubordercolor{1 0 0}
4000 \def\@filebordercolor{0 .5 .5}
4001 \def\@runbordercolor{0 .7 .7}
4002 \def\@citebordercolor{0 1 0}
4003 \def\@pdfhighlight{/I}
4004 \let\@pdftitle\ltx@empty
4005 \let\@pdfauthor\ltx@empty
4006 \let\@pdfproducer\relax
4007 \def\@pdfcreator{LaTeX with hyperref package}
4008 \let\@pdfcreationdate\ltx@empty
4009 \let\@pdfmoddate\ltx@empty
4010 \let\@pdfsubject\ltx@empty
4011 \let\@pdfkeywords\ltx@empty
4012 \let\@pdftrapped\ltx@empty
4013 \let\@pdfpagescrop\ltx@empty
4014 \def\@pdfstartview{/Fit}
4015 \def\@pdfremotestartview{/Fit}
4016 \def\@pdfstartpage{1}
4017 \let\@pdfprintpagerange\ltx@empty
4018 \let\@pdflang\ltx@empty
4019 \let\PDF@SetupDoc\@empty
4020 \let\PDF@FinishDoc\@empty
4021 \let\phantomsection\@empty
4022 \let\special@paper\@empty
4023 \def\HyperDestNameFilter#1{#1}
4024 \Hy@AtBeginDocument{%
4025 \begingroup
4026 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4027 \dimen@=\x\relax
4028 \ifdim\dimen@>\z@
4029 \else
4030 \dimen@=11in\relax
4031 \Hy@WarningNoLine{%
4032 Height of page (\expandafter\string\x) %
4033 is invalid (\the\x),\MessageBreak
4034 using 11in%
4035 }%
4036 \fi
4037 \dimen@=0.99626401\dimen@
4038 \xdef\Hy@pageheight{\strip@pt\dimen@}%

```

```

4039 \endgroup
4040 }
4041 \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.

```

4042 \let\hyper@normalise\ExecuteOptions
4043 \let\ExecuteOptions\hypersetup
4044 \Hy@RestoreCatcodes
4045 \InputIfFileExists{hyperref.cfg}{-}{}
4046 \Hy@SetCatcodes
4047 \let\ExecuteOptions\hyper@normalise
4048 \Hy@MaybeStopNow

```

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

```

4049 \SetupKeyvalOptions{family=Hyp}
4050 \DeclareLocalOptions{%
4051   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4052 }

```

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

```

4053 \@ifpackageloaded{tex4ht}{%
4054   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4055   \PassOptionsToPackage{tex4ht}{hyperref}%
4056 }%
4057 }{}

4058 \let\ReadBookmarks\relax
4059 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package `xspace` support

```

4060 \def\Hy@xspace@end{}
4061 \ltx@ifundefined{xspaceaddexceptions}{%
4062   \Hy@AtBeginDocument{%
4063     \ltx@ifundefined{xspaceaddexceptions}{%
4064       }{%
4065         \def\Hy@xspace@end{%
4066           \ltx@gobble{end for xspace}%
4067         }%
4068         \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4069       }%
4070     }%
4071   }{%
4072     \def\Hy@xspace@end{%
4073       \ltx@gobble{end for xspace}%
4074     }%
4075     \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4076   }

```

15.2 Option `draft`

```

4077 \Hy@AtBeginDocument{%
4078   \ifHy@draft
4079     \let\hyper@@anchor\@gobble
4080     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%

```

```

4081 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4082 \def\hyper@anchorend{\Hy@xspace@end}%
4083 \let\hyper@linkstart\@gobbletwo
4084 \def\hyper@linkend{\Hy@xspace@end}%
4085 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4086 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4087 \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4088 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4089 \let\PDF@SetupDoc\@empty
4090 \let\PDF@FinishDoc\@empty
4091 \let\@fifthoffive\@secondoftwo
4092 \let\@secondoffive\@secondoftwo
4093 \let\ReadBookmarks\relax
4094 \let\WriteBookmarks\relax
4095 \Hy@WarningNoLine{Draft mode on}%
4096 \fi
4097 \Hy@DisableOption{draft}%
4098 \Hy@DisableOption{nolinks}%
4099 \Hy@DisableOption{final}%
4100 }

```

15.3 PDF/A

```

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

```

```

4136 \def\Hy@temp#1{%
4137   \expandafter\def\csname Hy@#1\endcsname{#1}%
4138   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4139 }%
4140 \Hy@temp{NextPage}%
4141 \Hy@temp{PrevPage}%
4142 \Hy@temp{FirstPage}%
4143 \Hy@temp{LastPage}%
4144 \else
4145 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4146 \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.

```

4147 \Hy@nextfalse
4148 \ltx@ifundefined{spanish@sh@"@sel}{-}{\Hy@nexttrue}
4149 \ltx@ifundefined{galician@sh@"@sel}{-}{\Hy@nexttrue}
4150 \ltx@ifundefined{estonian@sh@"@sel}{-}{\Hy@nexttrue}
4151 \ifHy@next
4152 \let\texttilde\~%
4153 \fi

4154 \def\Hy@wrapper@babel#1#2{%
4155   \begingroup
4156   \Hy@safe@activetrue
4157   \set@display@protect
4158   \edef\x{#2}%
4159   \@onelevel@sanitize\x
4160   \toks@{#1}%
4161   \edef\x{\endgroup\the\toks@\{x\}}%
4162   \x
4163 }

4164 \def\Hy@WrapperDef#1{%
4165   \begingroup
4166   \escapechar=\m@ne
4167   \xdef\Hy@gtemp{%
4168     \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4169   }%
4170   \endgroup
4171   \edef#1{%
4172     \noexpand\Hy@wrapper@babel
4173     \expandafter\noexpand\Hy@gtemp
4174   }%
4175   \expandafter\def\Hy@gtemp
4176 }

4177 \ifHy@figures
4178 \Hy@Info{Hyper figures ON}%
4179 \else
4180 \Hy@Info{Hyper figures OFF}%
4181 \fi
4182 \ifHy@nesting
4183 \Hy@Info{Link nesting ON}%
4184 \else
4185 \Hy@Info{Link nesting OFF}%
4186 \fi
4187 \ifHy@hyperindex

```

```

4188 \Hy@Info{Hyper index ON}%
4189 \else
4190 \Hy@Info{Hyper index OFF}%
4191 \fi
4192 \ifHy@plainpages
4193 \Hy@Info{Plain pages ON}%
4194 \else
4195 \Hy@Info{Plain pages OFF}%
4196 \fi
4197 \ifHy@backref
4198 \Hy@Info{Backreferencing ON}%
4199 \else
4200 \Hy@Info{Backreferencing OFF}%
4201 \fi
4202 \ifHy@typexml
4203 \Hy@AtEndOfPackage{%
4204   \RequirePackage{color}%
4205   \RequirePackage{nameref}%
4206 }%
4207 \fi
4208 \Hy@DisableOption{typexml}
4209 \ifHy@implicit
4210 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4211 \else
4212 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4213 \def\MaybeStopEarly{%
4214   \Hy@Message{Stopped early}%
4215   \Hy@AtBeginDocument{%
4216     \PDF@FinishDoc
4217     \gdef\PDF@FinishDoc{}%
4218   }%
4219   \endinput
4220 }%
4221 \Hy@AtBeginDocument{%
4222   \let\autoref\ref
4223   \let\autopageref\pageref
4224   \ifx\@pdfpagemode\@empty
4225     \gdef\@pdfpagemode{UseNone}%
4226   \fi
4227   \global\Hy@backreffalse
4228 }%
4229 \Hy@AtEndOfPackage{%
4230   \global\let\ReadBookmarks\relax
4231   \global\let\WriteBookmarks\relax
4232 }%
4233 \fi
4234 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4235 \Hy@AtEndOfPackage{%
4236   \@ifpackageloaded{tex4ht}{%
4237     \def\Hy@driver{htex4ht}%
4238     \Hy@texhttrue
4239   }{}%

```

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.

```

4240 \ifx\Hy@driver\@empty
4241 \else
4242 \def\Hy@temp{hpdftex}%
4243 \ifpdf
4244 \ifx\Hy@driver\Hy@temp
4245 \else
4246 \Hy@WarningNoLine{%
4247   Wrong driver '\Hy@driver.def';\MessageBreak
4248   pdfTeX is running in PDF mode.\MessageBreak
4249   Forcing driver '\Hy@temp.def'%
4250 }%
4251 \let\Hy@driver\Hy@temp
4252 \fi
4253 \else
4254 \ifx\Hy@driver\Hy@temp
4255 \Hy@WarningNoLine{%
4256   Wrong driver '\Hy@driver.def';\MessageBreak
4257   pdfTeX is not running in PDF mode.\MessageBreak
4258   Using default driver%
4259 }%
4260 \let\Hy@driver\@empty
4261 \fi
4262 \fi
4263 \fi
4264 \ifHy@texht
4265 \else
4266 \ifx\Hy@driver\@empty
4267 \else
4268 \def\Hy@temp{hxdetex}%
4269 \ifxdetex
4270 \ifx\Hy@driver\Hy@temp
4271 \else
4272 \Hy@WarningNoLine{%
4273   Wrong driver '\Hy@driver.def';\MessageBreak
4274   XeTeX is running.\MessageBreak
4275   Forcing driver '\Hy@temp.def' for XeTeX%
4276 }%
4277 \let\Hy@driver\Hy@temp
4278 \fi
4279 \fi
4280 \fi
4281 \fi
4282 \ifx\Hy@driver\@empty
4283 \else
4284 \def\Hy@temp{hvtexhtm}%
4285 \ifvtexhtml
4286 \ifx\Hy@driver\Hy@temp
4287 \else
4288 \Hy@WarningNoLine{%
4289   Wrong driver '\Hy@driver.def';\MessageBreak
4290   VTeX is running in HTML mode.\MessageBreak
4291   Forcing driver '\Hy@temp.def'%
4292 }%
4293 \let\Hy@driver\Hy@temp
4294 \fi
4295 \else
4296 \ifx\Hy@driver\Hy@temp

```



```

4297 \Hy@WarningNoLine{%
4298   Wrong driver '\Hy@driver.def';\MessageBreak
4299   VTEX is not running in HTML mode.\MessageBreak
4300   Using default driver%
4301 }%
4302 \let\Hy@driver\@empty
4303 \fi
4304 \fi
4305 \fi

```

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

```

4306 \def\HyOpt@DriverType{%
4307 \ifx\Hy@driver\@empty
4308   \def\HyOpt@DriverType{ (autodetected)}%
4309   \providecommand*{\Hy@defaultdriver}{hypertex}%
4310 \ifpdf
4311   \def\Hy@driver{hpdftex}%
4312 \else
4313   \ifxetex
4314     \def\Hy@driver{hxetex}%
4315   \else
4316     \ifvtexhtml
4317       \def\Hy@driver{hvtexhtm}%
4318     \def\MaybeStopEarly{%
4319       \Hy@Message{Stopped early}%
4320       \Hy@AtBeginDocument{%
4321         \PDF@FinishDoc
4322         \gdef\PDF@FinishDoc{}}%
4323       }%
4324     \endinput
4325   }%
4326 \else
4327   \ifvtexpdf
4328     \def\Hy@driver{hvtex}%
4329   \else
4330     \ifvtexps
4331       \def\Hy@driver{hvtex}%
4332     \else
4333       \ifx\HyOpt@DriverFallback\ltx@empty
4334         \let\Hy@driver\Hy@defaultdriver
4335         \def\HyOpt@DriverType{ (default)}%
4336       \else
4337         \begingroup
4338           \toks@\expandafter{\HyOpt@DriverFallback}%
4339           \edef\x{\endgroup
4340             \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4341           }%
4342         \x
4343       \ifx\Hy@driver\ltx@empty
4344         \let\Hy@driver\Hy@defaultdriver
4345         \def\HyOpt@DriverType{ (default)}%
4346       \else
4347         \def\HyOpt@DriverType{ (fallback)}%
4348       \fi
4349     \fi
4350   \fi
4351 \fi
4352 \fi

```

```

4353 \fi
4354 \fi
4355 \ifx\Hy@driver\Hy@defaultdriver
4356 \def\Hy@temp{hdvwind}%
4357 \ifx\Hy@temp\Hy@driver
4358 \kvsetkeys{Hyp}{colorlinks}%
4359 \PassOptionsToPackage{dviwindo}{color}%
4360 \fi
4361 \fi
4362 \fi
4363 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4364 \chardef\Hy@VersionChecked=0 %
4365 \input{\Hy@driver.def}%
4366 \ifcase\Hy@VersionChecked
4367 \Hy@VersionCheck{\Hy@driver.def}%
4368 \fi
4369 \let\@unprocessedoptions\relax
4370 \Hy@RestoreCatcodes
4371 \Hy@DisableOption{tex4ht}%
4372 \Hy@DisableOption{pdftex}%
4373 \Hy@DisableOption{nativpdf}%
4374 \Hy@DisableOption{dvipdfm}%
4375 \Hy@DisableOption{dvipdfmx}%
4376 \Hy@DisableOption{dvipdfmx-outline-open}%
4377 \Hy@DisableOption{pdfmark}%
4378 \Hy@DisableOption{dvips}%
4379 \Hy@DisableOption{hypertex}%
4380 \Hy@DisableOption{vtex}%
4381 \Hy@DisableOption{vtexpdfmark}%
4382 \Hy@DisableOption{dviwindo}%
4383 \Hy@DisableOption{dvipsone}%
4384 \Hy@DisableOption{textures}%
4385 \Hy@DisableOption{latex2html}%
4386 \Hy@DisableOption{ps2pdf}%
4387 \Hy@DisableOption{xetex}%
4388 \Hy@DisableOption{pdfversion}%
4389 }

```

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

```

4390 \newif\ifHy@DvipdfmxOutlineOpen
4391 \ifxetex
4392 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4393 \else
4394 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4395 \Hy@DvipdfmxOutlineOpentrue
4396 \fi
4397 \fi
4398 \begingroup\expandafter\expandafter\expandafter\endgroup
4399 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4400 \else
4401 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4402 \Hy@DvipdfmxOutlineOpentrue
4403 \fi
4404 \fi

```

15.4.2 Bookmarks

```

4405 \def\WriteBookmarks{0}
4406 \def\@bookmarkopenstatus#1{%
4407   \ifHy@bookmarksopen

```

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

```

4408   \ifnum#1<\expandafter\@firstofone\expandafter
4409     {\number\@bookmarkopenlevel} % explicit space
4410   \else
4411     -%
4412   \fi
4413 \else
4414   -%
4415 \fi
4416 }
4417 \ifHy@bookmarks
4418   \Hy@Info{Bookmarks ON}%
4419   \ifx\@pdfpagemode\@empty
4420     \def\@pdfpagemode{UseOutlines}%
4421   \fi
4422 \else
4423   \let\@bookmarkopenstatus\ltx@gobble
4424   \Hy@Info{Bookmarks OFF}%
4425   \Hy@AtEndOfPackage{%
4426     \global\let\ReadBookmarks\relax
4427     \global\let\WriteBookmarks\relax
4428   }%
4429   \ifx\@pdfpagemode\@empty
4430     \def\@pdfpagemode{UseNone}%
4431   \fi
4432 \fi
4433 \Hy@DisableOption{bookmarks}

```

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

```

4434 \def\Hy@CatcodeWrapper#1{%
4435   \let\Hy@endWrap\ltx@empty
4436   \def\TMP@EnsureCode##1##2{%
4437     \edef\Hy@endWrap{%
4438       \Hy@endWrap
4439       \catcode##1 \the\catcode##1\relax
4440     }%
4441     \catcode##1 ##2\relax
4442   }%
4443   \TMP@EnsureCode{10}{12}% ^^J
4444   \TMP@EnsureCode{33}{12}% !
4445   \TMP@EnsureCode{34}{12}% "
4446   \TMP@EnsureCode{36}{3}% $ (math)
4447   \TMP@EnsureCode{38}{4}% & (alignment)
4448   \TMP@EnsureCode{39}{12}% '
4449   \TMP@EnsureCode{40}{12}% (
4450   \TMP@EnsureCode{41}{12}% )
4451   \TMP@EnsureCode{42}{12}% *
4452   \TMP@EnsureCode{43}{12}% +
4453   \TMP@EnsureCode{44}{12}% ,
4454   \TMP@EnsureCode{45}{12}% -
4455   \TMP@EnsureCode{46}{12}% .
4456   \TMP@EnsureCode{47}{12}% /
4457   \TMP@EnsureCode{58}{12}% :
4458   \TMP@EnsureCode{59}{12}% ;

```

```

4459 \TMP@EnsureCode{60}{12}% <
4460 \TMP@EnsureCode{61}{12}% =
4461 \TMP@EnsureCode{62}{12}% >
4462 \TMP@EnsureCode{63}{12}% ?
4463 \TMP@EnsureCode{91}{12}% [
4464 \TMP@EnsureCode{93}{12}% ]
4465 \TMP@EnsureCode{94}{7}% ^ (superscript)
4466 \TMP@EnsureCode{95}{8}% _ (subscript)
4467 \TMP@EnsureCode{96}{12}% '
4468 \TMP@EnsureCode{124}{12}% |
4469 \TMP@EnsureCode{126}{13}% ~ (active)
4470 #1\relax
4471 \Hy@endWrap
4472 }

```

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

```

4473 \Hy@AtBeginDocument{%
4474   \ifHy@ocgcolorlinks
4475     \kvsetkeys{Hyp}{colorlinks}%
4476     \ifHy@pdfa
4477       \Hy@Warning{%
4478         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4479         using 'colorlinks' instead of 'ocgcolorlinks'%
4480       }%
4481     \Hy@ocgcolorlinksfalse
4482   \fi
4483 \fi
4484 \ifHy@ocgcolorlinks
4485 \else
4486   \Hy@DisableOption{ocgcolorlinks}%
4487 \fi
4488 \ifHy@colorlinks
4489   \def\@pdfborder{0 0 0}%
4490   \let\@pdfborderstyle\@empty
4491   \ifHy@typexml
4492   \else
4493     \Hy@CatcodeWrapper{%
4494       \RequirePackage{color}%
4495     }%
4496   \fi
4497   \def\Hy@colorlink#1{%
4498     \begingroup
4499     \HyColor@UseColor#1%
4500   }%
4501   \def\Hy@endcolorlink{\endgroup}%
4502   \Hy@Info{Link coloring ON}%
4503 \else
4504   \ifHy@frenchlinks
4505     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4506     \def\Hy@endcolorlink{\endgroup}%
4507     \Hy@Info{French linking ON}%
4508   \else

```

for grouping consistency:

```

4509   \def\Hy@colorlink#1{\begingroup}%
4510   \def\Hy@endcolorlink{\endgroup}%
4511   \Hy@Info{Link coloring OFF}%
4512 \fi

```

```

4513 \fi
4514 \Hy@DisableOption{colorlinks}%
4515 \Hy@DisableOption{frenchlinks}%
4516 \ifHy@texht
4517 \long\def\@firstoffive#1#2#3#4#5{#1}%
4518 \long\def\@secondoffive#1#2#3#4#5{#2}%
4519 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4520 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4521 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4522 \providecommand*\@safe@activestruetrue{}%
4523 \providecommand*\@safe@activesfalse{}%
4524 \def\T@ref#1{%
4525   \Hy@safe@activestruetrue
4526   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4527   \Hy@safe@activesfalse
4528 }%
4529 \def\T@pageref#1{%
4530   \Hy@safe@activestruetrue
4531   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4532   \Hy@safe@activesfalse
4533 }%
4534 \else
4535 \ifHy@typexml
4536 \else
4537   \Hy@CatcodeWrapper{%
4538     \RequirePackage{nameref}%
4539   }%
4540 \fi
4541 \fi
4542 \DeclareRobustCommand\ref{%
4543   \@ifstar\@refstar\T@ref
4544 }%
4545 \DeclareRobustCommand\pageref{%
4546   \@ifstar\@pagerefstar\T@pageref
4547 }%
4548 % \ifclassloaded{memoir}{%
4549 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4550 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4551 %   }%
4552 % } \ltx@secondoftwo
4553 % {%
4554 %   \DeclareRobustCommand*\{ \nameref }{%
4555 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4556 %   }%
4557 % }{%
4558 \DeclareRobustCommand*\{ \nameref }{%
4559   \@ifstar\@namerefstar\T@nameref
4560 }%
4561 % }%
4562 }
4563 \Hy@AtBeginDocument{%
4564 \ifHy@texht
4565 \else
4566   \Hy@CatcodeWrapper\ReadBookmarks
4567 \fi
4568 }
4569 \ifHy@backref

```

```

4570 \RequirePackage{backref}%
4571 \else
4572 \let\Hy@backout\@gobble
4573 \fi
4574 \Hy@DisableOption{backref}
4575 \Hy@DisableOption{pagebackref}
4576 \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.

```

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

```

```

4617     \hyper@@normalise{#1}^^A
4618   }^^A
4619   \else
4620     \ltx@ReturnAfterFi{^^A
4621       \hyper@@normalise{#1}{#2}^^A
4622     }^^A
4623   \fi
4624 }^^A
4625 \gdef\hyper@@normalise#1#2{^^A
4626   \edef\Hy@tempa{^^A
4627     \endgroup
4628     \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4629   }^^A
4630   \Hy@tempa
4631 }^^A
4632 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4633   #1^^A
4634   \ifx\limits#2\limits
4635   \else
4636     \ltx@ReturnAfterFi{^^A
4637       \Hy@RemovePercentCr #2\@nil
4638     }^^A
4639   \fi
4640 }^^A
4641 \endgroup
4642 \providecommand*\hyper@chars{%
4643   \let\#\hyper@hash
4644   \let\%\@percentchar
4645   \Hy@safe@activetrue
4646 }

4647 \def\hyperlink#1#2{%
4648   \hyper@@link{}{#1}{#2}%
4649 }

4650 \def\Hy@VerboseLinkStart#1#2{%
4651   \ifHy@verbose
4652     \begingroup
4653     \Hy@safe@activetrue
4654     \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4655     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4656     \xdef\Hy@VerboseGlobalTemp{%
4657       \Hy@VerboseGlobalTemp, %
4658       line \the\inputlineno
4659     }%
4660   \endgroup
4661   \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4662   \@onelevel@sanitize\Hy@VerboseLinkInfo
4663   \fi
4664 }

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

```

```

4673     }%
4674     }%
4675     \x
4676 \fi
4677 }

4678 \def\Hy@VerboseAnchor#1{%
4679   \ifHy@verbose
4680     \begingroup
4681       \Hy@safe@activetrue
4682       \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4683     \endgroup
4684 \fi
4685 }

4686 \def\Hy@AllowHyphens{%
4687   \relax
4688   \ifhmode
4689     \penalty\@M
4690     \hskip\z@skip
4691 \fi
4692 }

4693 \DeclareRobustCommand*\href{[1][]{%
4694   \begingroup
4695   \setkeys{href}{#1}%
4696   \@ifnextchar\bgrouphy@href{\hyper@normalise\href@}%
4697 }

4698 \def\Hy@href#1{%
4699   \hyper@normalise\href@
4700 }

4701 \begingroup
4702 \catcode'\$=6 %
4703 \catcode'\#=12 %
4704 \gdef\href$1{\expandafter\href@split$1##\}%
4705 \gdef\href@split$1#$2##$3\#$4{%
4706   \hyper@@link{$1}{$2}{$4}%
4707   \endgroup
4708 }%
4709 \endgroup

```

Option ‘page’.

```

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

```



```

4728 \else
4729 \global\advance\c@Hy@tempcnt\m@ne
4730 \edef\Hy@href@page{\theHy@tempcnt}%
4731 \fi
4732 \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.

```

4733 \ifx\Hy@href@nextactionraw\@empty
4734 \else
4735 \Hy@newwindowsettrue
4736 \Hy@newwindowtrue
4737 \fi
4738 }

```

Option ‘pdfremotestartview’.

```

4739 \define@key{href}{pdfremotestartview}{%
4740 \setkeys{Hyp}{pdfremotestartview={#1}}}%
4741 }

```

Option ‘pdfnewwindow’.

```

4742 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4743 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4744 \newif\ifHy@href@ismap
4745 \define@key{href}{ismap}[true]{%
4746 \ltx@ifundefined{Hy@href@ismap#1}{%
4747 \Hy@Error{%
4748 Invalid value (#1) for key ‘ismap’.\MessageBreak
4749 Permitted values are ‘true’ or ‘false’.\MessageBreak
4750 Ignoring ‘ismap’%
4751 }\@ehc
4752 }{%
4753 \csname Hy@href@ismap#1\endcsname
4754 }%
4755 }

```

Option ‘nextactionraw’.

```

4756 \let\Hy@href@nextactionraw\@empty
4757 \define@key{href}{nextactionraw}{%
4758 \edef\Hy@href@nextactionraw{#1}%
4759 \ifx\Hy@href@nextactionraw\@empty
4760 \else
4761 \Hy@Match\Hy@href@nextactionraw{%
4762 ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|
4763 \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?])$%
4764 }-}{%
4765 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4766 \Hy@href@nextactionraw\MessageBreak
4767 The action is discarded%
4768 }%
4769 }%
4770 \ifx\Hy@href@nextactionraw\@empty
4771 \else
4772 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4773 \fi
4774 \fi
4775 }
4776 \def\HyPat@ObjRef/{.+}

```

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

```

4777 \RequirePackage{url}
4778 \let\HyOrg@url\url
4779 \def\Hurl{\begingroup \Url}
4780 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4781 \def\nolinkurl@#1{\Hurl{#1}}
4782 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4783 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4784 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4785 \providecommand\hyper@image[2]{#2}

4786 \def\hypertarget#1#2{%
4787   \ifHy@nesting
4788     \hyper@@anchor{#1}{#2}%
4789   \else
4790     \hyper@@anchor{#1}{\relax}#2%
4791   \fi
4792 }

```

\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.

```

4793 \DeclareRobustCommand*{\hyperref}{%
4794   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4795 }
4796 \def\Hy@babelnormalise#1[#2]{%
4797   \begingroup
4798     \Hy@safe@activetrue
4799     \edef\Hy@tempa{%
4800       \endgroup
4801       \noexpand#1[#2]}%
4802   }%
4803   \Hy@tempa
4804 }
4805 \def\@hyperref{\hyper@normalise\@hyperref}
4806 \def\@hyperref#1#2#3{%
4807   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4808   \expandafter\tryhyper@link\ref@one\{#1}%
4809 }
4810 \def\tryhyper@link#1\#2{%
4811   \hyper@@link{#2}{#1}%
4812 }

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

```

4825 }

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

```

4826 \def\label@hyperref[#1]{%
4827   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4828 }%
4829 \def\label@@hyperref#1#2#3{%
4830   \ifx#1\relax
4831     \protect\G@refundefinedtrue
4832     \@latex@warning{%
4833       Hyper reference ‘#2’ on page \thepage \space undefined%
4834     }%
4835     \hyper@@link{}{??}{#3}%
4836   \else
4837     \hyper@@link{\expandafter\@fifthoffive#1}%
4838     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4839   \fi
4840 }
4841 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4842                               % anchor text
4843   \@bsphack
4844   \ifx\#2\%
4845     \def\Hy@AnchorName{#3}%
4846   \else
4847     \def\Hy@AnchorName{#2.#3}%
4848   \fi
4849   \if@filesw
4850     \protected@write\@auxout{}{%
4851       \string\newlabel{#1}{\{}{}\}\{\Hy@AnchorName\}\}%
4852     }%
4853   \fi
4854   \@esphack
4855   \ifHy@nesting
4856     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4857   \else
4858     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4859   \fi
4860 }
```

17 Underlying basic hypertext macros

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

```

4861 \def\hyper@@link{\let\Hy@reserved@a\relax
4862   \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
4863 }
4864 \def\hyper@link@[#1]#2#3#4{%
4865   \begingroup
4866   \protected@edef\Hy@tempa{#2}%
4867   \Hy@safe@activestrue
4868   \edef\x{#3}%
4869   \ifx\Hy@tempa\@empty
4870     \toks0{\hyper@link{#1}}%

```

```

4871 \else
4872 \toks0{\expandafter\hyper@readexternallink#2\{\#1}\}%
4873 \fi
4874 \toks2{%
4875 \Hy@safe@activesfalse
4876 #4%
4877 }%
4878 \edef\Hy@tempa{\the\toks2}%
4879 \edef\x{\endgroup
4880 \ifx\Hy@tempa\@empty
4881 \noexpand\Hy@Warning{Suppressing empty link}%
4882 \else
4883 \the\toks0 {\x}{\the\toks2}%
4884 \fi
4885 }%
4886 \x
4887 }

```

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.

```

4888 \def\hyper@readexternallink#1\#2#3#4{%
4889 \begingroup
4890 \let\relax
4891 \expandafter\endgroup
4892 \expandafter\@hyper@@readexternallink#1\{\#2}\{\#3}\{\#4}%
4893 }
4894 \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.

```

4895 \@hyper@readexternallink{\#2}\{\#3}\{\#4}\#1::\{\#1}%
4896 }

```

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

```

4897 \def\@pdftempwordfile{file}%
4898 \def\@pdftempwordrun{run}%
4899 \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:

```

4900 \ifx\#6\%
4901 \hyper@linkfile file:#7\{\#3}\{\#2}\{\#7}%
4902 \else

```

```

4903 \ifx\\#4\\%
4904 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
4905 \else

```

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

```

4906 \def\@pdftempa{#4}%
4907 \ifx\@pdftempa\@pdftempwordfile
4908 \@hyper@linkfile#7\\{#3}{#2}{#7}%
4909 \else

```

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

```

4910 \ifx\@pdftempa\@pdftempwordrun
4911 \ifHy@pdfa
4912 \Hy@Error{%
4913 PDF/A: Launch action is prohibited%
4914 } \@ehc
4915 \begingroup
4916 \leavevmode
4917 #2%
4918 \endgroup
4919 \else
4920 \@hyper@launch#7\\{#3}{#2}%
4921 \fi
4922 \else

```

otherwise its a URL

```

4923 \hyper@linkurl{#3}{#7\ifx\\#2\\ \else\hyper@hash#2\fi}%
4924 \fi
4925 \fi
4926 \fi
4927 \fi
4928 }

```

By default, turn run: into file:

```

4929 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
4930 \hyper@linkurl{#2}{%
4931 \Hy@linkfileprefix
4932 #1%
4933 \ifx\\#3\\%
4934 \else
4935 \hyper@hash
4936 #3%
4937 \fi
4938 }%
4939 }

```

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

```

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

```

```

4951 \hyper@linkurl{#2}{%
4952 #4\ifx\#3\else\hyper@hash#3\fi
4953 }%
4954 \else
4955 \hyper@linkurl{#2}{\use@file\ifx\#3\else\hyper@hash#3\fi}%
4956 \fi
4957 }%
4958 }

4959 \def\Hy@ifStringEndsWith#1#2{%
4960 \begingroup
4961 \edef\x{#1}%
4962 \@onelevel@sanitize\x
4963 \edef\x{.x$}%
4964 \edef\y{#2}%
4965 \@onelevel@sanitize\y
4966 \edef\y{.y$}%
4967 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4968 \endgroup
4969 \ifx\relax##2\relax
4970 \expandafter\ltx@secondoftwo
4971 \else
4972 \expandafter\ltx@firstoftwo
4973 \fi
4974 }%
4975 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4976 }

4977 \def\Hy@StringLocalhost{localhost}
4978 \@onelevel@sanitize\Hy@StringLocalhost
4979 \def\Hy@CleanupFile#1{%
4980 \edef#1{#1}%
4981 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
4982 }
4983 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4984 \begingroup
4985 \toks@{\endgroup}%
4986 \def\x{#1}%
4987 \ifx\x\@empty
4988 \def\x{#2}%
4989 \ifx\x\@empty
4990 \toks@{\endgroup\def#5{/#3}}%
4991 \else
4992 \@onelevel@sanitize\x
4993 \ifx\x\Hy@StringLocalhost
4994 \toks@{\endgroup\def#5{/#3}}%
4995 \fi
4996 \fi
4997 \fi
4998 \the\toks@
4999 }

```

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.

```

5000 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5001 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5002   \ifx\#1\%
5003     #2\Hy@Warning{Ignoring empty anchor}%
5004   \else
5005     \def\anchor@spot{#2#3}%
5006     \let\put@me@back\@empty
5007     \ifx\relax#2\relax
5008       \else
5009         \ifHy@nesting
5010         \else
5011           \ifcat a\noexpand#2\relax
5012           \else
5013             \ifcat 0\noexpand#2 \relax
5014             \else
5015 %             \typeout{Anchor start is not alphanumeric %
5016 %               on input line\the\inputlineno%
5017 %             }%
5018             \let\anchor@spot\@empty
5019             \def\put@me@back{#2#3}%
5020           \fi
5021         \fi
5022       \fi
5023     \fi
5024     \ifHy@activeanchor
5025       \anchor@spot
5026     \else
5027       \hyper@anchor{#1}%
5028     \fi
5029     \expandafter\put@me@back
5030   \fi
5031   \let\anchor@spot\@empty
5032 }
5033 \let\anchor@spot\ltx@empty

```

18 Compatibility with the *L^AT_EX2html* package

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

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

```

5034 \let\htmladdimg\hyperimage
5035 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5036 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5037 \def\htmlref#1#2{% anchor text, label
5038   \label@hyperref[{#2}]{#1}%
5039 }

```

This is really too much. The *L^AT_EX2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

5040 \def\@l@texttohtmlX{%

```

```

5041 \let\hhyperref\hyperref
5042 \def\hyperref##1##2##3##4{% anchor text for HTML
5043           % text to print before label in print
5044           % label
5045           % post-label text in print
5046   ##2\ref{##4}##3%
5047 }%
5048 }

```

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.

```

5049 \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

```

5050 \def\HyField@NewFlag#1#2{%
5051   \lowercase{\HyField@NewOption{#2}}%
5052   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5053 }

```

\HyField@NewFlagOnly

```

5054 \def\HyField@NewFlagOnly#1#2{%
5055   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5056 }

```

\HyField@NewOption #1: option name

```

5057 \def\HyField@NewOption#1{%
5058   \expandafter\newif\csname ifFld@#1\endcsname
5059   \define@key{Field}{#1}[true]{%
5060     \lowercase{\Field@boolkey{##1}}{#1}%
5061   }%
5062 }

```

\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

```

5063 \def\HyField@NewBitsetFlag#1#2#3#4{%
5064   \begingroup
5065   \count@=#4\relax

```



```

5066 \advance\count@\m@ne
5067 \def\x###1{%
5068 \endgroup
5069 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5070 \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5071 \expandafter\edef\csname HyField@#3@#1\endcsname{%
5072 (\number#4) #2%
5073 }%
5074 \else
5075 \expandafter\edef\csname HyField@#3@#1\endcsname{%
5076 \csname HyField@#3@#1\endcsname
5077 /#2%
5078 }%
5079 \fi
5080 }%
5081 \expandafter\x\expandafter{\the\count@}%
5082 }

```

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

```

5083 \def\HyField@UseFlag#1#2{%
5084 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5085 }

```

\HyField@@UseFlag

```

5086 \def\HyField@@UseFlag#1#2{%
5087 \bitsetSetValue{HyField@#2}{%
5088 \csname HyField@#2@#1\endcsname
5089 }{%
5090 \csname ifFld@#1\endcsname 1\else 0\fi
5091 }%
5092 }

```

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

```

5093 \def\HyField@SetFlag#1#2{%
5094 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5095 }

```

\HyField@@SetFlag

```

5096 \def\HyField@@SetFlag#1#2{%
5097 \bitsetSetValue{HyField@#2}{%
5098 \csname HyField@#2@#1\endcsname
5099 }{1}%
5100 }

```

\HyField@PrintFlags

```

5101 \def\HyField@PrintFlags#1#2{%
5102 \ifHy@verbose
5103 \begingroup
5104 \let\Hy@temp\@empty
5105 \let\MessageBreak\relax
5106 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5107 \bitsetGetSetBitList{HyField@#1}\do{%
5108 \edef\Hy@temp{%
5109 \Hy@temp
5110 \csname HyField@#1@\x\endcsname\MessageBreak
5111 }%

```

```

5112     }%
5113 \edef\x{\endgroup
5114 \noexpand\Hy@Info{%
5115     Field flags: %
5116     \expandafter\ifx\@car#1\@nil S\else/\fi
5117     #1 %
5118     \bitsetGetDec{HyField@#1} %
5119     (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5120     \Hy@temp
5121     for #2%
5122     }%
5123 }\x
5124 \fi
5125 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5126 \HyField@NewFlag{Ff}{ReadOnly}{1}
5127 \HyField@NewFlag{Ff}{Required}{2}
5128 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5129 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5130 \HyField@NewFlag{Ff}{Radio}{16}
5131 \HyField@NewFlag{Ff}{Pushbutton}{17}
5132 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5133 \HyField@NewFlag{Ff}{Multiline}{13}
5134 \HyField@NewFlag{Ff}{Password}{14}
5135 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5136 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5137 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5138 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5139 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5140 \HyField@NewFlag{Ff}{Combo}{18}
5141 \HyField@NewFlag{Ff}{Edit}{19}
5142 \HyField@NewFlag{Ff}{Sort}{20}
5143 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5144 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5145 \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.

```

5146 \newif\ifFld@popdown
5147 \define@key{Field}{popdown}[true]{%
5148   \lowercase{\Field@boolkey{#1}}{popdown}%
5149 }

```

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.

```

5150 \HyField@NewFlag{F}{Invisible}{1}
5151 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5152 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5153 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5154 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5155 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5156 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5157 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5158 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5159 \ifHy@pdfa
5160 \def\HyField@PDFAFflagWarning#1#2{%
5161   \Hy@Warning{%
5162     PDF/A: Annotation flag '#1' must\MessageBreak
5163     be set to '#2'%
5164   }%
5165 }%
5166 \Fld@invisiblefalse
5167 \def\Fld@invisibletrue{%
5168   \HyField@PDFAFflagWarning{invisible}{false}%
5169 }%
5170 \Fld@hiddenfalse
5171 \def\Fld@hiddentrue{%
5172   \HyField@PDFAFflagWarning{hidden}{false}%
5173 }%
5174 \Fld@printtrue
5175 \def\Fld@printfalse{%
5176   \HyField@PDFAFflagWarning{print}{true}%
5177 }%
5178 \Fld@nozoomtrue
5179 \def\Fld@nozoomfalse{%
5180   \HyField@PDFAFflagWarning{nozoom}{true}%
5181 }%
5182 \Fld@norotatetrue
5183 \def\Fld@norotatefalse{%
5184   \HyField@PDFAFflagWarning{norotate}{true}%
5185 }%
5186 \Fld@noviewfalse
5187 \def\Fld@noviewtrue{%
5188   \HyField@PDFAFflagWarning{noview}{false}%
5189 }%
5190 \fi

```

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

```

5191 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5192 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5193 \HyField@NewFlag{Submit}{GetMethod}{4}
5194 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5195 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5196 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5197 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5198 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5199 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5200 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5201 \HyField@NewFlag{Submit}{ExclFKey}{12}
5202 \HyField@NewFlag{Submit}{EmbedForm}{14}

5203 \define@key{Field}{export}{%
5204   \lowercase{\def\Hy@temp{#1}}%

```

```

5205 \@ifundefined{Fld@export@Hy@temp}{%
5206   \@onelevel@sanitizeHy@temp
5207   Hy@Error{%
5208     Unknown export format 'Hy@temp'.\MessageBreak
5209     Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5210   }\@ehc
5211 }{%
5212   \let\Fld@exportHy@temp
5213 }%
5214 }
5215 \def\Fld@export{fdf}
5216 \@namedef{Fld@export@fdf}{0}%
5217 \@namedef{Fld@export@html}{1}%
5218 \@namedef{Fld@export@xfdf}{2}%
5219 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5220 \def\HyField@FlagsSubmit{%
5221   \bitsetReset{HyField@Submit}%
5222   \ifcase\@nameuse{Fld@export@Fld@export} %
5223     % FDF
5224     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5225     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5226     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5227     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5228     \HyField@UseFlag{Submit}{CanonicalFormat}%
5229     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5230     \HyField@UseFlag{Submit}{ExclFKey}%
5231     \HyField@UseFlag{Submit}{EmbedForm}%
5232   \or % HTML
5233     \HyField@SetFlag{Submit}{ExportFormat}%
5234     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5235     \HyField@UseFlag{Submit}{GetMethod}%
5236     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5237     \HyField@UseFlag{Submit}{CanonicalFormat}%
5238   \or % XFDF
5239     \HyField@SetFlag{Submit}{XFDF}%
5240     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5241     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5242     \HyField@UseFlag{Submit}{CanonicalFormat}%
5243   \or % PDF
5244     \HyField@SetFlag{Submit}{SubmitPDF}%
5245     \HyField@UseFlag{Submit}{GetMethod}%
5246   \fi
5247   \HyField@PrintFlags{Submit}{submit button field}%
5248   \bitsetIsEmpty{HyField@Submit}{%
5249     \let\Fld@submitflags\tx@empty
5250   }{%
5251     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5252   }%
5253 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
5254 \def\HyField@FlagsAnnot#1{%
5255   \bitsetReset{HyField@F}%
5256   \HyField@UseFlag{F}{Invisible}%
5257   \HyField@UseFlag{F}{Hidden}%
5258   \HyField@UseFlag{F}{Print}%
5259   \HyField@UseFlag{F}{NoZoom}%
5260   \HyField@UseFlag{F}{NoRotate}%
5261   \HyField@UseFlag{F}{NoView}%
5262   \HyField@UseFlag{F}{Locked}%
5263   \HyField@UseFlag{F}{ToggleNoView}%
5264   \HyField@UseFlag{F}{LockedContents}%
5265   \HyField@PrintFlags{F}{#1}%
5266   \bitsetIsEmpty{HyField@F}{%
5267     \let\Fld@annotflags\ltx@empty
5268   }{%
5269     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5270   }%
5271 }
```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
5272 \def\HyField@FlagsPushButton{%
5273   \HyField@FlagsAnnot{push button field}%
5274   \bitsetReset{HyField@Ff}%
5275   \HyField@UseFlag{Ff}{ReadOnly}%
5276   \HyField@UseFlag{Ff}{Required}%
5277   \HyField@UseFlag{Ff}{NoExport}%
5278   \HyField@SetFlag{Ff}{Pushbutton}%
5279   \HyField@PrintFlags{Ff}{push button field}%
5280   \bitsetIsEmpty{HyField@Ff}{%
5281     \let\Fld@flags\ltx@empty
5282   }{%
5283     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5284   }%
5285 }
```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
5286 \def\HyField@FlagsCheckBox{%
5287   \HyField@FlagsAnnot{check box field}%
5288   \bitsetReset{HyField@Ff}%
5289   \HyField@UseFlag{Ff}{ReadOnly}%
5290   \HyField@UseFlag{Ff}{Required}%
5291   \HyField@UseFlag{Ff}{NoExport}%
5292   \HyField@PrintFlags{Ff}{check box field}%
5293   \bitsetIsEmpty{HyField@Ff}{%
5294     \let\Fld@flags\ltx@empty
5295   }{%
5296     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5297   }%
5298 }
```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
5299 \def\HyField@FlagsRadioButton{%
5300   \HyField@FlagsAnnot{radio button field}%
5301   \bitsetReset{HyField@Ff}%
5302   \HyField@UseFlag{Ff}{ReadOnly}%
5303   \HyField@UseFlag{Ff}{Required}%
5304   \HyField@UseFlag{Ff}{NoExport}%
5305   \HyField@UseFlag{Ff}{NoToggleToOff}%
5306   \HyField@SetFlag{Ff}{Radio}%
5307   \HyField@UseFlag{Ff}{RadiosInUnison}%
5308   \HyField@PrintFlags{Ff}{radio button field}%
5309   \bitsetIsEmpty{HyField@Ff}{%
5310     \let\Fld@flags\ltx@empty
5311   }{%
5312     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5313   }%
5314 }
```

19.1.7 Text fields

\HyField@FlagsText

```
5315 \def\HyField@FlagsText{%
5316   \HyField@FlagsAnnot{text field}%
5317   \bitsetReset{HyField@Ff}%
5318   \HyField@UseFlag{Ff}{ReadOnly}%
5319   \HyField@UseFlag{Ff}{Required}%
5320   \HyField@UseFlag{Ff}{NoExport}%
5321   \HyField@UseFlag{Ff}{Multiline}%
5322   \HyField@UseFlag{Ff}{Password}%
5323   \HyField@UseFlag{Ff}{FileSelect}%
5324   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5325   \HyField@UseFlag{Ff}{DoNotScroll}%
5326   \ifFld@comb
5327     \ifcase0\ifFld@multiline
5328       \else\ifFld@password
5329       \else\ifFld@fileselect
5330       \else 1\fi\fi\fi\relax
5331     \Hy@Error{%
5332       Field option ‘comb’ cannot used together with\MessageBreak
5333       ‘multiline’, ‘password’, or ‘fileselect’%
5334     }\@ehc
5335   \else
5336     \HyField@UseFlag{Ff}{Comb}%
5337   \fi
5338 \fi
5339 \HyField@UseFlag{Ff}{RichText}%
5340 \HyField@PrintFlags{Ff}{text field}%
5341 \bitsetIsEmpty{HyField@Ff}{%
5342   \let\Fld@flags\ltx@empty
5343 }{%
5344   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5345 }%
5346 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5347 \def\HyField@FlagsChoice{%
5348   \HyField@FlagsAnnot{choice field}%
5349   \bitsetReset{HyField@Ff}%
5350   \HyField@UseFlag{Ff}{ReadOnly}%
5351   \HyField@UseFlag{Ff}{Required}%
5352   \HyField@UseFlag{Ff}{NoExport}%
5353   \HyField@UseFlag{Ff}{Combo}%
5354   \ifFld@combo
5355     \HyField@UseFlag{Ff}{Edit}%
5356   \fi
5357   \HyField@UseFlag{Ff}{Sort}%
5358   \HyField@UseFlag{Ff}{MultiSelect}%
5359   \ifFld@combo
5360     \ifFld@edit
5361       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5362     \fi
5363   \fi
5364   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5365   \HyField@PrintFlags{Ff}{choice field}%
5366   \bitsetIsEmpty{HyField@Ff}{%
5367     \let\Fld@flags\tx@empty
5368   }{%
5369     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5370   }%
5371 }
```

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.

```

5372 \def\HyField@PDFChoices#1{%
5373   \begingroup
5374   \global\let\Fld@choices\tx@empty
5375   \let\HyTmp@optlist\tx@empty
5376   \let\HyTmp@optitem\relax
5377   \count@=0 %
5378   \kv@parse{#1}{%
5379     \Hy@pdfstringdef\kv@key\kv@key
5380     \ifx\kv@value\relax
5381       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5382         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5383       \else
5384         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5385       \fi
5386     \else
5387       \Hy@pdfstringdef\kv@value\kv@value
5388       \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5389     \fi
5390   \edef\HyTmp@optlist{%
5391     \HyTmp@optlist
5392     \HyTmp@optitem{\the\count@}{\kv@key}0%
5393   }%
5394   \advance\count@ by 1 %
```

```

5395 \gobbletwo
5396 }%
5397 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5398 \ifFld@multiselect
5399 \HyField@@PDFChoices{DV}\Fld@default
5400 \HyField@@PDFChoices{V}\Fld@value
5401 \else
5402 \ifx\Fld@default\relax
5403 \else
5404 \pdfstringdef\Hy@gtemp\Fld@default
5405 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5406 \fi
5407 \ifx\Fld@value\relax
5408 \else
5409 \pdfstringdef\Hy@gtemp\Fld@value
5410 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5411 \fi
5412 \fi
5413 \endgroup
5414 }

```

\HyField@@PDFChoices

```

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

```



```

5450 }%
5451 \def\HyTmp@optitem##1##2##3{%
5452   \ifnum##3=1 %
5453     (##2)%
5454   \fi
5455 }%
5456 \ifcase\count@
5457 \or
5458   \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5459 \else
5460   \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5461   \ifx#1V%
5462     \def\HyTmp@optitem##1##2##3{%
5463       \ifnum##3=1 %
5464         \@firstofone{ ##1}%
5465       \fi
5466     }%
5467   \edef\HyTmp@optlist{\HyTmp@optlist}%
5468   \xdef\Fld@choices{%
5469     \Fld@choices
5470     /I[\expandafter\@firstofone\HyTmp@optlist]%
5471   }%
5472   \fi
5473 \fi
5474 \fi
5475 }

```

19.3 Forms

\HyField@SetKeys

```

5476 \def\HyField@SetKeys{%
5477   \kvsetkeys{Field}%
5478 }

5479 \newif\ifFld@checked
5480 \newif\ifFld@disabled
5481 \Fld@checkedfalse
5482 \Fld@disabledfalse
5483 \newcount\Fld@menulength
5484 \newdimen\Fld@Width
5485 \newdimen\Fld@charsize
5486 \Fld@charsize=10\p@
5487 \def\Fld@maxlen{0}
5488 \def\Fld@align{0}
5489 \def\Fld@color{0 0 0 rg}
5490 \def\Fld@bcolor{1 1 1}
5491 \def\Fld@bordercolor{1 0 0}
5492 \def\Fld@bordersep{1\p@}
5493 \def\Fld@borderwidth{1}
5494 \def\Fld@borderstyle{S}
5495 \def\Fld@cbsymbol{4}
5496 \def\Fld@radiosymbol{H}
5497 \def\Fld@rotation{0}
5498 \def\Fld@Form{\@ifnextchar[{\@Form}{\@Form[]}}
5499 \def\endForm{\@endForm}
5500 \newif\ifForm@html
5501 \Form@htmlfalse

```

```

5502 \def\Form@boolkey#1#2{%
5503   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5504 }
5505 \define@key{Form}{action}{%
5506   \hyper@normalise\Hy@DefFormAction{#1}%
5507 }
5508 \def\Hy@DefFormAction{\def\Form@action}
5509 \def\enc@html{html}
5510 \define@key{Form}{encoding}{%
5511   \def\Hy@tempa{#1}%
5512   \ifx\Hy@tempa\enc@html
5513     \Form@htmltrue
5514     \def\Fld@export{html}%
5515   \else
5516     \Hy@Warning{%
5517       Form 'encoding' key with \MessageBreak
5518       unknown value '#1'%
5519     }%
5520     \Form@htmlfalse
5521   \fi
5522 }
5523 \define@key{Form}{method}{%
5524   \lowercase{\def\Hy@temp{#1}}%
5525   \@ifundefined{Form@method@\Hy@temp}{%
5526     \@onelevel@sanitize\Hy@temp
5527     \Hy@Error{%
5528       Unknown method '\Hy@temp'.\MessageBreak
5529       Known values are 'post' and 'get'%
5530     }\@ehc
5531   }{%
5532     \let\Form@method\Hy@temp
5533     \ifcase\@nameuse{Form@method@\Hy@temp} %
5534       \Fld@getmethodfalse
5535     \else
5536       \Fld@getmethodtrue
5537     \fi
5538   }%
5539 }
5540 \def\Form@method{}
5541 \@namedef{Form@method@post}{0}
5542 \@namedef{Form@method@get}{1}
5543 \newif\ifHyField@NeedAppearances
5544 \def\HyField@NeedAppearancesfalse{%
5545   \global\let\ifHyField@NeedAppearances\iffalse
5546 }
5547 \def\HyField@NeedAppearancetrue{%
5548   \global\let\ifHyField@NeedAppearances\iftrue
5549 }
5550 \HyField@NeedAppearancetrue
5551 \define@key{Form}{NeedAppearances}[true]{%
5552   \edef\Hy@tempa{#1}%
5553   \ifx\Hy@tempa\Hy@true
5554     \HyField@NeedAppearancetrue
5555   \else
5556     \ifx\Hy@tempa\Hy@false
5557       \HyField@NeedAppearancesfalse
5558     \else

```

```

5559 \Hy@Error{%
5560 Unexpected value '\Hy@tempa'\MessageBreak
5561 of option 'NeedAppearances' instead of\MessageBreak
5562 'true' or 'false'%
5563 }\@ehc
5564 \fi
5565 \fi
5566 }
5567 \def\Field@boolkey#1#2{%
5568 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5569 }
5570 \ifHy@texht
5571 \newtoks\Field@toks
5572 \Field@toks={ }%
5573 \def\Field@addtoks#1#2{%
5574 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5575 \@processme
5576 }%
5577 \else
5578 \def\Hy@WarnHTMLFieldOption#1{%
5579 \Hy@Warning{%
5580 HTML field option '#1'\MessageBreak
5581 is ignored%
5582 }%
5583 }%
5584 \fi
5585 \def\Fld@checkequals#1=#2=#3\\{%
5586 \def\@currDisplay{#1}%
5587 \ifx\\#2\\%
5588 \def\@currValue{#1}%
5589 \else
5590 \def\@currValue{#2}%
5591 \fi
5592 }
5593 \define@key{Field}{loc}{%
5594 \def\Fld@loc{#1}%
5595 }
5596 \define@key{Field}{checked}[true]{%
5597 \lowercase{\Field@boolkey{#1}}{checked}%
5598 }
5599 \define@key{Field}{disabled}[true]{%
5600 \lowercase{\Field@boolkey{#1}}{disabled}%
5601 }
5602 \ifHy@texht
5603 \define@key{Field}{accesskey}{%
5604 \Field@addtoks{accesskey}{#1}%
5605 }%
5606 \define@key{Field}{tabkey}{%
5607 \Field@addtoks{tabkey}{#1}%
5608 }%
5609 \else
5610 \define@key{Field}{accesskey}{%
5611 \Hy@WarnHTMLFieldOption{accesskey}%
5612 }%
5613 \define@key{Field}{tabkey}{%
5614 \Hy@WarnHTMLFieldOption{tabkey}%
5615 }%

```

```

5616 \fi
5617 \define@key{Field}{name}{%
5618   \def\Fld@name{#1}%
5619 }
5620 \let\Fld@altname\relax
5621 \define@key{Field}{altname}{%
5622   \def\Fld@altname{#1}%
5623 }
5624 \let\Fld@mappingname\relax
5625 \define@key{Field}{mappingname}{%
5626   \def\Fld@mappingname{#1}%
5627 }
5628 \define@key{Field}{width}{%
5629   \def\Fld@width{#1}%
5630   \Field@Width#1\setbox0=\hbox{m}%
5631 }
5632 \define@key{Field}{maxlen}{%
5633   \def\Fld@maxlen{#1}%
5634 }
5635 \define@key{Field}{menulength}{%
5636   \Fld@menulength=#1\relax
5637 }
5638 \define@key{Field}{height}{%
5639   \def\Fld@height{#1}%
5640 }
5641 \define@key{Field}{charsize}{%
5642   \Fld@charsize#1%
5643 }
5644 \define@key{Field}{borderwidth}{%
5645   \def\Fld@borderwidth{#1}%
5646 }
5647 \define@key{Field}{borderstyle}{%
5648   \let\Hy@temp\Fld@borderstyle
5649   \def\Fld@borderstyle{#1}%
5650   \Hy@Match\Fld@borderstyle{
5651     ^[SDBIU]$%
5652   }{}{%
5653     \Hy@Warning{%
5654       Invalid value '@pdfborderstyle'\MessageBreak
5655       for option 'pdfborderstyle'. Valid values:\MessageBreak
5656       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5657       \space\space I (Inset), U (Underline)\MessageBreak
5658       Option setting is ignored%
5659     }%
5660     \let\Fld@borderstyle\Hy@temp
5661   }%
5662 }
5663 \define@key{Field}{bordersep}{%
5664   \def\Fld@bordersep{#1}%
5665 }
5666 \define@key{Field}{default}{%
5667   \def\Fld@default{#1}%
5668 }
5669 \define@key{Field}{align}{%
5670   \def\Fld@align{#1}%
5671 }
5672 \define@key{Field}{value}{%

```

```

5673 \def\Fld@value{#1}%
5674 }
5675 \define@key{Field}{checkboxsymbol}{%
5676 \Fld@DingDef\Fld@cbsymbol{#1}%
5677 }
5678 \define@key{Field}{radiosymbol}{%
5679 \Fld@DingDef\Fld@radiosymbol{#1}%
5680 }
5681 \def\Fld@DingDef#1#2{%
5682 \let\Fld@temp\ltx@empty
5683 \Fld@@@DingDef#2\ding{ }\@nil
5684 \let#1\Fld@temp
5685 }
5686 \def\Fld@@@DingDef#1\ding{#2#3}\@nil{%
5687 \expandafter\def\expandafter\Fld@temp\expandafter{%
5688 \Fld@temp
5689 #1%
5690 }%
5691 \ifx\#3\%
5692 \expandafter\@gobble
5693 \else
5694 \begingroup
5695 \lccode'0=#2\relax
5696 \lowercase{\endgroup
5697 \expandafter\def\expandafter\Fld@temp\expandafter{%
5698 \Fld@temp
5699 0%
5700 }%
5701 }%
5702 \expandafter\@firstofone
5703 \fi
5704 {%
5705 \Fld@@@DingDef#3\@nil
5706 }%
5707 }

5708 \define@key{Field}{rotation}{%
5709 \def\Fld@rotation{#1}%
5710 }

5711 \define@key{Field}{backgroundcolor}{%
5712 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5713 }
5714 \define@key{Field}{bordercolor}{%
5715 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5716 }
5717 \define@key{Field}{color}{%
5718 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5719 }

5720 \let\Fld@onclick@code\ltx@empty
5721 \let\Fld@format@code\ltx@empty
5722 \let\Fld@validate@code\ltx@empty
5723 \let\Fld@calculate@code\ltx@empty
5724 \let\Fld@keystroke@code\ltx@empty
5725 \let\Fld@onfocus@code\ltx@empty
5726 \let\Fld@onblur@code\ltx@empty
5727 \let\Fld@onmousedown@code\ltx@empty
5728 \let\Fld@onmouseup@code\ltx@empty

```

```

5729 \let\Fld@onenter@code\ltx@empty
5730 \let\Fld@onexit@code\ltx@empty
5731 \def\Hy@temp#1{%
5732   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5733 }
5734 \def\Hy@@temp#1#2{%
5735   \ifHy@pdfa
5736     \define@key{Field}{#2}{%
5737       \Hy@Error{%
5738         PDF/A: Additional action ‘#2’ is prohibited%
5739       }\@ehc
5740     }%
5741   \else
5742     \define@key{Field}{#2}{%
5743       \def#1{##1}%
5744     }%
5745   \fi
5746 }
5747 \Hy@temp{keystroke}
5748 \Hy@temp{format}
5749 \Hy@temp{validate}
5750 \Hy@temp{calculate}
5751 \Hy@temp{onfocus}
5752 \Hy@temp{onblur}
5753 \Hy@temp{onenter}
5754 \Hy@temp{onexit}
5755 \ifHy@texht
5756   \def\Hy@temp#1{%
5757     \define@key{Field}{#1}{%
5758       \Field@addtoks{#1}{##1}%
5759     }%
5760   }%
5761 \else
5762   \def\Hy@temp#1{%
5763     \define@key{Field}{#1}{%
5764       \Hy@WarnHTMLFieldOption{#1}%
5765     }%
5766   }%
5767 \fi
5768 \Hy@temp{ondblclick}
5769 \Hy@temp{onmousedown}
5770 \Hy@temp{onmouseup}
5771 \Hy@temp{onmouseover}
5772 \Hy@temp{onmousemove}
5773 \Hy@temp{onmouseout}
5774 \Hy@temp{onkeydown}
5775 \Hy@temp{onkeyup}
5776 \Hy@temp{onselect}
5777 \Hy@temp{onchange}
5778 \Hy@temp{onkeypress}
5779 \ifHy@texht
5780   \define@key{Field}{onclick}{%
5781     \Field@addtoks{onclick}{#1}%
5782   }%
5783 \else
5784   \ifHy@pdfa
5785     \define@key{Field}{onclick}{%

```

```

5786 \Hy@Error{%
5787 PDF/A: Action 'onclick' is prohibited%
5788 }\@ehc
5789 }%
5790 \else
5791 \define@key{Field}{onclick}{%
5792 \def\Fld@onclick@code{#1}%
5793 }%
5794 \fi
5795 \fi

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

```

```

5843 \advance\@tempdima by \Fld@borderwidth bp %
5844 \dp0\@tempdima
5845 \box0\relax
5846 }
5847 \def\DefaultHeightofSubmit{14pt}
5848 \def\DefaultWidthofSubmit{2cm}
5849 \def\DefaultHeightofReset{14pt}
5850 \def\DefaultWidthofReset{2cm}
5851 \def\DefaultHeightofCheckBox{\baselineskip}
5852 \def\DefaultWidthofCheckBox{\baselineskip}
5853 \def\DefaultHeightofChoiceMenu{\baselineskip}
5854 \def\DefaultWidthofChoiceMenu{\baselineskip}
5855 \def\DefaultHeightofText{\baselineskip}
5856 \def\DefaultHeightofTextMultiline{4\baselineskip}
5857 \def\DefaultWidthofText{3cm}
5858 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5859 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5860 \def\DefaultOptionsofPushButton{print}
5861 \def\DefaultOptionsofCheckBox{print}
5862 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5863 \def\DefaultOptionsofListBox{print}
5864 \def\DefaultOptionsofComboBox{print,edit,sort}
5865 \def\DefaultOptionsofPopdownBox{print}
5866 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

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

```



```

5895 \Hy@Info{Link coloring with OCG OFF}%
5896 \fi
5897 \ifHy@pdfa
5898 \Hy@Info{PDF/A mode ON}%
5899 \else
5900 \Hy@Info{PDF/A mode OFF}%
5901 \fi

```

21 Low-level utility macros

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

```

5902 \edef\hyper@hash{\string#}
5903 \edef\hyper@tilde{\string~}
5904 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5905 \def\@currentHref{Doc-Start}
5906 \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.

```

5907 \Hy@AtBeginDocument{%
5908 \Hy@pdfstringtrue
5909 \PDF@SetupDoc
5910 \let\PDF@SetupDoc\@empty
5911 \Hy@DisableOption{pdfpagescrop}%
5912 \Hy@DisableOption{pdfpagemode}%
5913 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5914 \Hy@DisableOption{pdfdirection}%
5915 \Hy@DisableOption{pdfviewarea}%
5916 \Hy@DisableOption{pdfviewclip}%
5917 \Hy@DisableOption{pdfprintarea}%
5918 \Hy@DisableOption{pdfprintclip}%
5919 \Hy@DisableOption{pdfprintscaling}%
5920 \Hy@DisableOption{pdfduplex}%
5921 \Hy@DisableOption{pdfpicktraybypdfsize}%
5922 \Hy@DisableOption{pdfprintpagerange}%
5923 \Hy@DisableOption{pdfnumcopies}%
5924 \Hy@DisableOption{pdfstartview}%
5925 \Hy@DisableOption{pdfstartpage}%
5926 \Hy@DisableOption{pdftoolbar}%
5927 \Hy@DisableOption{pdfmenubar}%
5928 \Hy@DisableOption{pdfwindowui}%
5929 \Hy@DisableOption{pdfwindow}%
5930 \Hy@DisableOption{pdfcenterwindow}%
5931 \Hy@DisableOption{pdfdisplaydoctitle}%
5932 \Hy@DisableOption{pdfpagelayout}%
5933 \Hy@DisableOption{pdflang}%
5934 \Hy@DisableOption{baseurl}%
5935 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5936 \Hy@pdfstringfalse
5937 }

```

Ignore star from referencing macros:

```

5938 \LetLtxMacro\NoHy@OrgRef\ref
5939 \DeclareRobustCommand*{\ref}{%
5940 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5941 }

```

```

5942 \LetLtxMacro\NoHy@OrgPageRef\pageref
5943 \DeclareRobustCommand*\pageref}{%
5944 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5945 }

```

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.

```

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

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

5977 \<*nohyperref>
5978 \RequirePackage{letltxmacro}[2008/06/13]
5979 \let\hyper@@anchor\@gobble

```

```

5980 \def\hyper@link#1#2#3{#3}%
5981 \let\hyper@anchorstart\@gobble
5982 \let\hyper@anchorend\@empty
5983 \let\hyper@linkstart\@gobbletwo
5984 \let\hyper@linkend\@empty
5985 \def\hyper@linkurl#1#2{#1}%
5986 \def\hyper@linkfile#1#2#3{#1}%
5987 \def\hyper@link@{#1}#2#3{#1}%
5988 \let\PDF@SetupDoc\@empty
5989 \let\PDF@FinishDoc\@empty
5990 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5991 \def\Acrobatmenu#1#2{\leavevmode#2}
5992 \let\pdfstringdefDisableCommands\@gobbletwo
5993 \let\texorpdfstring\@firstoftwo
5994 \let\pdfbookmark\@undefined
5995 \newcommand\pdfbookmark[3]{}{}
5996 \let\phantomsection\@empty
5997 \let\hypersetup\@gobble
5998 \let\hyperbaseurl\@gobble
5999 \newcommand*{\href}[3]{}{#3}
6000 \let\hyperdef\@gobbletwo
6001 \let\hyperlink\@gobble
6002 \let\hypertarget\@gobble
6003 \def\hyperref{%
6004   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6005 }
6006 \long\def\@gobbleopt[#1]{}
6007 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6008 \LetLtxMacro\NoHy@OrgRef\ref
6009 \DeclareRobustCommand*{\ref}{%
6010   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6011 }
6012 \LetLtxMacro\NoHy@OrgPageRef\pageref
6013 \DeclareRobustCommand*{\pageref}{%
6014   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6015 }
6016 \</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}`

```

6017 <*package>
6018 \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.

```

6019 \if@filesw
6020   \ifHy@typexml
6021     \immediate\closeout\@mainaux
6022     \immediate\openout\@mainaux\jobname.aux\relax

```

```

6023 \immediate\write\@auxout{<relaxxml>\relax}%
6024 \fi
6025 \immediate\write\@auxout{%
6026 \string\providecommand\string\HyperFirstAtBeginDocument{%
6027 \string\AtBeginDocument}^^J%
6028 \string\HyperFirstAtBeginDocument{%
6029 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6030 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6031 \string\gdef\string\contentsline%
6032 \string#1\string#2\string#3\string#4{%
6033 \string\oldcontentsline%
6034 {\string#1}{\string#2}{\string#3}}^^J%
6035 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6036 \string\gdef\string\newlabel\string#1\string#2{%
6037 \string\newlabelxx{\string#1}\string#2}^^J%
6038 \string\gdef\string\newlabelxx%
6039 \string#1\string#2\string#3\string#4\string#5\string#6{%
6040 \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.

```

6041 \string\AtEndDocument{%
6042 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6043 \string\let\string\contentsline\string\oldcontentsline^^J%
6044 \string\let\string\newlabel\string\oldnewlabel^^J%
6045 \string\fi%
6046 }^^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.

```

6047 \string\fi%
6048 }^^J%
6049 \string\global\string\let\string\hyper@last\relax^^J%
6050 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6051 }%
6052 \fi
6053 \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.

```

6054 \ifx\hyper@last\@undefined
6055 \def\@starttoc#1{%
6056 \begingroup
6057 \makeatletter
6058 \IfFileExists{\jobname.#1}{%
6059 \Hy@WarningNoLine{%
6060 old #1 file detected, not used; run LaTeX again%
6061 }%
6062 }{%
6063 \if@filesw
6064 \expandafter\newwrite\csname tf@#1\endcsname
6065 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6066 \fi
6067 \@nobreakfalse
6068 \endgroup

```

```

6069 }%
6070 \def\newlabel#1#2{\@newlabel{#1}{#2}{-}{-}{-}}%
6071 \fi
6072 }

```

25 Title strings

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

```

6073 \ifHy@usetitle
6074 \let\HyOrg@title\title
6075 \let\HyOrg@author\author
6076 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6077 \def\Hy@scanopttitle[#1]{%
6078 \gdef\Hy@title{#1}%
6079 \HyOrg@title{#1}}%
6080 }%
6081 \def\Hy@scantitle#1{%
6082 \gdef\Hy@title{#1}%
6083 \HyOrg@title{#1}%
6084 }%
6085 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6086 \def\Hy@scanoptauthor[#1]{%
6087 \gdef\Hy@author{#1}%
6088 \HyOrg@author{#1}}%
6089 }%
6090 \def\Hy@scanauthor#1{%
6091 \gdef\Hy@author{#1}%
6092 \HyOrg@author{#1}%
6093 }%

```

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

```

6094 \begingroup
6095 \def\process@me#1\@nil#2{%
6096 \expandafter\let\expandafter\x\csname @#2\endcsname
6097 \edef\y{\expandafter\strip@prefix\meaning\x}%
6098 \def\c##1#1##2\@nil{%
6099 \ifx\\##1\\%
6100 \else
6101 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6102 \expandafter{\x}%
6103 \fi
6104 }%
6105 \expandafter\c\y\relax#1\@nil
6106 }%
6107 \expandafter\process@me\string\@latex@\@nil{title}%
6108 \expandafter\process@me\string\@latex@\@nil{author}%
6109 \endgroup
6110 \fi
6111 \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.

```

6112 \def\Hy@UseMaketitleString#1{%
6113   \ltx@ifundefined{Hy@#1}{-}{%
6114     \begingroup
6115       \let\Hy@saved@hook\pdfstringdefPreHook
6116       \pdfstringdefDisableCommands{%
6117         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6118         \let\newline\\%
6119       }%
6120       \expandafter\ifx\csname @pdf#1\endcsname\@empty
6121         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6122           \csname Hy@#1\endcsname\@empty
6123         }%
6124       \fi
6125       \global\let\pdfstringdefPreHook\Hy@saved@hook
6126     \endgroup
6127   }%
6128 }
6129 \def\Hy@newline@title#1{ #1}
6130 \def\Hy@newline@author#1{, #1}
6131 \def\Hy@UseMaketitleInfos{%
6132   \Hy@UseMaketitleString{title}%
6133   \Hy@UseMaketitleString{author}%
6134 }

```

26 Page numbers

This stuff is done by Heiko Oberdick.

27 Every page

```

6135 \RequirePackage{atbegshi}[2007/09/09]
6136 \let\Hy@EveryPageHook\ltx@empty
6137 \let\Hy@EveryPageBoxHook\ltx@empty
6138 \let\Hy@FirstPageHook\ltx@empty
6139 \AtBeginShipout{%
6140   \Hy@EveryPageHook
6141   \ifx\Hy@EveryPageBoxHook\ltx@empty
6142     \else
6143       \setbox\AtBeginShipoutBox=\vbox{%
6144         \offinterlineskip
6145         \Hy@EveryPageBoxHook
6146         \box\AtBeginShipoutBox
6147       }%
6148     \fi
6149 }
6150 \AtBeginShipoutFirst{%
6151   \Hy@FirstPageHook
6152 }
6153 \g@addto@macro\Hy@FirstPageHook{%
6154   \PDF@FinishDoc
6155   \global\let\PDF@FinishDoc\ltx@empty

```

6156 }

27.1 PDF /PageLabels

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

```
6157 \ifHy@pagelabels
6158 \begingroup\expandafter\expandafter\expandafter\endgroup
6159 \expandafter\ifx\csname thepage\endcsname\relax
6160 \Hy@pagelabelsfalse
6161 \Hy@WarningNoLine{%
6162   Option 'pdfpagelabels' is turned off\MessageBreak
6163   because \string\thepage\space is undefined%
6164 }%
6165 \csname fi\endcsname
6166 \csname iffalse\expandafter\endcsname
6167 \fi
```

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

```
6168 \def\thispdfpagelabel#1{%
6169   \gdef\HyPL@thisLabel{#1}%
6170 }%
6171 \global\let\HyPL@thisLabel\relax
```

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

```
6172 \let\HyPL@Labels\ltx@empty
```

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

```
6173 \newcount\Hy@abspage
6174 \Hy@abspage=0 %
```

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

```
6175 \def\HyPL@LastType{init}%
6176 \def\HyPL@LastNumber{0}%
6177 \let\HyPL@LastPrefix\ltx@empty
```

Definitions for the PDF names of the \LaTeX pendants.

```
6178 \def\HyPL@arabic{D}%
6179 \def\HyPL@Roman{R}%
6180 \def\HyPL@roman{r}%
6181 \def\HyPL@Alph{A}%
6182 \def\HyPL@alph{a}%
6183 \let\HyPL@SlidesSetPage\ltx@empty
6184 \ltx@ifclassloaded{slides}{%
6185   \def\HyPL@SlidesSetPage{%
6186     \advance\c@page\ltx@one
6187     \ifnum\value{page}>\ltx@one
6188       \protected@edef\HyPL@SlidesOptionalPage{%
6189         \Hy@SlidesFormatOptionalPage{\thepage}%
6190       }%
6191     \else
6192       \let\HyPL@SlidesOptionalPage\ltx@empty
6193     \fi
6194     \advance\c@page-\ltx@one
6195   \def\HyPL@page{%
6196     \csname the\Hy@SlidesPage\endcsname
6197     \HyPL@SlidesOptionalPage
```

```

6198 }%
6199 }%
6200 }{}%

```

`\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.

```

6201 \def\HyPL@EveryPage{%
6202   \begingroup
6203   \ifx\HyPL@thisLabel\relax
6204     \let\HyPL@page\thepage
6205     \HyPL@SlidesSetPage
6206   \else
6207     \let\HyPL@page\HyPL@thisLabel
6208     \global\let\HyPL@thisLabel\relax
6209   \fi
6210   \let\HyPL@Type\relax
6211   \ifnum\the\c@page>0 %
6212     \ifx\HyPLSlidesSetPage\ltx@empty
6213       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6214     \fi
6215   \fi
6216   \let\Hy@temp Y%
6217   \ifx\HyPL@Type\HyPL@LastType
6218   \else
6219     \let\Hy@temp N%
6220   \fi
6221   \ifx\HyPL@Type\relax
6222     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6223   \else
6224     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6225   \fi
6226   \ifx\HyPL@Prefix\HyPL@LastPrefix
6227   \else
6228     \let\Hy@temp N%
6229   \fi
6230   \if Y\Hy@temp
6231     \advance\c@page by -1 %
6232     \ifnum\HyPL@LastNumber=\the\c@page\relax
6233     \else
6234       \let\Hy@temp N%
6235     \fi
6236     \Hy@StepCount\c@page
6237   \fi
6238   \if N\Hy@temp
6239     \ifx\HyPL@Type\relax
6240       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6241     \else
6242       \HyPL@StorePageLabel{%
6243         \ifx\HyPL@Prefix\@empty
6244         \else
6245           /P(\HyPL@Prefix)%
6246         \fi
6247         /S/\csname HyPL\HyPL@Type\endcsname
6248         \ifnum\the\c@page=1 %
6249         \else
6250           \space/St \the\c@page
6251         \fi

```



```

6252     }%
6253     \fi
6254     \fi
6255     \xdef\HyPL@LastNumber{\the\c@page}%
6256     \global\let\HyPL@LastType\HyPL@Type
6257     \global\let\HyPL@LastPrefix\HyPL@Prefix
6258     \endgroup
6259     \Hy@GlobalStepCount\Hy@abspage
6260 }%

```

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

```

6261 \def\HyPL@CheckThePage#1\@nil{%
6262   \HyPL@@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6263 }%

```

`\HyPL@@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , e. g.: `\csname @arabic\endcsname\c@page`. In the current implementation the check fails, if there is another `\csname` before.

The second check tries to detect `\arabic{page}` at the end of the definition text of `\thepage`.

```

6264 \def\HyPL@@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6265   \def\Hy@tempa{#4}%
6266   \def\Hy@tempb{\csname\endcsname\c@page}%
6267   \ifx\Hy@tempa\Hy@tempb
6268     \expandafter\ifx\csname HyPL#3\endcsname\relax
6269     \else
6270       \def\HyPL@Type{#3}%
6271       \def\HyPL@Prefix{#2}%
6272       \fi
6273     \else
6274       \begingroup
6275         \let\Hy@next\endgroup
6276         \let\HyPL@found\@undefined
6277         \def\arabic{\HyPL@Format{arabic}}%
6278         \def\Roman{\HyPL@Format{Roman}}%
6279         \def\roman{\HyPL@Format{roman}}%
6280         \def\Alph{\HyPL@Format{Alph}}%
6281         \def\alph{\HyPL@Format{alph}}%
6282         \protected@edef\Hy@temp{#1}%
6283         \ifx\HyPL@found\relax
6284           \toks@{\expandafter{\Hy@temp}}%
6285           \edef\Hy@next{\endgroup
6286             \noexpand\HyPL@@@CheckThePage\the\toks@
6287             \noexpand\HyPL@found\relax\noexpand\@nil
6288           }%
6289           \fi
6290         \Hy@next
6291       \fi
6292   }%

```

`\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`.

```

6293 \def\HyPL@Format#1#2{%
6294   \ifx\HyPL@found\@undefined
6295     \expandafter\ifx\csname c@#2\endcsname\c@page

```

```

6296     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6297     \else
6298     \expandafter\noexpand\csname#1\endcsname{#2}%
6299     \fi
6300     \else
6301     \expandafter\noexpand\csname#1\endcsname{#2}%
6302     \fi
6303 }%

```

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

```

6304 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6305 \def\Hy@tempa{#3}%
6306 \def\Hy@tempb{\HyPL@found\relax}%
6307 \ifx\Hy@tempa\Hy@tempb
6308 \def\HyPL@Type{@#2}%
6309 \def\HyPL@Prefix{#1}%
6310 \fi
6311 }%

```

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

```

6312 \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`.

```

6313 \def\HyPL@Useless{0<</S/D>>}%
6314 \@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.

```

6315 \def\HyPL@SetPageLabels{%
6316 \@onelevel@sanitize\HyPL@Labels
6317 \ifx\HyPL@Labels\@empty
6318 \else
6319 \ifx\HyPL@Labels\HyPL@Useless
6320 \else
6321 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6322 \fi
6323 \fi
6324 }%

```

```

6325 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6326 \fi

```

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

```

6327 \Hy@DisableOption{pdfpagelabels}
6328 </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`

```

6329 <*pdfTeX>
6330 \pdf@ifdraftmode{%

```

```

6331 \let\Hy@PutCatalog\ltx@gobble
6332 }{%
6333 \let\Hy@PutCatalog\pdfcatalog
6334 }
6335 </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.

```

6336 <*vtex>
6337 \providecommand*{\XR@ext}{pdf}
6338 \edef\Hy@VTeXversion{%
6339 \ifx\VTeXversion\@undefined
6340 \z@
6341 \else
6342 \ifx\VTeXversion\relax
6343 \z@
6344 \else
6345 \VTeXversion
6346 \fi
6347 \fi
6348 }
6349 \begingroup
6350 \ifnum\Hy@VTeXversion<660 %
6351 \gdef\Hy@PutCatalog#1{%
6352 \Hy@WarningNoLine{%
6353 VTeX 6.59g or above required for pdfpagelabels%
6354 }%
6355 }%
6356 \else
6357 \gdef\Hy@PutCatalog#1{%
6358 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6359 }%
6360 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6361 \ifx\#2\%
6362 \else
6363 \immediate\special{!pdfpagelabels #2}%
6364 \fi
6365 }%
6366 \fi
6367 \endgroup
6368 </vtex>

6369 <*pdfTeX | vtex>

```

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

```

6370 \ifHy@pagelabels
6371 \def\HyPL@StorePageLabel#1{%
6372 \toks@\expandafter{\HyPL@Labels}%
6373 \xdef\HyPL@Labels{%
6374 \the\toks@
6375 \the\Hy@abspage<<#1>>%
6376 }%
6377 }%

```

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.

```
6378 \RequirePackage{atveryend}[2009/12/07]%
6379 \AtVeryEndDocument{%
6380 \HyPL@SetPageLabels
6381 }%
6382 \fi
6383 </pdfTeX | vTeX>
```

27.1.2 xetex

```
6384 <*xetex>
6385 \HyPsd@LoadUnicode
6386 \Hy@unicodetrue
6387 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6388 \else
6389 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6390 \fi
6391 \HyPsd@LoadStringEncoding
6392 \define@key{Hyp}{unicode}[true]{%
6393 \Hy@boolkey{unicode}{#1}%
6394 \ifHy@unicode
6395 \else
6396 \Hy@Warning{%
6397 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6398 option setting 'unicode=false'%
6399 }%
6400 \Hy@unicodetrue
6401 \fi
6402 }
6403 \define@key{Hyp}{pdfencoding}{%
6404 \edef\HyPsd@temp{#1}%
6405 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6406 \let\HyPsd@pdfencoding\HyPsd@temp
6407 \else
6408 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6409 \let\HyPsd@pdfencoding\HyPsd@temp
6410 \else
6411 \Hy@Warning{%
6412 XeTeX driver only supports\MessageBreak
6413 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6414 setting 'pdfencoding=\HyPsd@temp'%
6415 }%
6416 \fi
6417 \fi
6418 }
6419 \let\HyXeTeX@CheckUnicode\relax
6420 </xetex>
```

27.1.3 pdfmarkbase, dvipdfm, xetex

```
6421 <*pdfmarkbase>
6422 \begingroup
6423 \ifundefined{headerps@out}{-}{%
6424 \toks@\expandafter{\Hy@FirstPageHook}%
6425 \xdef\Hy@FirstPageHook{%
6426 \noexpand\headerps@out{%
6427 systemdict /pdfmark known%
6428 }%
6429 }
```

```

6429     userdict /?pdfmark systemdict /exec get put%
6430   }{%
6431     userdict /?pdfmark systemdict /pop get put %
6432     userdict /pdfmark systemdict /cleartomark get put%
6433   }%
6434   ifelse%
6435 }%
6436 \the\toks@
6437 }%
6438 }%
6439 \endgroup
6440 \pdfmarkbase>

```

\Hy@PutCatalog

```

6441 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\pdfmark{docview << #1 >>}}
6442 <*pdfmarkbase>
6443 \def\Hy@PutCatalog#1{%
6444   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog}\string} << #1 >>}}%
6445 }
6446 \pdfmarkbase>

6447 <*pdfmarkbase | dvipdfm | xetex>
6448 \ifHy@pagelabels

```

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

```

6449 \def\HyPL@StorePageLabel#1{%
6450   \if@filesw
6451     \begingroup
6452     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6453     \immediate\write\@mainaux{%
6454       \string\HyPL@Entry{\Hy@tempa}%
6455     }%
6456     \endgroup
6457   \fi
6458 }%

```

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.

```

6459 \Hy@AtBeginDocument{%
6460   \if@filesw
6461     \immediate\write\@mainaux{%
6462       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6463     }%
6464   \fi
6465   \ifx\HyPL@Labels\@empty
6466     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6467   \else
6468     \HyPL@SetPageLabels
6469   \fi
6470   \let\HyPL@Entry\@gobble
6471 }%

```

\HyPL@Entry

```

6472 \def\HyPL@Entry#1{%
6473   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6474     \HyPL@Labels
6475     #1%

```

```

6476 }%
6477 }%

6478 \fi
6479 </pdfmarkbase | dvipdfm | xetex>

6480 <*package>

6481 \MaybeStopEarly

```

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```

6482 \def\Hy@CounterExists#1{%
6483   \begingroup\expandafter\expandafter\expandafter\endgroup
6484   \expandafter\ifx\csname c@#1\endcsname\relax
6485     \expandafter\@gobble
6486   \else
6487     \begingroup\expandafter\expandafter\expandafter\endgroup
6488     \expandafter\ifx\csname the#1\endcsname\relax
6489       \expandafter\expandafter\expandafter\@gobble
6490     \else
6491       \expandafter\expandafter\expandafter\@firstofone
6492     \fi
6493   \fi
6494 }
6495 \Hy@CounterExists{section}{%
6496   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6497 }
6498 \Hy@CounterExists{part}{%
6499   \newcommand\theHpart{\arabic{part}}}%
6500 }
6501 \ltx@ifundefined{thechapter}{%
6502   \newcommand\theHsection   {\arabic{section}}}%
6503   \newcommand\theHfigure    {\arabic{figure}}}%
6504   \newcommand\theHtable     {\arabic{table}}}%
6505 }{%
6506   \newcommand\theHchapter   {\arabic{chapter}}}%
6507   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6508   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
6509   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%

```

```

6510 }
6511 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
6512 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6513 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6514 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6515 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
6516 \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.

```

6517 \let\H@item\item
6518 \newcounter{Item}
6519 \def\theHItem{\arabic{Item}}
6520 \def\item{%
6521   \@hyper@itemfalse
6522   \if@nmbrlist\@hyper@itemtrue\fi
6523   \H@item
6524 }
6525 \newcommand\theHenumi {\theHItem}
6526 \newcommand\theHenumii {\theHItem}
6527 \newcommand\theHenumiii {\theHItem}
6528 \newcommand\theHenumiv {\theHItem}
6529 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6530 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6531 \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.

```

6532 \let\H@refstepcounter\refstepcounter
6533 \edef\name@of@eq{equation}%
6534 \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.

```

6535 \newif\if@hyper@item
6536 \newif\if@skiphyperref
6537 \@hyper@itemfalse
6538 \@skiphyperreffalse
6539 \def\refstepcounter#1{%
6540   \ifHy@pdfstring
6541   \else
6542     \H@refstepcounter{#1}%
6543     \edef\This@name{#1}%
6544     \ifx\This@name\name@of@slide
6545     \else
6546       \if@skiphyperref
6547       \else
6548         \if@hyper@item
6549           \stepcounter{Item}%
6550           \hyper@refstepcounter{Item}%
6551         \@hyper@itemfalse
6552       \else
6553         \hyper@refstepcounter{#1}%
6554       \fi
6555     \fi

```

```

6556 \fi
6557 \fi
6558 }
6559 \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.

```

6560 \ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

6561 \def\hyper@refstepcounter#1{%
6562 \edef\This@name{#1}%
6563 \ifx\This@name\name@of@eq
6564 \ifundefined{theHequation}{%
6565 \make@stripped@name{theequation}%
6566 \let\theHequation\newname
6567 }{}%
6568 \fi
6569 \ifundefined{theH#1}{%
6570 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6571 }{}%
6572 \hyper@makecurrent{#1}%
6573 \ifmeasuring@
6574 \else
6575 \Hy@raisedlink{%
6576 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6577 }%
6578 \fi
6579 }

```

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`.

```

6580 \begingroup\expandafter\expandafter\expandafter\endgroup
6581 \expandafter\ifx\csname chapter\endcsname\relax
6582 \def\Hy@chapterstring{section}%
6583 \else
6584 \def\Hy@chapterstring{chapter}%
6585 \fi
6586 \def\Hy@appendixstring{appendix}
6587 \def\Hy@chapapp{\Hy@chapterstring}
6588 \ltx@ifundefined{appendix}{%
6589 }{%
6590 \let\HyOrg@appendix\appendix
6591 \def\appendix{%
6592 \ltx@ifundefined{chapter}%
6593 {\gdef\theHsection{\Alph{section}}}%
6594 {\gdef\theHchapter{\Alph{chapter}}}%
6595 \xdef\Hy@chapapp{\Hy@appendixstring}%
6596 \HyOrg@appendix
6597 }%
6598 }

```

`\Hy@Test@alph`


```

6599 \def\Hy@Test@alph#1{%
6600   \ifcase#1\or
6601     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6602     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6603     u\or v\or w\or x\or y\or z%
6604   \else
6605     \@ctrerr
6606   \fi
6607 }

```

\Hy@Test@Alph

```

6608 \def\Hy@Test@Alph#1{%
6609   \ifcase#1\or
6610     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6611     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6612     U\or V\or W\or X\or Y\or Z%
6613   \else
6614     \@ctrerr
6615   \fi
6616 }

```

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

```

6617 \def\hyper@makecurrent#1{%
6618   \begingroup
6619   \edef\Hy@param{#1}%
6620   \ifx\Hy@param\Hy@chapterstring
6621     \let\Hy@param\Hy@chapapp
6622   \fi
6623   \ifHy@hypertextnames
6624     \let\@number\@firstofone
6625     \def\@fnsymbol##1{\fnsymbol\number##1}%
6626     \def\@arabic##1{\number##1}%
6627     \ifx\@alph\Hy@Test@alph
6628       \else
6629         \def\@alph{alph\number}%
6630       \fi
6631     \ifx\@Alph\Hy@Test@Alph
6632       \else
6633         \def\@Alph{Alph\number}%
6634       \fi
6635     \ifHy@naturalnames
6636       \let\textlatin\@firstofone
6637       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6638     \else
6639       \xdef\HyperGlobalCurrentHref{%
6640         \csname
6641           the%
6642           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6643           #1%
6644         \endcsname
6645       }%
6646     \fi
6647     \xdef\HyperGlobalCurrentHref{%
6648       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6649     }%
6650   \else

```

```

6651 \Hy@GlobalStepCount\Hy@linkcounter
6652 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6653 \fi
6654 \endgroup
6655 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6656 \ifHy@localanchorname
6657 \let\@currentHref\HyperLocalCurrentHref
6658 \else
6659 \global\let\@currentHref\HyperGlobalCurrentHref
6660 \fi
6661 }

```

`\Hy@MakeCurrentHref`

```

6662 \def\Hy@MakeCurrentHref#1{%
6663 \edef\HyperLocalCurrentHref{#1}%
6664 \@onelevel@sanitize\HyperLocalCurrentHref
6665 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6666 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6667 \ifHy@localanchorname
6668 \let\@currentHref\HyperLocalCurrentHref
6669 \else
6670 \global\let\@currentHref\HyperGlobalCurrentHref
6671 \fi
6672 }

```

`\Hy@MakeCurrentHrefAuto`

```

6673 \def\Hy@MakeCurrentHrefAuto#1{%
6674 \Hy@GlobalStepCount\Hy@linkcounter
6675 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6676 }

```

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

```

6677 \def\@currentHlabel{\@currentHref}

6678 \@ifpackageloaded{fancyvrb}{%
6679 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
6680 \def\FV@StepLineNo{%
6681 \FV@SetLineNo
6682 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6683 \FV@SetLineNo
6684 }%
6685 }%
6686 }{-}

```

29 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options `hypertextnames` and `plainpages`) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 38). The link will not work if option `pageanchor` is set to false.

`\lastpage@putlabel`

```

6687 \Hy@AtBeginDocument{%
6688   \ifclassloaded{revtex4}{%
6689     \@namedef{ver@lastpage.sty}{1994/06/25}%
6690   }{}%
6691 \ifpackageloaded{lastpage}{%
6692   \ifHy@pageanchor
6693   \else
6694     \Hy@WarningNoLine{%
6695       The \string\pageref{LastPage} link doesn't work\MessageBreak
6696       with disabled option 'pageanchor'%
6697     }%
6698   \fi
6699 \def\lastpage@putlabel{%
6700   \addtocounter{page}{-1}%
6701   \if@files
6702     \begingroup
6703       \let\@number\@firstofone
6704       \ifHy@pageanchor
6705         \ifHy@hypertextnames
6706           \ifHy@plainpages
6707             \def\Hy@temp{\arabic{page}}%
6708           \else
6709             \Hy@unicodefalse
6710             \pdfstringdef\Hy@temp{\thepage}%
6711           \fi
6712         \else
6713           \def\Hy@temp{\the\Hy@pagecounter}%
6714         \fi
6715       \fi
6716       \immediate\write\@auxout{%
6717         \string\newlabel
6718         {LastPage}{\the\Hy@temp}{\thepage}{\the\Hy@temp}%
6719         \ifHy@pageanchor page.\Hy@temp\fi}%
6720     }%
6721   \endgroup
6722   \fi
6723   \addtocounter{page}{1}%
6724 }{}%
6725 \ifclassloaded{revtex4}{%
6726   \begingroup
6727     \toks@{\expandafter\lastpage@putlabel}%
6728     \edef\x{\endgroup
6729       \def\noexpand\lastpage@putlabel{%
6730         \noexpand\stepcounter{page}%
6731         \the\toks@
6732         \noexpand\addtocounter{page}\noexpand\m@ne
6733       }%
6734     }%
6735     \x
6736   }{}%
6737 }{}%
6738 }
6739 \endpackage
6740 \check
6741 \checkpackage{lastpage}[1994/06/25]
6742 \checkcommand\def\lastpage@putlabel{%
6743   \addtocounter{page}{-1}%

```

```

6744 \immediate\write\@auxout{%
6745   \string\newlabel{LastPage}{\the\thepage}}%
6746 }%
6747 \addtocounter{page}{1}%
6748 }
6749 </check>
6750 <*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.

```

6751 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
6752 \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:

```

6753 \ifpackageloaded{titlesec}{%
6754   \def\ttl@Hy@steplink#1{%
6755     \Hy@MakeCurrentHrefAuto{#1*}%
6756     \edef\ttl@Hy@saveanchor{%
6757       \noexpand\Hy@raisedlink{%
6758         \noexpand\hyper@anchorstart{\@currentHref}%
6759         \noexpand\hyper@anchorend
6760         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6761         \noexpand\ttl@Hy@PatchSaveWrite
6762       }%
6763     }%
6764   }%
6765   \def\ttl@Hy@PatchSaveWrite{%
6766     \begingroup
6767     \toks@{\expandafter{\ttl@savewrite}}%
6768     \edef\x{\endgroup
6769       \def\noexpand\ttl@savewrite{%
6770         \let\noexpand\@currentHref
6771         \noexpand\ttl@Hy@SavedCurrentHref
6772         \the\toks@
6773       }%
6774     }%
6775     \x
6776   }%
6777   \def\ttl@Hy@refstepcounter#1{%
6778     \let\ttl@b\Hy@raisedlink
6779     \def\Hy@raisedlink##1{%
6780       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6781     }%
6782     \refstepcounter{#1}%
6783     \let\Hy@raisedlink\ttl@b
6784   }%
6785 }{}

```

Package titletoc support:

```

6786 \@ifpackageloaded{titletoc}{%
6787   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6788 }{}

```

32 Package varioref support

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

```

6789 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
6790 \@ifpackageloaded{varioref}{%
6791   \def\vref@pagenum#1#2{%
6792     \@ifundefined{r@#2}{%
6793       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6794     }{}%
6795     \edef#1{\getpagerefnumber{#2}}%
6796   }%
6797 }{}

```

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

```

6798 \def\Hy@varioref@refstepcounter#1{%
6799   \stepcounter{#1}%
6800   \protected@edef\@currentlabel{%
6801     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6802   }%
6803 }
6804 \AtBeginDocument{%
6805   \ifx\refstepcounter\Hy@varioref@refstepcounter
6806     \let\H@refstepcounter\refstepcounter
6807     \let\refstepcounter\Hy@saved@refstepcounter
6808   \fi
6809 }

```

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

```

6810 \@ifpackageloaded{longtable}{%
6811   \begingroup
6812     \def\y{\LT@array}%
6813     \@ifundefined{scr@LT@array}{%
6814       \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6815     }{\def\y{\scr@LT@array}}%
6816     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6817       \expandafter\endgroup
6818       \expandafter\def\y[#1]#2{%
6819         \H@refstepcounter{#1}%
6820         \hyper@makecurrent{table}%
6821         \let\Hy@LT@currentHref\@currentHref
6822         #2\@sharp###4%
6823       }%
6824     }%

```

```

6825 \expandafter\expandafter\expandafter\x\y[{\#1}]{\#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
6826 \begingroup
6827 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6828 \endgroup
6829 \def\LT@start{%
6830 #1%
6831 \ifvoid\LT@foot#2\fi
6832 \let\@currentHref\Hy@LT@currentHref
6833 \Hy@raisedlink{%
6834 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6835 }%
6836 #3%
6837 }%
6838 }%
6839 \expandafter\x\LT@start\@nil
6840 }{}

```

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.

```

6841 \let\new@refstepcounter\refstepcounter
6842 \let\H@equation\equation
6843 \let\H@endequation\endequation
6844 \@ifpackageloaded{amsmath}{%
6845 \long\def\Hy@temp{%
6846 \incr@eqnum
6847 \mathdisplay@push
6848 \st@rredfalse \global\@eqnswtrue
6849 \mathdisplay{equation}%
6850 }%
6851 \ifx\Hy@temp\equation
6852 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6853 \csname iftrue\endcsname
6854 \else
6855 \long\def\equation{%
6856 \mathdisplay@push
6857 \st@rredfalse \global\@eqnswtrue
6858 \mathdisplay{equation}%
6859 \incr@eqnum
6860 }%
6861 \fi
6862 \fi
6863 }{%
6864 \def\equation{%
6865 \let\refstepcounter\H@refstepcounter
6866 \H@equation
6867 \@ifundefined{theHequation}{%
6868 \make@stripped@name{\theequation}%
6869 \let\theHequation\newname
6870 }{}%

```

```

6871 \hyper@makecurrent{equation}%
6872 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
6873 \let\refstepcounter\new@refstepcounter
6874 }%
6875 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6876 }

```

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.

```

6877 \newif\if@eqnstar
6878 \@eqnstarfalse
6879 \let\H@eqnarray\eqnarray
6880 \let\H@endeqnarray\endeqnarray
6881 \def\eqnarray{%
6882 \let\Hy@reserved@a\relax
6883 \def\@currentHref{}%
6884 \H@eqnarray
6885 \if@eqnstar
6886 \else
6887 \ifx\\ \@currentHref\\%
6888 \else
6889 \@ifundefined{theHequation}{%
6890 \make@stripped@name{\theequation}%
6891 \let\theHequation\newname
6892 }{}%
6893 \hyper@makecurrent{equation}%
6894 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6895 \fi
6896 \fi
6897 }
6898 \def\endeqnarray{%
6899 \H@endeqnarray
6900 }

```

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.

```

6901 \@namedef{eqnarray*}{%
6902 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6903 }
6904 \@namedef{endeqnarray*}{%
6905 \nonumber\endeqnarray\@eqnstarfalse
6906 }

```

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

```

6907 \let\IfUndefined\subeqnarray{}{}%
6908 \let\H@subeqnarray\subeqnarray
6909 \let\H@endsubeqnarray\endsubeqnarray
6910 \def\subeqnarray{%
6911 \let\Hy@reserved@a\relax
6912 \H@subeqnarray
6913 \@ifundefined{theHequation}{%
6914 \make@stripped@name{\theequation}%
6915 \let\theHequation\newname
6916 }{}%
6917 \hyper@makecurrent{equation}%

```

```

6918 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6919 }%
6920 \def\endsubeqnarray{%
6921 \H@endsubeqnarray
6922 }%
6923 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6924 }

```

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

```

6925 \def\make@stripped@name#1{%
6926 \begingroup
6927 \escapechar\m@ne
6928 \global\let\newname\@empty
6929 \protected@edef\Hy@tempa{#1}%
6930 \edef\@tempb{%
6931 \noexpand\@tfor\noexpand\Hy@tempa:=%
6932 \expandafter\strip@prefix\meaning\Hy@tempa
6933 }%
6934 \@tempb\do{%
6935 \if\Hy@tempa\else
6936 \if\Hy@tempa\else
6937 \xdef\newname{\newname\Hy@tempa}%
6938 \fi
6939 \fi
6940 }%
6941 \endgroup
6942 }

```

Support for amsmath's subequations:

```

6943 \begingroup\expandafter\expandafter\expandafter\endgroup
6944 \expandafter\ifx\csname subequations\endcsname\relax
6945 \else
6946 \let\HyOrg@subequations\subequations
6947 \def\subequations{%
6948 \stepcounter{equation}%
6949 \protected@edef\theHparentequation{%
6950 \@ifundefined{theHequation}\theequation\theHequation
6951 }%
6952 \addtocounter{equation}{-1}%
6953 \HyOrg@subequations
6954 \def\theHequation{\theHparentequation\alph{equation}}%
6955 \ignorespaces
6956 }%
6957 \fi

```

Support for package amsthm (Daniel Müllner):

```

6958 \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

6959 \def\Hy@temp#1#2#3{%
6960 \ifhmode\unskip\unskip\par\fi
6961 \normalfont
6962 \trivlist
6963 \let\thmheadnl\relax

```



```

6964 \let\thm@swap\@gobble
6965 \let\thm@indent\indent % indent
6966 \thm@headfont{\scshape}% heading font small caps
6967 \thm@notefont{\fontseries\mddefault\upshape}%
6968 \thm@headpunct{.}% add period after heading
6969 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6970 \thm@space@setup
6971 #1% style overrides
6972 \@topsep \thm@preskip % used by thm head
6973 \@topsepadd \thm@postskip % used by \@endparenv
6974 \def\@tempa{#2}\ifx\@empty\@tempa
6975 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
6976 \else
6977 \refstepcounter{#2}%
6978 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
6979 \fi
6980 \@tempa
6981 }%
6982 \ifx\Hy@temp\@thm
6983 \def\@thm#1#2#3{%
6984 \ifhmode
6985 \unskip\unskip\par
6986 \fi
6987 \normalfont
6988 \trivlist
6989 \let\thmheadnl\relax
6990 \let\thm@swap\@gobble
6991 \let\thm@indent\indent % indent
6992 \thm@headfont{\scshape}% heading font small caps
6993 \thm@notefont{\fontseries\mddefault\upshape}%
6994 \thm@headpunct{.}% add period after heading
6995 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6996 \thm@space@setup
6997 #1% style overrides
6998 \@topsep \thm@preskip % used by thm head
6999 \@topsepadd \thm@postskip % used by \@endparenv
7000 \def\dth@counter{#2}%
7001 \ifx\@empty\dth@counter
7002 \def\@tempa{%
7003 \@oparg{\@begintheorem{#3}{}}}%
7004 }%
7005 \else
7006 \H@refstepcounter{#2}%
7007 \hyper@makecurrent{#2}%
7008 \let\Hy@dth@currentHref\@currentHref
7009 \def\@tempa{%
7010 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7011 }%
7012 \fi
7013 \@tempa
7014 }%
7015 \else
7016 \def\@thm#1#2#3{%
7017 \ifhmode
7018 \unskip\unskip\par
7019 \fi
7020 \normalfont

```

```

7021 \trivlist
7022 \let\thmheadnl\relax
7023 \let\thm@swap\@gobble
7024 \thm@notefont{\fontseries\mddefault\upshape}%
7025 \thm@headpunct{.}% add period after heading
7026 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7027 \thm@space@setup
7028 #1% style overrides
7029 \@topsep \thm@preskip % used by thm head
7030 \@topsepadd \thm@postskip % used by \endparentv
7031 \def\dth@counter{#2}%
7032 \ifx\@empty\dth@counter
7033 \def\@tempa{%
7034 \@oparg{\@begintheorem{#3}{}}{}%
7035 }%
7036 \else
7037 \H@refstepcounter{#2}%
7038 \hyper@makecurrent{#2}%
7039 \let\Hy@dth@currentHref\@currentHref
7040 \def\@tempa{%
7041 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7042 }%
7043 \fi
7044 \@tempa
7045 }%
7046 \fi
7047 \dth@everypar={%
7048 \@minipagefalse
7049 \global\@newlistfalse
7050 \@noparitemfalse
7051 \if@inlabel
7052 \global\@inlabelfalse
7053 \begingroup
7054 \setbox\z@\lastbox
7055 \ifvoid\z@
7056 \kern-\itemindent
7057 \fi
7058 \endgroup
7059 \ifx\@empty\dth@counter
7060 \else
7061 \Hy@raisedlink{%
7062 \hyper@anchorstart{%
7063 \ltx@ifundefined{Hy@dth@currentHref}%
7064 \@currentHref\Hy@dth@currentHref
7065 }\hyper@anchorend
7066 }%
7067 \fi
7068 \unhbox\@labels
7069 \fi
7070 \if@nobreak
7071 \@nobreakfalse \clubpenalty\@M
7072 \else
7073 \clubpenalty\@clubpenalty \everypar{}%
7074 \fi
7075 }%
7076 }{}

```

35 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms `\footnotemark` and `\footnotetext` are used, force them to use un-hyper original.

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

```
7077 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
7078 \ifHy@hyperfootnotes
7079   \newcounter{Hfootnote}%
7080   \let\H@@footnotetext\@footnotetext
7081   \let\H@@footnotemark\@footnotemark
7082   \def\xfootnotenext[#1]{%
7083     \begingroup
7084       \csname c@\@mpfn\endcsname #1\relax
7085       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7086     \endgroup
7087     \ifx\@footnotetext\@mpfootnotetext
7088       \expandafter\H@@mpfootnotetext
7089     \else
7090       \expandafter\H@@footnotetext
7091     \fi
7092   }%
7093   \def\@xfootnotemark[#1]{%
7094     \begingroup
7095       \c@footnote #1\relax
7096       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7097     \endgroup
7098     \H@@footnotemark
7099   }%
7100   \let\H@@mpfootnotetext\@mpfootnotetext
7101   \long\def\@mpfootnotetext#1{%
7102     \H@@mpfootnotetext{%
7103       \ifHy@nesting
7104         \expandafter\hyper@@anchor\expandafter{%
7105           \Hy@footnote@currentHref
7106         }{#1}%
7107       \else
7108         \Hy@raisedlink{%
7109           \expandafter\hyper@@anchor\expandafter{%
7110             \Hy@footnote@currentHref
7111           }{\relax}%
7112         }#1%
7113       \fi
7114     }%
7115   }%
7116   \long\def\@footnotetext#1{%
7117     \H@@footnotetext{%
7118       \ifHy@nesting
7119         \expandafter\hyper@@anchor\expandafter{%
7120           \Hy@footnote@currentHref
7121         }{#1}%
7122       \else
7123         \Hy@raisedlink{%
7124           \expandafter\hyper@@anchor\expandafter{%
7125             \Hy@footnote@currentHref
7126           }{\relax}%

```

```

7127     }%
7128     \let\@currentHref\Hy@footnote@currentHref
7129     \let\@currentlabelname\@empty
7130     #1%
7131     \fi
7132   }%
7133 }%

```

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.

```

7134 \def\@footnotemark{%
7135   \leavevmode
7136   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7137   \stepcounter{Hfootnote}%
7138   \global\let\Hy@saved@currentHref\@currentHref
7139   \hyper@makecurrent{Hfootnote}%
7140   \global\let\Hy@footnote@currentHref\@currentHref
7141   \global\let\@currentHref\Hy@saved@currentHref
7142   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7143   \@makefnmark
7144   \hyper@linkend
7145   \ifhmode\spacefactor\@x@sf\fi
7146   \relax
7147 }%

```

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

```

7148 \@ifpackageloaded{longtable}{%
7149   \CheckCommand*\LT@p@ftntext}[1]{%
7150     \edef\@tempa{%
7151       \the\LT@p@ftn
7152       \noexpand\footnotetext[\the\c@footnote]%
7153     }%
7154     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7155   }%
7156   \long\def\LT@p@ftntext#1{%
7157     \edef\@tempa{%
7158       \the\LT@p@ftn
7159       \begingroup
7160       \noexpand\c@footnote=\the\c@footnote\relax
7161       \noexpand\protected@xdef\noexpand\@thefnmark{%
7162         \noexpand\thempfn
7163       }%
7164       \noexpand\Hy@LT@footnotetext{%
7165         \Hy@footnote@currentHref
7166       }%
7167     }%
7168     \global\LT@p@ftn\expandafter{%
7169       \@tempa{#1}%
7170     }%
7171   }%
7172 }%
7173 \long\def\Hy@LT@footnotetext#1#2{%
7174   \H@@@footnotetext{%

```

```

7175 \ifHy@nesting
7176 \hyper@@anchor{#1}{#2}%
7177 \else
7178 \Hy@raisedlink{%
7179 \hyper@@anchor{#1}{\relax}%
7180 }%
7181 \def\@currentHref{#1}%
7182 \let\@currentlabelname\@empty
7183 #2%
7184 \fi
7185 }%
7186 }%
7187 }{}%

```

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

```

7188 \@ifpackageloaded{fancyvrb}{%
7189 \def\V@@footnotetext{%
7190 \insert\footins\bgroup
7191 \csname reset@font\endcsname
7192 \footnotesize
7193 \interlinepenalty\interfootnotelinepenalty
7194 \splittopskip\footnotesep
7195 \splitmaxdepth\dp\strutbox
7196 \floatingpenalty \@MM
7197 \hsize\columnwidth
7198 \@parboxrestore
7199 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7200 \@makefnmark{}%
7201 \rule{\z@}{\footnotesep}%
7202 \bgroup
7203 \aftergroup\V@@@footnotetext
7204 \Hy@raisedlink{%
7205 \expandafter\hyper@@anchor\expandafter{%
7206 \Hy@footnote@currentHref
7207 }{\relax}%
7208 }%
7209 \let\@currentHref\Hy@footnote@currentHref
7210 \let\@currentlabelname\@empty
7211 \ignorespaces
7212 }%
7213 }{}%

```

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

```

7214 \def\Hy@temp#1{%
7215 \begingroup
7216 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7217 \endgroup
7218 \@footnotemark
7219 }%
7220 \ifx\Hy@temp\footref
7221 \def\footref#1{%
7222 \begingroup
7223 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7224 \endgroup
7225 \H@@@footnotemark
7226 }%
7227 \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.

```

7228 \let\HyOrg@maketitle\maketitle
7229 \def\maketitle{%
7230   \let\Hy@saved@footnotemark\@footnotemark
7231   \let\Hy@saved@footnotetext\@footnotetext
7232   \let\@footnotemark\H@@footnotemark
7233   \let\@footnotetext\H@@footnotetext
7234   \ifnextchar[\Hy@maketitle@optarg{% ]
7235     \HyOrg@maketitle
7236     \Hy@maketitle@end
7237   }%
7238 }%
7239 \def\Hy@maketitle@optarg[#1]{%
7240   \HyOrg@maketitle[#1]}%
7241   \Hy@maketitle@end
7242 }%
7243 \def\Hy@maketitle@end{%
7244   \ifx\@footnotemark\H@@footnotemark
7245     \let\@footnotemark\Hy@saved@footnotemark
7246   \fi
7247   \ifx\@footnotetext\H@@footnotetext
7248     \let\@footnotetext\Hy@saved@footnotetext
7249   \fi
7250 }%

```

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

```

7251 \def\realfootnote{%
7252   \ifnextchar[\@xfootnote{%
7253     \stepcounter{\@mpfn}%
7254     \protected@xdef\thefnmark{\thempfn}%
7255     \H@@footnotemark\H@@footnotetext
7256   }%
7257 }%

7258 \fi
7259 \Hy@DisableOption{hyperfootnotes}

7260 \</package>
7261 \<*check>
7262 \checklatex
7263 \checkcommand\def\@xfootnotenext[#1]{%
7264   \begingroup
7265     \csname c@\@mpfn\endcsname #1\relax
7266     \unrestored@protected@xdef\thefnmark{\thempfn}%
7267   \endgroup
7268   \@footnotetext
7269 }
7270 \checkcommand\def\@xfootnotemark[#1]{%
7271   \begingroup
7272     \c@footnote #1\relax
7273     \unrestored@protected@xdef\thefnmark{\thefootnote}%
7274   \endgroup
7275   \@footnotemark
7276 }
7277 \checkcommand\def\@footnotemark{%
7278   \leavevmode
7279   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi

```

```

7280 \@makefnmark
7281 \ifhmode\spacefactor\@x@sf\fi
7282 \relax
7283 }
7284 </check>
7285 <*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.

```

7286 \def\caption{%
7287   \ifx\@captype\@undefined
7288     \@latex@error{\noexpand\caption outside float}\@ehd
7289   \expandafter\@gobble
7290   \else
7291     \H@refstepcounter\@captype
7292     \let\Hy@tempa\@caption
7293     \@ifundefined{float@caption}{%
7294       }{%
7295         \expandafter\ifx\csname @float@c@\@captype\endcsname
7296           \float@caption
7297         \let\Hy@tempa\Hy@float@caption
7298       \fi
7299     }%
7300   \expandafter\@firstofone
7301   \fi
7302   {\@dblarg{\Hy@tempa\@captype}}}%
7303 }
7304 \long\def\@caption#1[#2]#3{%
7305   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7306     \csname iftrue\endcsname
7307     \global\let\@currentHref\hc@currentHref
7308   \else
7309     \hyper@makecurrent{\@captype}%
7310   \fi
7311   \@ifundefined{NR@gettitle}{%
7312     \def\@currentlabelname{#2}%
7313   }{%
7314     \NR@gettitle{#2}%
7315   }%
7316   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7317     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7318   }%
7319   \begingroup
7320     \@parboxrestore
7321     \if@minipage
7322       \@setminipage
7323     \fi
7324     \normalsize
7325     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7326       \csname iftrue\endcsname
7327       \global\@capstartfalse
7328       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7329     \else
7330       \@makecaption{\csname fnum@#1\endcsname}{%

```

```
7331 \ignorespaces
```

If we cannot have nesting, the anchor is empty.

```
7332 \ifHy@nesting
7333 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7334 \else
7335 \Hy@raisedlink{%
7336 \expandafter\hyper@@anchor\expandafter{%
7337 \@currentHref
7338 }{\relax}%
7339 }%
7340 #3%
7341 \fi
7342 }%
7343 \fi
7344 \par
7345 \endgroup
7346 }
```

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.

```
7347 \let\Hy@float@caption\@caption
7348 \@ifpackageloaded{float}{%
7349 \def\Hy@float@caption{%
7350 \ifx\Hy@float@currentHref\@undefined
7351 \hyper@makecurrent{\@cuptype}%
7352 \global\let\Hy@float@currentHref\@currentHref
7353 \else
7354 \let\@currentHref\Hy@float@currentHref
7355 \fi
7356 \float@caption
7357 }%
7358 \let\HyOrg@float@makebox\float@makebox
7359 \renewcommand{\float@makebox}[1]{%
7360 \HyOrg@float@makebox{%
7361 #1\relax
7362 \ifx\Hy@float@currentHref\@undefined
7363 \else
7364 \expandafter\hyper@@anchor\expandafter{%
7365 \Hy@float@currentHref
7366 }{\relax}%
7367 \global\let\Hy@float@currentHref\@undefined
7368 \fi
7369 }%
7370 }%
7371 }-{}

7372 </package>
7373 <*check>
7374 \checklatex[1999/06/01 - 2000/06/01]
7375 \checkcommand\def\caption{%
7376 \ifx\@cuptype\@undefined
7377 \@latex@error{\noexpand\caption outside float}\@ehd
7378 \expandafter\@gobble
7379 \else
7380 \refstepcounter\@cuptype
7381 \expandafter\@firstofone
7382 \fi
7383 {\@dblarg{\@caption\@cuptype}}}%
```



```

7384 }
7385 \checkcommand\long\def\@caption#1[#2]#3{%
7386   \par
7387   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7388     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7389   }%
7390   \begingroup
7391   \@parboxrestore
7392   \if@minipage
7393     \setminipage
7394   \fi
7395   \normalsize
7396   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7397 \endgroup
7398 }
7399 \</check>
7400 \<*package>

```

37 Bibliographic references

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

However, 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.

```

7401 \def\hyper@natlinkstart#1{%
7402   \Hy@backout{#1}%
7403   \hyper@linkstart{cite}{cite.#1}%
7404   \def\hyper@nat@current{#1}%
7405 }
7406 \def\hyper@natlinkend{%
7407   \hyper@linkend
7408 }
7409 \def\hyper@natlinkbreak#1#2{%
7410   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7411 }
7412 \def\hyper@natanchorstart#1{%
7413   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7414 }
7415 \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.

```

7416 \ltx@ifundefined{NAT@parse}{%
7417   \providecommand*\@extra@binfo{}%
7418   \providecommand*\@extra@b@citeb{}%
7419   \def\bibcite#1#2{%
7420     \@newl@bel{b}{#1\@extra@binfo}{%
7421       \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
7422     }%
7423   }%

```

```
7424 \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.”.

```
7425 \let\Hy@bibcite\bibcite
7426 \begingroup
7427 \ifundefined{bbl@cite@choice}{}%
7428 \g@addto@macro\bbl@cite@choice{%
7429 \let\bibcite\Hy@bibcite
7430 }%
7431 }%
7432 \endgroup
```

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

```
7433 \providecommand*{\@BIBLABEL}{\@biblabel}%
7434 \def\@bibitem[#1]#2{%
7435 \@skiphyperreftrue
7436 \H@item[%
7437 \ifx\Hy@raisedlink\@empty
7438 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7439 \@BIBLABEL{#1}%
7440 \hyper@anchorend
7441 \else
7442 \Hy@raisedlink{%
7443 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7444 }%
7445 \@BIBLABEL{#1}%
7446 \fi
7447 \hfill
7448 ]%
7449 \@skiphyperreffalse
7450 \if@files
7451 \begingroup
7452 \let\protect\noexpand
7453 \immediate\write\@auxout{%
7454 \string\bibcite{#2}{#1}%
7455 }%
7456 \endgroup
7457 \fi
7458 \ignorespaces
7459 }%
```

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

```
7460 \def\@bibitem#1{%
7461 \@skiphyperreftrue\H@item\@skiphyperreffalse
7462 \Hy@raisedlink{%
7463 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7464 }%
7465 \if@files
7466 \begingroup
7467 \let\protect\noexpand
7468 \immediate\write\@auxout{%
7469 \string\bibcite{#1}{\the\value{\@listctr}}}%
7470 }%
7471 \endgroup
7472 \fi
7473 \ignorespaces
7474 }%
```

```

7475 }{}
7476 </package>
7477 <*check>
7478 \checklatex
7479 \checkcommand\def\@bibitem[#1]#2{%
7480   \item[\@biblabel{#1}\hfill]%
7481   \if@filesw
7482     {%
7483       \let\protect\noexpand
7484       \immediate\write\@auxout{%
7485         \string\bibcite{#2}{#1}%
7486       }%
7487     }%
7488   \fi
7489   \ignorespaces
7490 }
7491 \checkcommand\def\@bibitem#1{%
7492   \item
7493   \if@filesw
7494     \immediate\write\@auxout{%
7495       \string\bibcite{#1}{\the\value{\@listctr}}%
7496     }%
7497   \fi
7498   \ignorespaces
7499 }
7500 </check>
7501 <*package>

```

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

```

7502 \@ifclassloaded{revtex}{%
7503   \Hy@Info{*** compatibility with revtex **** }%
7504   \def\revtex@checking#1#2{%
7505     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7506     \expandafter\def\csname b@#1\endcsname{#2}%
7507     \@SetMaxRnhefLabel{#1}%
7508     \expandafter\let\csname b@#1\endcsname\T@temp
7509   }%

```

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

```

7510 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
7511 \providecommand*{\@extra@b@citeb}{}%
7512 \def\CITE[#1]#2{%
7513   \let\@citea\@empty
7514   \leavevmode
7515   \unskip
7516   $^{}%
7517   \scriptstyle
7518   \CITE{%
7519     \@for\@citeb:=#2\do{%
7520       \@citea
7521       \def\@citea{\penalty\@m\ }%
7522       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7523     }%
7524     \if@filesw
7525       \immediate\write\@auxout{\string\citation{\@citeb}}%

```

```

7525 \fi
7526 \@ifundefined{b@\@citeb\extra@b@citeb}{%
7527 \mbox{\reset@font\bfseries ?}%
7528 \G@refundefinedtrue
7529 \@latex@warning{%
7530 Citation ‘\@citeb’ on page \thepage \space undefined%
7531 }%
7532 }{%
7533 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7534 }%
7535 }%
7536 }{#1}%
7537 }$%
7538 }%

```

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

```

7539 \def\@citex[#1]#2{%
7540 \let\@citea\@empty
7541 \@cite{%
7542 \@for\@citeb:=#2\do{%
7543 \citea
7544 \def\@citea{,\penalty\@m\ }%
7545 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7546 \if@filesw
7547 \immediate\write\@auxout{\string\citation{\@citeb}}%
7548 \fi
7549 \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7550 \mbox{\reset@font\bfseries ?}%
7551 \G@refundefinedtrue
7552 \@latex@warning{%
7553 Citation ‘\@citeb’ on page \thepage \space undefined%
7554 }%
7555 }{%
7556 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7557 }%
7558 }%
7559 }{#1}%
7560 }%
7561 }{}

```

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

```

7562 \@ifpackageloaded{harvard}{%
7563 \Hy@AtBeginDocument{%
7564 \Hy@Info{*** compatibility with harvard **** }%
7565 \Hy@raiselinksfalse
7566 \def\harvardcite#1#2#3#4{%
7567 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
7568 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
7569 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%

```

```

7570 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7571 }%
7572 \def\HAR@citetoaux#1{%
7573 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7574 \ifHy@backref
7575 \ifx\@empty\@currentlabel
7576 \else
7577 \@bsphack
7578 \if@filesw
7579 \protected@write\@auxout{}{%
7580 \string\@writefile{brf}{%
7581 \string\backcite{#1}{%
7582 {\thepage}{\@currentlabel}{\@currentHref}%
7583 }%
7584 }%
7585 }%
7586 \fi
7587 \@esphack
7588 \fi
7589 \fi
7590 }%
7591 \def\harvarditem{%
7592 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7593 }%
7594 \def\@harvarditem[#1]#2#3#4#5\par{%
7595 \item[]%
7596 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7597 \if@filesw
7598 \begingroup
7599 \def\protect##1{\string ##1\space}%
7600 \ifthenelse{\equal{#1}{\null}}{%
7601 {\def\next{{#4}{#2}{#2}{#3}}}%
7602 {\def\next{{#4}{#2}{#1}{#3}}}%
7603 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7604 \endgroup
7605 \fi
7606 \protect\hspace*{-\labelwidth}%
7607 \protect\hspace*{-\labelsep}%
7608 \ignorespaces
7609 #5%
7610 \ifHy@backref
7611 \newblock
7612 \backref{\csname br@#4\endcsname}%
7613 \fi
7614 \par
7615 }%

```

\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:

```

7616 \long\def\HAR@checkcitations#1#2#3#4{%
7617 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7618 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7619 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7620 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7621 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7622 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa

```

```

7623     \else
7624     \@tempswatrue
7625     \fi
7626     \else
7627     \@tempswatrue
7628     \fi
7629     \else
7630     \@tempswatrue
7631     \fi
7632   }%
7633 }%

7634 }{}

```

37.2 Package chicago

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

```

7635 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

7636 \def\citeN{%
7637   \def\@citesep{-1000}%
7638   \def\@cite##1##2{##1}%
7639   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7640   \@citedata@opt
7641 }%

```

`\shortciteN`

```

7642 \def\shortciteN{%
7643   \def\@citesep{-1000}%
7644   \def\@cite##1##2{##1}%
7645   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7646   \@citedata@opt
7647 }%

```

`\@citedata@opt`

```

7648 \def\@citedata@opt{%
7649   \let\@cite@opt\@empty
7650   \ifnextchar [{%
7651     \@tempswatrue
7652     \@citedatax@opt
7653   }{%
7654     \@tempswafalse
7655     \@citedatax[]%
7656   }%
7657 }%

```

`\@citedatax@opt`

```

7658 \def\@citedatax@opt[#1]{%
7659   \def\@cite@opt{, #1}%
7660   \@citedatax[{#1}]%
7661 }%

7662 }{}

```

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.

```

7663 \ltx@ifclassloaded{slides}{%
7664   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7665   \def\Hy@PageAnchorSlidesPlain{%
7666     \advance\c@page\ltx@one
7667     \edef\Hy@TempPageAnchor{%
7668       \noexpand\hyper@@anchor{%
7669         page.\the\c@slide.\the\c@overlay.\the\c@note%
7670         \ifnum\c@page=\ltx@one
7671           \else
7672             .\the\c@page
7673           \fi
7674         }%
7675       }%
7676       \advance\c@page-\ltx@one
7677     }%
7678     \def\Hy@PageAnchorSlide{%
7679       \advance\c@page\ltx@one
7680       \ifnum\c@page>\ltx@one
7681         \ltx@ifundefined{theHpage}{%
7682           \protected@edef\Hy@TheSlideOptionalPage{%
7683             \Hy@SlidesFormatOptionalPage{\thepage}%
7684           }%
7685         }{%
7686           \protected@edef\Hy@TheSlideOptionalPage{%
7687             \Hy@SlidesFormatOptionalPage{\theHpage}%
7688           }%
7689         }%
7690       \else
7691         \def\Hy@TheSlideOptionalPage{}%
7692       \fi
7693       \advance\c@page-\ltx@one
7694       \pdfstringdef\@the@H@page{%
7695         \csname
7696           the%
7697           \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7698           \Hy@SlidesPage
7699         \endcsname
7700       \Hy@TheSlideOptionalPage
7701     }%
7702     \ltx@gobblethree
7703   }%
7704   \def\Hy@SlidesPage{slide}%
7705   \g@addto@macro\slide{%
7706     \def\Hy@SlidesPage{slide}%
7707   }%
7708   \g@addto@macro\overlay{%
7709     \def\Hy@SlidesPage{overlay}%
7710   }%
7711   \g@addto@macro\note{%

```

```

7712 \def\Hy@SlidesPage{note}%
7713 }%
7714 }{%
7715 \def\Hy@PageAnchorSlidesPlain{}%
7716 \def\Hy@PageAnchorSlide{}%
7717 }
7718 \def\Hy@EveryPageAnchor{%
7719 \Hy@DistillerDestFix
7720 \ifHy@pageanchor
7721 \ifHy@hypertextnames
7722 \ifHy@plainpages
7723 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7724 \Hy@PageAnchorSlidesPlain
7725 \else
7726 \begingroup
7727 \let\@number\@firstofone
7728 \Hy@unicodedefalse
7729 \Hy@PageAnchorSlide
7730 \pdfstringdef\@the@H@page{\thepage}%
7731 \endgroup
7732 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7733 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7734 \fi
7735 \else
7736 \Hy@GlobalStepCount\Hy@pagecounter
7737 \def\Hy@TempPageAnchor{%
7738 \hyper@@anchor{page.\the\Hy@pagecounter}%
7739 }%
7740 \fi
7741 \vbox to 0pt{%
7742 \kern\voffset
7743 \kern\topmargin
7744 \kern-1bp\relax
7745 \hbox to 0pt{%
7746 \kern\hoffset
7747 \kern\ifodd\value{page}%
7748 \oddsidemargin
7749 \else
7750 \evensidemargin
7751 \fi
7752 \kern-1bp\relax
7753 \Hy@TempPageAnchor\relax
7754 \hss
7755 }%
7756 \vss
7757 }%
7758 \fi
7759 }
7760 \g@addto@macro\Hy@EveryPageBoxHook{%
7761 \Hy@EveryPageAnchor
7762 }

```

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.

```
7763 \def\addcontentsline#1#2#3{% toc extension, type, tag
7764 \begingroup
7765 \let\label\@gobble
7766 \ifx\@currentHref\@empty
7767 \Hy@Warning{%
7768   No destination for bookmark of \string\addcontentsline,%
7769   \MessageBreak destination is added%
7770 }%
7771 \phantomsection
7772 \fi
7773 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7774 \begingroup
7775 \def\Hy@tempa{#1}%
7776 \ifx\Hy@tempa\Hy@bookmarkstype
7777 \Hy@WarningNoLine{%
7778   bookmark level for unknown #2 defaults to 0%
7779 }%
7780 \else
7781 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7782 \fi
7783 \endgroup
7784 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7785 \fi
7786 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7787 \Hy@writebookmark{\csname the#2\endcsname}%
7788 {#3}%
7789 {\@currentHref}%
7790 {\Hy@toplevel}%
7791 {#1}%
7792 \ifHy@verbose
7793 \begingroup
7794 \def\Hy@tempa{#3}%
7795 \@onelevel@sanitize\Hy@tempa
7796 \let\temp@online\on@line
7797 \let\on@line\@empty
7798 \Hy@Info{%
7799   bookmark\temp@online:\MessageBreak
7800   thecounter {\csname the#2\endcsname}\MessageBreak
7801   text {\Hy@tempa}\MessageBreak
7802   reference {\@currentHref}\MessageBreak
7803   toplevel {\Hy@toplevel}\MessageBreak
7804   type {#1}%
7805 }%
7806 \endgroup
7807 \fi
7808 \addtocontents{#1}{%
7809 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7810 }%
7811 \endgroup
7812 }
7813 \def\contentsline#1#2#3#4{%
7814 \ifx\#4\%
7815 \csname l@#1\endcsname{#2}{#3}%
7816 \else
7817 \ifcase\Hy@linktoc % none
7818 \csname l@#1\endcsname{#2}{#3}%
```

```

7819 \or % section
7820 \csname l@#1\endcsname{%
7821 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7822 }{#3}%
7823 \or % page
7824 \csname l@#1\endcsname{#{#2}}{%
7825 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7826 }%
7827 \else % all
7828 \csname l@#1\endcsname{%
7829 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7830 }{#3}%
7831 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7832 }%
7833 \fi
7834 \fi
7835 }

7836 \endpackage
7837 \check
7838 \checklatex
7839 \checkcommand\def\addcontentsline#1#2#3{%
7840 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7841 }
7842 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7843 \endcheck
7844 \endpackage

```

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.

```

7845 \let\H@definecounter\@definecounter
7846 \def\@definecounter#1{%
7847 \H@definecounter{#1}%
7848 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7849 }

```

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.

```

7850 \let\H@newctr\@newctr
7851 \def\@newctr#1[#2]{%
7852 \H@newctr#1[{#2}]%
7853 \expandafter\def\csname theH#1\endcsname{%
7854 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7855 }%
7856 }

```

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.

```

7857 \ifpackageloaded{amsmath}{%
7858   \def\Hy@make@anchor{%
7859     \Hy@MakeCurrentHrefAuto{AMS}%
7860     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7861   }%
7862   \def\Hy@make@df@tag@@#1{%
7863     \gdef\df@tag{%
7864       \maketag@@@{\Hy@make@anchor#1}%
7865       \def\@currentlabel{#1}%
7866     }%
7867   }%
7868   \def\Hy@make@df@tag@@@#1{%
7869     \gdef\df@tag{%
7870       \tagform@{\Hy@make@anchor#1}%
7871       \toks@{\xp{\p@equation{#1}}}%
7872       \edef\@currentlabel{\the\toks@}%
7873     }%
7874   }%
7875   \let\HyOrg@make@df@tag@@\make@df@tag@@
7876   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7877   \let\make@df@tag@@\Hy@make@df@tag@@
7878   \let\make@df@tag@@@\Hy@make@df@tag@@@
7879 }{}

```

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

```

7880 \ifpackagewith{hyperref}{pdfTeX}{%
7881   \let\H@seteqlabel\@seteqlabel
7882   \def\@seteqlabel#1{%
7883     \H@seteqlabel{#1}%
7884     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7885     \Hy@raisedlink{%
7886       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7887     }%
7888   }%
7889 }{}

```

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.

```

7890 \let\HyOrg@addtoreset\@addtoreset
7891 \def\@addtoreset#1#2{%
7892   \HyOrg@addtoreset{#1}{#2}%
7893   \expandafter\xdef\csname theH#1\endcsname{%
7894     \expandafter\noexpand

```

```

7895     \csname the\@ifundefined{theH#2}{H#2\endcsname
7896     .\noexpand\the\noexpand\value{#1}%
7897   }%
7898 }

```

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

```

7899 </package>
7900 <*check>
7901 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7902 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7903   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7904     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7905       \@addtoreset{#2}{#3}%
7906       \exp\xdef\csname the#2\endcsname{%
7907         \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7908       }%
7909     }%
7910   }%
7911 }%
7912 </check>
7913 <*package>
7914 \@ifpackageloaded{amsmath}{%
7915   \@ifpackagelater{amsmath}{1999/12/14}{%
7916     \renewcommand*{\numberwithin}[3][\arabic]{%
7917       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7918         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7919           \HyOrg@addtoreset{#2}{#3}%
7920           \exp\xdef\csname the#2\endcsname{%
7921             \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7922           }%
7923           \exp\xdef\csname theH#2\endcsname{%
7924             \exp\xnx
7925               \csname the\@ifundefined{theH#3}{H#3\endcsname
7926               .\@nx#1{#2}%
7927             }%
7928           }%
7929         }%
7930       }%
7931     }%
7932     \Hy@WarningNoLine{%
7933       \string\numberwithin\space of package 'amsmath' %
7934       only fixed\MessageBreak
7935       for version 2000/06/06 v2.12 or newer%
7936     }%
7937   }%
7938 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7939 \ifHy@figures
7940   \let\Hy@Gin@setfile\Gin@setfile
7941   \def\Gin@setfile#1#2#3{%
7942     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7943   }%

```

```

7944 \fi
7945 \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.

```

7946 \ifHy@hyperindex
7947 \def\HyInd@ParenLeft{({}%
7948 \def\HyInd@ParenRight{)}}%
7949 \def\hyperindexformat#1#2{%
7950 \let\HyOrg@hyperpage\hyperpage
7951 \let\hyperpage\@firstofone
7952 #1{\HyOrg@hyperpage{#2}}%
7953 \let\hyperpage\HyOrg@hyperpage
7954 }%
7955 \Hy@nextfalse
7956 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7957 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7958 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7959 \begingroup
7960 \lccode'\|=\expandafter\HyInd@EncapChar\relax
7961 \lccode'\|=\|\\relax
7962 \lowercase{\endgroup
7963 \ifHy@next
7964 \let\HyInd@org@wrindex\@wrindex
7965 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
7966 \def\HyInd@@wrindex#1#2|#3|#4\\{%
7967 \ifx\\#3\\%
7968 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7969 \else
7970 \HyInd@@@wrindex{#1}{#2}#3\\%
7971 \fi
7972 }%
7973 \def\HyInd@@@wrindex#1#2#3#4\\{%
7974 \def\Hy@temp@A{#3}%
7975 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7976 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7977 \relax
7978 \HyInd@org@wrindex{#1}{%
7979 #2|hyperindexformat{/#3#4}%
7980 }%
7981 \else
7982 \ifx\\#4\\%
7983 \ifx\Hy@temp@A\HyInd@ParenRight
7984 \HyInd@org@wrindex{#1}{#2|#3}%
7985 \else
7986 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```

```

7987         \fi
7988     \else
7989         \HyInd@org@wrindex{#1}{%
7990             #2|#3hyperindexformat{/#4}%
7991         }%
7992     \fi
7993 \fi
7994 }%
7995 \else
7996 \def\@wrindex#1{\@@wrindex#1||\}%
7997 \def\@@wrindex#1|#2|#3\{\%
7998     \if@filesw
7999         \ifx\#2\%
8000             \protected@write\@indexfile{}\{%
8001                 \string\indexentry{#1|hyperpage}{\thepage}%
8002             }%
8003         \else
8004             \HyInd@@@wrindex{#1}#2\%
8005         \fi
8006     \fi
8007 \endgroup
8008 \@esphack
8009 }%
8010 \def\HyInd@@@wrindex#1#2#3\{\%
8011 \def\Hy@temp@A{#2}%
8012 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8013     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8014     \relax
8015     \protected@write\@indexfile{}\{%
8016         \string\indexentry{%
8017             #1|hyperindexformat{/#2#3}%
8018         }{\thepage}%
8019     }%
8020 \else
8021     \ifx\#3\%
8022         \ifx\Hy@temp@A\HyInd@ParenRight
8023             \protected@write\@indexfile{}\{%
8024                 \string\indexentry{#1|#2}{\thepage}%
8025             }%
8026         \else
8027             \protected@write\@indexfile{}\{%
8028                 \string\indexentry{#1|#2hyperpage}{\thepage}%
8029             }%
8030         \fi
8031     \else
8032         \protected@write\@indexfile{}\{%
8033             \string\indexentry{%
8034                 #1|#2hyperindexformat{/#3}%
8035             }{\thepage}%
8036         }%
8037     \fi
8038 \fi
8039 }%
8040 \fi
8041 }%
8042 \fi
8043 \Hy@DisableOption{hyperindex}

```

```
8044 \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.

```
8045 \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.

```
8046 \def\hyperpage#1{%
8047   \HyInd@hyperpage#1\nohyperpage{}\@nil
8048 }
8049 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8050   \HyInd@@hyperpage{#1}%
8051   #2%
8052   \def\Hy@temp{#3}%
8053   \ifx\Hy@temp\@empty
8054   \else
8055     \ltx@ReturnAfterFi{%
8056       \HyInd@hyperpage#3\@nil
8057     }%
8058   \fi
8059 }
8060 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8061 \def\@hyperpage#1--#2--#3\\\{%
8062   \ifx\#2\\\%
8063     \@commahyperpage{#1}%
8064   \else
8065     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8066   \fi
8067 }
8068 \def\@commahyperpage#1{\@commahyperpage#1, \}
8069 \def\@commahyperpage#1, #2,#3\\\{%
8070   \ifx\#2\\\%
8071     \HyInd@pagelink{#1}%
8072   \else
8073     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8074   \fi
8075 }
```

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

```
8076 \def\HyInd@pagelink#1{%
8077   \begingroup
8078   \toks@={}%
8079   \HyInd@removespaces#1 \@nil
8080   \endgroup
8081 }
8082 \def\HyInd@removespaces#1 #2\@nil{%
8083   \toks@=\expandafter{the\toks@#1}%
8084   \ifx\#2\\\%
8085     \edef\x{\the\toks@}%
8086     \ifx\x\@empty
8087     \else
8088       \hyperlink{page.\the\toks@}{\the\toks@}%
8089     \fi
8090   \else
8091     \ltx@ReturnAfterFi{%
```

```

8092 \HyInd@removespaces#2\@nil
8093 }%
8094 \fi
8095 }

```

44 Compatibility with foiltex

```

8096 \@ifclassloaded{foils}{%
8097 \providecommand*\ext@table{lot}%
8098 \providecommand*\ext@figure{lof}%
8099 }{}

```

45 Compatibility with seminar slide package

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

```

8100 \@ifclassloaded{seminar}{%
8101 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
8102 }{%
8103 \Hy@seminarslidesfalse
8104 }
8105 \@ifpackageloaded{slidesec}{%
8106 \newcommand\theHslidesection {\arabic{slidesection}}}%
8107 \newcommand\theHslidesubsection{%
8108 \theHslidesection.\arabic{slidesubsection}}%
8109 }%
8110 \def\slide@heading[#1]#2{%
8111 \H@refstepcounter{slidesection}%
8112 \@addtoreset{slidesubsection}{slidesection}%
8113 \addtocontents{los}{%
8114 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}}%
8115 {\@SCTR}{slideheading.\theslidesection}}%
8116 }%
8117 \def\Hy@tempa{#2}%
8118 \ifx\Hy@tempa\@empty
8119 \else
8120 {%
8121 \edef\@currentlabel{%
8122 \csname p@slidesection\endcsname\theslidesection
8123 }%
8124 \makeslideheading{#2}%
8125 }%
8126 \fi
8127 \gdef\theslideheading{#1}%
8128 \gdef\theslidesubheading{}%
8129 \ifHy@bookmarksnumbered
8130 \def\Hy@slidetitle{\theslidesection\space #1}%
8131 \else
8132 \def\Hy@slidetitle{#1}%
8133 \fi
8134 \ifHy@hypertextnames
8135 \ifHy@naturalnames
8136 \hyper@anchor{slideheading.\theslidesection}{\relax}%
8137 \Hy@writebookmark
8138 {\theslidesection}%
8139 {\Hy@slidetitle}%

```



```

8140         {slideheading.\theslidesection}%
8141         {1}%
8142         {toc}%
8143     \else
8144         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8145         \Hy@writebookmark
8146         {\theslidesection}%
8147         {\Hy@slidetitle}%
8148         {slideheading.\theHslidesection}%
8149         {1}%
8150         {toc}%
8151     \fi
8152 \else
8153     \Hy@GlobalStepCount\Hy@linkcounter
8154     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8155     \Hy@writebookmark
8156     {\theslidesection}%
8157     {\Hy@slidetitle}%
8158     {slideheading.\the\Hy@linkcounter}%
8159     {1}%
8160     {toc}%
8161 \fi
8162 }%
8163 \def\slide@subheading[#1]#2{%
8164     \H@refstepcounter{slidesubsection}%
8165     \addtocontents{los}{%
8166         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8167         {\@SCTR}{slideheading.\theslidesubsection}%
8168     }%
8169     \def\Hy@tempa{#2}%
8170     \ifx\Hy@tempa\@empty
8171     \else
8172         {%
8173             \edef\@currentlabel{%
8174                 \csname p@slidesubsection\endcsname\theslidesubsection
8175             }%
8176             \makeslidesubheading{#2}%
8177         }%
8178     \fi
8179     \gdef\theslidesubheading{#1}%
8180     \ifHy@bookmarksnumbered
8181         \def\Hy@slidetitle{\theslidesubsection\space #1}%
8182     \else
8183         \def\Hy@slidetitle{#1}%
8184     \fi
8185     \ifHy@hypertextnames
8186     \ifHy@naturalnames
8187         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8188         \Hy@writebookmark
8189         {\theslidesubsection}%
8190         {\Hy@slidetitle}%
8191         {slideheading.\theslidesubsection}%
8192         {2}%
8193         {toc}%
8194     \else
8195         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8196         \Hy@writebookmark

```

```

8197         {\theslidesubsection}%
8198         {\Hy@slidetitle}%
8199         {slideheading.\theHslidesubsection}%
8200         {2}%
8201         {toc}%
8202     \fi
8203 \else
8204     \Hy@GlobalStepCount\Hy@linkcounter
8205     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8206     \Hy@writebookmark
8207     {\theslidesubsection}%
8208     {\Hy@slidetitle}%
8209     {slideheading.\the\Hy@linkcounter}%
8210     {1}%
8211     {toc}%
8212 \fi
8213 }%
8214 \providecommand*{\listslidenam}{List of Slides}%
8215 \def\listofslides{%
8216     \section*{%
8217         \listslidenam
8218         \@mkboth{%
8219             \expandafter\MakeUppercase\listslidenam
8220         }{%
8221             \expandafter\MakeUppercase\listslidenam
8222         }%
8223     }%
8224     \def\l@slide##1##2##3##4{%
8225         \slide@undottedcline{%
8226             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8227         }{}%
8228     }%
8229     \let\l@subslide\l@slide
8230     \@startlos
8231 }%
8232 \def\slide@contents{%
8233     \def\l@slide##1##2##3##4{%
8234         \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8235     }%
8236     \let\l@subslide\@gobblefour
8237     \@startlos
8238 }%
8239 \def\Slide@contents{%
8240     \def\l@slide##1##2##3##4{%
8241         \ifcase\lslide@flag
8242             \message{##1 ** \the\c@slidesection}%
8243             \ifnum##1>\c@slidesection
8244                 \def\lslide@flag{1}%
8245             {%
8246                 \large
8247                 \slide@ccline{%
8248                     \slidenumberline{$\Rightarrow\bullet$}%
8249                     {\hyperlink{##4}{##2}}%
8250                 }{##3}%
8251             }%
8252         \else
8253             {%

```

```

8254     \large
8255     \slide@cline{%
8256         \slidenumberline{$\surd\;\bullet$}%
8257         {\hyperlink{##4}{##2}}%
8258     }{##3}%
8259 }%
8260 \fi
8261 \or
8262 \def\lslide@flag{2}%
8263 {%
8264     \large
8265     \slide@cline{%
8266         \slidenumberline{$\bullet$}%
8267         {\hyperlink{##4}{##2}}%
8268     }{##3}%
8269 }%
8270 \or
8271 {%
8272     \large
8273     \slide@cline{%
8274         \slidenumberline{$\bullet$}%
8275         {\hyperlink{##4}{##2}}%
8276     }{##3}%
8277 }%
8278 \fi
8279 }%
8280 \def\l@subslide##1##2##3##4{%
8281     \ifnum\lslide@flag=1 %
8282         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
8283     \fi
8284 }%
8285 \def\lslide@flag{0}%
8286 \@startlos
8287 }%
8288 }{}

```

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.)

```

8289 \ifHy@texht
8290 \expandafter\endinput
8291 \fi
8292 \let\real@setref\@setref
8293 \def\@setref#1#2#3{% csname, extract group, refname
8294     \ifx#1\relax
8295         \protect\G@refundefinedtrue
8296         \nfss@text{\reset@font\bfseries ??}%
8297         \@latex@warning{%
8298             Reference ‘#3’ on page \thepage \space undefined%
8299         }%
8300     \else
8301         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8302     \fi
8303 }

```

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

```

8304 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%

```

```

8305 \begingroup
8306 \toks0={\hyper@@link{#5}{#4}}%
8307 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8308 \edef\x{\endgroup
8309 \the\toks0 {\the\toks1 }%
8310 }%
8311 \x
8312 }
8313 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8314 \ifx#1\relax
8315 \protect\G@refundefinedtrue
8316 \nfss@text{\reset@font\bfseries ??}%
8317 \@latex@warning{%
8318 Reference '#3' on page \thepage \space undefined%
8319 }%
8320 \else
8321 \protect\hyper@@link
8322 {\expandafter\@fifthoffive#1}%
8323 {page.\expandafter\@secondoffive#1}%
8324 {\expandafter\@secondoffive#1}%
8325 \fi
8326 }

8327 </package>
8328 <*check>
8329 \checklatex
8330 \checkcommand\def\@setref#1#2#3{%
8331 \ifx#1\relax
8332 \protect\G@refundefinedtrue
8333 \nfss@text{\reset@font\bfseries ??}%
8334 \@latex@warning{%
8335 Reference '#3' on page \thepage\space undefined%
8336 }%
8337 \else
8338 \expandafter#2#1\null
8339 \fi
8340 }
8341 </check>
8342 <*package>

```

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

```

8343 \def\HyRef@StarSetRef#1{%
8344 \begingroup
8345 \Hy@safe@activetrue
8346 \edef\x{#1}%
8347 \@onelevel@sanitize\x
8348 \edef\x{\endgroup
8349 \noexpand\HyRef@@StarSetRef
8350 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8351 }%
8352 \x
8353 }
8354 \def\HyRef@@StarSetRef#1#2#3{%
8355 \ifx#1\@undefined
8356 \let#1\relax
8357 \fi
8358 \real@setref#1#3{#2}%

```

```

8359 }
8360 \def\@refstar#1{%
8361   \HyRef@StarSetRef{#1}\@firstoffive
8362 }
8363 \def\@pagerefstar#1{%
8364   \HyRef@StarSetRef{#1}\@secondoffive
8365 }
8366 \def\@namerefstar#1{%
8367   \HyRef@StarSetRef{#1}\@thirdoffive
8368 }
8369 \Hy@AtBeginDocument{%
8370   \@ifpackageloaded{varioref}{%
8371     \def\@Refstar#1{%
8372       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8373     }%
8374     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8375       \MakeUppercase#1%
8376     }%
8377     \DeclareRobustCommand*\@Ref*{%
8378       \@ifstar\@Refstar\HyRef@Ref
8379     }%
8380     \def\HyRef@Ref#1{%
8381       \hyperref[{#1}]{\Ref*{#1}}%
8382     }%
8383     \def\Vr@f#1{%
8384       \leavevmode\unskip\vref@space
8385       \hyperref[{#1}]{%
8386         \Ref*{#1}%
8387         \let\vref@space\nobreakspace
8388         \@vpageref[\unskip]{#1}%
8389       }%
8390     }%
8391     \def\vr@f#1{%
8392       \leavevmode\unskip\vref@space
8393       \begingroup
8394       \let\T@pageref\@pagerefstar
8395       \hyperref[{#1}]{%
8396         \ref*{#1}%
8397         \vpageref[\unskip]{#1}%
8398       }%
8399       \endgroup
8400     }%
8401   }{}%
8402 }
8403 \DeclareRobustCommand*\@autopageref{%
8404   \@ifstar{%
8405     \HyRef@autopagerefname\pageref*%
8406   }\HyRef@autopageref
8407 }
8408 \def\HyRef@autopageref#1{%
8409   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8410 }
8411 \def\HyRef@autopagerefname{%
8412   \ltx@ifundefined{pageautorefname}{%
8413     \ltx@ifundefined{pagename}{%
8414       \Hy@Warning{No autoref name for ‘page’}%
8415     }{%

```

```

8416 \pagename\nobreakspace
8417 }%
8418 }{%
8419 \pageautorefname\nobreakspace
8420 }%
8421 }
8422 \DeclareRobustCommand*{\autoref}{%
8423 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8424 }
8425 \def\HyRef@autoref#1#2{%
8426 \begingroup
8427 \Hy@safe@activetrue
8428 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8429 \endgroup
8430 }
8431 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8432 \HyRef@ShowKeysRef{#2}%
8433 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8434 \edef\HyRef@thisref{%
8435 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8436 }%
8437 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8438 \Hy@safe@activesfalse
8439 #3{%
8440 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8441 }{%
8442 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8443 }{%
8444 \HyRef@currentHtag
8445 \expandafter\@firstoffive#1\@empty\@empty\@empty
8446 \null
8447 }%
8448 \else
8449 \protect\G@refundefinedtrue
8450 \nfss@text{\reset@font\bfseries ??}%
8451 \@latex@warning{%
8452 Reference '#2' on page \thepage\space undefined%
8453 }%
8454 \fi
8455 }
8456 \def\HyRef@testreftype#1.#2\{\%
8457 \ltx@ifundefined{#1autorefname}{%
8458 \ltx@ifundefined{#1name}{%
8459 \HyRef@StripStar#1\*\@nil{#1}%
8460 \ltx@ifundefined{\HyRef@name autorefname}{%
8461 \ltx@ifundefined{\HyRef@name name}{%
8462 \def\HyRef@currentHtag{}%
8463 \Hy@Warning{No autoref name for '#1'}%
8464 }{%
8465 \edef\HyRef@currentHtag{%
8466 \expandafter\noexpand\csname\HyRef@name name\endcsname
8467 \noexpand~%
8468 }%
8469 }%
8470 }{%
8471 \edef\HyRef@currentHtag{%
8472 \expandafter\noexpand

```

```

8473     \csname\HyRef@name autorefname\endcsname
8474     \noexpand~%
8475   }%
8476 }%
8477 }{%
8478   \edef\HyRef@currentHtag{%
8479     \expandafter\noexpand\csname#1name\endcsname
8480     \noexpand~%
8481   }%
8482 }%
8483 }{%
8484   \edef\HyRef@currentHtag{%
8485     \expandafter\noexpand\csname#1autorefname\endcsname
8486     \noexpand~%
8487   }%
8488 }%
8489 }
8490 \def\HyRef@StripStar#1*\#2\@nil#3{%
8491   \def\HyRef@name{#2}%
8492   \ifx\HyRef@name\HyRef@CaseStar
8493     \def\HyRef@name{#1}%
8494   \else
8495     \def\HyRef@name{#3}%
8496   \fi
8497 }
8498 \def\HyRef@CaseStar{*\\}
8499 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8500 \let\HyRef@ShowKeysRef\@gobble
8501 \def\HyRef@ShowKeysInit{%
8502   \begingroup\expandafter\expandafter\expandafter\endgroup
8503   \expandafter\ifx\csname SK@@label\endcsname\relax
8504   \else
8505     \ifx\SK@ref\@empty
8506     \else
8507       \def\HyRef@ShowKeysRef{%
8508         \SK@\SK@@ref
8509       }%
8510     \fi
8511   \fi
8512 }
8513 \@ifpackageloaded{showkeys}{%
8514   \HyRef@ShowKeysInit
8515 }{%
8516   \Hy@AtBeginDocument{%
8517     \@ifpackageloaded{showkeys}{%
8518       \HyRef@ShowKeysInit
8519     }{}%
8520   }%
8521 }

```

Defaults for the names that \autoref uses.

```

8522 \providecommand*\AMSautorefname{\equationautorefname}
8523 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8524 \providecommand*\Itemautorefname{\itemautorefname}

```

```

8525 \providecommand*\itemautorefname{item}
8526 \providecommand*\equationautorefname{Equation}
8527 \providecommand*\footnoteautorefname{footnote}
8528 \providecommand*\itemautorefname{item}
8529 \providecommand*\figureautorefname{Figure}
8530 \providecommand*\tableautorefname{Table}
8531 \providecommand*\partautorefname{Part}
8532 \providecommand*\appendixautorefname{Appendix}
8533 \providecommand*\chapterautorefname{chapter}
8534 \providecommand*\sectionautorefname{section}
8535 \providecommand*\subsectionautorefname{subsection}
8536 \providecommand*\subsubsectionautorefname{subsubsection}
8537 \providecommand*\paragraphautorefname{paragraph}
8538 \providecommand*\subparagraphautorefname{subparagraph}
8539 \providecommand*\FancyVerbLineautorefname{line}
8540 \providecommand*\theoremautorefname{Theorem}
8541 \providecommand*\pageautorefname{page}
8542 \end{package}

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf_TEX offers `\pdfescapestring`.

```

8543 < *pdfTex | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo
8544 \begingroup\expandafter\expandafter\expandafter\endgroup
8545 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8546 \begingroup
8547 \catcode'\=0 %
8548 \@makeother\%
8549 |@firstofone{|endgroup
8550 |def|Hy@pstringdef#1#2{%
8551 |begingroup
8552 |edef~{|string~}%
8553 |xdef|Hy@gtemp{#2}%
8554 |endgroup
8555 |let#1|Hy@gtemp
8556 |@onelevel@sanitize#1%
8557 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8558 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8559 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8560 }%
8561 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8562 #1%
8563 |ifx|\#2|\%
8564 |else
8565 \\\%
8566 |!tx@ReturnAfterFi{%
8567 |Hy@ExchangeBackslash#2|@nil
8568 }%

```



```

8569   |fi
8570   }%
8571 }%
8572 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8573   #1%
8574   \ifx\#2\%
8575   \else
8576     \@backslashchar(%
8577     \ltx@ReturnAfterFi{%
8578       \Hy@ExchangeLeftParenthesis#2\@nil
8579     }%
8580   \fi
8581 }%
8582 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8583   #1%
8584   \ifx\#2\%
8585   \else
8586     \@backslashchar)%
8587     \ltx@ReturnAfterFi{%
8588       \Hy@ExchangeRightParenthesis#2\@nil
8589     }%
8590   \fi
8591 }%
8592 \else
8593   \def\Hy@pstringdef#1#2{%
8594     \begingroup
8595       \edef~{\string~}%
8596       \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8597     \endgroup
8598     \let#1\Hy@gtemp
8599   }%
8600 \fi
8601 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8602 <*pdfTeX>
8603 \providecommand*{\XR@ext}{pdf}
8604 \Hy@setbreaklinks{true}
8605 \def\HyPat@ObjRef{%
8606   [0-9]*[1-9][0-9]* 0 R%
8607 }

```

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

```

8608 \let\Hy@pdfminorversion\relax
8609 \begingroup\expandafter\expandafter\expandafter\endgroup
8610 \expandafter\ifx\cname pdfminorversion\endcsname\relax
8611 \begingroup\expandafter\expandafter\expandafter\endgroup
8612 \expandafter\ifx\cname pdfoptionpdfminorversion\endcsname\relax
8613 \else
8614   \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%

```

```

8615 \fi
8616 \else
8617 \def\Hy@pdfminorversion{\pdfminorversion}%
8618 \fi
8619 \@ifundefined{Hy@pdfminorversion}{%
8620 \PackageInfo{hyperref}{%
8621 PDF version is not set, because pdfTeX is too old (<1.10a)%
8622 }%
8623 }{%
8624 \ifHy@ocgcolorlinks
8625 \ifnum\Hy@pdfminorversion<5 %
8626 \kvsetkeys{Hyp}{pdfversion=1.5}%
8627 \fi
8628 \fi
8629 \ifHy@setpdfversion
8630 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8631 \else
8632 \Hy@pdfminorversion=\Hy@pdfversion\relax
8633 \fi
8634 \PackageInfo{hyperref}{%
8635 \expandafter\string\Hy@pdfminorversion
8636 :=\number\Hy@pdfversion\space
8637 }%
8638 \fi
8639 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8640 }
8641 \Hy@DisableOption{pdfversion}%

8642 \ifHy@ocgcolorlinks
8643 \pdf@ifdraftmode{}{%
8644 \immediate\pdfobj{%
8645 <<%
8646 /Type/OCG%
8647 /Name(View)%
8648 /Usage<<%
8649 /Print<<%
8650 /PrintState/OFF%
8651 >>%
8652 /View<<%
8653 /ViewState/ON%
8654 >>%
8655 >>%
8656 >>%
8657 }%
8658 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8659 \immediate\pdfobj{%
8660 <<%
8661 /Type/OCG%
8662 /Name(Print)%
8663 /Usage<<%
8664 /Print<<%
8665 /PrintState/ON%
8666 >>%
8667 /View<<%
8668 /ViewState/OFF%
8669 >>%
8670 >>%
8671 >>%

```

```

8672 }%
8673 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8674 \immediate\pdfobj{%
8675   [%
8676     \OBJ@OCG@view\space\OBJ@OCG@print
8677   ]%
8678 }%
8679 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8680 \pdfcatalog{%
8681   /OCProperties<<%
8682     /OCGs \OBJ@OCGs
8683   /D<<%
8684     /OFF[\OBJ@OCG@print]%
8685     /AS[%
8686       <<%
8687         /Event/View%
8688         /OCGs \OBJ@OCGs
8689         /Category[/View]%
8690       >>%
8691       <<%
8692         /Event/Print%
8693         /OCGs \OBJ@OCGs
8694         /Category[/Print]%
8695       >>%
8696       <<%
8697         /Event/Export%
8698         /OCGs \OBJ@OCGs
8699         /Category[/Print]%
8700       >>%
8701     ]%
8702   >>%
8703 >>%
8704 }%
8705 \begingroup
8706 \edef\x{\endgroup
8707   \pdfpageresources{%
8708     /Properties<<%
8709       /OCView \OBJ@OCG@view
8710       /OCPrint \OBJ@OCG@print
8711     >>%
8712   }%
8713 }%
8714 \x
8715 }%
8716 \Hy@AtBeginDocument{%
8717   \def\Hy@colorlink#1{%
8718     \begingroup
8719       \ifHy@ocgcolorlinks
8720         \def\Hy@ocgcolor{#1}%
8721         \setbox0=\hbox\bgroup\color@begingroup
8722       \else
8723         \HyColor@UseColor#1%
8724       \fi
8725     }%
8726   \def\Hy@endcolorlink{%
8727     \ifHy@ocgcolorlinks
8728       \color@endgroup\egroup

```

```

8729 \mbox{%
8730 \pdfliteral page{/OC/OCPrint BDC}%
8731 \rlap{\copy0}%
8732 \pdfliteral page{EMC/OC/OCView BDC}%
8733 \begingroup
8734 \expandafter\HyColor@UseColor\Hy@ocgcolor
8735 \box0 %
8736 \endgroup
8737 \pdfliteral page{EMC}%
8738 }%
8739 \fi
8740 \endgroup
8741 }%
8742 }%
8743 \else
8744 \Hy@DisableOption{ocgcolorlinks}%
8745 \fi

```

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

```

8746 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8747 \ifx\pdfstartlink\@undefined% less than version 14
8748 \let\pdfstartlink\pdfannotlink
8749 \let\pdfinkmargin\@tempdima
8750 \let\pdfxform\pdfform
8751 \let\pdfastxform\pdfastform
8752 \let\pdfrefxform\pdfrefform
8753 \else
8754 \pdfinkmargin1pt %
8755 \fi

```

First set up the default linking

```
8756 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8757 \Hy@WrapperDef\new@pdfink#1{%
8758 \ifhmode
8759 \@savsf\spacefactor
8760 \fi
8761 \Hy@SaveLastskip
8762 \Hy@VerboseAnchor{#1}%
8763 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8764 \Hy@DestName\Hy@pstringDest\@pdfview
8765 \Hy@RestoreLastskip
8766 \ifhmode
8767 \spacefactor\@savsf
8768 \fi
8769 }
8770 \let\pdf@endanchor\@empty

```

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

```

8771 \def\Hy@DestName#1#2{%
8772 \pdfdest name{#1}#2\relax
8773 }

```

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.

```

8774 \providecommand*\@pdfborder{0 0 1}
8775 \providecommand*\@pdfborderstyle{}
8776 \def\Hy@undefinedname{UNDEFINED}
8777 \def\find@pdflink#1#2{%
8778   \leavevmode
8779   \protected@edef\Hy@testname{#2}%
8780   \ifx\Hy@testname\@empty
8781     \Hy@Warning{%
8782       Empty destination name,\MessageBreak
8783       using '\Hy@undefinedname'%
8784     }%
8785     \let\Hy@testname\Hy@undefinedname
8786   \else
8787     \Hy@pstringdef\Hy@testname{%
8788       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8789     }%
8790   \fi
8791   \Hy@StartlinkName{%
8792     \ifHy@pdfa /F 4\fi
8793     \Hy@setpdfborder
8794     \ifx\@pdfhighlight\@empty
8795       \else
8796         /H\@pdfhighlight
8797       \fi
8798       \ifx\CurrentBorderColor\relax
8799         \else
8800           /C[\CurrentBorderColor]%
8801         \fi
8802     }\Hy@testname
8803     \expandafter\Hy@colorlink\csname @#1color\endcsname
8804   }
8805   \def\Hy@StartlinkName#1#2{%
8806     \pdfstartlink attr{#1}goto name{#2}\relax
8807   }
8808   \def\close@pdflink{%
8809     \Hy@endcolorlink
8810     \Hy@VerboseLinkStop
8811     \pdfendlink
8812   }
8813   \def\hyper@anchor#1{%
8814     \new@pdflink{#1}\anchor@spot\pdf@endanchor
8815   }
8816   \def\hyper@anchorstart#1{%
8817     \new@pdflink{#1}%
8818     \Hy@activeanchortrue
8819   }
8820   \def\hyper@anchorend{%
8821     \pdf@endanchor
8822     \Hy@activeanchorfalse
8823   }
8824   \def\hyper@linkstart#1#2{%
8825     \Hy@VerboseLinkStart{#1}{#2}%
8826     \ltx@ifundefined{@#1bordercolor}{%
8827       \let\CurrentBorderColor\relax
8828     }{%

```

```

8829 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8830 }%
8831 \find@pdfink{#1}{#2}%
8832 }
8833 \def\hyper@linkend{\close@pdfink}
8834 \def\hyper@link#1#2#3{%
8835 \Hy@VerboseLinkStart{#1}{#2}%
8836 \ltx@ifundefined{@#1bordercolor}{%
8837 \let\CurrentBorderColor\relax
8838 }{%
8839 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8840 }%
8841 \find@pdfink{#1}{#2}#3\Hy@xspace@end
8842 \close@pdfink
8843 }
8844 \let\CurrentBorderColor\@linkbordercolor
8845 \def\hyper@linkurl#1#2{%
8846 \begingroup
8847 \Hy@pstringdef\Hy@pstringURI{#2}%
8848 \hyper@chars
8849 \leavevmode
8850 \pdfstartlink
8851 attr{%
8852 \Hy@setpdfborder
8853 \ifx\@pdfhighlight\@empty
8854 \else
8855 /H\@pdfhighlight
8856 \fi
8857 \ifx\@urlbordercolor\relax
8858 \else
8859 /C[\@urlbordercolor]%
8860 \fi
8861 }%
8862 user{%
8863 /Subtype/Link%
8864 \ifHy@pdfa /F 4\fi
8865 /A<<%
8866 /Type/Action%
8867 /S/URI%
8868 /URI(\Hy@pstringURI)%
8869 \ifHy@href@ismap
8870 /IsMap true%
8871 \fi
8872 \Hy@href@nextactionraw
8873 >>%
8874 }%
8875 \relax
8876 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8877 \close@pdfink
8878 \endgroup
8879 }
8880 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8881 \begingroup
8882 \def\Hy@pstringF{#2}%
8883 \Hy@CleanupFile\Hy@pstringF
8884 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8885 \Hy@pstringdef\Hy@pstringD{#3}%

```

```

8886 \Hy@MakeRemoteAction
8887 \leavevmode
8888 \pdfstartlink
8889 attr{%
8890 \Hy@setpdfborder
8891 \ifx\@pdfhighlight\@empty
8892 \else
8893 /H\@pdfhighlight
8894 \fi
8895 \ifx\@filebordercolor\relax
8896 \else
8897 /C[\@filebordercolor]%
8898 \fi
8899 }%
8900 user {%
8901 /Subtype/Link%
8902 \ifHy@pdfa /F 4\fi
8903 /A<<%
8904 /F(\Hy@pstringF)%
8905 /S/GoToR%
8906 \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}

```

```

8907 \ifx\#3\%
8908 /D[\Hy@href@page\@pdfremotestartview]%
8909 \else
8910 /D(\Hy@pstringD)%
8911 \fi
8912 \Hy@href@nextactionraw
8913 >>%
8914 }%
8915 \relax
8916 \Hy@colorlink\@filecolor#1\Hy@xspace@end
8917 \close@pdflink
8918 \endgroup
8919 }
8920 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8921 \begingroup
8922 \Hy@pstringdef\Hy@pstringF{#1}%
8923 \Hy@pstringdef\Hy@pstringP{#3}%
8924 \leavevmode
8925 \pdfstartlink
8926 attr{%
8927 \Hy@setpdfborder
8928 \ifx\@pdfhighlight\@empty
8929 \else
8930 /H\@pdfhighlight
8931 \fi

```

```

8932 \ifx\@runbordercolor\relax
8933 \else
8934 /C[\@runbordercolor]%
8935 \fi
8936 }%
8937 user {%
8938 /Subtype/Link%
8939 \ifHy@pdfa /F 4\fi
8940 /A<<%
8941 /F(\Hy@pstringF)%
8942 /S/Launch%
8943 \Hy@SetNewWindow
8944 \ifx\#3\%
8945 \else
8946 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8947 \fi
8948 \Hy@href@nextactionraw
8949 >>%
8950 }%
8951 \relax
8952 \Hy@colorlink\@runcolor#2\Hy@xspace@end
8953 \close@pdflink
8954 \endgroup
8955 }

```

\@pdfproducer

```

8956 \ifx\@pdfproducer\relax
8957 \begingroup\expandafter\expandafter\endgroup
8958 \expandafter\ifx\csname luatexversion\endcsname\relax
8959 \def\@pdfproducer{pdfTeX}%
8960 \ifx\eTeXversion\@undefined
8961 \else
8962 \ifx\eTeXversion\relax
8963 \else
8964 \ifnum\eTeXversion>0 %
8965 \def\@pdfproducer{pdfTeX}%
8966 \fi
8967 \fi
8968 \fi
8969 \ifx\pdfTeXversion\@undefined
8970 \else
8971 \ifnum\pdfTeXversion<100 %
8972 \edef\@pdfproducer{%
8973 \@pdfproducer
8974 \the\pdfTeXversion.\pdfTeXrevision
8975 }%
8976 \else
8977 \ifnum\pdfTeXversion<130 %
8978 \edef\@pdfproducer{%
8979 \@pdfproducer-
8980 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8981 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8982 \pdfTeXrevision
8983 }%
8984 \else
8985 \ifnum\pdfTeXversion<140 %
8986 \else

```



```

8987      \def\@pdfproducer{pdfTeX}%
8988      \fi
8989      \edef\@pdfproducer{%
8990        \@pdfproducer-%
8991        \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8992        \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8993        \pdfTeXrevision
8994      }%
8995      \fi
8996      \fi
8997      \fi
8998      \else
8999      \begingroup
9000      \count@=\luatexversion
9001      \divide\count@ by 100 %
9002      \edef\x{\the\count@}%
9003      \count@=-\x\relax
9004      \multiply\count@ by 100 %
9005      \advance\count@ by \luatexversion
9006      \edef\x{\endgroup
9007        \def\noexpand\@pdfproducer{%
9008          LuaTeX-\x.\the\count@.\luatexrevision
9009        }%
9010      }%
9011      \x
9012      \fi
9013      \fi

```

\PDF@SetupDox

```

9014 \def\PDF@SetupDoc{%
9015   \ifx\@pdfpagescrop\@empty
9016   \else
9017     \edef\process@me{%
9018       \pdfpagesattr={%
9019         /CropBox[\@pdfpagescrop]%
9020         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9021         \else
9022           ^^J\the\pdfpagesattr
9023         \fi
9024       }%
9025     }%
9026     \process@me
9027   \fi
9028   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9029   \pdfcatalog{%
9030     /PageMode/\@pdfpagemode
9031     \ifx\@baseurl\@empty
9032     \else
9033       /URI<</Base(\Hy@pstringB)>>%
9034     \fi
9035   }%
9036   \ifx\@pdfstartpage\@empty
9037   \else
9038     \ifx\@pdfstartview\@empty
9039     \else
9040       openaction goto page\@pdfstartpage{\@pdfstartview}%
9041     \fi

```

```

9042 \fi
9043 \edef\Hy@temp{%
9044 \ifHy@toolbar\else /HideToolbar true\fi
9045 \ifHy@menubar\else /HideMenubar true\fi
9046 \ifHy>windowui\else /HideWindowUI true\fi
9047 \ifHy@fitwindow /FitWindow true\fi
9048 \ifHy@centerwindow /CenterWindow true\fi
9049 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9050 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9051 \Hy@UseNameKey{Direction}\@pdfdirection
9052 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9053 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9054 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9055 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9056 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9057 \Hy@UseNameKey{Duplex}\@pdfduplex
9058 \ifx\@pdfpicktraybypdfsize\@empty
9059 \else
9060 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9061 \fi
9062 \ifx\@pdfprintpagerange\@empty
9063 \else
9064 /PrintPageRange\@pdfprintpagerange]%
9065 \fi
9066 \ifx\@pdfnumcopies\@empty
9067 \else
9068 /NumCopies \@pdfnumcopies
9069 \fi
9070 }%
9071 \pdfcatalog{%
9072 \ifx\Hy@temp\@empty
9073 \else
9074 /ViewerPreferences<<\Hy@temp>>%
9075 \fi
9076 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9077 \ifx\@pdflang\@empty
9078 \else
9079 /Lang(\@pdflang)%
9080 \fi
9081 }%
9082 }

```

\PDF@FinishDoc

```

9083 \def\PDF@FinishDoc{%
9084 \pdf@ifdraftmode{ }{%
9085 \Hy@UseMaketitleInfos
9086 \HyInfo@GenerateAddons
9087 \pdfinfo{%
9088 /Author(\@pdfauthor)%
9089 /Title(\@pdftitle)%
9090 /Subject(\@pdfsubject)%
9091 /Creator(\@pdfcreator)%
9092 \ifx\@pdfcreationdate\@empty
9093 \else
9094 /CreationDate(\@pdfcreationdate)%
9095 \fi
9096 \ifx\@pdfmoddate\@empty

```

```

9097 \else
9098 /ModDate(\@pdfmoddate)%
9099 \fi
9100 \ifx\@pdfproducer\relax
9101 \else
9102 /Producer(\@pdfproducer)%
9103 \fi
9104 /Keywords(\@pdfkeywords)%
9105 \ifx\@pdftrapped\@empty
9106 \else
9107 /Trapped/\@pdftrapped
9108 \fi
9109 \HyInfo@Addons
9110 }%
9111 }%
9112 \Hy@DisableOption{pdfauthor}%
9113 \Hy@DisableOption{pdftitle}%
9114 \Hy@DisableOption{pdfsubject}%
9115 \Hy@DisableOption{pdfcreator}%
9116 \Hy@DisableOption{pdfcreationdate}%
9117 \Hy@DisableOption{pdfmoddate}%
9118 \Hy@DisableOption{pdfproducer}%
9119 \Hy@DisableOption{pdfkeywords}%
9120 \Hy@DisableOption{pdftrapped}%
9121 \Hy@DisableOption{pdfinfo}%
9122 }

```

`\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`.

```

9123 \def\hyper@pagetransition{%
9124 \ifx\@pdfpagetransition\relax
9125 \else
9126 \expandafter\Hy@RemoveTransPageAttr
9127 \the\pdfpageattr^^J/Trans{}}>>\END
9128 \ifx\@pdfpagetransition\@empty
9129 \else
9130 \edef\@processme{%
9131 \global\pdfpageattr{%
9132 \the\pdfpageattr
9133 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9134 }%
9135 }%
9136 \@processme
9137 \fi
9138 \fi
9139 }

```

`\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.

```

9140 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9141 \ifx\#2\%
9142 \global\pdfpageattr{#1}%
9143 \else
9144 \Hy@RemoveTransPageAttr#1#4\END

```

```

9145 \fi
9146 }

```

`\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`.

```

9147 \def\hyper@pageduration{%
9148   \ifx\@pdfpageduration\relax
9149   \else
9150     \expandafter
9151     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9152   \ifx\@pdfpageduration\@empty
9153   \else
9154     \edef\@processme{%
9155       \global\pdfpageattr{%
9156         \the\pdfpageattr
9157         ^^J/Dur \@pdfpageduration\space
9158       }%
9159     }%
9160     \@processme
9161   \fi
9162 \fi
9163 }

```

`\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.

```

9164 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9165   \ifx\#2\%
9166     \global\pdfpageattr{#1}%
9167   \else
9168     \Hy@RemoveDurPageAttr#1#4\END
9169   \fi
9170 }

```

`\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).

```

9171 \def\hyper@pagehidden{%
9172   \ifHy@useHidKey
9173   \expandafter
9174   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9175   \ifHy@pdfpagehidden
9176     \edef\@processme{%
9177       \global\pdfpageattr{%
9178         \the\pdfpageattr
9179         ^^J/Hid true % SPACE
9180       }%
9181     }%
9182     \@processme
9183   \fi
9184 \fi
9185 }

```

`\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.

```

9186 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9187   \ifx\#2\%
9188     \global\pdfpageattr{#1}%
9189   \else
9190     \Hy@RemoveHidPageAttr#1#4\END
9191   \fi
9192 }

9193 \pdf@ifdraftmode{}{%
9194   \g@addto@macro\Hy@EveryPageHook{%
9195     \hyper@pagetransition
9196     \hyper@pageduration
9197     \hyper@pagehidden
9198   }%
9199 }

```

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

```

9200 </pdfTeX>
9201 <*pdfTeX | xetex>
9202 \Hy@AtBeginDocument{%
9203   \ifHy@setpagesize
9204     \expandafter\@firstofone
9205   \else
9206     \expandafter\@gobble
9207   \fi
9208   {%
9209     \@ifclassloaded{seminar}{%
9210 <*pdfTeX>
9211       \setlength{\pdfhorigin}{1truein}%
9212       \setlength{\pdfvorigin}{1truein}%
9213 </pdfTeX>
9214       \ifportrait
9215         \ifdim\paperwidth=\z@
9216         \else
9217           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9218         \fi
9219         \ifdim\paperheight=\z@
9220         \else
9221           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9222         \fi
9223       \else
9224         \ifdim\paperheight=\z@
9225         \else
9226           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9227         \fi
9228         \ifdim\paperwidth=\z@
9229         \else
9230           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9231         \fi
9232       \fi
9233     }{%
9234       \ltx@ifundefined{stockwidth}{%
9235         \ifdim\paperwidth>\z@
9236           \setlength{\pdfpagewidth}{\paperwidth}%
9237         \fi

```

```

9238 \ifdim\paperheight>\z@
9239 \setlength{\pdfpageheight}{\paperheight}%
9240 \fi
9241 }{%
9242 \ifdim\stockwidth>\z@
9243 \setlength{\pdfpagewidth}{\stockwidth}%
9244 \fi
9245 \ifdim\stockheight>\z@
9246 \setlength{\pdfpageheight}{\stockheight}%
9247 \fi
9248 }%
9249 }%
9250 }%
9251 \Hy@DisableOption{setpagesize}%
9252 }
9253 </pdfTeX | xetex>
9254 <*pdfTeX>
9255 \def\Acrobatmenu#1#2{%
9256 \Hy@Acrobatmenu{#1}{#2}{%
9257 \pdfstartlink
9258 attr{%
9259 \Hy@setpdfborder
9260 \ifx\@pdfhighlight\@empty
9261 \else
9262 /H\@pdfhighlight
9263 \fi
9264 \ifx\@menubordercolor\relax
9265 \else
9266 /C[\@menubordercolor]%
9267 \fi
9268 }%
9269 user{%
9270 /Subtype/Link%
9271 \ifHy@pdfa /F 4\fi
9272 /A<<%
9273 /S/Named%
9274 /N/#1%
9275 \Hy@href@nextactionraw
9276 >>%
9277 }%
9278 \relax
9279 \Hy@colorlink\@menucolor#2%
9280 \close@pdfink
9281 }%
9282 }

```

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.

```

9283 \def\Hy@FixNotFirstPage{%
9284 \gdef\Hy@FixNotFirstPage{%

```

```

9285 \setbox\AtBeginShipoutBox=\hbox{%
9286 \copy\AtBeginShipoutBox
9287 }%
9288 }%
9289 }
9290 \AtBeginShipout{\Hy@FixNotFirstPage}
9291 </pdfTeX>

```

46.3 hypertext

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9292 <*hypertext>
9293 \providecommand*{\XR@ext}{dvi}
9294 \let\PDF@FinishDoc\ltx@empty
9295 \def\PDF@SetupDoc{%
9296 \ifx\@baseurl\@empty
9297 \else
9298 \special{html:<base href="\@baseurl">}%
9299 \fi
9300 }
9301 \Hy@WrapperDef\hyper@anchor#1{%
9302 \Hy@SaveLastskip
9303 \Hy@VerboseAnchor{#1}%
9304 \begingroup
9305 \let\protect=\string
9306 \hyper@chars
9307 \special{html:<a name=%

```

```

9308     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9309 \endgroup
9310 \Hy@activeanchortrue
9311 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9312 \special{html:</a>}%
9313 \Hy@activeanchorfalse
9314 \Hy@RestoreLastskip
9315 }
9316 \Hy@WrapperDef\hyper@anchorstart#1{%
9317 \Hy@SaveLastskip
9318 \Hy@VerboseAnchor{#1}%
9319 \begingroup
9320 \hyper@chars
9321 \special{html:<a name=%
9322     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9323 \endgroup
9324 \Hy@activeanchortrue
9325 }
9326 \def\hyper@anchorend{%
9327 \special{html:</a>}%
9328 \Hy@activeanchorfalse
9329 \Hy@RestoreLastskip
9330 }
9331 \def\@urlltype{url}
9332 \def\hyper@linkstart#1#2{%
9333 \Hy@VerboseLinkStart{#1}{#2}%
9334 \expandafter\Hy@colorlink\csname @#1color\endcsname
9335 \def\Hy@tempa{#1}%
9336 \ifx\Hy@tempa\@urlltype
9337 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9338 \else
9339 \begingroup
9340 \hyper@chars
9341 \special{html:<a href=%
9342     \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
9343 \endgroup
9344 \fi
9345 }
9346 \def\hyper@linkend{%
9347 \special{html:</a>}%
9348 \Hy@endcolorlink
9349 }
9350 \def\hyper@linkfile#1#2#3{%
9351 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9352 }
9353 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link \special, we need to get its height; ask me why L^AT_EX constructs make this totally foul up, and make us revert to basic T_EX. I do not know.

```

9354 \leavevmode
9355 \ifHy@raiselinks
9356 \Hy@SaveSpaceFactor
9357 \Hy@SaveSavedSpaceFactor
9358 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9359 \Hy@RestoreSavedSpaceFactor
9360 \@linkdim\dp\@tempboxa
9361 \lower\@linkdim\hbox{%
9362     \hyper@chars

```



```

9363 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9364 }%
9365 \Hy@colorlink\@urlcolor
9366 \Hy@RestoreSpaceFactor
9367 #1%
9368 \Hy@SaveSpaceFactor
9369 \@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).

```

9370 \advance\@linkdim by -6.5\p@
9371 \raise\@linkdim\hbox{\special{html:</a>}}%
9372 \Hy@endcolorlink
9373 \Hy@RestoreSpaceFactor
9374 \else
9375 \begingroup
9376 \hyper@chars
9377 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9378 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9379 \special{html:</a>}%
9380 \Hy@endcolorlink
9381 \endgroup
9382 \fi
9383 }

```

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

```

9384 \def\hyper@link#1#2#3{%
9385 \Hy@VerboseLinkStart{#1}{#2}%
9386 \hyper@linkurl{#3}{\#\Hy@DestNameFilter{#2}}%
9387 }
9388 \def\hyper@image#1#2{%
9389 \begingroup
9390 \hyper@chars
9391 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9392 \endgroup
9393 }
9394 </hypertex>
9395 <*dviwindo>

```

46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

9396 \providecommand*\XR@ext{dvi}
9397 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9398 \Hy@WrapperDef\hyper@anchor#1{%
9399 \Hy@SaveLastskip

```

```

9400 \Hy@VerboseAnchor{#1}%
9401 \begingroup
9402   \let\protect=\string
9403   \special{mark: #1}%
9404 \endgroup
9405 \Hy@activeanchortrue
9406 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9407 \Hy@activeanchorfalse
9408 \Hy@RestoreLastskip
9409 }
9410 \Hy@WrapperDef\hyper@anchorstart#1{%
9411   \Hy@SaveLastskip
9412   \Hy@VerboseAnchor{#1}%
9413   \special{mark: #1}%
9414   \Hy@activeanchortrue
9415 }
9416 \def\hyper@anchorend{%
9417   \Hy@activeanchorfalse
9418   \Hy@RestoreLastskip
9419 }
9420 \def\hyper@linkstart#1#2{%
9421   \Hy@VerboseLinkStart{#1}{#2}%
9422   \expandafter\Hy@colorlink\csname @#1color\endcsname
9423   \special{button: %
9424     10000000 %
9425     \number\baselineskip\space
9426     #2%
9427   }%
9428 }
9429 \def\hyper@linkend{%
9430   \Hy@endcolorlink
9431 }
9432 \def\hyper@link#1#2#3{%
9433   \Hy@VerboseLinkStart{#1}{#2}%
9434   \leavevmode
9435   \ifHy@raiselinks
9436     \Hy@SaveSpaceFactor
9437     \Hy@SaveSavedSpaceFactor
9438     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9439     \Hy@RestoreSavedSpaceFactor
9440     \@linkdim\dp\@tempboxa
9441     \lower\@linkdim\hbox{%
9442       \special{button: %
9443         \number\wd\@tempboxa\space
9444         \number\ht\@tempboxa\space
9445         #2%
9446       }%
9447       \expandafter\Hy@colorlink\csname @#1color\endcsname
9448       \Hy@RestoreSpaceFactor
9449       #3\Hy@xspace@end
9450       \Hy@SaveSpaceFactor
9451       \Hy@endcolorlink
9452     }%
9453     \@linkdim\ht\@tempboxa
9454     \advance\@linkdim by -6.5\p@
9455     \raise\@linkdim\hbox{}%
9456     \Hy@RestoreSpaceFactor

```

```

9457 \else
9458 \special{button: %
9459 \number\wd\@tempboxa\space
9460 \number\ht\@tempboxa\space
9461 #2%
9462 }%
9463 \expandafter\Hy@colorlink\csname @#1color\endcsname
9464 #3\Hy@xspace@end
9465 \Hy@endcolorlink
9466 \fi
9467 }
9468 \def\hyper@linkurl#1#2{%
9469 \begingroup
9470 \hyper@chars
9471 \leavevmode
9472 \ifHy@raiselinks
9473 \Hy@SaveSpaceFactor
9474 \Hy@SaveSavedSpaceFactor
9475 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9476 \Hy@RestoreSavedSpaceFactor
9477 \@linkdim\dp\@tempboxa
9478 \lower\@linkdim\hbox{%
9479 \special{button: %
9480 \number\wd\@tempboxa\space
9481 \number\ht\@tempboxa\space
9482 launch: \wwwbrowser\space
9483 #2%
9484 }%
9485 \Hy@colorlink\@urlcolor
9486 \Hy@RestoreSpaceFactor
9487 #1\Hy@xspace@end
9488 \Hy@SaveSpaceFactor
9489 \Hy@endcolorlink
9490 }%
9491 \@linkdim\ht\@tempboxa
9492 \advance\@linkdim by -6.5\p@
9493 \raise\@linkdim\hbox{%
9494 \Hy@RestoreSpaceFactor
9495 \else
9496 \special{button: %
9497 \number\wd\@tempboxa\space
9498 \number\ht\@tempboxa\space
9499 launch: \wwwbrowser\space
9500 #2%
9501 }%
9502 \Hy@colorlink\@urlcolor
9503 #1\Hy@xspace@end
9504 \Hy@endcolorlink
9505 \fi
9506 \endgroup
9507 }
9508 \def\hyper@linkfile#1#2#3{%
9509 \begingroup
9510 \hyper@chars
9511 \leavevmode
9512 \ifHy@raiselinks
9513 \Hy@SaveSpaceFactor

```

```

9514 \Hy@SaveSavedSpaceFactor
9515 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9516 \Hy@RestoreSavedSpaceFactor
9517 \@linkdim\dp\@tempboxa
9518 \lower\@linkdim\hbox{%
9519 \special{button: %
9520 \number\wd\@tempboxa\space
9521 \number\ht\@tempboxa\space
9522 #3,%
9523 file: #2%
9524 }%
9525 \Hy@colorlink\@filecolor
9526 \Hy@RestoreSpaceFactor
9527 #1\Hy@xspace@end
9528 \Hy@SaveSpaceFactor
9529 \Hy@endcolorlink
9530 }%
9531 \@linkdim\ht\@tempboxa
9532 \advance\@linkdim by -6.5\p@
9533 \raise\@linkdim\hbox{}%
9534 \Hy@RestoreSpaceFactor
9535 \else
9536 \special{button: %
9537 \number\wd\@tempboxa\space
9538 \number\ht\@tempboxa\space
9539 #3,%
9540 file: #2%
9541 }%
9542 \Hy@colorlink\@filecolor
9543 #1\Hy@xspace@end
9544 \Hy@endcolorlink
9545 \fi
9546 \endgroup
9547 }
9548 \ifx\@pdfproducer\relax
9549 \def\@pdfproducer{dviwindo + Distiller}%
9550 \fi
9551 \HyInfo@AddonUnsupportedtrue
9552 \def\PDF@FinishDoc{%
9553 \Hy@UseMaketitleInfos
9554 \HyInfo@TrappedUnsupported
9555 \special{PDF: Keywords \@pdfkeywords}%
9556 \special{PDF: Title \@pdftitle}%
9557 \special{PDF: Creator \@pdfcreator}%
9558 \ifx\@pdfcreationdate\@empty
9559 \else
9560 \special{PDF: CreationDate \@pdfcreationdate}%
9561 \fi
9562 \ifx\@pdfmoddate\@empty
9563 \else
9564 \special{PDF: ModDate \@pdfmoddate}%
9565 \fi
9566 \special{PDF: Author \@pdfauthor}%
9567 \ifx\@pdfproducer\relax
9568 \else
9569 \special{PDF: Producer \@pdfproducer}%
9570 \fi

```

```

9571 \special{PDF: Subject \@pdfsubject}%
9572 \Hy@DisableOption{pdfauthor}%
9573 \Hy@DisableOption{pdftitle}%
9574 \Hy@DisableOption{pdfsubject}%
9575 \Hy@DisableOption{pdfcreator}%
9576 \Hy@DisableOption{pdfcreationdate}%
9577 \Hy@DisableOption{pdfmoddate}%
9578 \Hy@DisableOption{pdfproducer}%
9579 \Hy@DisableOption{pdfkeywords}%
9580 \Hy@DisableOption{pdftrapped}%
9581 \Hy@DisableOption{pdfinfo}%
9582 }
9583 \def\PDF@SetupDoc{%
9584 \ifx\@baseurl\@empty
9585 \else
9586 \special{PDF: Base \@baseurl}%
9587 \fi
9588 \ifx\@pdfpagescrop\@empty\else
9589 \special{PDF: BBox \@pdfpagescrop}%
9590 \fi
9591 \def\Hy@temp{}%
9592 \ifx\@pdfstartpage\@empty
9593 \else
9594 \ifx\@pdfstartview\@empty
9595 \else
9596 \edef\Hy@temp{%
9597 ,Page=\@pdfstartpage
9598 ,View=\@pdfstartview
9599 }%
9600 \fi
9601 \fi
9602 \edef\Hy@temp{%
9603 \noexpand\pdfmark{%
9604 pdfmark=/DOCVIEW,%
9605 PageMode=/\@pdfpagemode
9606 \Hy@temp
9607 }%
9608 }%
9609 \Hy@temp
9610 \ifx\@pdfpagescrop\@empty
9611 \else
9612 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9613 \fi
9614 \edef\Hy@temp{%
9615 \ifHy@toolbar\else /HideToolbar true\fi
9616 \ifHy@menubar\else /HideMenubar true\fi
9617 \ifHy>windowui\else /HideWindowUI true\fi
9618 \ifHy@fitwindow /FitWindow true\fi
9619 \ifHy@centerwindow /CenterWindow true\fi
9620 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9621 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9622 \Hy@UseNameKey{Direction}\@pdfdirection
9623 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9624 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9625 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9626 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9627 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

9628 \Hy@UseNameKey{Duplex}\@pdfduplex
9629 \ifx\@pdfpicktraybypdfsize\@empty
9630 \else
9631   /PickTrayByPDFSize \@pdfpicktraybypdfsize
9632 \fi
9633 \ifx\@pdfprintpagerange\@empty
9634 \else
9635   /PrintPageRange[\@pdfprintpagerange]%
9636 \fi
9637 \ifx\@pdfnumcopies\@empty
9638 \else
9639   /NumCopies \@pdfnumcopies
9640 \fi
9641 }%
9642 \pdfmark{pdfmark=/PUT,%
9643   Raw={%
9644     \string{Catalog}\string}<<%
9645     \ifx\Hy@temp\@empty
9646     \else
9647       /ViewerPreferences<<\Hy@temp>>%
9648     \fi
9649     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9650     \ifx\@pdflang\@empty
9651     \else
9652       /Lang(\@pdflang)%
9653     \fi
9654   >>%
9655 }%
9656 }%
9657 }
9658 </dviwindo>
9659 <*dvi pdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9660 \providecommand*{\XR@ext}{pdf}
9661 \Hy@setbreaklinks{true}
9662 \def\HyPat@ObjRef{%
9663   @[- ]+%
9664 }
9665 \newsavebox{\pdfm@box}
9666 \def\@pdfm@mark#1{\special{pdf:#1}}
9667 \Hy@WrapperDef\@pdfm@dest#1{%
9668   \Hy@SaveLastskip
9669   \Hy@VerboseAnchor{#1}%
9670   \begingroup
9671     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9672     \def\x{XYZ}%
9673     \ifx\x\@pdfview
9674       \def\x{XYZ @xpos @ypos null}%
9675     \else
9676       \def\x{FitH}%
9677       \ifx\x\@pdfview
9678         \def\x{FitH @ypos}%
9679       \else
9680         \def\x{FitBH}%

```

```

9681 \ifx\x\@pdfview
9682 \def\x{FitBH @ypos}%
9683 \else
9684 \def\x{FitV}%
9685 \ifx\x\@pdfview
9686 \def\x{FitV @xpos}%
9687 \else
9688 \def\x{FitBV}%
9689 \ifx\x\@pdfview
9690 \def\x{FitBV @xpos}%
9691 \else
9692 \def\x{Fit}%
9693 \ifx\x\@pdfview
9694 \let\x\@pdfview
9695 \else
9696 \def\x{FitB}%
9697 \ifx\x\@pdfview
9698 \let\x\@pdfview
9699 \else
9700 \def\x{FitR}%
9701 \ifx\x\@pdfview
9702 \Hy@Warning{'pdfview=FitR' is not supported}%
9703 \def\x{XYZ @xpos @ypos null}%
9704 \else
9705 \@onelevel@sanitize\@pdfview
9706 \Hy@Warning{%
9707     Unknown value '\@pdfview' for pdfview%
9708 }%
9709 \def\x{XYZ @xpos @ypos null}%
9710 \fi
9711 \fi
9712 \fi
9713 \fi
9714 \fi
9715 \fi
9716 \fi
9717 \fi
9718 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9719 \endgroup
9720 \Hy@RestoreLastskip
9721 }
9722 \providecommand*\@pdfview{XYZ}
9723 \providecommand*\@pdfborder{0 0 1}
9724 \providecommand*\@pdfborderstyle{}
9725 \def\hyper@anchor#1{%
9726 \@pdfm@dest{#1}%
9727 }
9728 \def\hyper@anchorstart#1{%
9729 \Hy@activeanchortrue
9730 \@pdfm@dest{#1}%
9731 }
9732 \def\hyper@anchorend{%
9733 \Hy@activeanchorfalse
9734 }
9735 \newcounter{Hy@AnnotLevel}
9736 \ifHy@ocgcolorlinks
9737 \def\OBJ@OCG@view{@OCG@view}%

```

```

9738 \pdfmark{%
9739   obj \OBJ@OCG@view <<%
9740     /Type/OCG%
9741     /Name(View)%
9742     /Usage<<%
9743     /Print<<%
9744     /PrintState/OFF%
9745     >>%
9746     /View<<%
9747     /ViewState/ON%
9748     >>%
9749     >>%
9750     >>%
9751  }%
9752 \pdfmark{close \OBJ@OCG@view}%
9753 \def\OBJ@OCG@print{@OCG@print}%
9754 \pdfmark{%
9755   obj \OBJ@OCG@print <<%
9756     /Type/OCG%
9757     /Name(Print)%
9758     /Usage<<%
9759     /Print<<%
9760     /PrintState/ON%
9761     >>%
9762     /View<<%
9763     /ViewState/OFF%
9764     >>%
9765     >>%
9766     >>%
9767  }%
9768 \pdfmark{close \OBJ@OCG@print}%
9769 \def\OBJ@OCGs{@OCGs}%
9770 \pdfmark{%
9771   obj \OBJ@OCGs [%
9772     \OBJ@OCG@view\space\OBJ@OCG@print
9773   ]%
9774  }%
9775 \pdfmark{close \OBJ@OCGs}%
9776 \pdfmark{%
9777   put @catalog <<%
9778     /OCProperties<<%
9779     /OCGs \OBJ@OCGs
9780     /D<<%
9781     /OFF[\OBJ@OCG@print]%
9782     /AS[%
9783       <<%
9784         /Event/View%
9785         /OCGs \OBJ@OCGs
9786         /Category[/View]%
9787       >>%
9788       <<%
9789         /Event/Print%
9790         /OCGs \OBJ@OCGs
9791         /Category[/Print]%
9792       >>%
9793       <<%
9794         /Event/Export%

```



```

9795         /OCGs \OBJ@OCGs
9796         /Category[/Print]%
9797     >>%
9798     ]%
9799     >>%
9800     >>%
9801     >>%
9802 }%
9803 \AtBeginShipout{%
9804     \setbox\AtBeginShipoutBox=\hbox{%
9805         \copy\AtBeginShipoutBox
9806         \@pdfm@mark{%
9807             put @resources <<%
9808                 /Properties<<%
9809                 /OCView \OBJ@OCG@view
9810                 /OCPrint \OBJ@OCG@print
9811             >>%
9812             >>%
9813         }%
9814     }%
9815 }%
9816 \Hy@AtBeginDocument{%
9817     \def\Hy@colorlink#1{%
9818         \begingroup
9819         \ifHy@ocgcolorlinks
9820             \def\Hy@ocgcolor{#1}%
9821             \setbox0=\hbox\bgroup\color@begingroup
9822         \else
9823             \HyColor@UseColor#1%
9824         \fi
9825     }%
9826     \def\Hy@endcolorlink{%
9827         \ifHy@ocgcolorlinks
9828             \color@endgroup\egroup
9829             \mbox{%
9830                 \@pdfm@mark{content /OC/OCPrint BDC}%
9831                 \rlap{\copy0}%
9832                 \@pdfm@mark{content EMC/OC/OCView BDC}%
9833                 \begingroup
9834                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9835                 \box0 %
9836                 \endgroup
9837                 \@pdfm@mark{content EMC}%
9838             }%
9839         \fi
9840     \endgroup
9841 }%
9842 }%
9843 \else
9844     \Hy@DisableOption{ocgcolorlinks}%
9845 \fi
9846 \def\Hy@BeginAnnot#1{%
9847     \stepcounter{Hy@AnnotLevel}%
9848     \ifnum\value{Hy@AnnotLevel}=\@ne
9849         #1%
9850     \fi
9851 }

```

```

9852 \def\Hy@endAnnot{%
9853   \ifnum\value{Hy@AnnotLevel}=\@ne
9854     \Hy@endcolorlink
9855     \@pdfm@mark{eann}%
9856   \fi
9857   \addtocounter{Hy@AnnotLevel}\m@ne
9858 }

9859 \def\Hy@undefinedname{UNDEFINED}
9860 \def\hyper@linkstart#1#2{%
9861   \Hy@VerboseLinkStart{#1}{#2}%
9862   \leavevmode
9863   \Hy@BeginAnnot{%
9864     \protected@edef\Hy@testname{#2}%
9865     \ifx\Hy@testname\@empty
9866       \Hy@Warning{%
9867         Empty destination name,\MessageBreak
9868         using '\Hy@undefinedname'%
9869       }%
9870       \let\Hy@testname\Hy@undefinedname
9871     \else
9872       \Hy@pstringdef\Hy@testname{%
9873         \expandafter\HyperDestNameFilter\expandafter{%
9874           \Hy@testname
9875         }%
9876       }%
9877     \fi
9878     \@pdfm@mark{%
9879       bann<<%
9880       /Type/Annot%
9881       /Subtype/Link%
9882       \ifHy@pdfa /F 4\fi
9883       \Hy@setpdfborder
9884       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9885       \else
9886         /C[\csname @#1bordercolor\endcsname]%
9887       \fi
9888       /A<<%
9889       /S/GoTo%
9890       /D(\Hy@testname)%
9891       \Hy@href@nextactionraw
9892       >>%
9893     >>%
9894   }%
9895   \expandafter\Hy@colorlink\csname @#1color\endcsname
9896 }%
9897 }

9898 \def\hyper@linkend{\Hy@endAnnot}%
9899 \def\hyper@link#1#2#3{%
9900   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9901 }

9902 \def\hyper@linkfile#1#2#3{%
9903   \leavevmode
9904   \Hy@BeginAnnot{%
9905     \def\Hy@pstringF{#2}%
9906     \Hy@CleanupFile\Hy@pstringF
9907     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9908     \Hy@pstringdef\Hy@pstringD{#3}%

```

```

9909 \Hy@MakeRemoteAction
9910 \@pdfm@mark{%
9911   bann<<%
9912     /Type/Annot%
9913     /Subtype/Link%
9914     \ifHy@pdfa /F 4\fi
9915     \Hy@setpdfborder
9916     \ifx\@filebordercolor\relax
9917       \else
9918         /C[\@filebordercolor]%
9919       \fi
9920     /A<<%
9921     /S/GoToR%
9922     /F(\Hy@pstringF)%
9923     /D%
9924     \ifx\#3\%
9925       [\Hy@href@page\@pdfremotestartview]%
9926     \else
9927       (\Hy@pstringD)%
9928     \fi
9929     \Hy@SetNewWindow
9930     \Hy@href@nextactionraw
9931   >>%
9932 >>%
9933 }%
9934 \Hy@colorlink\@filecolor
9935 }%
9936 #1\Hy@xspace@end
9937 \Hy@endAnnot
9938 }
9939 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9940 \leavevmode
9941 \Hy@BeginAnnot{%
9942   \Hy@pstringdef\Hy@pstringF{#1}%
9943   \Hy@pstringdef\Hy@pstringP{#3}%
9944   \@pdfm@mark{%
9945     bann<<%
9946       /Type/Annot%
9947       /Subtype/Link%
9948       \ifHy@pdfa /F 4\fi
9949       \Hy@setpdfborder
9950       \ifx\@runbordercolor\relax
9951         \else
9952           /C[\@runbordercolor]%
9953         \fi
9954       /A<<%
9955       /F(\Hy@pstringF)%
9956       /S/Launch%
9957       \Hy@SetNewWindow
9958       \ifx\#3\%
9959         \else
9960           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9961         \fi
9962       \Hy@href@nextactionraw
9963     >>%
9964   >>%
9965 }%

```

```

9966 \Hy@colorlink\@runcolor
9967 }%
9968 #2\Hy@xspace@end
9969 \Hy@endAnnot
9970 }
9971 \def\hyper@linkurl#1#2{%
9972 \leavevmode
9973 \Hy@BeginAnnot{%
9974 \Hy@pstringdef\Hy@pstringURI{#2}%
9975 \@pdfm@mark{%
9976 bann<<%
9977 /Type/Annot%
9978 /Subtype/Link%
9979 \ifHy@pdfa /F 4\fi
9980 \Hy@setpdfborder
9981 \ifx\@urlbordercolor\relax
9982 \else
9983 /C[\@urlbordercolor]%
9984 \fi
9985 /A<<%
9986 /S/URI%
9987 /URI(\Hy@pstringURI)%
9988 \ifHy@href@ismap
9989 /IsMap true%
9990 \fi
9991 \Hy@href@nextactionraw
9992 >>%
9993 >>%
9994 }%
9995 \Hy@colorlink\@urlcolor
9996 }%
9997 #1\Hy@xspace@end
9998 \Hy@endAnnot
9999 }
10000 \def\Acrobatmenu#1#2{%
10001 \Hy@Acrobatmenu{#1}{#2}{%
10002 \Hy@BeginAnnot{%
10003 \@pdfm@mark{%
10004 bann<<%
10005 /Type/Annot%
10006 /Subtype/Link%
10007 \ifHy@pdfa /F 4\fi
10008 /A<<%
10009 /S/Named%
10010 /N/#1%
10011 \Hy@href@nextactionraw
10012 >>%
10013 \Hy@setpdfborder
10014 \ifx\@menubordercolor\relax
10015 \relax
10016 /C[\@menubordercolor]%
10017 \fi
10018 >>%
10019 }%
10020 \Hy@colorlink\@menucolor
10021 }%
10022 #2\Hy@xspace@end

```

```

10023 \Hy@EndAnnot
10024 }%
10025 }
10026 \ifx\@pdfproducer\relax
10027 \def\@pdfproducer{dvipdfm}%

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.
10028 \begingroup\expandafter\expandafter\expandafter\endgroup
10029 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10030 \else
10031 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10032 \fi
10033 \fi
10034 \def\PDF@FinishDoc{%
10035 \Hy@UseMaketitleInfos
10036 \HyInfo@GenerateAddons
10037 \@pdfm@mark{%
10038 docinfo<<%
10039 /Title(\@pdftitle)%
10040 /Subject(\@pdfsubject)%
10041 /Creator(\@pdfcreator)%
10042 \ifx\@pdfcreationdate\@empty
10043 \else
10044 /CreationDate(\@pdfcreationdate)%
10045 \fi
10046 \ifx\@pdfmoddate\@empty
10047 \else
10048 /ModDate(\@pdfmoddate)%
10049 \fi
10050 /Author(\@pdfauthor)%
10051 \ifx\@pdfproducer\relax
10052 \else
10053 /Producer(\@pdfproducer)%
10054 \fi
10055 /Keywords(\@pdfkeywords)%
10056 \ifx\@pdftrapped\@empty
10057 \else
10058 /Trapped/\@pdftrapped
10059 \fi
10060 \HyInfo@Addons
10061 >>%
10062 }%
10063 \Hy@DisableOption{pdfauthor}%
10064 \Hy@DisableOption{pdftitle}%
10065 \Hy@DisableOption{pdfsubject}%
10066 \Hy@DisableOption{pdfcreator}%
10067 \Hy@DisableOption{pdfcreationdate}%
10068 \Hy@DisableOption{pdfmoddate}%
10069 \Hy@DisableOption{pdfproducer}%
10070 \Hy@DisableOption{pdfkeywords}%
10071 \Hy@DisableOption{pdftrapped}%
10072 \Hy@DisableOption{pdfinfo}%
10073 }

10074 \def\PDF@SetupDoc{%
10075 \edef\Hy@temp{%
10076 \ifHy@toolbar\else /HideToolbar true\fi
10077 \ifHy@menubar\else /HideMenubar true\fi

```

```

10078 \ifHy@windowui\else /HideWindowUI true\fi
10079 \ifHy@fitwindow /FitWindow true\fi
10080 \ifHy@centerwindow /CenterWindow true\fi
10081 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10082 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10083 \Hy@UseNameKey{Direction}\@pdfdirection
10084 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10085 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10086 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10087 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10088 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10089 \Hy@UseNameKey{Duplex}\@pdfduplex
10090 \ifx\@pdfpicktraybypdfsize\@empty
10091 \else
10092 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10093 \fi
10094 \ifx\@pdfprintpagerange\@empty
10095 \else
10096 /PrintPageRange[\@pdfprintpagerange]%
10097 \fi
10098 \ifx\@pdfnumcopies\@empty
10099 \else
10100 /NumCopies \@pdfnumcopies
10101 \fi
10102 }%
10103 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10104 \@pdfm@mark{%
10105 docview<<%
10106 \ifx\@pdfstartpage\@empty
10107 \else
10108 \ifx\@pdfstartview\@empty
10109 \else
10110 /OpenAction[page\@pdfstartpage\@pdfstartview]%
10111 \fi
10112 \fi
10113 \ifx\@baseurl\@empty
10114 \else
10115 /URI<</Base(\Hy@pstringB)>>%
10116 \fi
10117 /PageMode/\@pdfpagemode
10118 \ifx\Hy@temp\@empty
10119 \else
10120 /ViewerPreferences<<\Hy@temp>>%
10121 \fi
10122 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10123 \ifx\@pdflang\@empty
10124 \else
10125 /Lang(\@pdflang)%
10126 \fi
10127 >>%
10128 }%
10129 \ifx\@pdfpagescrop\@empty
10130 \else
10131 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10132 \fi
10133 }
10134 </dvipdfm | xetex>

```

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

```

10135 <*dvipdfm>
10136 \AtBeginShipoutFirst{%
10137   \ifHy@setpagesize
10138     \begingroup
10139     \ifundefined{stockwidth}{%
10140       \ifdim\paperwidth>\z@
10141       \ifdim\paperheight>\z@
10142         \special{papersize=\the\paperwidth,\the\paperheight}%
10143       \fi
10144     \fi
10145   }{%
10146     \ifdim\stockwidth>\z@
10147     \ifdim\stockheight>\z@
10148       \special{papersize=\the\stockwidth,\the\stockheight}%
10149     \fi
10150   \fi
10151 }%
10152 \endgroup
10153 \fi
10154 \Hy@DisableOption{setpagesize}%
10155 }
10156 </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.

```

10157 <*vtexhtml>
10158 \providecommand*{\XR@ext}{htm}
10159 \RequirePackage{vtexhtml}
10160 \newif\if@Localurl
10161 \let\PDF@FinishDoc\ltx@empty
10162 \def\PDF@SetupDoc{%
10163   \ifx\@baseurl\@empty
10164     \else
10165       \special{!direct <base href="\@baseurl">}%
10166     \fi
10167 }
10168 \def\@urltype{url}
10169 \def\hyper@link#1#2#3{%
10170   \Hy@VerboseLinkStart{#1}{#2}%
10171   \leavevmode
10172   \special{!direct <a href=%
10173     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10174   #3\Hy@xspace@end
10175   \special{!direct </a>}%
10176 }
10177 \def\hyper@linkurl#1#2{%
10178   \begingroup
10179   \hyper@chars
10180   \leavevmode
10181   \MathBSuppress=1\relax
10182   \special{!direct <a href=%
10183     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%

```

```

10184   #1\Hy@xspace@end
10185   \MathBSuppress=0\relax
10186   \special{!direct </a>}%
10187 \endgroup
10188 }
10189 \def\hyper@linkfile#1#2#3{%
10190   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10191 }
10192 \def\hyper@linkstart#1#2{%
10193   \Hy@VerboseLinkStart{#1}{#2}%
10194   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10195     \@Localurltrue
10196     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10197   \else
10198     \@Localurlfalse
10199   \begingroup
10200     \hyper@chars
10201     \special{!aref \HyperDestNameFilter{#2}}%
10202   \endgroup
10203 \fi
10204 }
10205 \def\hyper@linkend{%
10206   \if@Localurl
10207     \special{!endaref}%
10208   \else
10209     \special{!direct </a>}%
10210 \fi
10211 }
10212 \Hy@WrapperDef\hyper@anchorstart#1{%
10213   \Hy@SaveLastskip
10214   \Hy@VerboseAnchor{#1}%
10215   \begingroup
10216     \hyper@chars
10217     \special{!aname #1}%
10218     \special{!direct <a name=%
10219       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10220   \endgroup
10221   \Hy@activeanchortrue
10222 }
10223 \def\hyper@anchorend{%
10224   \special{!direct </a>}%
10225   \Hy@activeanchorfalse
10226   \Hy@RestoreLastskip
10227 }
10228 \Hy@WrapperDef\hyper@anchor#1{%
10229   \Hy@SaveLastskip
10230   \Hy@VerboseAnchor{#1}%
10231   \begingroup
10232     \let\protect=\string
10233     \hyper@chars
10234     \leavevmode
10235     \special{!aname #1}%
10236     \special{!direct <a name=%
10237       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10238   \endgroup
10239   \Hy@activeanchortrue
10240   \bgroup\anchor@spot\egroup

```



```

10241 \special{!direct </a>}%
10242 \Hy@activeanchorfalse
10243 \Hy@RestoreLastskip
10244 }
10245 \def\@Form[#1]{%
10246 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10247 }
10248 \let\@endForm\ltx@empty
10249 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10250 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10251 }
10252 \def\@TextField[#1]#2{% parameters, label
10253 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10254 }
10255 \def\@CheckBox[#1]#2{% parameters, label
10256 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10257 }
10258 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10259 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10260 }
10261 \def\@PushButton[#1]#2{% parameters, label
10262 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10263 }
10264 \def\@Reset[#1]#2{%
10265 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10266 }
10267 \def\@Submit[#1]#2{%
10268 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10269 }
10270 </vtexhtml>
10271 <*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.

```

10272 \ifx\mediaheight\@undefined
10273 \else
10274 \ifx\mediaheight\relax
10275 \else
10276 \ifHy@setpagesize
10277 \providecommand*{\VTeXInitMediaSize}{%
10278 \ltx@ifundefined{stockwidth}{%
10279 \ifdim\paperheight>0pt %
10280 \setlength\mediaheight\paperheight
10281 \fi
10282 \ifdim\paperheight>0pt %
10283 \setlength\mediawidth\paperwidth
10284 \fi
10285 }{%
10286 \ifdim\stockheight>0pt %
10287 \setlength\mediaheight\stockheight
10288 \fi
10289 \ifdim\stockwidth>0pt %
10290 \setlength\mediawidth\stockwidth
10291 \fi
10292 }%
10293 }%

```

```

10294 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10295 \fi
10296 \Hy@DisableOption{setpagesize}%
10297 \fi
10298 \fi

Older versions of VTeX require xyz in lower case.

10299 \providecommand*\@pdfview{xyz}
10300 \providecommand*\@pdfborder{0 0 1}
10301 \providecommand*\@pdfborderstyle{}
10302 \let\CurrentBorderColor\@linkbordercolor
10303 \Hy@WrapperDef\hyper@anchor#1{%
10304 \Hy@SaveLastskip
10305 \Hy@VerboseAnchor{#1}%
10306 \begingroup
10307 \let\protect=\string
10308 \hyper@chars
10309 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10310 \endgroup
10311 \Hy@activeanchortrue
10312 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10313 \Hy@activeanchorfalse
10314 \Hy@RestoreLastskip
10315 }
10316 \Hy@WrapperDef\hyper@anchorstart#1{%
10317 \Hy@SaveLastskip
10318 \Hy@VerboseAnchor{#1}%
10319 \begingroup
10320 \hyper@chars
10321 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10322 \endgroup
10323 \Hy@activeanchortrue
10324 }
10325 \def\hyper@anchorend{%
10326 \Hy@activeanchorfalse
10327 \Hy@RestoreLastskip
10328 }
10329 \def\@urltype{url}
10330 \def\Hy@undefinedname{UNDEFINED}
10331 \def\hyper@linkstart#1#2{%
10332 \Hy@VerboseLinkStart{#1}{#2}%
10333 \Hy@pstringdef\Hy@pstringURI{#2}%
10334 \expandafter\Hy@colorlink\csname @#1color\endcsname
10335 \ltx@ifundefined{@#1bordercolor}{%
10336 \let\CurrentBorderColor\relax
10337 }{%
10338 \edef\CurrentBorderColor{%
10339 \csname @#1bordercolor\endcsname
10340 }%
10341 }%
10342 \def\Hy@tempa{#1}%
10343 \ifx\Hy@tempa\@urltype
10344 \special{!%
10345 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10346 \ifHy@href@ismap
10347 /IsMap true%
10348 \fi
10349 \Hy@href@nextactionraw

```

```

10350     >,%
10351     a=<%
10352         \ifHy@pdfa /F 4\fi
10353         \Hy@setpdfborder
10354         \ifx\CurrentBorderColor\relax
10355         \else
10356             /C [\CurrentBorderColor]%
10357         \fi
10358     >%
10359 }%
10360 \else
10361     \protected@edef\Hy@testname{#2}%
10362     \ifx\Hy@testname\@empty
10363         \Hy@Warning{%
10364             Empty destination name,\MessageBreak
10365             using '\Hy@undefinedname'%
10366         }%
10367     \let\Hy@testname\Hy@undefinedname
10368 \fi
10369 \special{!%
10370     aref \expandafter\HyperDestNameFilter
10371         \expandafter{\Hy@testname};%
10372     a=<%
10373         \ifHy@pdfa /F 4\fi
10374         \Hy@setpdfborder
10375         \ifx\CurrentBorderColor\relax
10376         \else
10377             /C [\CurrentBorderColor]%
10378         \fi
10379     >%
10380 }%
10381 \fi
10382 }
10383 \def\hyper@linkend{%
10384     \special{!endaref}%
10385     \Hy@endcolorlink
10386 }
10387 \def\hyper@linkfile#1#2#3{%
10388     \leavevmode
10389     \def\Hy@pstringF{#2}%
10390     \Hy@CleanupFile\Hy@pstringF
10391     \special{!%
10392         aref <%
10393         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10394         f=\Hy@pstringF>#3;%
10395         a=<%
10396             \ifHy@pdfa /F 4\fi
10397             \Hy@setpdfborder
10398             \ifx\@filebordercolor\relax
10399             \else
10400                 /C [\@filebordercolor]%
10401             \fi
10402         >%
10403     }%
10404     \Hy@colorlink\@filecolor
10405     #1\Hy@xspace@end
10406     \Hy@endcolorlink

```

```

10407 \special{!endaref}%
10408 }
10409 \def\hyper@linkurl#1#2{%
10410 \begingroup
10411 \Hy@pstringdef\Hy@pstringURI{#2}%
10412 \hyper@chars
10413 \leavevmode
10414 \special{!%
10415   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10416   \ifHy@href@ismap
10417     /IsMap true%
10418   \fi
10419   \Hy@href@nextactionraw
10420   >;%
10421   a=<%
10422   \ifHy@pdfa /F 4\fi
10423   \Hy@setpdfborder
10424   \ifx\@urlbordercolor\relax
10425   \else
10426     /C [\@urlbordercolor]%
10427   \fi
10428   >%
10429   }%
10430   \Hy@colorlink\@urlcolor
10431   #1\Hy@xspace@end
10432   \Hy@endcolorlink
10433   \special{!endaref}%
10434 \endgroup
10435 }
10436 \def\hyper@link#1#2#3{%
10437 \Hy@VerboseLinkStart{#1}{#2}%
10438 \ltx@ifundefined{@#1bordercolor}{%
10439 \let\CurrentBorderColor\relax
10440 }{%
10441 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10442 }%
10443 \leavevmode
10444 \protected@edef\Hy@testname{#2}%
10445 \ifx\Hy@testname\@empty
10446 \Hy@Warning{%
10447   Empty destination name,\MessageBreak
10448   using '\Hy@undefinedname'%
10449 }%
10450 \let\Hy@testname\Hy@undefinedname
10451 \fi
10452 \special{!%
10453   aref \expandafter\HyperDestNameFilter
10454   \expandafter{\Hy@testname};%
10455   a=<%
10456   \ifHy@pdfa /F 4\fi
10457   \Hy@setpdfborder
10458   \ifx\CurrentBorderColor\relax
10459   \else
10460     /C [\CurrentBorderColor]%
10461   \fi
10462   >%
10463   }%

```

```

10464 \expandafter
10465 \Hy@colorlink\csname @#1color\endcsname
10466 #3\Hy@xspace@end
10467 \Hy@endcolorlink
10468 \special{!endaref}%
10469 }
10470 \def\hyper@image#1#2{%
10471 \hyper@linkurl{#2}{#1}%
10472 }
10473 \def\@hyper@launch run:#1\#2#3{%
10474 \Hy@pstringdef\Hy@pstringF{#1}%
10475 \Hy@pstringdef\Hy@pstringP{#3}%
10476 \leavevmode
10477 \special{!aref %
10478 <u=%
10479 /Type/Action%
10480 /S/Launch%
10481 /F(\Hy@pstringF)%
10482 \Hy@SetNewWindow
10483 \ifx\#3\%
10484 \else
10485 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10486 \fi
10487 \Hy@chref@nextactionraw
10488 >,%
10489 a=<%
10490 \ifHy@pdfa /F 4\fi
10491 \Hy@setpdfborder
10492 \ifx\@runbordercolor\relax
10493 \else
10494 /C[\@runbordercolor]%
10495 \fi
10496 >%
10497 }%
10498 \Hy@colorlink\@runcolor
10499 #2\Hy@xspace@end
10500 \Hy@endcolorlink
10501 \special{!endaref}%
10502 }
10503 \def\Acrobatmenu#1#2{%
10504 \Hy@Acrobatmenu{#1}{#2}{%
10505 \special{!%
10506 aref <u=/S /Named /N /#1>,%
10507 a=<%
10508 \ifHy@pdfa /F 4\fi
10509 \Hy@setpdfborder
10510 \ifx\@menubordercolor\relax
10511 \else
10512 /C[\@menubordercolor]%
10513 \fi
10514 >%
10515 }%
10516 \Hy@colorlink\@menucolor
10517 #2\Hy@xspace@end
10518 \Hy@endcolorlink
10519 \special{!endaref}%
10520 }%

```

10521 }

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for \TeX 7.02 or later.

Please never use $\text{\ifundefined{VTeXversion}}\{..\}\{..\}$ globally.

```
10522 \ifnum\Hy@VTeXversion<702 %
10523 \else
10524 \def\hyper@pagetransition{%
10525 \ifx\@pdfpagetransition\relax
10526 \else
10527 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
10528 \else
10529 \hvtex@parse@trans\@pdfpagetransition
10530 \fi
10531 \fi
10532 }%
```

I have to write an “honest” parser to convert raw PDF code into \TeX \special .
(AVK)

Syntax of \TeX $\text{\special}\{!trans <transition_effect>\}$:

```
<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:

```
10533 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10534 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10535 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10536 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10537 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10538 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10539 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
10540 \def\hvtex@par@dimension{/Dm}%
10541 \def\hvtex@par@direction{/Di}%
10542 \def\hvtex@par@duration{/D}%
10543 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
10544 \def\hvtex@gettoken{%
10545 \expandafter\hvtex@gettoken\hvtex@buffer\@nil
10546 }%
```

Notice that tokens in the input buffer must be space delimited.

```
10547 \def\hvtex@gettoken@#1 #2\@nil{%
10548 \edef\hvtex@token{#1}%
10549 \edef\hvtex@buffer{#2}%
10550 }%
10551 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
10552 \let\hvtex@trans@code\@empty
10553 \let\hvtex@param@dimension\@empty
10554 \let\hvtex@param@direction\@empty
10555 \let\hvtex@param@duration\@empty
10556 \let\hvtex@param@motion\@empty
10557 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10558 \hvtex@gettoken
10559 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10560 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10561 \else
10562 \hvtex@gettoken
10563 \fi
10564 \fi
10565 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10566 \hvtex@trans@params
10567 }%
```

Reentrant macro to parse optional parameters.

```
10568 \def\hvtex@trans@params{%
10569 \ifx\hvtex@buffer\@empty
10570 \else
10571 \hvtex@gettoken
10572 \let\hvtex@trans@par\hvtex@token
10573 \ifx\hvtex@buffer\@empty
10574 \else
10575 \hvtex@gettoken
10576 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```
10577 \let\hvtex@param@duration\hvtex@token
10578 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10579 \expandafter\edef\expandafter\hvtex@param@motion
10580 \expandafter{\expandafter\@gobble\hvtex@token}%
10581 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10582 \expandafter\edef\expandafter\hvtex@param@dimension
10583 \expandafter{\expandafter\@gobble\hvtex@token}%
10584 \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).

```
10585 \let\hvtex@param@direction\hvtex@token
```

```

10586     \fi\fi\fi\fi
10587     \fi
10588     \fi
10589     \ifx\hvtex@buffer\@empty
10590         \let\next\hvtex@produce@trans
10591     \else
10592         \let\next\hvtex@trans@params
10593     \fi
10594     \next
10595 }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10596 \def\hvtex@produce@trans{%
10597     \let\vtex@trans@special\@empty
10598     \if S\hvtex@trans@code
10599         \edef\vtex@trans@special{\hvtex@trans@code
10600             \hvtex@param@dimension\hvtex@param@motion}%
10601     \else\if B\hvtex@trans@code
10602         \edef\vtex@trans@special{%
10603             \hvtex@trans@code\hvtex@param@dimension
10604         }%
10605     \else\if X\hvtex@trans@code
10606         \edef\vtex@trans@special{%
10607             \hvtex@trans@code\hvtex@param@motion
10608         }%
10609     \else\if W\hvtex@trans@code
10610         \edef\vtex@trans@special{%
10611             \hvtex@trans@code\hvtex@param@direction
10612         }%
10613     \else\if D\hvtex@trans@code
10614         \let\vtex@trans@special\hvtex@trans@code
10615     \else\if R\hvtex@trans@code
10616         \let\vtex@trans@special\hvtex@trans@code
10617     \else\if G\hvtex@trans@code
10618         \edef\vtex@trans@special{%
10619             \hvtex@trans@code\hvtex@param@direction
10620         }%
10621     \fi\fi\fi\fi\fi\fi
10622     \ifx\vtex@trans@special\@empty
10623     \else
10624         \ifx\hvtex@param@duration\@empty
10625         \else
10626             \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10627     \multiply\dimen@\@m
10628     \edef\vtex@trans@special{%
10629         \vtex@trans@special,\strip@pt\dimen@
10630     }%
10631     \fi

```

And all the mess is just for this.

```

10632     \special{!trans \vtex@trans@special}%
10633     \fi
10634 }%

10635 \def\hyper@pageduration{%
10636     \ifx\@pdfpageduration\relax

```



```

10637 \else
10638 \ifx\@pdfpageduration\@empty
10639 \special{!duration-}%
10640 \else
10641 \special{!duration \@pdfpageduration}%
10642 \fi
10643 \fi
10644 }%
10645 \def\hyper@pagehidden{%
10646 \ifHy@useHidKey
10647 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10648 \fi
10649 }%
10650 \g@addto@macro\Hy@EveryPageBoxHook{%
10651 \hyper@pagetransition
10652 \hyper@pageduration
10653 \hyper@pagehidden
10654 }%
10655 \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

```

10656 \ifx\@pdfproducer\relax
10657 \def\@pdfproducer{VTeX}%
10658 \ifnum\Hy@VTeXversion>\z@
10659 \count@\VTeXversion
10660 \divide\count@ 100 %
10661 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10662 \multiply\count@ -100 %
10663 \advance\count@\VTeXversion
10664 \edef\@pdfproducer{%
10665 \@pdfproducer
10666 .\ifnum\count@<10 0\fi\the\count@
10667 \ifx\VTeXOS\@undefined\else
10668 \ifnum\VTeXOS>0 %
10669 \ifnum\VTeXOS<6 %
10670 \space(
10671 \ifcase\VTeXOS
10672 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10673 \fi
10674 )%
10675 \fi
10676 \fi
10677 \fi
10678 ,\space
10679 \ifnum\OpMode=\@ne PDF\else PS\fi
10680 \space backend%
10681 \ifx\gexmode\@undefined\else
10682 \ifnum\gexmode>\z@\space with GeX\fi
10683 \fi

```

```

10684 }%
10685 \fi
10686 \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).

```

10687 \def\PDF@SetupDoc{%
10688   \ifx\@pdfpagescrop\@empty
10689   \else
10690     \special{!pdfinfo b=<\@pdfpagescrop>}%
10691   \fi
10692   \ifx\@pdfstartpage\@empty
10693   \else
10694     \ifx\@pdfstartview\@empty
10695     \else
10696       \special{!onopen Page\@pdfstartpage}%
10697     \fi
10698   \fi
10699   \special{!pdfinfo p=</\@pdfpagemode>}%
10700   \ifx\@baseurl\@empty
10701   \else
10702     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10703   \fi
10704   \special{!pdfinfo v=<<<%
10705     \ifHy@toolbar\else /HideToolbar true\fi
10706     \ifHy@menubar\else /HideMenubar true\fi
10707     \ifHy>windowui\else /HideWindowUI true\fi
10708     \ifHy@fitwindow /FitWindow true\fi
10709     \ifHy@centerwindow /CenterWindow true\fi
10710     \ifHy@displaydoctitle /DisplayDocTitle true\fi
10711     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10712     \Hy@UseNameKey{Direction}\@pdfdirection
10713     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10714     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10715     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10716     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10717     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10718     \Hy@UseNameKey{Duplex}\@pdfduplex
10719     \ifx\@pdfpicktraybypdfsize\@empty
10720     \else
10721       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10722     \fi
10723     \ifx\@pdfprintpagerange\@empty
10724     \else
10725       /PrintPageRange[\@pdfprintpagerange]%

```

```

10726 \fi
10727 \ifx\@pdfnumcopies\@empty
10728 \else
10729 /NumCopies \@pdfnumcopies
10730 \fi
10731 >>>}%
10732 \ifx\@pdfpagelayout\@empty
10733 \else
10734 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10735 \fi
10736 }%
10737 \HyInfo@AddonUnsupportedtrue
10738 \def\PDF@FinishDoc{%
10739 \Hy@UseMaketitleInfos
10740 \HyInfo@TrappedUnsupported
10741 \special{!pdfinfo a=<\@pdfauthor>}%
10742 \special{!pdfinfo t=<\@pdftitle>}%
10743 \special{!pdfinfo s=<\@pdfsubject>}%
10744 \special{!pdfinfo c=<\@pdfcreator>}%
10745 \ifx\@pdfproducer\relax
10746 \else
10747 \special{!pdfinfo r=<\@pdfproducer>}%
10748 \fi
10749 \special{!pdfinfo k=<\@pdfkeywords>}%
10750 \Hy@DisableOption{pdfauthor}%
10751 \Hy@DisableOption{pdftitle}%
10752 \Hy@DisableOption{pdfsubject}%
10753 \Hy@DisableOption{pdfcreator}%
10754 \Hy@DisableOption{pdfcreationdate}%
10755 \Hy@DisableOption{pdfmoddate}%
10756 \Hy@DisableOption{pdfproducer}%
10757 \Hy@DisableOption{pdfkeywords}%
10758 \Hy@DisableOption{pdftrapped}%
10759 \Hy@DisableOption{pdfinfo}%
10760 }
10761 </vtx>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

10762 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10763 <package>\providecommand*{\Hy@DistillerDestFix}{-}
10764 <*pdfmark | dviwindo>
10765 \def\Hy@DistillerDestFix{%
10766 \begingroup
10767 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10768 \ifnum \@ifundefined{OpMode}{0}{%
10769     \@ifundefined{gexmode}{0}{%
10770         \ifnum\gexmode>0 \OpMode\else 0\fi
10771     }>1 %
10772     \def\x###1{%
10773         \immediate\special{!=###1}%
10774     }%
10775 \fi
10776 \x{%
10777     /product where{%
10778         pop %
10779         product(Distiller)search{%
10780             pop pop pop %
10781             version(.)search{%
10782                 exch pop exch pop%
10783                 (3011)eq{%
10784                     gsave %
10785                     newpath 0 0 moveto closepath clip%
10786                     /Courier findfont 10 scalefont setfont %
10787                     72 72 moveto(.)show %
10788                     grestore%
10789                 }if%
10790             }{pop}ifelse%
10791         }{pop}ifelse%
10792     }if%
10793 }%
10794 \endgroup
10795 }
10796 </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

```

```

10797 <*pdfmark>
10798 \Hy@breaklinks@unsupported
10799 \def\HyPat@ObjRef{%
10800     \{[~{]}+\}%
10801 }
10802 \Hy@WrapperDef\hyper@anchor#1{%
10803     \Hy@SaveLastskip
10804     \Hy@VerboseAnchor{#1}%
10805     \begingroup
10806     \pdfmark[\anchor@spot]{%
10807         pdfmark=/DEST,%
10808         linktype=anchor,%

```

```

10809     View=/\@pdfview \@pdfviewparams,%
10810     DestAnchor={#1}%
10811 }%
10812 \endgroup
10813 \Hy@RestoreLastskip
10814 }
10815 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10816 \Hy@WrapperDef\hyper@anchorstart#1{%
10817   \Hy@SaveLastskip
10818   \Hy@VerboseAnchor{#1}%
10819   \literalps@out{H.S}%
10820   \Hy@AllowHyphens
10821   \xdef\hyper@currentanchor{#1}%
10822   \Hy@activeanchortrue
10823 }
10824 \def\hyper@anchorend{%
10825   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10826   \pdfmark{%
10827     pdfmark=/DEST,%
10828     linktype=anchor,%
10829     View=/\@pdfview \@pdfviewparams,%
10830     DestAnchor=\hyper@currentanchor,%
10831   }%
10832   \Hy@activeanchorfalse
10833   \Hy@RestoreLastskip
10834 }
10835 \def\hyper@linkstart#1#2{%
10836   \Hy@VerboseLinkStart{#1}{#2}%
10837   \ifHy@breaklinks
10838   \else
10839     \leavevmode
10840     \ifmmode
10841       \def\Hy@LinkMath{$}%
10842     \else
10843       \let\Hy@LinkMath\ltx@empty
10844     \fi
10845     \Hy@SaveSpaceFactor
10846     \hbox\bgroup
10847     \Hy@RestoreSpaceFactor
10848     \Hy@LinkMath
10849   \fi
10850   \expandafter\Hy@colorlink\csname @#1color\endcsname
10851   \literalps@out{H.S}%
10852   \Hy@AllowHyphens
10853   \xdef\hyper@currentanchor{#2}%
10854   \gdef\hyper@currentlinktype{#1}%
10855 }
10856 \def\hyper@linkend{%
10857   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10858   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10859     \let\Hy@tempcolor\relax
10860   }{%
10861     \edef\Hy@tempcolor{%
10862       \csname @\hyper@currentlinktype bordercolor\endcsname
10863     }%
10864   }%
10865   \pdfmark{%

```

```

10866 pdfmark=/ANN,%
10867 linktype=link,%
10868 Subtype=/Link,%
10869 PDFAFlags=4,%
10870 Dest=\hyper@currentanchor,%
10871 AcroHighlight=\@pdfhighlight,%
10872 Border=\@pdfborder,%
10873 BorderStyle=\@pdfborderstyle,%
10874 Color=\Hy@tempcolor,%
10875 Raw=H.B%
10876 }%
10877 \Hy@endcolorlink
10878 \ifHy@breaklinks
10879 \else
10880 \Hy@LinkMath
10881 \Hy@SaveSpaceFactor
10882 \egroup
10883 \Hy@RestoreSpaceFactor
10884 \fi
10885 }

```

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.

```

10886 \begingroup
10887 \catcode'P=12 %
10888 \catcode'T=12 %
10889 \lowercase{\endgroup
10890 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10891 }
10892 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10893 \def\hyper@pagetransition{%
10894 \ifx\@pdfpagetransition\relax
10895 \else
10896 \ifx\@pdfpagetransition\@empty
10897 % 1. Does an old entry have to be deleted?
10898 % 2. If 1=yes, how to delete?
10899 \else
10900 \pdfmark{%
10901 pdfmark=/PUT,%
10902 Raw={%
10903 \string{ThisPage\string}%
10904 <</Trans << /S /\@pdfpagetransition\space >> >>%
10905 }%
10906 }%
10907 \fi
10908 \fi
10909 }

```

`\hyper@pageduration`

```

10910 \def\hyper@pageduration{%
10911 \ifx\@pdfpageduration\relax
10912 \else
10913 \ifx\@pdfpageduration\@empty
10914 % 1. Does an old entry have to be deleted?

```

```

10915 % 2. If 1=yes, how to delete?
10916 \else
10917 \pdfmark{%
10918 pdfmark=/PUT,%
10919 Raw={%
10920 \string{ThisPage\string}%
10921 <</Dur \@pdfpageduration>>%
10922 }%
10923 }%
10924 \fi
10925 \fi
10926 }

```

\hyper@pagehidden

```

10927 \def\hyper@pagehidden{%
10928 \ifHy@useHidKey
10929 \pdfmark{%
10930 pdfmark=/PUT,%
10931 Raw={%
10932 \string{ThisPage\string}%
10933 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10934 }%
10935 }%
10936 \fi
10937 }

10938 \g@addto@macro\Hy@EveryPageBoxHook{%
10939 \hyper@pagetransition
10940 \hyper@pageduration
10941 \hyper@pagehidden
10942 }

10943 \def\hyper@image#1#2{%
10944 \hyper@linkurl{#2}{#1}%
10945 }
10946 \def\Hy@undefinedname{UNDEFINED}
10947 \def\hyper@link#1#2#3{%
10948 \Hy@VerboseLinkStart{#1}{#2}%
10949 \ltx@ifundefined{@#1bordercolor}{%
10950 \let\Hy@tempcolor\relax
10951 }{%
10952 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10953 }%
10954 \begingroup
10955 \protected@edef\Hy@testname{#2}%
10956 \ifx\Hy@testname\@empty
10957 \Hy@Warning{%
10958 Empty destination name,\MessageBreak
10959 using '\Hy@undefinedname'%
10960 }%
10961 \let\Hy@testname\Hy@undefinedname
10962 \fi
10963 \pdfmark[{#3}]{%
10964 Color=\Hy@tempcolor,%
10965 linktype={#1},%
10966 AcroHighlight=\@pdfhighlight,%
10967 Border=\@pdfborder,%
10968 BorderStyle=\@pdfborderstyle,%

```

```

10969     pdfmark=/ANN,%
10970     Subtype=/Link,%
10971     PDFAFlags=4,%
10972     Dest=\Hy@testname
10973 }%
10974 \endgroup
10975 }
10976 \newtoks\pdf@docset
10977 \def\PDF@FinishDoc{%
10978   \Hy@UseMaketitleInfos
10979   \HyInfo@GenerateAddons
10980   \let\Hy@temp\@empty
10981   \ifx\@pdfcreationdate\@empty
10982   \else
10983     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10984   \fi
10985   \ifx\@pdfmoddate\@empty
10986   \else
10987     \expandafter\def\expandafter\Hy@temp\expandafter{%
10988       \Hy@temp
10989       ModDate=\@pdfmoddate,%
10990     }%
10991   \fi
10992   \ifx\@pdfproducer\relax
10993   \else
10994     \expandafter\def\expandafter\Hy@temp\expandafter{%
10995       \Hy@temp
10996       Producer=\@pdfproducer,%
10997     }%
10998   \fi
10999   \expandafter
11000   \pdfmark\expandafter{%
11001     \Hy@temp
11002     pdfmark=/DOCINFO,%
11003     Title=\@pdftitle,%
11004     Subject=\@pdfsubject,%
11005     Creator=\@pdfcreator,%
11006     Author=\@pdfauthor,%
11007     Keywords=\@pdfkeywords,%
11008     Trapped=\@pdftrapped
11009   }%
11010   \ifx\HyInfo@Addons\@empty
11011   \else
11012     \pdfmark{%
11013       pdfmark=/DOCINFO,%
11014       Raw={\HyInfo@Addons}%
11015     }%
11016   \fi
11017   \Hy@DisableOption{pdfauthor}%
11018   \Hy@DisableOption{pdftitle}%
11019   \Hy@DisableOption{pdfsubject}%
11020   \Hy@DisableOption{pdfcreator}%
11021   \Hy@DisableOption{pdfcreationdate}%
11022   \Hy@DisableOption{pdfmoddate}%
11023   \Hy@DisableOption{pdfproducer}%
11024   \Hy@DisableOption{pdfkeywords}%
11025   \Hy@DisableOption{pdftrapped}%

```



```

11026 \Hy@DisableOption{pdfinfo}%
11027 }
11028 \def\PDF@SetupDoc{%
11029 \def\Hy@temp{%
11030 \ifx\@pdfstartpage\@empty
11031 \else
11032 \ifx\@pdfstartview\@empty
11033 \else
11034 \edef\Hy@temp{%
11035 ,Page=\@pdfstartpage
11036 ,View=\@pdfstartview
11037 }%
11038 \fi
11039 \fi
11040 \edef\Hy@temp{%
11041 \noexpand\pdfmark{%
11042 pdfmark=/DOCVIEW,%
11043 PageMode=/\@pdfpagemode
11044 \Hy@temp
11045 }%
11046 }%
11047 \Hy@temp
11048 \ifx\@pdfpagescrop\@empty
11049 \else
11050 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11051 \fi
11052 \edef\Hy@temp{%
11053 \ifHy@toolbar\else /HideToolbar true\fi
11054 \ifHy@menubar\else /HideMenubar true\fi
11055 \ifHy>windowui\else /HideWindowUI true\fi
11056 \ifHy@fitwindow /FitWindow true\fi
11057 \ifHy@centerwindow /CenterWindow true\fi
11058 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11059 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11060 \Hy@UseNameKey{Direction}\@pdfdirection
11061 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11062 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11063 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11064 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11065 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11066 \Hy@UseNameKey{Duplex}\@pdfduplex
11067 \ifx\@pdfpicktraybypdfsize\@empty
11068 \else
11069 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11070 \fi
11071 \ifx\@pdfprintpagerange\@empty
11072 \else
11073 /PrintPageRange[\@pdfprintpagerange]%
11074 \fi
11075 \ifx\@pdfnumcopies\@empty
11076 \else
11077 /NumCopies \@pdfnumcopies
11078 \fi
11079 }%
11080 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11081 \pdfmark{%
11082 pdfmark=/PUT,%

```

```

11083 Raw={%
11084   \string{Catalog\string}<<%
11085   \ifx\Hy@temp\@empty
11086   \else
11087     /ViewerPreferences<<\Hy@temp>>%
11088   \fi
11089   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11090   \ifx\@pdflang\@empty
11091   \else
11092     /Lang(\@pdflang)%
11093   \fi
11094   \ifx\@baseurl\@empty
11095   \else
11096     /URI<</Base(\Hy@pstringB)>>%
11097   \fi
11098   >>%
11099 }%
11100 }%
11101 }
11102 </pdfmark>
11103 <*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.

```

11104 \newif\ifHy@pdfmarkerror
11105 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11106 \def\pdfmark@[#1]#2{%
11107   \Hy@pdfmarkerrorfalse
11108   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11109   \@processme
11110   \let\pdf@type\relax
11111   \kvsetkeys{PDF}{#2}%
11112   \ifHy@pdfmarkerror
11113   \else
11114     \ifx\pdf@type\relax
11115       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11116       \ifx\#1\%
11117       \else
11118         \pdf@rect{#1}%
11119       \fi
11120     \else
11121       \ifx\#1\%
11122         \literalps@out{%
11123           [\the\pdf@toks\space\pdf@type\space pdfmark%
11124         ]}%
11125       \else
11126         \ltx@ifundefined{@\pdf@linktype color}{%
11127           \Hy@colorlink\@linkcolor
11128         }{%
11129           \expandafter\Hy@colorlink
11130           \csname @\pdf@linktype color\endcsname
11131         }%
11132         \pdf@rect{#1}%
11133         \literalps@out{%

```

```

11134      [\the\pdf@toks\space\pdf@type\space pdfmark%
11135      }%
11136      \Hy@endcolorlink
11137      \fi
11138      \fi
11139      \fi
11140  }

```

The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the `/Rect` key. This solution originates with Toby Thain (toby@netspace.net.au).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

11141 \newsavebox{\pdf@box}
11142 \providecommand*{\Hy@setouterhbox}{\sbox}
11143 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11144 \def\Hy@DEST{/DEST}
11145 \def\pdf@rect#1{%
11146   \begingroup
11147   \chardef\x=1 %
11148   \def\Hy@temp{#1}%
11149   \ifx\Hy@temp\ltx@empty
11150     \chardef\x=0 %
11151   \else
11152     \def\y{\anchor@spot}%
11153     \ifx\Hy@temp\y
11154       \def\y{\relax}%
11155     \ifx\anchor@spot\y
11156       \chardef\x=0 %
11157     \fi
11158   \fi
11159   \fi
11160   \expandafter\endgroup
11161   \ifcase\x
11162     \literalps@out{H.S}%
11163     \literalps@out{H.R}%
11164   \else
11165     \leavevmode
11166     \Hy@SaveSpaceFactor
11167     \ifmmode
11168       \def\Hy@LinkMath{$}%
11169     \else
11170       \let\Hy@LinkMath\ltx@empty
11171     \fi
11172     \ifHy@breaklinks
11173       \Hy@setouterhbox\pdf@box{%
11174         \Hy@RestoreSpaceFactor
11175         \Hy@LinkMath
11176         \Hy@AllowHyphens#1\Hy@xspace@end
11177         \Hy@LinkMath
11178         \Hy@SaveSpaceFactor
11179       }%

```

```

11180 \else
11181   \sbox\pdf@box{%
11182     \Hy@RestoreSpaceFactor
11183     \Hy@LinkMath
11184     #1\Hy@xspace@end
11185     \Hy@LinkMath
11186     \Hy@SaveSpaceFactor
11187   }%
11188 \fi
11189 \dimen@ \ht\pdf@box
11190 \ifdim\dp\pdf@box=\z@
11191   \literalps@out{H.S}%
11192 \else
11193   \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11194 \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...).

```

11195 \ifHy@breaklinks
11196   \ifhmode
11197     \Hy@breaklinksunhbox\pdf@box
11198   \else
11199     \box\pdf@box
11200   \fi
11201 \else
11202   \expandafter\box\pdf@box
11203 \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

11204 \ifdim\dimen@=\z@
11205   \literalps@out{H.R}%
11206 \else
11207   \raise\dimen@\hbox{\literalps@out{H.R}}%
11208 \fi
11209 \Hy@RestoreSpaceFactor
11210 \fi
11211 \ifx\pdf@type\Hy@DEST
11212 \else
11213   \pdf@addtoksx{H.B}%
11214 \fi
11215 }

```

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.

```

11216 \newtoks\pdf@toks
11217 \newtoks\pdf@defaulttoks
11218 \pdf@defaulttoks={}%
11219 \def\pdf@addtoks#1#2{%
11220   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11221   \@processme
11222 }
11223 \def\pdf@addtoksx#1{%
11224   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11225   \@processme

```

```

11226 }
11227 \def\PDFdefaults#1{%
11228   \pdf@defaulttoks={#1}%
11229 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11230 % what is the type of pdfmark?
11231 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11232 % what is the link type?
11233 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11234 \def\pdf@linktype{link}
11235 % parameter is a stream of PDF
11236 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
11237 % parameter is a name
11238 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11239 % parameter is a array
11240 \define@key{PDF}{Border}{%
11241   \edef\Hy@temp{#1}%
11242   \ifx\Hy@temp\@empty
11243     \else
11244       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11245     \fi
11246 }
11247 \let\Hy@BorderArrayPatch\@empty
11248 % parameter is a dictionary
11249 \define@key{PDF}{BorderStyle}{%
11250   \edef\Hy@temp{#1}%
11251   \ifx\Hy@temp\@empty
11252     \else
11253       \pdf@addtoks{<<#1>>}{BS}%
11254     \fi
11255 }
11256 % parameter is a array
11257 \define@key{PDF}{Color}{%
11258   \ifx\relax#1\relax
11259     \else
11260       \pdf@addtoks{[#1]}{Color}% hash-ok
11261     \fi
11262 }
11263 % parameter is a string
11264 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11265 % parameter is a integer
11266 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11267 % parameter is a array
11268 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11269 % parameter is a string
11270 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11271 % parameter is a string or file
11272 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11273 % parameter is a destination
11274 \define@key{PDF}{Dest}{%
11275   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11276   \ifx\Hy@pstringDest\@empty
11277     \Hy@pdfmarkerrortrue
11278     \Hy@Warning{Destination with empty name ignored}%
11279   \else
11280     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11281   \fi

```

```

11282 }
11283 \define@key{PDF}{DestAnchor}{%
11284   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11285   \ifx\Hy@pstringDest\@empty
11286     \Hy@pdfmarkerrortrue
11287     \Hy@Warning{Destination with empty name ignored}%
11288   \else
11289     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11290   \fi
11291 }
11292 % parameter is a string
11293 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11294 % parameter is a string
11295 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11296 % parameter is a int
11297 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11298 \define@key{PDF}{PDFAFlags}{%
11299   \ifHy@pdfa
11300     \pdf@addtoks{#1}{F}%
11301   \fi
11302 }
11303 % parameter is a name
11304 \define@key{PDF}{AcroHighlight}{%
11305   \begingroup
11306     \edef\x{#1}%
11307     \expandafter\endgroup\ifx\x\@empty
11308     \else
11309       \pdf@addtoks{#1}{H}%
11310     \fi
11311 }
11312 % parameter is a string
11313 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11314 % parameter is a string
11315 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11316 % parameter is a string
11317 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11318 % parameter is a string
11319 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11320 % parameter is a Boolean
11321 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11322 % parameter is a integer or name
11323 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11324 % parameter is a name
11325 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11326 % parameter is a string
11327 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11328 % parameter is a array
11329 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11330 % parameter is a integer
11331 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11332 % parameter is a name
11333 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11334 % parameter is a string
11335 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11336 % parameter is a string
11337 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11338 % parameter is a string

```

```

11339 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11340 % parameter is an array
11341 \define@key{PDF}{View}{\pdf@addtoks{(#1)}{View}}% hash-ok
11342 % parameter is a string
11343 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11344 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11345 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11346 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11347 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11348 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11349 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11350 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11351 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11352 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11353 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11354 \define@key{PDF}{Trapped}{%
11355   \edef\Hy@temp{#1}%
11356   \ifx\Hy@temp\@empty
11357     \else
11358       \pdf@addtoks{/#1}{Trapped}%
11359   \fi
11360 }
11361
11362 </pdfmarkbase>
11363 (*pdfmark)
11364 \def\Acrobatmenu#1#2{%
11365   \Hy@Acrobatmenu{#1}{#2}{%
11366     \pdfmark[{#2}]{%
11367       linktype=menu,%
11368       pdfmark=/ANN,%
11369       AcroHighlight=\@pdfhighlight,%
11370       Border=\@pdfborder,%
11371       BorderStyle=\@pdfborderstyle,%
11372       Action={<< /Subtype /Named /N /#1 >>},%
11373       Subtype=/Link,%
11374       PDFAFlags=4%
11375     }%
11376   }%
11377 }

```

And now for some useful examples:

```

11378 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11379 \def\PDFNextPage@[#1]#2{%
11380   \pdfmark[{#2}]{%
11381     #1,%
11382     Border=\@pdfborder,%
11383     BorderStyle=\@pdfborderstyle,%
11384     Color=.2 .1 .5,%
11385     pdfmark=/ANN,%
11386     Subtype=/Link,%
11387     PDFAFlags=4,%
11388     Page=/Next%
11389   }%
11390 }
11391 \def\PDFPreviousPage{%
11392   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%

```

```

11393 }
11394 \def\PDFPreviousPage@{#1}#2{%
11395   \pdfmark[{#2}]{%
11396     #1,%
11397     Border=\@pdfborder,%
11398     BorderStyle=\@pdfborderstyle,%
11399     Color=.4 .4 .1,%
11400     pdfmark=/ANN,%
11401     Subtype=/Link,%
11402     PDFAFlags=4,%
11403     Page=/Prev%
11404   }%
11405 }
11406 \def\PDFOpen#1{%
11407   \pdfmark{#1,pdfmark=/DOCVIEW}%
11408 }

```

This will only work if you use Distiller 2.1 or higher.

```

11409 \def\hyper@linkurl#1#2{%
11410   \begingroup
11411     \Hy@pstringdef\Hy@pstringURI{#2}%
11412     \hyper@chars
11413     \leavevmode
11414     \pdfmark[{#1}]{%
11415       pdfmark=/ANN,%
11416       linktype=url,%
11417       AcroHighlight=\@pdfhighlight,%
11418       Border=\@pdfborder,%
11419       BorderStyle=\@pdfborderstyle,%
11420       Color=\@urlbordercolor,%
11421       Action={<<%
11422         /Subtype/URI%
11423         /URI(\Hy@pstringURI)%
11424         \ifHy@href@ismap
11425           /IsMap true%
11426         \fi
11427       >>},%
11428       Subtype=/Link,%
11429       PDFAFlags=4%
11430     }%
11431   \endgroup
11432 }
11433 \def\hyper@linkfile#1#2#3{%
11434   \begingroup
11435     \def\Hy@pstringF{#2}%
11436     \Hy@CleanupFile\Hy@pstringF
11437     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11438     \Hy@pstringdef\Hy@pstringD{#3}%
11439     \Hy@MakeRemoteAction
11440     \leavevmode
11441     \pdfmark[{#1}]{%
11442       pdfmark=/ANN,%
11443       Subtype=/Link,%
11444       PDFAFlags=4,%
11445       AcroHighlight=\@pdfhighlight,%
11446       Border=\@pdfborder,%
11447       BorderStyle=\@pdfborderstyle,%
11448       linktype=file,%

```



```

11449     Color=\@filebordercolor,%
11450     Action={%
11451     <<%
11452         /S/GoToR%
11453         \Hy@SetNewWindow
11454         /F(\Hy@pstringF)%
11455         /D%
11456         \ifx\#3\%
11457             [\Hy@href@page\@pdfremotestartview]%
11458         \else
11459             (\Hy@pstringD)cvn%
11460         \fi
11461         \Hy@href@nextactionraw
11462     >>%
11463     }%
11464 }%
11465 \endgroup
11466 }
11467 \def\@hyper@launch run:#1\#2#3{%
11468 \begingroup
11469 \Hy@pstringdef\Hy@pstringF{#1}%
11470 \Hy@pstringdef\Hy@pstringP{#3}%
11471 \leavevmode
11472 \pdfmark[{#2}]{%
11473     pdfmark=/ANN,%
11474     Subtype=/Link,%
11475     PDFAFlags=4,%
11476     AcroHighlight=\@pdfhighlight,%
11477     Border=\@pdfborder,%
11478     BorderStyle=\@pdfborderstyle,%
11479     linktype=run,%
11480     Color=\@runbordercolor,%
11481     Action={%
11482     <<%
11483         /S/Launch%
11484         \Hy@SetNewWindow
11485         /F(\Hy@pstringF)%
11486         \ifx\#3\%
11487         \else
11488             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11489         \fi
11490         \Hy@href@nextactionraw
11491     >>%
11492     }%
11493 }%
11494 \endgroup
11495 }
11496 \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.

```

11497 <*dvips>
11498 \providecommand*\XR@ext}{pdf}
11499 \let\Hy@raisedlink\ltx@empty
11500 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11501 \def\headerps@out#1{\special{! #1}}%
11502 \input{pdfmark.def}%
11503 \ifx\@pdfproducer\relax
11504 \def\@pdfproducer{dvips + Distiller}%
11505 \fi
11506 \providecommand*\@pdfborder{0 0 1}
11507 \providecommand*\@pdfborderstyle{}
11508 \providecommand*\@pdfview{XYZ}
11509 \providecommand*\@pdfviewparams{ H.V}
11510 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11511 \g@addto@macro\Hy@FirstPageHook{%
11512 \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.

```

11513 /DvipsToPDF{72.27 mul Resolution div} def%
11514 /PDFToDvips{72.27 div Resolution mul} def%
11515 /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.

```

11516 /BorderArrayPatch{%
11517 [exch{%
11518 dup dup type/integertype eq exch type/realtype eq or%
11519 {BPToDvips}if%
11520 }forall]%
11521 ]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.

```

11522 /HyperBorder {1 PDFToDvips} def%
11523 /H.V {pdf@hoff pdf@voff null} def%
11524 /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

```

11525 /H.S {%
11526 currentpoint %
11527 HyperBorder add /pdf@lly exch def %
11528 dup DvipsToPDF 72 add /pdf@hoff exch def %
11529 HyperBorder sub /pdf@llx exch def%
11530 } 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`

```

11531 /H.L {%
11532 2 sub dup%
11533 /HyperBasePt exch def %
11534 PDFToDvips /HyperBaseDvips exch def %
11535 currentpoint %
11536 HyperBaseDvips sub /pdf@ury exch def%
11537 /pdf@urx exch def%
11538 } def%
11539 /H.A {%
11540 H.L %
11541 % | /pdf@voff| = the distance from the top of the page to a point
11542 % | \baselineskip| above the current point in PDF coordinates
11543 currentpoint exch pop %
11544 vsize 72 sub exch DvipsToPDF %
11545 HyperBasePt sub % baseline skip
11546 sub /pdf@voff exch def%
11547 } def%
11548 /H.R {%
11549 currentpoint %
11550 HyperBorder sub /pdf@ury exch def %
11551 HyperBorder add /pdf@urx exch def %
11552 % | /pdf@voff| = the distance from the top of the page to the current point, in
11553 % PDF coordinates
11554 currentpoint exch pop vsize 72 sub %
11555 exch DvipsToPDF sub /pdf@voff exch def%
11556 } def%
11557 }%
11558 }
11559 \AtBeginShipoutFirst{%
11560 \ifHy@setpagesize
11561 \begingroup
11562 \@ifundefined{stockwidth}{%
11563 \ifdim\paperwidth>\z@
11564 \ifdim\paperheight>\z@
11565 \special{papersize=\the\paperwidth,\the\paperheight}%
11566 \fi
11567 \fi
11568 }{%
11569 \ifdim\stockwidth>\z@
11570 \ifdim\stockheight>\z@
11571 \special{papersize=\the\stockwidth,\the\stockheight}%
11572 \fi
11573 \fi
11574 }%
11575 \endgroup
11576 \fi
11577 \Hy@DisableOption{setpagesize}%
11578 }
11579 \</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.

```

11580 ⟨*vtexpdfmark⟩
11581 \providecommand*\XR@ext{-pdf}
11582 \let\Hy@raisedlink\ltx@empty
11583 \def\literals@out#1{\special{pS:#1}}%
11584 \def\headerps@out#1{\immediate\special{pS:#1}}%
11585 \input{pdfmark.def}%
11586 \ifx\@pdfproducer\relax
11587   \ifnum\OpMode=\@ne
11588     \def\@pdfproducer{VTeX}%
11589   \else
11590     \def\@pdfproducer{VTeX + Distiller}%
11591   \fi
11592 \fi
11593 \providecommand*\@pdfborder{0 0 1}
11594 \providecommand*\@pdfborderstyle{}
11595 \providecommand*\@pdfview{XYZ}
11596 \providecommand*\@pdfviewparams{ H.V}

11597 \g@addto@macro\Hy@FirstPageHook{%
11598   \headerps@out{%
11599     /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.

```

11600   /HyperBorder {1} def%
11601   /H.V {pdf@hoff pdf@voff null} def%
11602   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11603   /H.S {%
11604     currentpoint %
11605     HyperBorder sub%
11606     /pdf@lly exch def %
11607     dup 72 add /pdf@hoff exch def %
11608     HyperBorder sub%
11609     /pdf@llx exch def%
11610   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11611   /H.L {%
11612     2 sub%
11613     /HyperBasePt exch def %
11614     currentpoint %
11615     HyperBasePt add HyperBorder add%
11616     /pdf@ury exch def %
11617     HyperBorder add%
11618     /pdf@urx exch def%
11619   } def%
11620   /H.A {%

```

```

11621      H.L %
11622      currentpoint exch pop %
11623      vsize 72 sub exch %
11624      HyperBasePt add add%
11625      /pdf@voff exch def%
11626      } def%
pdf@ury =  $Y_c + \text{HyperBorder}$ , pdf@urx =  $X_c + \text{HyperBorder}$ 
11627      /H.R {%
11628          currentpoint %
11629          HyperBorder add%
11630          /pdf@ury exch def %
11631          HyperBorder add%
11632          /pdf@urx exch def %
11633          currentpoint exch pop vsize 72 sub add%
11634          /pdf@voff exch def%
11635      } def%
11636      }%
11637      }
11638      </vtexpdfmark>

```

46.11 Textures

```

11639 <*textures>
11640 \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.

```

11641 \begingroup
11642 \obeylines %
11643 \gdef\Hy@ps@CR{\noexpand
11644 }%
11645 \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`.

```

11646 \def\literalps@out#1{%
11647   \special{postscript 0 0 transform}%
11648   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11649 }%
11650 %

```

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.

```

11651 \def\headerps@out#1{%
11652   \special{%
11653     prepostscript TeXdict begin\Hy@ps@CR
11654       #1\Hy@ps@CR
11655     end%
11656   }%
11657 }%
11658 %

```

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.

```

11659 \g@addto@macro\Hy@FirstPageHook{%
11660   \headerps@out{%
11661     /betterpdfmark {%
11662       systemdict begin %
11663         dup /BP eq%
11664         {cleartomark gsave nulldevice []}%
11665         {dup /EP eq%
11666           {cleartomark cleartomark grestore}%
11667           {cleartomark}%
11668         ifelse%
11669       }ifelse %
11670     end%
11671   }def\Hy@ps@CR
11672   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11673 }% end of \headerps@out
11674 }% end of \AtBeginShipoutFirst
11675 %
11676 \input{pdfmark.def}%
11677 %
11678 \ifx\@pdfproducer\relax
11679   \def\@pdfproducer{Textures + Distiller}%
11680 \fi
11681 \providecommand*\@pdfborder{0 0 1}
11682 \providecommand*\@pdfborderstyle{}
11683 \providecommand*\@pdfview{XYZ}
11684 \providecommand*\@pdfviewparams{H.V}
11685 %

```

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 .

```

11686 \Hy@AtBeginDocument{%
11687   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11688     /vsize {\Hy@pageheight} def%
11689     /DvipsToPDF {} def%
11690     /PDFToDvips {} def%
11691     /BPToDvips {} def%
11692     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11693     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR

```

```

11694 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11695 /H.S {%
11696   currentpoint %
11697   HyperBorder add /pdf@lly exch def %
11698   dup DvipsToPDF 72 add /pdf@hoff exch def %
11699   HyperBorder sub /pdf@llx exch def%
11700 } def\Hy@ps@CR
11701 /H.L {%
11702   2 sub %
11703   PDFToDvips /HyperBase exch def %
11704   currentpoint %
11705   HyperBase sub /pdf@ury exch def%
11706   /pdf@urx exch def%
11707 } def\Hy@ps@CR
11708 /H.A {%
11709   H.L %
11710   currentpoint exch pop %
11711   vsize 72 sub exch DvipsToPDF %
11712   HyperBase sub % baseline skip
11713   sub /pdf@voff exch def%
11714 } def\Hy@ps@CR
11715 /H.R {%
11716   currentpoint %
11717   HyperBorder sub /pdf@ury exch def %
11718   HyperBorder add /pdf@urx exch def %
11719   currentpoint exch pop vsize 72 sub %
11720   exch DvipsToPDF sub /pdf@voff exch def%
11721 } def\Hy@ps@CR
11722 }%
11723 }

11724 \Hy@AtBeginDocument{%
11725   \ifHy@colorlinks
11726     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11727   \fi
11728 }

```

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.

```

11729 \expandafter\let\expandafter\keepPDF@SetupDoc
11730   \csname PDF@SetupDoc\endcsname
11731 \def\PDF@SetupDoc{%
11732   \ifx\@baseurl\@empty
11733   \else
11734     \special{html:<base href="\@baseurl">}%
11735   \fi
11736   \keepPDF@SetupDoc
11737 }

11738 \Hy@WrapperDef\hyper@anchor#1{%
11739   \Hy@SaveLastskip
11740   \Hy@VerboseAnchor{#1}%
11741   \begingroup
11742     \let\protect=\string
11743     \special{html:<a name=%
11744       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11745   \endgroup
11746   \Hy@activeanchortrue
11747   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

11748 \special{html:</a>}%
11749 \Hy@activeanchorfalse
11750 \Hy@RestoreLastskip
11751 }
11752 \Hy@WrapperDef\hyper@anchorstart#1{%
11753 \Hy@SaveLastskip
11754 \Hy@VerboseAnchor{#1}%
11755 \begingroup
11756 \hyper@chars
11757 \special{html:<a name=%
11758 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11759 \endgroup
11760 \Hy@activeanchortrue
11761 }
11762 \def\hyper@anchorend{%
11763 \special{html:</a>}%
11764 \Hy@activeanchorfalse
11765 \Hy@RestoreLastskip
11766 }
11767 \def\@urlltype{url}
11768 \def\hyper@linkstart#1#2{%
11769 \Hy@VerboseLinkStart{#1}{#2}%
11770 \expandafter\Hy@colorlink\csname @#1color\endcsname
11771 \def\Hy@tempa{#1}%
11772 \ifx\Hy@tempa\@urlltype
11773 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11774 \else
11775 \begingroup
11776 \hyper@chars
11777 \special{%
11778 html:<a href=%
11779 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11780 }%
11781 \endgroup
11782 \fi
11783 }
11784 \def\hyper@linkend{%
11785 \special{html:</a>}%
11786 \Hy@endcolorlink
11787 }
11788 \def\hyper@linkfile#1#2#3{%
11789 \hyper@linkurl{#1}{%
11790 \Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi
11791 }%
11792 }
11793 \def\hyper@linkurl#1#2{%
11794 \leavevmode
11795 \ifHy@raiselinks
11796 \Hy@SaveSpaceFactor
11797 \Hy@SaveSavedSpaceFactor
11798 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11799 \Hy@RestoreSavedSpaceFactor
11800 \@linkdim\dp\@tempboxa
11801 \lower\@linkdim\hbox{%
11802 \hyper@chars
11803 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11804 }%

```



```

11805 \Hy@colorlink\@urlcolor
11806 \Hy@RestoreSpaceFactor
11807 #1\Hy@xspace@end
11808 \Hy@SaveSpaceFactor
11809 \@linkdim\ht\@tempboxa
11810 \advance\@linkdim by -6.5\p@
11811 \raise\@linkdim\hbox{\special{html:</a>}}%
11812 \Hy@endcolorlink
11813 \Hy@RestoreSpaceFactor
11814 \else
11815 \begingroup
11816 \hyper@chars
11817 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11818 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11819 \special{html:</a>}}%
11820 \Hy@endcolorlink
11821 \endgroup
11822 \fi
11823 }

```

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

```

11824 \def\hyper@link#1#2#3{%
11825 \Hy@VerboseLinkStart{#1}{#2}%
11826 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
11827 }
11828 \def\hyper@image#1#2{%
11829 \begingroup
11830 \hyper@chars
11831 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11832 \endgroup
11833 }
11834 </textures>

```

46.12 dvipsone

```

11835 % \subsection{dvipsone driver}
11836 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11837 % |\special| commands.
11838 <*dvipsone>
11839 \providecommand*\XR@ext}{pdf}
11840 \let\Hy@raisedlink\ltx@empty
11841 \providecommand*\@pdfborder{0 0 1}
11842 \providecommand*\@pdfborderstyle{}
11843 \def\literalps@out#1{\special{ps:#1}}%
11844 \def\headerps@out#1{\special{headertext=#1}}%
11845 \input{pdfmark.def}%
11846 \ifx\@pdfproducer\relax
11847 \def\@pdfproducer{dvipsone + Distiller}%
11848 \fi
11849 \HyInfo@AddonUnsupportedtrue
11850 \def\PDF@FinishDoc{%
11851 \Hy@UseMaketitleInfos
11852 \HyInfo@TrappedUnsupported
11853 \special{PDF: Keywords \@pdfkeywords}%
11854 \special{PDF: Title \@pdftitle}%
11855 \special{PDF: Creator \@pdfcreator}%
11856 \ifx\@pdfcreationdate\@empty
11857 \else

```

```

11858 \special{PDF: CreationDate \@pdfcreationdate}%
11859 \fi
11860 \ifx\@pdfmoddate\@empty
11861 \else
11862 \special{PDF: ModDate \@pdfmoddate}%
11863 \fi
11864 \special{PDF: Author \@pdfauthor}%
11865 \ifx\@pdfproducer\relax
11866 \else
11867 \special{PDF: Producer \@pdfproducer}%
11868 \fi
11869 \special{PDF: Subject \@pdfsubject}%
11870 \Hy@DisableOption{pdfauthor}%
11871 \Hy@DisableOption{pdftitle}%
11872 \Hy@DisableOption{pdfsubject}%
11873 \Hy@DisableOption{pdfcreator}%
11874 \Hy@DisableOption{pdfcreationdate}%
11875 \Hy@DisableOption{pdfmoddate}%
11876 \Hy@DisableOption{pdfproducer}%
11877 \Hy@DisableOption{pdfkeywords}%
11878 \Hy@DisableOption{pdftrapped}%
11879 \Hy@DisableOption{pdfinfo}%
11880 }
11881 \def\PDF@SetupDoc{%
11882 \def\Hy@temp{}%
11883 \ifx\@pdfstartpage\@empty
11884 \else
11885 \ifx\@pdfstartview\@empty
11886 \else
11887 \edef\Hy@temp{%
11888 ,Page=\@pdfstartpage
11889 ,View=\@pdfstartview
11890 }%
11891 \fi
11892 \fi
11893 \edef\Hy@temp{%
11894 \noexpand\pdfmark{%
11895 pdfmark=/DOCVIEW,%
11896 PageMode=/\@pdfpagemode
11897 \Hy@temp
11898 }%
11899 }%
11900 \Hy@temp
11901 \ifx\@pdfpagescrop\@empty
11902 \else
11903 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11904 \fi
11905 \edef\Hy@temp{%
11906 \ifHy@toolbar\else /HideToolbar true\fi
11907 \ifHy@menubar\else /HideMenubar true\fi
11908 \ifHy>windowui\else /HideWindowUI true\fi
11909 \ifHy@fitwindow /FitWindow true\fi
11910 \ifHy@centerwindow /CenterWindow true\fi
11911 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11912 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11913 \Hy@UseNameKey{Direction}\@pdfdirection
11914 \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

11915 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11916 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11917 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11918 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11919 \Hy@UseNameKey{Duplex}\@pdfduplex
11920 \ifx\@pdfpicktraybypdfsize\@empty
11921 \else
11922 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11923 \fi
11924 \ifx\@pdfprintpagerange\@empty
11925 \else
11926 /PrintPageRange\@pdfprintpagerange]%
11927 \fi
11928 \ifx\@pdfnumcopies\@empty
11929 \else
11930 /NumCopies \@pdfnumcopies
11931 \fi
11932 }%
11933 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11934 \pdfmark{%
11935 pdfmark=/PUT,%
11936 Raw={%
11937 \string{Catalog\string}<<%
11938 \ifx\Hy@temp\@empty
11939 \else
11940 /ViewerPreferences<<\Hy@temp>>%
11941 \fi
11942 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11943 \ifx\@pdflang\@empty
11944 \else
11945 /Lang(\@pdflang)%
11946 \fi
11947 \ifx\@baseurl\@empty
11948 \else
11949 /URI<</Base(\Hy@pstringB)>>%
11950 \fi
11951 >>%
11952 }%
11953 }%
11954 }
11955 \providecommand*\@pdfview{XYZ}
11956 \providecommand*\@pdfviewparams{ %
11957 gsave revscl currentpoint grestore %
11958 72 add exch pop null exch null%
11959 }
11960 \def\Hy@BorderArrayPatch{BorderArrayPatch}

These are called at the start and end of unboxed links; their job is to leave available PS
variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the
bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets.
These latter are currently not used in the dvipsone setup. The Rect pair are called at the
LL and UR corners of a box known to  $\TeX$ .
11961 \g@addto@macro\Hy@FirstPageHook{%
11962 \headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
11963 /DvipsToPDF { 65781 div } def%
11964 /PDFToDvips { 65781 mul } def%

```

```

11965 /BPToDvips{65781 mul}def%
11966 /HyperBorder { 1 PDFToDvips } def%
11967 /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.

```

11968 /BorderArrayPatch{%
11969   [exch{%
11970     dup dup type/integertype eq exch type/realtype eq or%
11971     {BPToDvips}if%
11972   }forall]%
11973 }def%

11974 /H.S {%
11975   currentpoint %
11976   HyperBorder add /pdf@lly exch def %
11977   dup DvipsToPDF 72 add /pdf@hoff exch def %
11978   HyperBorder sub /pdf@llx exch def%
11979 } def%

11980 /H.L {%
11981   2 sub %
11982   PDFToDvips /HyperBase exch def %
11983   currentpoint %
11984   HyperBase sub /pdf@ury exch def%
11985   /pdf@urx exch def%
11986 } def%

11987 /H.A {%
11988   H.L %
11989   currentpoint exch pop %
11990   HyperBase sub % baseline skip
11991   DvipsToPDF /pdf@voff exch def%
11992 } def%

11993 /H.R {%
11994   currentpoint %
11995   HyperBorder sub /pdf@ury exch def %
11996   HyperBorder add /pdf@urx exch def %
11997   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11998 } def%
11999 }%
12000 }
12001 </dvipsone>

```

46.13 TeX4ht

```

12002 <*tex4ht>
12003 \providecommand*{\XR@ext}{html}
12004 \let\Hy@raisedlink\ltx@empty
12005 \@ifpackageloaded{tex4ht}{%
12006   \Hy@InfoNoLine{tex4ht is already loaded}%
12007 }{%
12008   \RequirePackage[hx4ht]{tex4ht}%
12009 }
12010 \hyperlinkfileprefix{}
12011 \let\PDF@FinishDoc\ltx@empty
12012 \def\PDF@SetupDoc{%
12013   \ifx\@baseurl\@empty
12014   \else
12015     \special{t4ht=<base href="\@baseurl">}%

```

```

12016 \fi
12017 }
12018 \Hy@WrapperDef\hyper@anchor#1{%
12019 \Hy@SaveLastskip
12020 \Hy@VerboseAnchor{#1}%
12021 \begingroup
12022 \let\protect=\string
12023 \special{t4ht=<a name=%
12024 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12025 \endgroup
12026 \Hy@activeanchortrue
12027 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12028 \special{t4ht=</a>}%
12029 \Hy@activeanchorfalse
12030 \Hy@RestoreLastskip
12031 }
12032 \Hy@WrapperDef\hyper@anchorstart#1{%
12033 \Hy@SaveLastskip
12034 \Hy@VerboseAnchor{#1}%
12035 \begingroup
12036 \hyper@chars\special{t4ht=<a name=%
12037 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12038 \endgroup
12039 \Hy@activeanchortrue
12040 }
12041 \def\hyper@anchorend{%
12042 \special{t4ht=</a>}%
12043 \Hy@activeanchorfalse
12044 \Hy@RestoreLastskip
12045 }
12046 \def\@urlltype{url}
12047 \def\hyper@linkstart#1#2{%
12048 \Hy@VerboseLinkStart{#1}{#2}%
12049 \expandafter\Hy@colorlink\csname @#1color\endcsname
12050 \def\Hy@tempa{#1}%
12051 \ifx\Hy@tempa\@urlltype
12052 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12053 \else
12054 \begingroup
12055 \hyper@chars
12056 \special{t4ht=<a href=%
12057 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12058 \endgroup
12059 \fi
12060 }
12061 \def\hyper@linkend{%
12062 \special{t4ht=</a>}%
12063 \Hy@endcolorlink
12064 }
12065 \def\hyper@linkfile#1#2#3{%
12066 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
12067 }
12068 \def\hyper@linkurl#1#2{%
12069 \leavevmode
12070 \ifHy@raiselinks
12071 \Hy@SaveSpaceFactor
12072 \Hy@SaveSavedSpaceFactor

```

```

12073 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12074 \Hy@RestoreSavedSpaceFactor
12075 \@linkdim\dp\@tempboxa
12076 \lower\@linkdim\hbox{%
12077   \begingroup
12078     \hyper@chars
12079     \special{%
12080       t4ht=<a href=\hyper@quote#2\hyper@quote>%
12081     }%
12082   \endgroup
12083 }%
12084 \Hy@colorlink\@urlcolor
12085 \Hy@RestoreSpaceFactor
12086 #1\Hy@xspace@end
12087 \Hy@SaveSpaceFactor
12088 \Hy@endcolorlink
12089 \@linkdim\ht\@tempboxa
12090 \advance\@linkdim by -6.5\p@
12091 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12092 \Hy@RestoreSpaceFactor
12093 \else
12094 \begingroup
12095   \hyper@chars
12096   \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12097   \Hy@colorlink\@urlcolor
12098   #1\Hy@xspace@end
12099   \Hy@endcolorlink
12100   \special{t4ht=</a>}%
12101 \endgroup
12102 \fi
12103 }

```

Poor implementation of \hyper@link without considering #1.

```

12104 \def\hyper@link#1#2#3{%
12105   \Hy@VerboseLinkStart{#1}{#2}%
12106   \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
12107 }
12108 \def\hyper@image#1#2{%
12109   \begingroup
12110     \hyper@chars
12111     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12112   \endgroup
12113 }
12114 \let\autoref\ref
12115 \ifx \rEfLiNK \UnDef
12116   \def\rEfLiNK #1#2{#2}%
12117 \fi
12118 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12119 \AtBeginDocument{%
12120   \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12121   \expandafter\def\csname Make:Label\endcsname#1#2{%
12122     \ifhmode
12123       \Hy@SaveSpaceFactor
12124     \else
12125       \global\Hy@SavedSpaceFactor=1000 %
12126     \fi
12127     \Hy@OrgMakeLabel{#1}{#2}%

```

```

12128 \Hy@RestoreSpaceFactor
12129 #2\Hy@xspace@end%
12130 \Hy@SaveSpaceFactor
12131 }%
12132 \Hy@RestoreSpaceFactor
12133 }%
12134 }
12135 </tex4ht>
12136 <*tex4htcfg>
12137 \IfFileExists{\jobname.cfg}{\endinput}{}
12138 \Preamble{html}
12139 \begin{document}%
12140 \EndPreamble
12141 \def\TeX{\TeX}
12142 \def\OMEGA{\Omega}
12143 \def\LaTeX{\LaTeX}
12144 \def\LaTeXe{\LaTeX2e}
12145 \def\TeXe{\TeX}
12146 \def\MF{Metafont}
12147 \def\MP{MetaPost}
12148 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12149 <*pdfmark>
12150 \long\def\@Form[#1]{%
12151 \g@addto@macro\Hy@FirstPageHook{%
12152 \headerps@out{%
12153 [%
12154 /_objdef{pdfDocEncoding}%
12155 /type/dict%
12156 /OBJ pdfmark%
12157 [%
12158 {pdfDocEncoding}%
12159 <<%
12160 /Type/Encoding%
12161 /Differences%
12162 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12163 /tilde %
12164 39/quotesingle %
12165 96/grave %
12166 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12167 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12168 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12169 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12170 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12171 164/currency %
12172 166/brokenbar %
12173 168/dieresis/copyright/ordfeminine %
12174 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12175 /twosuperior/threesuperior/acute/mu %
12176 183/periodcentered/cedilla/onesuperior/ordmasculine %
12177 188/onequarter/onehalf/threequarters %
12178 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12179 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12180 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%

```

```

12181      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12182      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12183      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12184      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12185      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
12186      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12187      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12188  ]%
12189  >>%
12190 /PUT pdfmark%
12191 [%
12192   /__objdef{ZaDb}%
12193   /type/dict%
12194 /OBJ pdfmark%
12195 [%
12196  {ZaDb}%
12197  <<%
12198   /Type/Font%
12199   /Subtype/Type1%
12200   /Name/ZaDb%
12201   /BaseFont/ZapfDingbats%
12202  >>%
12203 /PUT pdfmark%
12204 [%
12205   /__objdef{Helv}%
12206   /type/dict%
12207 /OBJ pdfmark%
12208 [%
12209  {Helv}%
12210  <<%
12211   /Type/Font%
12212   /Subtype/Type1%
12213   /Name/Helv%
12214   /BaseFont/Helvetica%
12215   /Encoding{pdfDocEncoding}%
12216  >>%
12217 /PUT pdfmark%
12218 [%
12219   /__objdef{aform}%
12220   /type/dict%
12221 /OBJ pdfmark%
12222 [%
12223   /__objdef{afields}%
12224   /type/array%
12225 /OBJ pdfmark%
12226 {%
12227  [%
12228   /BBox[0 0 100 100]%
12229   /__objdef{Check}%
12230 /BP pdfmark %
12231  1 0 0 setrgbcolor%
12232 /ZapfDingbats 80 selectfont %
12233  20 20 moveto%
12234  (4)show%
12235 [/EP pdfmark%
12236 [%
12237   /BBox[0 0 100 100]%

```



```

12238  /_objdef{Cross}%
12239  /BP pdfmark %
12240  1 0 0 setrgbcolor%
12241  /ZapfDingbats 80 selectfont %
12242  20 20 moveto%
12243  (8)show%
12244  [/EP pdfmark%
12245  [%
12246  /BBox[0 0 250 100]%
12247  /_objdef{Submit}%
12248  /BP pdfmark %
12249  0.6 setgray %
12250  0 0 250 100 rectfill %
12251  1 setgray %
12252  2 2 moveto %
12253  2 98 lineto %
12254  248 98 lineto %
12255  246 96 lineto %
12256  4 96 lineto %
12257  4 4 lineto %
12258  fill %
12259  0.34 setgray %
12260  248 98 moveto %
12261  248 2 lineto %
12262  2 2 lineto %
12263  4 4 lineto %
12264  246 4 lineto %
12265  246 96 lineto %
12266  fill%
12267  /Helvetica 76 selectfont %
12268  0 setgray %
12269  8 22.5 moveto%
12270  (Submit)show%
12271  [/EP pdfmark%
12272  [%
12273  /BBox[0 0 250 100]%
12274  /_objdef{SubmitP}%
12275  /BP pdfmark %
12276  0.6 setgray %
12277  0 0 250 100 rectfill %
12278  0.34 setgray %
12279  2 2 moveto %
12280  2 98 lineto %
12281  248 98 lineto %
12282  246 96 lineto %
12283  4 96 lineto %
12284  4 4 lineto %
12285  fill %
12286  1 setgray %
12287  248 98 moveto %
12288  248 2 lineto %
12289  2 2 lineto %
12290  4 4 lineto %
12291  246 4 lineto %
12292  246 96 lineto %
12293  fill%
12294  /Helvetica 76 selectfont %

```

```

12295 0 setgray %
12296 10 20.5 moveto%
12297 (Submit)show%
12298 [/EP pdfmark%
12299 } ?pdfmark%
12300 [%
12301 {aform}%
12302 <<%
12303 /Fields{afields}%
12304 /DR<<%
12305 /Font<<%
12306 /ZaDb{ZaDb}%
12307 /Helv{Helv}%
12308 >>%
12309 >>%
12310 /DA(/Helv 10 Tf 0 g)%
12311 /CO{corder}%
12312 \ifHy@pdfa
12313 \else
12314 \ifHyField@NeedAppearances
12315 /NeedAppearances true%
12316 \fi
12317 \fi
12318 >>%
12319 /PUT pdfmark%
12320 [%
12321 {Catalog}%
12322 <<%
12323 /AcroForm{aform}%
12324 >>%
12325 /PUT pdfmark%
12326 [%
12327 /__objdef{corder}%
12328 /type/array%
12329 /OBJ pdfmark% dps
12330 }}%
12331 \kvsetkeys{Form}{#1}%
12332 }
12333 \let\@endForm\ltx@empty
12334 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12335 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12336 }
12337 \def\@TextField[#1]#2{% parameters, label
12338 \def\Fld@name{#2}%
12339 \let\Fld@default\ltx@empty
12340 \let\Fld@value\@empty
12341 \def\Fld@width{\DefaultWidthofText}%
12342 \def\Fld@height{%
12343 \ifFld@multiline
12344 \DefaultHeightofTextMultiline
12345 \else
12346 \DefaultHeightofText
12347 \fi
12348 }%
12349 \begingroup
12350 \expandafter\HyField@SetKeys\expandafter{%
12351 \DefaultOptionsofText,#1%

```

```

12352 }%
12353 \HyField@FlagsText
12354 \ifFld@hidden\def\Fld@width{1sp}\fi
12355 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
12356 \LayoutTextField{#2}{%
12357   \Hy@escapeform\PDFForm@Text
12358   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12359     pdfmark=/ANN,Raw={\PDFForm@Text}%
12360   }%
12361 }%
12362 \endgroup
12363 }
12364 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12365   \def\Fld@name{#2}%
12366   \let\Fld@default\relax
12367   \let\Fld@value\relax
12368   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12369   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12370   \begingroup
12371     \Fld@menulength=0 %
12372     \@tempdima\z@
12373     \@for\@curropt:=#3\do{%
12374       \expandafter\Fld@checkequals\@curropt==\%
12375       \Hy@StepCount\Fld@menulength
12376       \settowidth{\@tempdimb}{\@currDisplay}%
12377       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12378     }%
12379     \advance\@tempdima by 15\p@
12380     \begingroup
12381       \HyField@SetKeys{#1}%
12382     \edef\x{\endgroup
12383       \noexpand\expandafter
12384       \noexpand\HyField@SetKeys
12385       \noexpand\expandafter{%
12386         \expandafter\noexpand\csname DefaultOptionsof%
12387           \ifFld@radio
12388             Radio%
12389           \else
12390             \ifFld@combo
12391               \ifFld@popdown
12392                 PopdownBox%
12393               \else
12394                 ComboBox%
12395             \fi
12396           \else
12397             ListBox%
12398           \fi
12399         \fi
12400       \endcsname
12401     }%
12402   }\x
12403   \HyField@SetKeys{#1}%
12404   \ifFld@hidden\def\Fld@width{1sp}\fi
12405   \ifx\Fld@value\relax
12406     \let\Fld@value\Fld@default
12407   \fi
12408   \LayoutChoiceField{#2}{%

```

```

12409 \ifFld@radio
12410 \HyField@FlagsRadioButton
12411 \@@Radio{#3}%
12412 \else
12413 \begingroup
12414 \HyField@FlagsChoice
12415 \ifdim\Fld@width<\@tempdima
12416 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12417 \edef\Fld@width{\the\@tempdima}%
12418 \fi
12419 \ifFld@combo
12420 \else
12421 \@tempdima=\the\Fld@menulength\Fld@charsize
12422 \advance\@tempdima by \Fld@borderwidth bp %
12423 \advance\@tempdima by \Fld@borderwidth bp %
12424 \edef\Fld@height{\the\@tempdima}%
12425 \fi
12426 \@@ListBox{#3}%
12427 \endgroup
12428 \fi
12429 }%
12430 \endgroup
12431 }
12432 \def\@@Radio#1{%
12433 \Fld@listcount=0 %
12434 \EdefEscapeName\Fld@default{\Fld@default}%
12435 \@for\@curropt:=#1\do{%
12436 \expandafter\Fld@checkequals\@curropt==\%
12437 \EdefEscapeName\@currValue{\@currValue}%
12438 \Hy@StepCount\Fld@listcount
12439 \@currDisplay\space
12440 \Hy@escapeform\PDFForm@Radio
12441 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12442 pdfmark=/ANN,%
12443 Raw={%
12444 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12445 }%
12446 } % deliberate space between radio buttons
12447 }%
12448 }
12449 \newcount\Fld@listcount
12450 \def\@@ListBox#1{%
12451 \HyField@PDFChoices{#1}%
12452 \Hy@escapeform\PDFForm@List
12453 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12454 pdfmark=/ANN,Raw={\PDFForm@List}%
12455 }%
12456 }
12457 \def\@PushButton[#1]#2{% parameters, label
12458 \def\Fld@name{#2}%
12459 \begingroup
12460 \expandafter\HyField@SetKeys\expandafter{%
12461 \DefaultOptionsofPushButton,#1%
12462 }%
12463 \ifHy@pdfa
12464 \Hy@Error{%
12465 PDF/A: Push button with JavaScript is prohibited%

```

```

12466     }\@ehc
12467     \LayoutPushButtonField{%
12468         \leavevmode
12469         \MakeButtonField{#2}%
12470     }%
12471 \else
12472     \HyField@FlagsPushButton
12473     \ifFld@hidden\def\Fld@width{1sp}\fi
12474     \LayoutPushButtonField{%
12475         \leavevmode
12476         \Hy@escapeform\PDFForm@Push
12477         \pdfmark[\MakeButtonField{#2}]{%
12478             pdfmark=/ANN,Raw={\PDFForm@Push}%
12479         }%
12480     }%
12481 \fi
12482 \endgroup
12483 }
12484 \def\@Submit[#1]#2{%
12485     \def\Fld@width{\DefaultWidthofSubmit}%
12486     \def\Fld@height{\DefaultHeightofSubmit}%
12487     \begingroup
12488         \expandafter\HyField@SetKeys\expandafter{%
12489             \DefaultOptionsofSubmit,#1%
12490         }%
12491         \HyField@FlagsPushButton
12492         \HyField@FlagsSubmit
12493         \ifFld@hidden\def\Fld@width{1sp}\fi
12494         \Hy@escapeform\PDFForm@Submit
12495         \pdfmark[\MakeButtonField{#2}]{%
12496             pdfmark=/ANN,%
12497             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12498         }%
12499     \endgroup
12500 }
12501 \def\@Reset[#1]#2{%
12502     \def\Fld@width{\DefaultWidthofReset}%
12503     \def\Fld@height{\DefaultHeightofReset}%
12504     \begingroup
12505         \expandafter\HyField@SetKeys\expandafter{%
12506             \DefaultOptionsofReset,#1%
12507         }%
12508         \leavevmode
12509         \ifHy@pdfa
12510             \Hy@Error{%
12511                 PDF/A: Reset action is prohibited%
12512             }\@ehc
12513             \MakeButtonField{#2}%
12514         \else
12515             \HyField@FlagsPushButton
12516             \ifFld@hidden\def\Fld@width{1sp}\fi
12517             \Hy@escapeform\PDFForm@Reset
12518             \pdfmark[\MakeButtonField{#2}]{%
12519                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12520             }%
12521         \fi
12522     \endgroup

```

```

12523 }%
12524 \def\@CheckBox[#1]#2{% parameters, label
12525   \def\Fld@name{#2}%
12526   \def\Fld@default{0}%
12527   \begingroup
12528     \def\Fld@width{\DefaultWidthofCheckBox}%
12529     \def\Fld@height{\DefaultHeightofCheckBox}%
12530     \expandafter\HyField@SetKeys\expandafter{%
12531       \DefaultOptionsofCheckBox,#1%
12532     }%
12533     \HyField@FlagsCheckBox
12534     \ifFld@hidden\def\Fld@width{1sp}\fi
12535     \LayoutCheckField{#2}{%
12536       \Hy@escapeform\PDFForm@Check
12537       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12538         pdfmark=/ANN,Raw={\PDFForm@Check}%
12539       }%
12540     }%
12541   \endgroup
12542 }
12543 \</pdfmark>

```

47.2 HyperTeX

```

12544 \<*hypertext>
12545 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12546 \let\@endForm\ltx@empty
12547 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12548   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12549 }
12550 \def\@TextField[#1]#2{% parameters, label
12551   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12552 }
12553 \def\@CheckBox[#1]#2{% parameters, label
12554   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12555 }
12556 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12557   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12558 }
12559 \def\@PushButton[#1]#2{% parameters, label
12560   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12561 }
12562 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12563 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12564 \</hypertext>

```

47.3 TeX4ht

```

12565 \<*tex4ht>
12566 \def\@Form[#1]{%
12567   \kvsetkeys{Form}{#1}%
12568   \HCode{<form action="\Form@action" method="\Form@method">}%
12569 }
12570 \def\@endForm{\HCode{</form>}}
12571 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12572   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12573 }
12574 \def\@TextField[#1]#2{% parameters, label
12575   \let\Hy@reserved@a\@empty

```

```

12576 \def\Fld@name{#2}%
12577 \let\Fld@default\ltx@empty
12578 \bgroup
12579 \Field@toks={ }%
12580 \kvsetkeys{Field}{#1}%
12581 \HCode{<label for="\Fld@name">#2</label>}%
12582 \ifFld@password
12583 \@@PasswordField
12584 \else
12585 \@@TextField
12586 \fi
12587 \egroup
12588 }
12589 \def\@@PasswordField{%
12590 \HCode{%
12591 <input type="password" %
12592 id="\Fld@name" %
12593 name="\Fld@name" %
12594 \ifFld@hidden type="hidden" \fi
12595 value="\Fld@default" %
12596 \the\Field@toks
12597 >%
12598 }%
12599 }
12600 \def\@@TextField{%
12601 \ifFld@multiline
12602 \HCode{<textarea %
12603 \ifFld@readonly readonly \fi
12604 id="\Fld@name" %
12605 name="\Fld@name" %
12606 \ifFld@hidden type="hidden" \fi
12607 \the\Field@toks>%
12608 }%
12609 \Fld@default
12610 \HCode{</textarea>}}%
12611 \else
12612 \HCode{<input type="text" %
12613 \ifFld@readonly readonly \fi
12614 id="\Fld@name" %
12615 name="\Fld@name" %
12616 \ifFld@hidden type="hidden" \fi
12617 value="\Fld@default" %
12618 \the\Field@toks>%
12619 }%
12620 \fi
12621 }
12622 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12623 \def\Fld@name{#2}%
12624 \let\Fld@default\ltx@empty
12625 \let\Hy@reserved@a\relax
12626 \begingroup
12627 \expandafter\Fld@findlength#3\\%
12628 \Field@toks={ }%
12629 \kvsetkeys{Field}{#1}%
12630 #2%
12631 \ifFld@radio
12632 \expandafter\@@Radio#3\\%

```

```

12633 \else
12634 \expandafter\@@Menu#3\\%
12635 \fi
12636 \endgroup
12637 }
12638 \def\Fld@findlength#1\\{%
12639 \Fld@menulength=0 %
12640 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12641 }
12642 \def\@@Menu#1\\{%
12643 \HCode{<select size="\the\Fld@menulength" %
12644 name="\Fld@name" %
12645 \the\Field@toks>%
12646 }%
12647 \@for\@curropt:=#1\do{%
12648 \expandafter\Fld@checkequals\@curropt==\\%
12649 \HCode{<option %
12650 \ifx\@curropt\Fld@default selected \fi
12651 value="\@currValue">\@currDisplay</option>%
12652 }%
12653 }%
12654 \HCode{</select>}}%
12655 }
12656 \def\@@Radio#1\\{%
12657 \@for\@curropt:=#1\do{%
12658 \expandafter\Fld@checkequals\@curropt==\\%
12659 \HCode{<input type="radio" %
12660 \ifx\@curropt\Fld@default checked \fi
12661 name="\Fld@name" %
12662 value="\@currValue" %
12663 \the\Field@toks>%
12664 }%
12665 \@currDisplay
12666 }%
12667 }
12668 \def\@PushButton[#1]#2{% parameters, label
12669 \def\Fld@name{#2}%
12670 \bgroup
12671 \Field@toks={ }%
12672 \kvsetkeys{Field}{#1}%
12673 \HCode{<input type="button" %
12674 name="\Fld@name" %
12675 value="#2" %
12676 \the\Field@toks>%
12677 }%
12678 \HCode{</button>}}%
12679 \egroup
12680 }
12681 \def\@Submit[#1]#2{%
12682 \HCode{<button type="submit">#2</button>}}%
12683 }
12684 \def\@Reset[#1]#2{%
12685 \HCode{<button type="reset">#2</button>}}%
12686 }
12687 \def\@CheckBox[#1]#2{% parameters, label
12688 \let\Hy@reserved@a\@empty
12689 \def\Fld@name{#2}%

```



```

12690 \def\Fld@default{0}%
12691 \bgroup
12692 \Field@toks={ }%
12693 \kvsetkeys{Field}{#1}%
12694 \HCode{<input type="checkbox" %
12695 \ifFld@checked checked \fi
12696 \ifFld@disabled disabled \fi
12697 \ifFld@readonly readonly \fi
12698 name="\Fld@name" %
12699 \ifFld@hidden type="hidden" \fi
12700 value="\Fld@default" %
12701 \the\Field@toks>%
12702 #2%
12703 }%
12704 \egroup
12705 }
12706 </tex4ht>

```

47.4 pdfTeX

```

12707 <*pdfTeX>
12708 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12709 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12710 }
12711 \def\MakeFieldObject#1#2{\sbox0{#1}%
12712 \immediate\pdfxform0 %
12713 \expandafter\edef\csname #2Object\endcsname{%
12714 \the\pdfastxform\space 0 R%
12715 }%
12716 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12717 }%
12718 \let\HyField@afields\ltx@empty
12719 \begingroup\expandafter\expandafter\expandafter\endgroup
12720 \expandafter\ifx\csname pdfastlink\endcsname\relax
12721 \let\HyField@AddToFields\relax
12722 \PackageInfo{hyperref}{%
12723 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12724 \MessageBreak
12725 Adobe Reader/Acrobat accepts an empty /Field array,%
12726 \MessageBreak
12727 but other PDF viewers might complain%
12728 }%
12729 \else
12730 \let\HyField@AuxAddToFields\ltx@gobble
12731 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12732 \Hy@AtBeginDocument{%
12733 \if@filesw
12734 \immediate\write\@mainaux{%
12735 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12736 }%
12737 \fi
12738 \let\HyField@AfterAuxOpen\@firstofone
12739 \def\HyField@AuxAddToFields#1{%
12740 \xdef\HyField@afields{%
12741 \ifx\HyField@afields\@empty
12742 \else
12743 \HyField@afields
12744 \space

```

```

12745     \fi
12746     #1 0 R%
12747   }%
12748 }%
12749 }%
12750 \def\HyField@AddToFields{%
12751   \expandafter\HyField@@AddToFields\expandafter{%
12752     \the\pdfastlink
12753   }%
12754 }%
12755 \def\HyField@@AddToFields#1{%
12756   \HyField@AfterAuxOpen{%
12757     \if@filesw
12758       \write\@mainaux{%
12759         \string\HyField@AuxAddToFields{#1}%
12760       }%
12761     \fi
12762   }%
12763 }%
12764 \fi
12765 \def\@Form[#1]{%
12766   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12767   \kvsetkeys{Form}{#1}%
12768   \pdf@ifdraftmode{}{%
12769     \Hy@FormObjects
12770     \ifnum\pdfTeXversion>13 %
12771       \pdfrefobj\OBJ@pdfdocencoding
12772       \pdfrefobj\OBJ@ZaDb
12773       \pdfrefobj\OBJ@Helv
12774     \fi
12775     \AtVeryEndDocument{%
12776       \immediate\pdfobj{%
12777         <<%
12778           /Fields[\HyField@afields]%
12779           /DR<<%
12780             /Font<<%
12781               /ZaDb \OBJ@ZaDb\space 0 R%
12782               /Helv \OBJ@Helv\space 0 R%
12783             >>%
12784           >>%
12785           /DA(/Helv 10 Tf 0 g)%
12786           \ifHy@pdfa
12787           \else
12788             \ifHyField@NeedAppearances
12789               /NeedAppearances true%
12790             \fi
12791           \fi
12792         >>%
12793       }%
12794       \edef\OBJ@acroform{\the\pdfastobj}%
12795       \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12796     }%
12797   }%
12798   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12799   \begingroup
12800   \fontfamily{pzd}%

```

```

12801 \fontencoding{U}%
12802 \fontseries{m}%
12803 \fontshape{n}%
12804 \selectfont
12805 \char123 %
12806 \endgroup
12807 }{Ding}%
12808 \MakeFieldObject{%
12809 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12810 }{Submit}%
12811 \MakeFieldObject{%
12812 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12813 }{SubmitP}%
12814 }
12815 \let\@endForm\ltx@empty
12816 \def\@TextField[#1]#2{% parameters, label
12817 \def\Fld@name{#2}%
12818 \let\Fld@default\ltx@empty
12819 \let\Fld@value\@empty
12820 \def\Fld@width{\DefaultWidthofText}%
12821 \def\Fld@height{%
12822 \ifFld@multiline
12823 \DefaultHeightofTextMultiline
12824 \else
12825 \DefaultHeightofText
12826 \fi
12827 }%
12828 \begingroup
12829 \expandafter\HyField@SetKeys\expandafter{%
12830 \DefaultOptionsofText,#1%
12831 }%
12832 \PDFForm@Name
12833 \HyField@FlagsText
12834 \ifFld@hidden\def\Fld@width{1sp}\fi
12835 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12836 \LayoutTextField{#2}{%
12837 \Hy@escapeform\PDFForm@Text
12838 \pdfstartlink user {\PDFForm@Text}\relax
12839 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12840 \HyField@AddToFields
12841 }%
12842 \endgroup
12843 }
12844 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12845 \def\Fld@name{#2}%
12846 \let\Fld@default\relax
12847 \let\Fld@value\relax
12848 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12849 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12850 \begingroup
12851 \Fld@menulength=0 %
12852 \@tempdima\z@
12853 \@for\@curropt=#3\do{%
12854 \expandafter\Fld@checkequals\@curropt==\%
12855 \Hy@StepCount\Fld@menulength
12856 \settowidth{\@tempdimb}{\@currDisplay}%
12857 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi

```

```

12858 }%
12859 \advance\@tempdima by 15\p@
12860 \beginngroup
12861 \HyField@SetKeys{#1}%
12862 \edef\x{\endgroup
12863 \noexpand\expandafter
12864 \noexpand\HyField@SetKeys
12865 \noexpand\expandafter{%
12866 \expandafter\noexpand\csname DefaultOptionsof%
12867 \ifFld@radio
12868 Radio%
12869 \else
12870 \ifFld@combo
12871 \ifFld@popdown
12872 PopdownBox%
12873 \else
12874 ComboBox%
12875 \fi
12876 \else
12877 ListBox%
12878 \fi
12879 \fi
12880 \endcsname
12881 }%
12882 }\x
12883 \HyField@SetKeys{#1}%
12884 \PDFForm@Name
12885 \ifFld@hidden\def\Fld@width{1sp}\fi
12886 \ifx\Fld@value\relax
12887 \let\Fld@value\Fld@default
12888 \fi
12889 \LayoutChoiceField{#2}{%
12890 \ifFld@radio
12891 \HyField@FlagsRadioButton
12892 \@@Radio{#3}%
12893 \else
12894 \beginngroup
12895 \HyField@FlagsChoice
12896 \ifdim\Fld@width<\@tempdima
12897 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12898 \edef\Fld@width{\the\@tempdima}%
12899 \fi
12900 \ifFld@combo
12901 \else
12902 \@tempdima=\the\Fld@menulength\Fld@charsize
12903 \advance\@tempdima by \Fld@borderwidth bp %
12904 \advance\@tempdima by \Fld@borderwidth bp %
12905 \edef\Fld@height{\the\@tempdima}%
12906 \fi
12907 \@@ListBox{#3}%
12908 \endgroup
12909 \fi
12910 }%
12911 \endgroup
12912 }
12913 \def\@@Radio#1{%
12914 \Fld@listcount=0 %

```

```

12915 \EdefEscapeName\Fld@default{\Fld@default}%
12916 \@for\@curropt:=#1\do{%
12917   \expandafter\Fld@checkequals\@curropt==\%
12918   \EdefEscapeName\@currValue{\@currValue}%
12919   \Hy@StepCount\Fld@listcount
12920   \@currDisplay\space
12921   \leavevmode
12922   \Hy@escapeform\PDFForm@Radio
12923   \pdfstartlink user {%
12924     \PDFForm@Radio
12925     /AP<<%
12926     /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.

```

12927     /\@currValue\space \DingObject
12928     >>%
12929     >>%
12930   }%
12931   \relax
12932   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12933   \ifnum\Fld@listcount=1 %
12934     \HyField@AddToFields
12935   \fi
12936   \space % deliberate space between radio buttons
12937 }%
12938 }
12939 \newcount\Fld@listcount
12940 \def\@@ListBox#1{%
12941   \HyField@PDFChoices{#1}%
12942   \leavevmode
12943   \Hy@escapeform\PDFForm@List
12944   \pdfstartlink user {\PDFForm@List}\relax
12945   \MakeChoiceField{\Fld@width}{\Fld@height}%
12946   \pdfendlink
12947   \HyField@AddToFields
12948 }
12949 \def\@PushButton[#1]#2{% parameters, label
12950   \def\Fld@name{#2}%
12951   \begingroup
12952     \expandafter\HyField@SetKeys\expandafter{%
12953       \DefaultOptionsofPushButton,#1%
12954     }%
12955     \PDFForm@Name
12956     \ifHy@pdfa
12957       \Hy@Error{%
12958         PDF/A: Push button with JavaScript is prohibited%
12959       }\@ehc
12960       \LayoutPushButtonField{%
12961         \leavevmode
12962         \MakeButtonField{#2}%
12963       }%
12964     \else
12965       \HyField@FlagsPushButton
12966       \ifFld@hidden\def\Fld@width{1sp}\fi
12967       \LayoutPushButtonField{%
12968         \leavevmode

```

```

12969      \Hy@escapeform\PDFForm@Push
12970      \pdfstartlink user {\PDFForm@Push}\relax
12971      \MakeButtonField{#2}%
12972      \pdfendlink
12973      \HyField@AddToFields
12974    }%
12975    \fi
12976  \endgroup
12977 }
12978 \def\@Submit[#1]#2{%
12979   \def\Fld@width{\DefaultWidthofSubmit}%
12980   \def\Fld@height{\DefaultHeightofSubmit}%
12981   \begingroup
12982     \expandafter\HyField@SetKeys\expandafter{%
12983       \DefaultOptionsofSubmit,#1%
12984     }%
12985     \HyField@FlagsPushButton
12986     \HyField@FlagsSubmit
12987     \ifFld@hidden\def\Fld@width{1sp}\fi
12988     \leavevmode
12989     \Hy@escapeform\PDFForm@Submit
12990     \pdfstartlink user {%
12991       \PDFForm@Submit
12992       /AP<</N \SubmitObject/D \SubmitPObject>>%
12993     }%
12994     \relax
12995     \MakeButtonField{#2}%
12996     \pdfendlink
12997     \HyField@AddToFields
12998   \endgroup
12999 }
13000 \def\@Reset[#1]#2{%
13001   \def\Fld@width{\DefaultWidthofReset}%
13002   \def\Fld@height{\DefaultHeightofReset}%
13003   \begingroup
13004     \expandafter\HyField@SetKeys\expandafter{%
13005       \DefaultOptionsofReset,#1%
13006     }%
13007     \leavevmode
13008     \ifHy@pdfa
13009       \Hy@Error{%
13010         PDF/A: Reset action is prohibited%
13011       }\@ehc
13012       \MakeButtonField{#2}%
13013     \else
13014       \HyField@FlagsPushButton
13015       \ifFld@hidden\def\Fld@width{1sp}\fi
13016       \Hy@escapeform\PDFForm@Reset
13017       \pdfstartlink user {\PDFForm@Reset}\relax
13018       \MakeButtonField{#2}%
13019       \pdfendlink
13020       \HyField@AddToFields
13021     \fi
13022   \endgroup
13023 }
13024 \def\@CheckBox[#1]#2{% parameters, label
13025   \def\Fld@name{#2}%

```

```

13026 \def\Fld@default{0}%
13027 \begingroup
13028 \def\Fld@width{\DefaultWidthofCheckBox}%
13029 \def\Fld@height{\DefaultHeightofCheckBox}%
13030 \expandafter\HyField@SetKeys\expandafter{%
13031 \DefaultOptionsofCheckBox,#1%
13032 }%
13033 \PDFForm@Name
13034 \HyField@FlagsCheckBox
13035 \ifFld@hidden\def\Fld@width{1sp}\fi
13036 \LayoutCheckField{#2}{%
13037 \Hy@escapeform\PDFForm@Check
13038 \pdfstartlink user {\PDFForm@Check}\relax
13039 \MakeCheckField{\Fld@width}{\Fld@height}%
13040 \pdfendlink
13041 \HyField@AddToFields
13042 }%
13043 \endgroup
13044 }
13045 \def\Hy@FormObjects{%
13046 \pdfobj {%
13047 <<%
13048 /Type/Encoding%
13049 /Differences%
13050 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13051 /ring/tilde %
13052 39/quotesingle %
13053 96/grave %
13054 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13055 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13056 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13057 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13058 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13059 164/currency %
13060 166/brokenbar %
13061 168/dieresis/copyright/ordfeminine %
13062 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13063 /twosuperior/threesuperior/acute/mu %
13064 183/periodcentered/cedilla/onesuperior/ordmasculine %
13065 188/onequarter/onehalf/threequarters %
13066 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13067 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13068 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13069 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13070 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13071 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13072 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13073 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13074 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13075 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13076 ]%
13077 >>%
13078 }%
13079 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13080 \pdfobj{%
13081 <<%
13082 /Type/Font%

```

```

13083     /Subtype/Type1%
13084     /Name/ZaDb%
13085     /BaseFont/ZapfDingbats%
13086   >>%
13087 }%
13088 \xdef\OBJ@ZaDb{\the\pdfastobj}%
13089 \pdfobj{%
13090   <<%
13091     /Type/Font%
13092     /Subtype/Type1%
13093     /Name/Helv%
13094     /BaseFont/Helvetica%
13095     /Encoding \OBJ@pdfdocencoding\space 0 R%
13096   >>%
13097 }%
13098 \xdef\OBJ@Helv{\the\pdfastobj}%
13099 \global\let\Hy@FormObjects\relax
13100 }
13101 \</pdfTeX>

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

13102 \<*dvipdfm | xetex>

```

\@Gauge

```

13103 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13104   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13105 }

```

\@Form

```

13106 \def\@Form[#1]{%
13107   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13108   \kvsetkeys{Form}{#1}%
13109   \Hy@FormObjects
13110   \@pdfm@mark{obj @afields []}%
13111   \@pdfm@mark{obj @corder []}%
13112   \@pdfm@mark{%
13113     obj @aform <<%
13114       /Fields @afields%
13115       /DR<<%
13116       /Font<<%
13117         /ZaDb @OBJZaDb%
13118         /Helv @OBJHelv%
13119       >>%
13120     >>%
13121     /DA(/Helv 10 Tf 0 g)%
13122     /CO @corder%
13123     \ifHy@pdfa
13124     \else
13125       \ifHyField@NeedAppearances
13126       /NeedAppearances true%
13127     \fi
13128     \fi
13129   >>%
13130 }%

```



```

13131 \pdfmark{put @catalog <</AcroForm @aform>>}}%
13132 }

```

\@endForm

```

13133 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13134 \def\dvipdfm@setdim{%
13135   height \the\ht\pdfm@box\space
13136   width \the\wd\pdfm@box\space
13137   depth \the\dp\pdfm@box\space
13138 }

```

\HyField@AnnotCount

```

13139 \newcount\HyField@AnnotCount
13140 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13141 \def\HyField@AdvanceAnnotCount{%
13142   \global\advance\HyField@AnnotCount\@ne
13143 }

```

\HyField@TheAnnotCount

```

13144 \def\HyField@TheAnnotCount{%
13145   \the\HyField@AnnotCount
13146 }

```

\@TextField

```

13147 \def\@TextField[#1]#2{% parameters, label
13148   \def\Fld@name{#2}%
13149   \let\Fld@default\ltx@empty
13150   \let\Fld@value\@empty
13151   \def\Fld@width{\DefaultWidthofText}%
13152   \def\Fld@height{%
13153     \ifFld@multiline
13154       \DefaultHeightofTextMultiline
13155     \else
13156       \DefaultHeightofText
13157     \fi
13158   }%
13159   \begingroup
13160     \expandafter\HyField@SetKeys\expandafter{%
13161       \DefaultOptionsofText,#1%
13162     }%
13163     \PDFForm@Name
13164     \HyField@FlagsText
13165     \ifFld@hidden\def\Fld@width{1sp}\fi
13166     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13167     \setbox\pdfm@box=\hbox{%
13168       \MakeTextField{\Fld@width}{\Fld@height}%
13169     }%
13170     \HyField@AdvanceAnnotCount
13171     \LayoutTextField{#2}{%
13172       \Hy@escapeform\PDFForm@Text
13173       \pdfmark{%
13174         ann @text\HyField@TheAnnotCount\space

```

```

13175      \dvipdfm@setdim << \PDFForm@Text >>%
13176      }%
13177  }%
13178  \unhbox\pdfm@box
13179  \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13180  % record in @afields array
13181  \endgroup
13182 }

```

\@ChoiceMenu

```

13183 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13184 \def\Fld@name{#2}%
13185 \let\Fld@default\relax
13186 \let\Fld@value\relax
13187 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13188 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13189 \begingroup
13190 \Fld@menulength=0 %
13191 \@tempdima\z@
13192 \@for\@curropt:=#3\do{%
13193   \expandafter\Fld@checkequals\@curropt==\%
13194   \Hy@StepCount\Fld@menulength
13195   \settowidth{\@tempdimb}{\@currDisplay}%
13196   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13197 }%
13198 \advance\@tempdima by 15\p@
13199 \begingroup
13200 \HyField@SetKeys{#1}%
13201 \edef\x{\endgroup
13202   \noexpand\expandafter
13203   \noexpand\HyField@SetKeys
13204   \noexpand\expandafter{%
13205     \expandafter\noexpand\csname DefaultOptionsof%
13206       \ifFld@radio
13207         Radio%
13208       \else
13209         \ifFld@combo
13210         \ifFld@popdown
13211         PopdownBox%
13212       \else
13213         ComboBox%
13214       \fi
13215     \else
13216       ListBox%
13217     \fi
13218   \fi
13219   \endcsname
13220 }%
13221 }\x
13222 \HyField@SetKeys{#1}%
13223 \PDFForm@Name
13224 \ifFld@hidden\def\Fld@width{1sp}\fi
13225 \ifx\Fld@value\relax
13226   \let\Fld@value\Fld@default
13227 \fi
13228 \LayoutChoiceField{#2}{%
13229   \ifFld@radio

```

```

13230 \HyField@FlagsRadioButton
13231 \@@Radio{#3}%
13232 \else
13233 \begingroup
13234 \HyField@FlagsChoice
13235 \ifdim\Fld@width<\@tempdima
13236 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13237 \edef\Fld@width{\the\@tempdima}%
13238 \fi
13239 \ifFld@combo
13240 \else
13241 \@tempdima=\the\Fld@menulength\Fld@charsize
13242 \advance\@tempdima by \Fld@borderwidth bp %
13243 \advance\@tempdima by \Fld@borderwidth bp %
13244 \edef\Fld@height{\the\@tempdima}%
13245 \fi
13246 \@@ListBox{#3}%
13247 \endgroup
13248 \fi
13249 }%
13250 \endgroup
13251 }

```

\@@Radio

```

13252 \def\@@Radio#1{%
13253 \Fld@listcount=0 %
13254 \EdefEscapeName\Fld@default{\Fld@default}%
13255 \setbox\pdfm@box=\hbox{%
13256 \MakeRadioField{\Fld@width}{\Fld@height}%
13257 }%
13258 \@for\@curropt:=#1\do{%
13259 \expandafter\Fld@checkequals\@curropt==\%
13260 \EdefEscapeName\@currValue{\@currValue}%
13261 \Hy@StepCount\Fld@listcount
13262 \@currDisplay\space
13263 \leavevmode
13264 \Hy@escapeform\PDFForm@Radio
13265 \ifnum\Fld@listcount=1 %
13266 \HyField@AdvanceAnnotCount
13267 \fi
13268 \@pdfm@mark{%
13269 ann %
13270 \ifnum\Fld@listcount=1 %
13271 @radio\HyField@TheAnnotCount%
13272 \space
13273 \fi
13274 \dvi pdfm@setdim
13275 <<%
13276 \PDFForm@Radio
13277 /AP<</N<</\@currValue /null>>>>%
13278 >>%
13279 }%
13280 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13281 \ifnum\Fld@listcount=1 %
13282 \@pdfm@mark{%
13283 put @afields @radio\HyField@TheAnnotCount
13284 }%

```

```

13285   \fi
13286 }%
13287 }

```

\Fld@listcount

```

13288 \newcount\Fld@listcount

```

\@@Listbox

```

13289 \def\@@Listbox#1{%
13290   \HyField@PDFChoices{#1}%
13291   \setbox\pdfm@box=\hbox{%
13292     \MakeChoiceField{\Fld@width}{\Fld@height}%
13293   }%
13294   \leavevmode
13295   \Hy@escapeform\PDFForm@List
13296   \HyField@AdvanceAnnotCount
13297   \@pdfm@mark{%
13298     ann @list\HyField@TheAnnotCount\space
13299     \dvipdfm@setdim
13300     <<\PDFForm@List>>%
13301   }%
13302   \unhbox\pdfm@box
13303   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13304 }

```

\@PushButton

```

13305 \def\@PushButton[#1]#2{% parameters, label
13306   \def\Fld@name{#2}%
13307   \begingroup
13308     \expandafter\HyField@SetKeys\expandafter{%
13309       \DefaultOptionsofPushButton,#1%
13310     }%
13311     \PDFForm@Name
13312     \ifHy@pdfa
13313       \Hy@Error{%
13314         PDF/A: Push button with JavaScript is prohibited%
13315       }\@ehc
13316       \LayoutPushButtonField{%
13317         \leavevmode
13318         \MakeButtonField{#2}%
13319       }%
13320     \else
13321       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13322       \HyField@FlagsPushButton
13323       \ifFld@hidden\def\Fld@width{1sp}\fi
13324       \HyField@AdvanceAnnotCount
13325       \LayoutPushButtonField{%
13326         \leavevmode
13327         \Hy@escapeform\PDFForm@Push
13328         \@pdfm@mark{%
13329           ann @push\HyField@TheAnnotCount\space
13330           \dvipdfm@setdim
13331           <<\PDFForm@Push>>%
13332         }%
13333       }%
13334       \unhbox\pdfm@box
13335       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%

```

```

13336 \fi
13337 \endgroup
13338 }

\@Submit
13339 \def\@Submit[#1]#2{%
13340 \def\Fld@width{\DefaultWidthofSubmit}%
13341 \def\Fld@height{\DefaultHeightofSubmit}%
13342 \begingroup
13343 \expandafter\HyField@SetKeys\expandafter{%
13344 \DefaultOptionsofSubmit,#1%
13345 }%
13346 \HyField@FlagsPushButton
13347 \HyField@FlagsSubmit
13348 \ifFld@hidden\def\Fld@width{1sp}\fi
13349 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13350 \leavevmode
13351 \Hy@escapeform\PDFForm@Submit
13352 \HyField@AdvanceAnnotCount
13353 \@pdfm@mark{%
13354 ann @submit\HyField@TheAnnotCount\space
13355 \dvipdfm@setdim
13356 <<\PDFForm@Submit>>%
13357 }%
13358 \unhbox\pdfm@box%
13359 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13360 \endgroup
13361 }

\@Reset
13362 \def\@Reset[#1]#2{%
13363 \def\Fld@width{\DefaultWidthofReset}%
13364 \def\Fld@height{\DefaultHeightofReset}%
13365 \begingroup
13366 \expandafter\HyField@SetKeys\expandafter{%
13367 \DefaultOptionsofReset,#1%
13368 }%
13369 \leavevmode
13370 \ifHy@pdfa
13371 \Hy@Error{%
13372 PDF/A: Reset action is prohibited%
13373 }\@ehc
13374 \MakeButtonField{#2}%
13375 \else
13376 \HyField@FlagsPushButton
13377 \ifFld@hidden\def\Fld@width{1sp}\fi
13378 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13379 \Hy@escapeform\PDFForm@Reset
13380 \HyField@AdvanceAnnotCount
13381 \@pdfm@mark{%
13382 ann @reset\HyField@TheAnnotCount\space
13383 \dvipdfm@setdim
13384 <<\PDFForm@Reset>>%
13385 }%
13386 \unhbox\pdfm@box
13387 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13388 \fi

```

```

13389 \endgroup
13390 }

```

\@CheckBox

```

13391 \def\@CheckBox[#1]#2{% parameters, label
13392 \def\Fld@name{#2}%
13393 \def\Fld@default{0}%
13394 \begingroup
13395 \def\Fld@width{\DefaultWidthofCheckBox}%
13396 \def\Fld@height{\DefaultHeightofCheckBox}%
13397 \expandafter\HyField@SetKeys\expandafter{%
13398 \DefaultOptionsofCheckBox,#1%
13399 }%
13400 \PDFForm@Name
13401 \HyField@FlagsCheckBox
13402 \ifFld@hidden\def\Fld@width{1sp}\fi
13403 \setbox\pdfm@box=\hbox{%
13404 \MakeCheckField{\Fld@width}{\Fld@height}%
13405 }%
13406 \HyField@AdvanceAnnotCount
13407 \LayoutCheckField{#2}{%
13408 \Hy@escapeform\PDFForm@Check
13409 \@pdfm@mark{%
13410 ann @check\HyField@TheAnnotCount\space
13411 \dvipdfm@setdim
13412 <<\PDFForm@Check>>%
13413 }%
13414 \unhbox\pdfm@box
13415 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13416 }%
13417 \endgroup
13418 }

13419 \def\Hy@FormObjects{%
13420 \@pdfm@mark{obj @OBJpdfdocencoding%
13421 <<%
13422 /Type/Encoding%
13423 /Differences[%
13424 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13425 39/quotesingle %
13426 96/grave %
13427 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13428 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13429 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13430 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13431 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13432 164/currency %
13433 166/brokenbar %
13434 168/dieresis/copyright/ordfeminine %
13435 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13436 /twosuperior/threesuperior/acute/mu %
13437 183/periodcentered/cedilla/onesuperior/ordmasculine %
13438 188/onequarter/onehalf/threequarters %
13439 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13440 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13441 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13442 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13443 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%

```

```

13444      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13445      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13446      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13447      /divide/oshlash/ugrave/uacute/ucircumflex/udieresis/yacute%
13448      /thorn/ydieresis%
13449      ]%
13450      >>%
13451      }%
13452      \@pdfm@mark{obj @OBJZaDb%
13453      <<%
13454      /Type/Font%
13455      /Subtype/Type1%
13456      /Name/ZaDb%
13457      /BaseFont/ZapfDingbats%
13458      >>%
13459      }%
13460      \@pdfm@mark{obj @OBJHelv%
13461      <<%
13462      /Type/Font%
13463      /Subtype/Type1%
13464      /Name/Helv%
13465      /BaseFont/Helvetica%
13466      /Encoding @OBJpdfdocencoding%
13467      >>%
13468      }%
13469      \global\let\Hy@FormObjects\relax
13470  }
13471  </dvipdfm | xetex>

```

47.6 Common forms part

```

13472 <*pdfmform>

```

\Hy@escapestring

```

13473 \begingroup\expandafter\expandafter\expandafter\endgroup
13474 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13475   \let\Hy@escapestring\@firstofone
13476   \def\Hy@escapeform#1{%
13477     \ifHy@escapeform
13478       \def\Hy@escapestring##1{%
13479         \noexpand\Hy@escapestring{\noexpand##1}%
13480       }%
13481       \edef\Hy@temp{#1}%
13482       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13483     \def\Hy@escapestring##1{%
13484       \@ifundefined{Hy@esc@\string##1}{%
13485         ##1%
13486         \ThisShouldNotHappen
13487       }{%
13488         \csname Hy@esc@\string##1\endcsname
13489       }%
13490     }%
13491   \else
13492     \let\Hy@escapestring\@firstofone
13493   \fi
13494 }%
13495 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%

```

```

13496 \ifx\|#3\%
13497 \else
13498 \expandafter
13499 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13500 \ltx@ReturnAfterFi{%
13501 \Hy@@escapeform#3\@nil
13502 }%
13503 \fi
13504 }%
13505 \else
13506 \def\Hy@escapeform#1{%
13507 \ifHy@escapeform
13508 \let\Hy@escapestring\pdfescapestring
13509 \else
13510 \let\Hy@escapestring\@firstofone
13511 \fi
13512 }%
13513 \Hy@escapeform{}}%
13514 \fi

```

\PDFForm@Name

```

13515 \def\PDFForm@Name{%
13516 \PDFForm@@Name\Fld@name
13517 \ifx\Fld@altname\relax
13518 \else
13519 \PDFForm@@Name\Fld@altname
13520 \fi
13521 \ifx\Fld@mappingname\relax
13522 \else
13523 \PDFForm@@Name\Fld@mappingname
13524 \fi
13525 }

```

\PDFForm@@Name

```

13526 \def\PDFForm@@Name#1{%
13527 \begingroup
13528 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13529 \ifHy@unicode
13530 \Hy@unicodedefalse
13531 \fi
13532 \fi
13533 \HyPsd@XeTeXBigCharstrue
13534 \pdfstringdef\Hy@gtemp#1%
13535 \endgroup
13536 \let#1\Hy@gtemp
13537 }

```

\Fld@additionalactions

```

13538 \def\Fld@@additionalactions{%
K input (keystroke) format
13539 \ifx\Fld@keystroke@code\@empty
13540 \else
13541 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13542 \fi
F display format

```



```

13543 \ifx\Fld@format@code\@empty
13544 \else
13545 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13546 \fi

```

V validation

```

13547 \ifx\Fld@validate@code\@empty
13548 \else
13549 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13550 \fi

```

C calculation

```

13551 \ifx\Fld@calculate@code\@empty
13552 \else
13553 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13554 \fi

```

Fo receiving the input focus

```

13555 \ifx\Fld@onfocus@code\@empty
13556 \else
13557 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13558 \fi

```

Bl loosing the input focus (blurred)

```

13559 \ifx\Fld@onblur@code\@empty
13560 \else
13561 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13562 \fi

```

D pressing the mouse button (down)

```

13563 \ifx\Fld@onmousedown@code\@empty
13564 \else
13565 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13566 \fi

```

U releasing the mouse button (up)

```

13567 \ifx\Fld@onmouseup@code\@empty
13568 \else
13569 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13570 \fi

```

E cursor enters the annotation's active area.

```

13571 \ifx\Fld@onenter@code\@empty
13572 \else
13573 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13574 \fi

```

X cursor exits the annotation's active area.

```

13575 \ifx\Fld@onexit@code\@empty
13576 \else
13577 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13578 \fi
13579 }

```

```

13580 \def\Fld@additionalactions{%
13581 \if\Fld@@additionalactions-%
13582 \else
13583 \ifHy@pdfa
13584 \else
13585 /AA<<\Fld@@additionalactions>>%
13586 \fi
13587 \fi

```

```

13588 }

\Fld@annotnames
13589 \def\Fld@annotnames{%
13590 /T(\Fld@name)%
13591 \ifx\Fld@altname\relax
13592 \else
13593 /TU(\Fld@altname)%
13594 \fi
13595 \ifx\Fld@mappingname\relax
13596 \else
13597 /TM(\Fld@mappingname)%
13598 \fi
13599 }

\PDFForm@Check
13600 \def\PDFForm@Check{%
13601 /Subtype/Widget%
13602 \Fld@annotflags
13603 \Fld@annotnames
13604 /FT/Btn%
13605 \Fld@flags
13606 /Q \Fld@align
13607 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13608 /MK<<%
13609 \ifnum\Fld@rotation=\z@
13610 \else
13611 /R \Fld@rotation
13612 \fi
13613 \ifx\Fld@bordercolor\relax
13614 \else
13615 /BC[\Fld@bordercolor]%
13616 \fi
13617 \ifx\Fld@bcolor\relax
13618 \else
13619 /BG[\Fld@bcolor]%
13620 \fi
13621 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13622 >>%
13623 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13624 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13625 /H/P%
13626 \ifFld@checked /V/Yes\else /V/Off\fi
13627 \Fld@additionalactions
13628 }

\PDFForm@Push
13629 \ifHy@pdfa
13630 \else
13631 \def\PDFForm@Push{%
13632 /Subtype/Widget%
13633 \Fld@annotflags
13634 \Fld@annotnames
13635 /FT/Btn%
13636 \Fld@flags
13637 /H/P%
13638 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%

```

```

13639 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13640 \ifx\Fld@bordercolor\relax\else 1\fi
13641 \space
13642 \else
13643 /MK<<%
13644 \ifnum\Fld@rotation=\z@
13645 \else
13646 /R \Fld@rotation
13647 \fi
13648 \ifx\Fld@bordercolor\relax
13649 \else
13650 /BC[\Fld@bordercolor]%
13651 \fi
13652 >>%
13653 \fi
13654 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13655 \Fld@additionalactions
13656 }%
13657 \fi

```

\PDFForm@List

```

13658 \def\PDFForm@List{%
13659 /Subtype/Widget%
13660 \Fld@annotflags
13661 \Fld@annotnames
13662 /FT/Ch%
13663 \Fld@flags
13664 /Q \Fld@align
13665 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13666 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13667 \ifx\Fld@bordercolor\relax\else 1\fi
13668 \ifx\Fld@bcolor\relax \else 1\fi
13669 \space
13670 \else
13671 /MK<<%
13672 \ifnum\Fld@rotation=\z@
13673 \else
13674 /R \Fld@rotation
13675 \fi
13676 \ifx\Fld@bordercolor\relax
13677 \else
13678 /BC[\Fld@bordercolor]%
13679 \fi
13680 \ifx\Fld@bcolor\relax
13681 \else
13682 /BG[\Fld@bcolor]%
13683 \fi
13684 >>%
13685 \fi
13686 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13687 \ifx\Fld@color\empty\else\space\Fld@color\fi)%
13688 \Fld@choices
13689 \Fld@additionalactions
13690 }

```

\PDFForm@Radio

```

13691 \def\PDFForm@Radio{%

```

```

13692 /Subtype/Widget%
13693 \Fld@annotflags
13694 \Fld@annotnames
13695 /FT/Btn%
13696 \Fld@flags
13697 /H/P%
13698 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13699 /MK<<%
13700 \ifnum\Fld@rotation=\z@
13701 \else
13702 /R \Fld@rotation
13703 \fi
13704 \ifx\Fld@bordercolor\relax
13705 \else
13706 /BC[\Fld@bordercolor]%
13707 \fi
13708 \ifx\Fld@bcolor\relax
13709 \else
13710 /BG[\Fld@bcolor]%
13711 \fi
13712 /CA(\Fld@radiosymbol)%
13713 >>%
13714 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13715 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13716 \ifx\@currValue\Fld@default
13717 /V/\Fld@default
13718 /DV/\Fld@default
13719 \else
13720 /V/Off%
13721 /DV/Off%
13722 \fi
13723 \Fld@additionalactions
13724 }

```

\PDFForm@Text

```

13725 \def\PDFForm@Text{%
13726 /Subtype/Widget%
13727 \Fld@annotflags
13728 \Fld@annotnames
13729 /FT/Tx%
13730 \Fld@flags
13731 /Q \Fld@align
13732 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13733 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13734 \ifx\Fld@bordercolor\relax\else 1\fi
13735 \ifx\Fld@bcolor\relax \else 1\fi
13736 \space
13737 \else
13738 /MK<<%
13739 \ifnum\Fld@rotation=\z@
13740 \else
13741 /R \Fld@rotation
13742 \fi
13743 \ifx\Fld@bordercolor\relax
13744 \else
13745 /BC[\Fld@bordercolor]%
13746 \fi

```

```

13747     \ifx\Fld@bcolor\relax
13748     \else
13749     /BG[\Fld@bcolor]%
13750     \fi
13751     >>%
13752 \fi
13753 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13754     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13755 /DV(\Hy@escapestring{\Fld@default})%
13756 /V(\Hy@escapestring{\Fld@value})%
13757 \Fld@additionalactions
13758 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13759 }

```

\PDFForm@Submit

```

13760 \def\PDFForm@Submit{%
13761 /Subtype/Widget%
13762 \Fld@annotflags
13763 \Fld@annotnames
13764 /FT/Btn%
13765 \Fld@flags
13766 /H/P%
13767 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13768 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13769     \ifx\Fld@bordercolor\relax\else 1\fi
13770     \space
13771 \else
13772 /MK<<%
13773     \ifnum\Fld@rotation=\z@
13774     \else
13775     /R \Fld@rotation
13776     \fi
13777     \ifx\Fld@bordercolor\relax
13778     \else
13779     /BC[\Fld@bordercolor]%
13780     \fi
13781     >>%
13782 \fi
13783 /A<<%
13784 /S/SubmitForm%
13785 /F<<%
13786 /FS/URL%
13787 /F(\Hy@escapestring{\Form@action})%
13788 >>%
13789 \Fld@submitflags
13790 >>%
13791 \Fld@additionalactions
13792 }

```

\PDFForm@Reset

```

13793 \ifHy@pdfa
13794 \else
13795 \def\PDFForm@Reset{%
13796 /Subtype/Widget%
13797 \Fld@annotflags
13798 \Fld@annotnames
13799 /FT/Btn%

```

```

13800 \Fld@flags
13801 /H/P%
13802 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13803 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13804 \ifx\Fld@bordercolor\relax\else 1\fi
13805 \space
13806 \else
13807 /MK<<%
13808 \ifnum\Fld@rotation=\z@
13809 \else
13810 /R \Fld@rotation
13811 \fi
13812 \ifx\Fld@bordercolor\relax
13813 \else
13814 /BC[\Fld@bordercolor]%
13815 \fi
13816 % /CA (Clear)
13817 % /AC (Done)
13818 >>%
13819 \fi
13820 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13821 /A<</S/ResetForm>>%
13822 \Fld@additionalactions
13823 }%
13824 \fi

13825 </pdfform>
13826 <*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`

```

13827 \def\phantomsection{%
13828 \Hy@MakeCurrentHrefAuto{section*}%
13829 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13830 }
13831 </package>

```

48.1 Bookmarks

```
13832 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of

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.

```

13833 \def\Hy@writebookmark#1#2#3#4#5{%
13834   % section number, text, label, level, file
13835   \ifx\WriteBookmarks\relax%
13836   \else
13837     \ifnum#4>\Hy@bookmarksdepth\relax
13838     \else
13839       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13840     \fi
13841   \fi
13842 }
13843 \def\Hy@currentbookmarklevel{0}
13844 \def\Hy@numberline#1{#1 }
13845 \def\@@writetorep#1#2#3#4#5{%
13846   \begingroup
13847     \edef\Hy@tempa{#5}%
13848     \ifx\Hy@tempa\Hy@bookmarkstype
13849       \edef\Hy@level{#4}%
13850       \ifx\Hy@levelcheck Y%
13851         \@tempcnta\Hy@level\relax
13852         \advance\@tempcnta by -1 %
13853         \ifnum\Hy@currentbookmarklevel<\@tempcnta
13854           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13855           \advance\@tempcnta by 1 %
13856           \Hy@Warning{%
13857             Difference (\the\@tempcnta) between bookmark levels is %
13858             greater \MessageBreak than one, level fixed%
13859           }%
13860           \@tempcnta\Hy@currentbookmarklevel
13861           \advance\@tempcnta by 1 %
13862           \edef\Hy@level{\the\@tempcnta}%
13863         \fi
13864       \else
13865         \global\let\Hy@levelcheck Y%
13866       \fi
13867       \global\let\Hy@currentbookmarklevel\Hy@level
13868       \@tempcnta\Hy@level\relax
13869       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13870       \advance\@tempcnta by -1 %
13871       \edef\Hy@tempa{#3}%
13872       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13873       \ifx\Hy@tempa\Hy@tempb
13874         \Hy@Warning{%
13875           The anchor of a bookmark and its parent's must not%
13876           \MessageBreak be the same. Added a new anchor%
13877         }%
13878       \phantomsection
13879     \fi
13880     \ifHy@bookmarksnumbered
13881       \let\numberline\Hy@numberline
13882       \let\booknumberline\Hy@numberline

```

```

13883 \let\partnumberline\Hy@numberline
13884 \let\chapternumberline\Hy@numberline
13885 \else
13886 \let\numberline\@gobble
13887 \let\booknumberline\@gobble
13888 \let\partnumberline\@gobble
13889 \let\chapternumberline\@gobble
13890 \fi
13891 \HyPsd@XeTeXBigCharstrue
13892 \pdfstringdef\Hy@tempa{#2}%
13893 \HyPsd@SanitizeForOutFile\Hy@tempa
13894 \if@filesw
13895 \stepcounter{bookmark@seq@number}%
13896 \@ifundefined{@outlinefile}{%
13897 }{%
13898 \protected@write\@outlinefile{}{%
13899 \protect\BOOKMARK
13900 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13901 {\Hy@tempa}{\Hy@tempb}%
13902 \@percentchar\space\thebookmark@seq@number
13903 }%
13904 }%
13905 \fi
13906 \fi
13907 \endgroup
13908 }
13909 \newcounter{bookmark@seq@number}

13910 \begingroup
13911 \lccode'('= '{%
13912 \lccode'=' '{%
13913 \lccode'1=\z@
13914 \lccode'2=\z@
13915 \lccode'3=\z@
13916 \lccode'5=\z@
13917 \lccode'7=\z@
13918 \lccode'\#=\z@
13919 \lccode'\='=\z@
13920 \lccode'\{=\z@
13921 \lccode'\}=\z@
13922 \lowercase{%
13923 \endgroup
13924 \def\HyPsd@SanitizeForOutFile#1{%
13925 \@onelevel@sanitize\Hy@tempa
13926 \escapechar'\%
13927 \edef\Hy@tempa{%
13928 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13929 }%
13930 \edef\Hy@tempa{%
13931 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13932 }%
13933 }%
13934 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13935 #1%
13936 \ifx\#2\%
13937 \expandafter\ltx@gobble
13938 \else
13939 \expandafter\ltx@firstofone

```



```

13940 \fi
13941 {%
13942 \string\173%
13943 \HyPsd@SanitizeOut@BraceLeft#2\@nil
13944 }%
13945 }%
13946 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13947 #1%
13948 \ifx\#2\\%
13949 \expandafter\ltx@gobble
13950 \else
13951 \expandafter\ltx@firstofone
13952 \fi
13953 {%
13954 \string\175%
13955 \HyPsd@SanitizeOut@BraceRight#2\@nil
13956 }%
13957 }%
13958 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

13959 \newcommand{\currentpdfbookmark}{%
13960 \pdfbookmark[\Hy@currentbookmarklevel]%
13961 }
13962 \newcommand{\subpdfbookmark}{%
13963 \@tempcnta\Hy@currentbookmarklevel
13964 \Hy@StepCount\@tempcnta
13965 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13966 }
13967 \newcommand{\belowpdfbookmark}[2]{%
13968 \@tempcnta\Hy@currentbookmarklevel
13969 \Hy@StepCount\@tempcnta
13970 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13971 \advance\@tempcnta by -1 %
13972 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13973 }

```

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.

```

13974 \renewcommand\pdfbookmark[3][0]{%
13975 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
13976 \hyper@anchorstart{#3.#1}\hyper@anchorend
13977 }
13978 \def\BOOKMARK{%
13979 \@ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%
13980 }
13981 \def\@BOOKMARK[#1]{%
13982 \@ifnextchar[\@@BOOKMARK[{#1}]{\@@BOOKMARK[{#1}][-]}%
13983 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

13984 \RequirePackage{rerunfilecheck}[2009/12/10]
13985 \def\Hy@OutlineRerunCheck{%

```

```

13986 \RerunFileCheck{\jobname.out}{}%
13987 \immediate\closeout\@outlinefile
13988 }{%
13989 Rerun to get outlines right\MessageBreak
13990 or use package 'bookmark'%
13991 }%
13992 }

```

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.

```

13993 <*vtex>
13994 \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.

```

13995 \begingroup
13996 \catcode'\'=12 %
13997 \ifnum\Hy@VTeXversion<650 %
13998 \catcode'\ "=12 %
13999 \gdef\hv@pdf@char#1#2#3{%
14000 \char
14001 \ifcase'#1#2#3 %
14002 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14003 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14004 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14005 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14006 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14007 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14008 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14009 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14010 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14011 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14012 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14013 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14014 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14015 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14016 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14017 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14018 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14019 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14020 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14021 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14022 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14023 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14024 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14025 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14026 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14027 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14028 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14029 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14030 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%

```

```

14031 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14032 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14033 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14034 \fi
14035 }%
14036 \else
14037 \gdef\hv@pdf@char{\char'}%
14038 \fi
14039 \endgroup

```

\@@BOOKMARK

```

14040 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14041 \expandafter\edef\csname @count@#3\endcsname{%
14042 \the\@serial@counter
14043 }%
14044 \edef\@mycount{\the\@serial@counter}%
14045 \Hy@StepCount\@serial@counter
14046 \edef\@parcount{%
14047 \expandafter\ifx\csname @count@#5\endcsname\relax
14048 0%
14049 \else
14050 \csname @count@#5\endcsname
14051 \fi
14052 }%
14053 \immediate\special{%
14054 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14055 s=\ifx#2-c\else o\fi,t=#4%
14056 }%
14057 }%

```

\ReadBookmarks

```

14058 \def\ReadBookmarks{%
14059 \begingroup
14060 \def\0{\hv@pdf@char 0}%
14061 \def\1{\hv@pdf@char 1}%
14062 \def\2{\hv@pdf@char 2}%
14063 \def\3{\hv@pdf@char 3}%
14064 \def\({}%
14065 \def\)}%
14066 \def\do##1{%
14067 \ifnum\catcode'##1=\active
14068 \@makeother##1%
14069 \else
14070 \ifnum\catcode'##1=6 %
14071 \@makeother##1%
14072 \fi
14073 \fi
14074 }%
14075 \dospecials
14076 \Hy@safe@activetrue
14077 \InputIfFileExists{\jobname.out}{-}{-}%
14078 \endgroup
14079 \ifx\WriteBookmarks\relax
14080 \else
14081 \if@filesw
14082 \newwrite\@outlinefile
14083 \Hy@OutlineRerunCheck

```

```

14084 \immediate\openout\@outlinefile=\jobname.out\relax
14085 \ifHy@typexml
14086 \immediate\write\@outlinefile{<relaxxml>\relax}%
14087 \fi
14088 \fi
14089 \fi
14090 }

14091 </vtx>
14092 <!*vtx>
14093 \def\ReadBookmarks{%
14094 \pdf@ifdraftmode{ }{%
14095 \begingroup
14096 \def\do##1{%
14097 \ifnum\catcode'##1=\active
14098 \@makeother##1%
14099 \else
14100 \ifnum\catcode'##1=6 %
14101 \@makeother##1%
14102 \fi
14103 \fi
14104 }%
14105 \dospecials
14106 \Hy@safe@activetrue
14107 \escapechar='\ %
14108 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14109 \calc@bm@number{##5}%
14110 }%
14111 \InputIfFileExists{\jobname.out}{ }{%
14112 \ifx\WriteBookmarks\relax
14113 \global\let\WriteBookmarks\relax
14114 \fi
14115 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14116 \def\Hy@temp{##4}%
14117 <*pdfTeX>
14118 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14119 \Hy@OutlineName{ }\Hy@pstringName{%
14120 ##2\check@bm@number{##3}}%
14121 }{%
14122 \expandafter\strip@prefix\meaning\Hy@temp
14123 }%
14124 </pdfTeX>
14125 <*pdfmark>
14126 \pdfmark{%
14127 pdfmark=/OUT,%
14128 Count={##2\check@bm@number{##3}},%
14129 Dest={##3},%
14130 Title=\expandafter\strip@prefix\meaning\Hy@temp
14131 }%
14132 </pdfmark>
14133 <*dvipdfm | xetex>
14134 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14135 \@pdfm@mark{%
14136 outline \ifHy@DvipdfmxOutlineOpen
14137 [%
14138 \ifnum##21>\z@
14139 \else
14140 -%

```

```

14141         \fi
14142     ] %
14143     \fi
14144     ###1<<%
14145     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14146     /A<<%
14147     /S/GoTo%
14148     /D(\Hy@pstringName)%
14149     >>%
14150     >>%
14151     }%
14152 </dvipdfm | xetex>
14153 }%
14154 \begingroup
14155   \def\WriteBookmarks{0}%
14156   \InputIfFileExists{\jobname.out}{-}{-}%
14157 \endgroup
14158 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14159 \endgroup
14160 }%
14161 \ifx\WriteBookmarks\relax
14162 \else
14163   \if@filesw
14164     \newwrite\@outlinefile
14165     \Hy@OutlineRerunCheck
14166     \immediate\openout\@outlinefile=\jobname.out\relax
14167     \ifHy@typexml
14168       \immediate\write\@outlinefile{<relaxxml>\relax}%
14169     \fi
14170   \fi
14171 \fi
14172 }
14173 <*pdfTeX>
14174 \def\Hy@OutlineName#1#2#3#4{%
14175   \pdfoutline goto name{#2}count#3{#4}%
14176 }
14177 </pdfTeX>
14178 \def\check@bm@number#1{%
14179   \expandafter\ifx\csname B_#1\endcsname\relax
14180     0%
14181   \else
14182     \csname B_#1\endcsname
14183   \fi
14184 }
14185 \def\calc@bm@number#1{%
14186   \@tempcnta=\check@bm@number{#1}\relax
14187   \advance\@tempcnta by 1 %
14188   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14189 }
14190 </!vTeX>

14191 \ifHy@implicit
14192 \else
14193   \expandafter\endinput
14194 \fi

14195 </outlines>
14196 <*outlines | hypertex>

```

```

14197 \newlength\Hy@SectionHShift
14198 \def\Hy@SectionAnchorHref#1{%
14199   \ifx\protect\@typeset@protect
14200     \Hy@@@SectionAnchor{#1}%
14201   \fi
14202 }
14203 \DeclareRobustCommand*\Hy@@@SectionAnchor}[1]{%
14204   \leavevmode
14205   \hbox to 0pt{%
14206     \kern-\Hy@SectionHShift
14207     \Hy@raisedlink{%
14208       \hyper@anchorstart{#1}\hyper@anchorend
14209     }%
14210     \hss
14211   }%
14212 }
14213 \let\H@old@ssect\@ssect
14214 \def\@ssect#1#2#3#4#5{%
14215   \Hy@MakeCurrentHrefAuto{section*}%
14216   \setlength\Hy@SectionHShift{#1}%
14217   \begingroup
14218     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14219     \toks\tw@\expandafter{%
14220       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14221       #5%
14222     }%
14223   \edef\x{\endgroup
14224     \the\toks@{\the\toks\tw@}}%
14225   }\x
14226 }
14227 \let\H@old@schapter\@schapter
14228 \def\@schapter#1{%
14229   \begingroup
14230     \let\@mkboth\@gobbletwo
14231     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14232     \Hy@raisedlink{%
14233       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14234     }%
14235   \endgroup
14236   \H@old@schapter{#1}%
14237 }

```

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:

```

14238 \ltx@ifundefined{@chapter}{-}{%
14239   \let\Hy@org@chapter\@chapter
14240   \def\@chapter{%
14241     \def\Hy@next{%
14242       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14243       \Hy@raisedlink{%
14244         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14245       }%
14246     }%
14247     \ifnum\c@secnumdepth>\m@ne
14248       \ltx@ifundefined{if@mainmatter}%
14249       \iftrue{\csname if@mainmatter\endcsname}%
14250       \let\Hy@next\relax

```

```

14251 \fi
14252 \fi
14253 \Hy@next
14254 \Hy@org@chapter
14255 }%
14256 }

14257 \let\H@old@part\@part
14258 \begingroup\expandafter\expandafter\expandafter\endgroup
14259 \expandafter\ifx\csname chapter\endcsname\relax
14260 \let\Hy@secnum@part\z@
14261 \else
14262 \let\Hy@secnum@part\m@ne
14263 \fi
14264 \def\@part{%
14265 \ifnum\Hy@secnum@part>\c@secnumdepth
14266 \phantomsection
14267 \fi
14268 \H@old@part
14269 }

14270 \let\H@old@spart\@spart
14271 \def\@spart#1{%
14272 \Hy@MakeCurrentHrefAuto{part*}%
14273 \Hy@raisedlink{%
14274 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14275 }%
14276 \H@old@spart{#1}%
14277 }

14278 \let\H@old@sect\@sect
14279 \def\@sect#1#2#3#4#5#6[#7]#8{%
14280 \ifnum #2>\c@secnumdepth
14281 \expandafter\@firstoftwo
14282 \else
14283 \expandafter\@secondoftwo
14284 \fi
14285 {%
14286 \Hy@MakeCurrentHrefAuto{section*}%
14287 \setlength{\Hy@SectionHShift}{#3}%
14288 \begingroup
14289 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14290 \toks\tw@\expandafter{%
14291 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14292 #8%
14293 }%
14294 \edef\x{\endgroup
14295 \the\toks@{\the\toks\tw@}}%
14296 }\x
14297 }{%
14298 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14299 }%
14300 }

14301 </outlines | hypertex>
14302 <*outlines>

14303 \expandafter\def\csname Parent-4\endcsname{}
14304 \expandafter\def\csname Parent-3\endcsname{}
14305 \expandafter\def\csname Parent-2\endcsname{}
14306 \expandafter\def\csname Parent-1\endcsname{}

```

```

14307 \expandafter\def\csname Parent0\endcsname{}
14308 \expandafter\def\csname Parent1\endcsname{}
14309 \expandafter\def\csname Parent2\endcsname{}
14310 \expandafter\def\csname Parent3\endcsname{}
14311 \expandafter\def\csname Parent4\endcsname{}
14312 </outlines>

```

49 Compatibility with koma-script classes

```

14313 <*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.

```

14314 \def\Hy@tempa{%
14315   \def\@addchap[##1]##2{%
14316     \typeout{##2}%
14317     \if@twoside
14318       \@mkboth{##1}{}%
14319     \else
14320       \@mkboth{}{##1}%
14321     \fi
14322     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14323     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14324     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14325     \Hy@raisedlink{%
14326       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14327     }%
14328     \if@twocolumn
14329       \@topnewpage[\@makeschapterhead{##2}]%
14330     \else
14331       \@makeschapterhead{##2}%
14332       \@afterheading
14333     \fi
14334     \addcontentsline{toc}{chapter}{##1}%
14335   }%
14336 }
14337 \ifclassloaded{scrbook}{%
14338   \ifclasslater{scrbook}{2001/01/01}{%
14339     \let\Hy@tempa\@empty
14340   }{}%
14341 }{%
14342   \ifclassloaded{scrreprt}{%
14343     \ifclasslater{scrreprt}{2001/01/01}{%
14344       \let\Hy@tempa\@empty
14345     }{}%
14346   }{%
14347     \let\Hy@tempa\@empty
14348   }%
14349 }%
14350 \Hy@tempa
14351 </outlines | hypertex>

```


50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
14352 (*pd1enc)
14353 \DeclareFontEncoding{PD1}{-}{-}

Accents
14354 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14355 \DeclareTextAccent{'}{PD1}{\textacute}
14356 \DeclareTextAccent{`}{PD1}{\textasciicircum}
14357 \DeclareTextAccent{~}{PD1}{\texttilde}
14358 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14359 \DeclareTextAccent{\r}{PD1}{\textring}
14360 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14361 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14362 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14363 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14364 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14365 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14366 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14367 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
14368 \DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciicircum}
14369 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14370 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14371 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14372 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14373 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14374 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14375 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14376 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14377 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14378 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14379 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
14380 \DeclareTextCompositeCommand{`}{PD1}{\ }{\textasciicircum}
14381 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14382 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14383 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14384 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14385 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14386 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14387 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14388 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14389 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14390 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14391 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14392 \DeclareTextCommand{\newtie}{PD1}[1]{%
14393   \TextSymbolUnavailable{\newtie{#1}}#1%
14394 }
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14395 % U+0009 (CHARACTER TABULATION)
14396 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14397 % U+000A (LINE FEED)
14398 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14399 % U+000D (CARRIAGE RETURN)
```

14400 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

14401 % U+02D8 BREVE; breve

14402 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8

14403 % U+02C7 CARON; caron

14404 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7

14405 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex

14406 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

14407 % U+02D9 DOT ABOVE; dotaccent

14408 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9

14409 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

14410 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD

14411 % U+02DB OGONEK; ogonek

14412 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB

14413 % U+02DA RING ABOVE; ring

14414 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA

14415 % U+02DC SMALL TILDE; ilde, *tilde

14416 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14417 % U+0022 QUOTATION MARK; quotedbl

14418 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

14419 % U+0023 NUMBER SIGN; numbersign

14420 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14421 % U+0024 DOLLAR SIGN; dollar

14422 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14423 % U+0025 PERCENT SIGN; percent

14424 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14425 % U+0026 AMPERSAND; ampersand

14426 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14427 % U+0028 LEFT PARENTHESIS; parenleft

14428 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% } \050 U+0028

14429 % U+0029 RIGHT PARENTHESIS; parenright

14430 \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

14431 % U+002E FULL STOP; period

14432 \DeclareTextCommand{\textdotbelow}{PD1}{\string\.) } \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

14433 % U+003C LESS-THAN SIGN; less

14434 \DeclareTextCommand{\textless}{PD1}{\string\<} \074 U+003C

\075: U+003D EQUALS SIGN; equal

14435 % U+003E GREATER-THAN SIGN; greater

14436 \DeclareTextCommand{\textgreater}{PD1}{\string\>} \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
 14437 % U+005C REVERSE SOLIDUS; backslash
 14438 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14439 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14440 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14441 % U+005F LOW LINE; underscore
 14442 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14443 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14444 % U+0060 GRAVE ACCENT; grave
 14445 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14446 % U+0069 LATIN SMALL LETTER I; i
 14447 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14448 % U+007B LEFT CURLY BRACKET; braceleft
 14449 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14450 % U+007C VERTICAL LINE; *bar, verticalbar
 14451 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14452 % U+007D RIGHT CURLY BRACKET; braceright
 14453 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14454 % U+007E TILDE; asciitilde
 14455 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14456 % U+2022 BULLET; bullet
 14457 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14458 % U+2020 DAGGER; dagger
 14459 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14460 % U+2021 DOUBLE DAGGER; daggerdbl
 14461 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14462 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14463 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14464 % U+2014 EM DASH; emdash
 14465 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14466 % U+2013 EN DASH; endash
 14467 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14468 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14469 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14470 % U+2044 FRACTION SLASH; fraction
 14471 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14472 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 14473 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 14474 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 lingright
 14475 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A

14476 % U+2212 MINUS SIGN; minus
14477 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14478 % U+2030 PER MILLE SIGN; perthousand
14479 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14480 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14481 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14482 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14483 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14484 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14485 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14486 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14487 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14488 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14489 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14490 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14491 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14492 % U+2122 TRADE MARK SIGN; trademark
14493 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14494 % U+FB01 LATIN SMALL LIGATURE FI; fi
14495 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14496 % U+FB02 LATIN SMALL LIGATURE FL; fl
14497 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14498 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14499 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14500 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14501 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14502 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14503 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14504 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14505 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
14506 \DeclareTextCommand{\IJ}{PD1}{\230}
14507 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14508 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14509 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14510 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14511 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14512 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14513 % U+0153 LATIN SMALL LIGATURE OE; oe
14514 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14515 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14516 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14517 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14518 \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.
14519 % U+20AC EURO SIGN; *Euro, euro
14520 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14521 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14522 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14523 % U+00A2 CENT SIGN; cent
14524 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14525 % U+00A3 POUND SIGN; sterling
14526 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14527 % U+00A4 CURRENCY SIGN; currency
14528 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14529 % U+00A5 YEN SIGN; yen
14530 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5

14531 % U+00A6 BROKEN BAR; brokenbar
 14532 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14533 % U+00A7 SECTION SIGN; section
 14534 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14535 % U+00A8 DIAERESIS; dieresis
 14536 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14537 % U+00A9 COPYRIGHT SIGN; copyright
 14538 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14539 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14540 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14541 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 14542 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14543 % U+00AC NOT SIGN; logicalnot
 14544 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14545 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14546 % U+00AE REGISTERED SIGN; registered
 14547 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14548 % U+00AF MACRON; *macron, overscore
 14549 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 14550 % U+00B0 DEGREE SIGN; degree
 14551 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 14552 % U+00B1 PLUS-MINUS SIGN; plusminus
 14553 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 14554 % U+00B2 SUPERScript TWO; twosuperior
 14555 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 14556 % U+00B3 SUPERScript THREE; threesuperior
 14557 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 14558 % U+00B4 ACUTE ACCENT; acute
 14559 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 14560 % U+00B5 MICRO SIGN; mu, mul
 14561 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 14562 % U+00B6 PILCROW SIGN; paragraph
 14563 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 14564 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14565 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 14566 % U+00B8 CEDILLA; cedilla
 14567 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 14568 % U+00B9 SUPERScript ONE; onesuperior
 14569 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 14570 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 14571 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 14572 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 14573 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 14574 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 14575 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 14576 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 14577 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 14578 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 14579 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 14580 % U+00BF INVERTED QUESTION MARK; questiondown
 14581 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
 14582 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 14583 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
 14584 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute

14585 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14586 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14587 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14588 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14589 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14590 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14591 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14592 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14593 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14594 % U+00C6 LATIN CAPITAL LETTER AE; AE
14595 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14596 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14597 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14598 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14599 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14600 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14601 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14602 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14603 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14604 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14605 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14606 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14607 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14608 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14609 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14610 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14611 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14612 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14613 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14614 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14615 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14616 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14617 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14618 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14619 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14620 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14621 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14622 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14623 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14624 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14625 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14626 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14627 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14628 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14629 % U+00D7 MULTIPLICATION SIGN; multiply
14630 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14631 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14632 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14633 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14634 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14635 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14636 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14637 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14638 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14639 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14640 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14641 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute

14642 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14643 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14644 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14645 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14646 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14647 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14648 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14649 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute
14650 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14651 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14652 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14653 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14654 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14655 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14656 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14657 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14658 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14659 % U+00E6 LATIN SMALL LETTER AE; ae
14660 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14661 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14662 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14663 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14664 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14665 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14666 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14667 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14668 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14669 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14670 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14671 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14672 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14673 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14674 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14675 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14676 \DeclareTextCompositeCommand{\^}{PD1}{i}{\355}% U+00ED
14677 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14678 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14679 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14680 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14681 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14682 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14683 % U+00F0 LATIN SMALL LETTER ETH; eth
14684 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14685 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14686 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14687 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14688 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
14689 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14690 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14691 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14692 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
14693 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14694 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14695 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14696 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14697 % U+00F7 DIVISION SIGN; divide
14698 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7

14699 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 14700 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 14701 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 14702 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9
 14703 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 14704 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
 14705 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 14706 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
 14707 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 14708 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
 14709 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 14710 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
 14711 % U+00FE LATIN SMALL LETTER THORN; thorn
 14712 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 14713 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 14714 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
 14715 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14716 \DeclareTextCommand{\SS}{PD1}{SS}
 14717 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

14718 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
 14719 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
 14720 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
 14721 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
 14722 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
 14723 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
 14724 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
 14725 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

14726 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
 14727 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
 14728 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
 14729 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
 14730 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
 14731 \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).

14732 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
 14733 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
 14734 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
 14735 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
 14736 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
 14737 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
 14738 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
 14739 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
 14740 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
 14741 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
 14742 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
 14743 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
 14744 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
 14745 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

14746 </pdlenc>

50.2 PU encoding

```
14747 ⟨*puenc⟩
14748 \DeclareFontEncoding{PU}{-}{-}
```

50.2.1 NFSS2 accents

```
14749 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14750 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
14751 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14752 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
14753 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14754 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
14755 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14756 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14757 % U+0304 COMBINING MACRON; macroncmb
14758 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14759 % U+0306 COMBINING BREVE; brevecmb
14760 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14761 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14762 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14763 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14764 % U+0308 COMBINING DIAERESIS; dieresiscmb
14765 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14766 % U+030A COMBINING RING ABOVE; ringcmb
14767 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14768 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14769 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14770 % U+030C COMBINING CARON; caroncmb
14771 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14772 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14773 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14774 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14775 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14776 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14777 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
14778 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14779 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14780 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14781 % U+0327 COMBINING CEDILLA; cedillacmb
14782 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14783 % U+0328 COMBINING OGONEK; ogonekcmb
14784 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14785 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14786 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14787 % U+20DD COMBINING ENCLOSING CIRCLE
14788 \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.

```
14789 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
14790 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14791 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
14792 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciitilde}
14793 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14794 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14795 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14796 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14797 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
```

```

14798 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14799 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14800 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14801 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14802 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14803 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14804 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14805 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14806 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14807 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

14808 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14809 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14810 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14811 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
14812 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14813 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14814 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14815 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14816 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14817 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14818 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14819 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14820 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14821 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14822 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14823 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14824 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14825 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14826 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14827 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14828 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14829 \DeclareTextCommand{\capitalgrave}{PU}[1]{\{'{#1}}
14830 \DeclareTextCommand{\capitalacute}{PU}[1]{\'\{#1}}
14831 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\~{#1}}
14832 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14833 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\{"{#1}}
14834 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14835 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14836 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14837 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14838 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14839 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
14840 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14841 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

14842 % U+0009 (CHARACTER TABULATION)
14843 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14844 % U+000A (LINE FEED)
14845 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14846 % U+000D (CARRIAGE RETURN)
14847 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

```

14848 % U+0022 QUOTATION MARK; quotedbl
 14849 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
 14850 % U+0023 NUMBER SIGN; numbersign
 14851 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 14852 % U+0024 DOLLAR SIGN; dollar
 14853 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 14854 % U+0025 PERCENT SIGN; percent
 14855 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 14856 % U+0026 AMPERSAND; ampersand
 14857 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 14858 % U+0027 APOSTROPHE; quotesingle
 14859 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 14860 % U+0028 LEFT PARENTHESIS; parenleft
 14861 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 14862 % U+0029 RIGHT PARENTHESIS; parenright
 14863 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 14864 % U+002A ASTERISK; asterisk
 14865 \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
 14866 % U+003C LESS-THAN SIGN; less
 14867 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 14868 % U+003E GREATER-THAN SIGN; greater
 14869 \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
 14870 % U+005C REVERSE SOLIDUS; backslash
 14871 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 14872 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14873 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14874 % U+005F LOW LINE; underscore
 14875 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14876 % U+0060 GRAVE ACCENT; grave
 14877 \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
 14878 % U+0069 LATIN SMALL LETTER I; i
 14879 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069

14880 \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
 14881 % U+007B LEFT CURLY BRACKET; braceleft
 14882 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14883 % U+007C VERTICAL LINE; *bar, verticalbar
 14884 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14885 % U+007D RIGHT CURLY BRACKET; braceright
 14886 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14887 % U+007E TILDE; asciitilde
 14888 \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
 14889 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14890 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14891 % U+00A2 CENT SIGN; cent
 14892 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14893 % U+00A3 POUND SIGN; sterling
 14894 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14895 % U+00A4 CURRENCY SIGN; currency
 14896 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14897 % U+00A5 YEN SIGN; yen
 14898 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14899 % U+00A6 BROKEN BAR; brokenbar
 14900 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14901 % U+00A7 SECTION SIGN; section
 14902 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14903 % U+00A8 DIAERESIS; diaeresis
 14904 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14905 % U+00A9 COPYRIGHT SIGN; copyright
 14906 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14907 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14908 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14909 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14910 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14911 % U+00AC NOT SIGN; logicalnot
 14912 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14913 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softhyphen
 14914 % U+00AE REGISTERED SIGN; registered
 14915 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 14916 % U+00AF MACRON; *macron, overscore
 14917 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 14918 % U+00B0 DEGREE SIGN; degree
 14919 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 14920 % U+00B1 PLUS-MINUS SIGN; plusminus
 14921 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 14922 % U+00B2 SUPERScript TWO; twosuperior
 14923 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 14924 % U+00B3 SUPERScript THREE; threesuperior
 14925 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 14926 % U+00B4 ACUTE ACCENT; acute

14927 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14928 \DeclareTextCommand{\textasciicute}{PU}{\80\264}% U+00B4
14929 % U+00B5 MICRO SIGN; mu, mul
14930 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
14931 % U+00B6 PILCROW SIGN; paragraph
14932 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
14933 % U+00B7 MIDDLE DOT; middot, *periodcentered
14934 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
14935 % U+00B8 CEDILLA; cedilla
14936 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
14937 % U+00B9 SUPERSCRIPT ONE; onesuperior
14938 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
14939 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14940 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
14941 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
14942 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
14943 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14944 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
14945 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14946 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
14947 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14948 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
14949 % U+00BF INVERTED QUESTION MARK; questiondown
14950 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
14951 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14952 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
14953 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14954 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
14955 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14956 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
14957 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14958 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
14959 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14960 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
14961 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14962 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
14963 % U+00C6 LATIN CAPITAL LETTER AE; AE
14964 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
14965 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14966 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
14967 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14968 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
14969 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14970 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
14971 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14972 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
14973 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14974 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
14975 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14976 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
14977 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14978 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
14979 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14980 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
14981 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14982 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF

14983 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14984 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
14985 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14986 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
14987 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14988 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
14989 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14990 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
14991 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14992 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
14993 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14994 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5
14995 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14996 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6
14997 % U+00D7 MULTIPLICATION SIGN; multiply
14998 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14999 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15000 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15001 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15002 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15003 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15004 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15005 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15006 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15007 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15008 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC
15009 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15010 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15011 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
15012 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15013 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15014 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15015 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15016 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15017 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15018 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15019 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15020 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15021 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15022 \DeclareTextCompositeCommand{\-}{PU}{a}{\80\343}% U+00E3
15023 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15024 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15025 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15026 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15027 % U+00E6 LATIN SMALL LETTER AE; ae
15028 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15029 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15030 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15031 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15032 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15033 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15034 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15035 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15036 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15037 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15038 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15039 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

15040 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
 15041 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
 15042 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
 15043 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 15044 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 15045 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
 15046 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE
 15047 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\356}% U+00EE
 15048 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 15049 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF
 15050 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\357}% U+00EF
 15051 % U+00F0 LATIN SMALL LETTER ETH; eth
 15052 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 15053 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 15054 \DeclareTextCompositeCommand{\'}{PU}{n}{\80\361}% U+00F1
 15055 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 15056 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
 15057 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 15058 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 15059 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 15060 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\364}% U+00F4
 15061 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 15062 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\365}% U+00F5
 15063 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15064 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\366}% U+00F6
 15065 % U+00F7 DIVISION SIGN; divide
 15066 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15067 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15068 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15069 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15070 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 15071 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15072 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 15073 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15074 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\373}% U+00FB
 15075 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15076 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\374}% U+00FC
 15077 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15078 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15079 % U+00FE LATIN SMALL LETTER THORN; thorn
 15080 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15081 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15082 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15083 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15084 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 15085 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15086 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 15087 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15088 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15089 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15090 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15091 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15092 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15093 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek

15094 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15095 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15096 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15097 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15098 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107
15099 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15100 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15101 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15102 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109
15103 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
15104 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15105 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15106 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15107 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15108 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15109 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15110 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15111 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15112 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15113 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15114 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15115 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15116 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15117 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15118 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15119 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15120 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15121 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15122 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15123 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15124 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15125 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15126 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15127 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15128 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15129 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15130 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15131 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15132 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15133 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15134 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15135 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15136 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15137 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15138 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15139 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15140 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15141 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15142 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15143 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15144 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15145 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15146 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15147 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
15148 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15149 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15150 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121

15151 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
 15152 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15153 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15154 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15155 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15156 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
 15157 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
 15158 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
 15159 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
 15160 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
 15161 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
 15162 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
 15163 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
 15164 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
 15165 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
 15166 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15167 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15168 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
 15169 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
 15170 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
 15171 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15172 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15173 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 15174 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 15175 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 15176 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15177 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15178 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 15179 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 15180 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 15181 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15182 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15183 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 15184 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 15185 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 15186 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 15187 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 15188 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 15189 % U+0133 LATIN SMALL LIGATURE IJ; ij
 15190 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 15191 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 15192 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 15193 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 15194 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15195 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15196 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 15197 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15198 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15199 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

15200 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 15201 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 15202 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute

15203 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15204 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15205 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15206 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15207 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15208 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15209 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15210 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15211 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15212 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15213 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E
There seems to be no variants of letters 'L' and 'l' with a dot above (reasonable). There-
fore the \. accent is reused instead of making a separate accent macro \textmiddledot.
15214 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
15215 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15216 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15217 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15218 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15219 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15220 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15221 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15222 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15223 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15224 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15225 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15226 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15227 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15228 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15229 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15230 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15231 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15232 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15233 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15234 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15235 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15236 % U+014A LATIN CAPITAL LETTER ENG; Eng
15237 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15238 % U+014B LATIN SMALL LETTER ENG; eng
15239 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15240 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15241 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15242 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15243 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15244 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15245 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15246 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15247 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15248 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-
cute, Ohungarumlaut
15249 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15250 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohun-
garumlaut
15251 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15252 % U+0152 LATIN CAPITAL LIGATURE OE; OE

15253 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15254 % U+0153 LATIN SMALL LIGATURE OE; oe
15255 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15256 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15257 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
15258 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15259 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
15260 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
cent
15261 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15262 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15263 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15264 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15265 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15266 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15267 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15268 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15269 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
15270 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15271 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
15272 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15273 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
15274 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15275 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
15276 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15277 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15278 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15279 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15280 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15281 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15282 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15283 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15284 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
15285 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15286 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15287 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15288 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15289 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15290 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15291 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15292 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15293 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15294 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15295 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15296 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15297 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15298 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15299 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15300 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15301 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15302 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15303 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15304 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15305 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15306 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15307 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D

15308 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15309 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15310 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15311 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 15312 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 15313 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15314 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 15315 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 15316 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15317 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15318 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15319 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15320 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15321 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15322 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15323 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15324 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15325 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15326 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15327 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15328 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15329 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15330 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15331 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15332 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15333 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15334 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15335 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15336 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15337 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15338 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15339 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15340 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15341 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15342 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15343 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15344 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15345 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15346 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15347 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15348 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15349 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15350 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15351 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15352 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15353 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15354 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15355 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15356 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15357 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15358 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15359 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15360 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3

15361 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15362 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15363 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15364 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 15365 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15366 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 15367 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 15368 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 15369 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 15370 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 15371 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 15372 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 15373 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 15374 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 15375 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 15376 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 15377 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 15378 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 15379 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 15380 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 15381 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 15382 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
 15383 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
 15384 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
 15385 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
 15386 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
 15387 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
 15388 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
 15389 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
 15390 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
 15391 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
 15392 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
 15393 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
 15394 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
 15395 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
 15396 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
 15397 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
 15398 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
 15399 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
 15400 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
 15401 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
 15402 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
 15403 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 15404 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 15405 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 15406 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 15407 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 15408 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 15409 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15410 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15411 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 15412 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 15413 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 15414 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 15415 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave

15416 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15417 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15418 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15419 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15420 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15421 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15422 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15423 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15424 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15425 % U+021F LATIN SMALL LETTER H WITH CARON
 15426 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15427 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15428 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15429 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15430 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15431 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15432 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15433 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15434 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15435 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15436 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15437 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15438 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15439 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15440 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15441 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15442 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15443 % U+0237 LATIN SMALL LETTER DOTLESS J
 15444 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15445 % U+02C7 CARON; caron
 15446 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15447 % U+02D8 BREVE; breve
 15448 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15449 % U+02D9 DOT ABOVE; dotaccent
 15450 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15451 % U+02DA RING ABOVE; ring
 15452 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15453 % U+02DB OGONEK; ogonek
 15454 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15455 % U+02DC SMALL TILDE; ilde, *tilde
 15456 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15457 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15458 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15459 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15460 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15461 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15462 % U+02F7 MODIFIER LETTER LOW TILDE
 15463 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15464 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15465 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15466 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15467 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15468 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb

15469 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15470 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15471 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15472 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15473 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15474 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15475 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15476 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15477 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15478 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 15479 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15480 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15481 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15482 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15483 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15484 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15485 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 15486 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
 cronos
 15487 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 15488 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos
 15489 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 15490 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15491 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 15492 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
 tadiesistonos
 15493 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesesis}{\83\220}% U+0390
 15494 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15495 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15496 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15497 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15498 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15499 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15500 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15501 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15502 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15503 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15504 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15505 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15506 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15507 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15508 % U+0398 GREEK CAPITAL LETTER THETA; Theta
 15509 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
 15510 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 15511 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 15512 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 15513 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 15514 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
 15515 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
 15516 % U+039C GREEK CAPITAL LETTER MU; Mu
 15517 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
 15518 % U+039D GREEK CAPITAL LETTER NU; Nu
 15519 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
 15520 % U+039E GREEK CAPITAL LETTER XI; Xi
 15521 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E

15522 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15523 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15524 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15525 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15526 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15527 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15528 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15529 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15530 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15531 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15532 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15533 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15534 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15535 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15536 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15537 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15538 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15539 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15540 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15541 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15542 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15543 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15544 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15545 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilon
15546 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15547 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15548 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15549 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
15550 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15551 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15552 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15553 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15554 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15555 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
15556 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
15557 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15558 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15559 % U+03B2 GREEK SMALL LETTER BETA; beta
15560 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15561 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15562 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15563 % U+03B4 GREEK SMALL LETTER DELTA; delta
15564 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15565 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15566 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15567 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15568 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15569 % U+03B7 GREEK SMALL LETTER ETA; eta
15570 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15571 % U+03B8 GREEK SMALL LETTER THETA; theta
15572 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15573 % U+03B9 GREEK SMALL LETTER IOTA; iota
15574 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15575 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15576 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA

15577 % U+03BB GREEK SMALL LETTER LAMDA; lambda
 15578 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
 15579 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
 15580 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
 15581 % U+03BD GREEK SMALL LETTER NU; nu
 15582 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
 15583 % U+03BE GREEK SMALL LETTER XI; xi
 15584 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
 15585 % U+03BF GREEK SMALL LETTER OMICRON; omicron
 15586 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 15587 % U+03C0 GREEK SMALL LETTER PI; pi
 15588 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
 15589 % U+03C1 GREEK SMALL LETTER RHO; rho
 15590 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 15591 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 15592 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 15593 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 15594 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 15595 % U+03C4 GREEK SMALL LETTER TAU; tau
 15596 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 15597 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 15598 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 15599 % U+03C6 GREEK SMALL LETTER PHI; phi
 15600 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 15601 % U+03C7 GREEK SMALL LETTER CHI; chi
 15602 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 15603 % U+03C8 GREEK SMALL LETTER PSI; psi
 15604 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 15605 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 15606 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 15607 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 15608 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 15609 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 15610 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 15611 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 15612 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 15613 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 15614 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 15615 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 15616 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 15617 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 15618 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 15619 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 15620 % U+03DB GREEK SMALL LETTER STIGMA
 15621 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15622 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15623 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15624 % U+03DD GREEK SMALL LETTER DIGAMMA
 15625 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15626 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15627 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15628 % U+03DF GREEK SMALL LETTER KOPPA
 15629 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15630 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15631 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15632 % U+03E1 GREEK SMALL LETTER SAMPI

15633 \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.

15634 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
15635 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
15636 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
15637 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
15638 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
15639 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15640 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15641 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15642 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
15643 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
15644 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15645 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15646 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
15647 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
15648 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15649 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
15650 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15651 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
15652 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15653 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15654 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15655 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15656 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15657 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15658 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15659 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15660 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15661 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15662 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15663 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
15664 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
15665 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15666 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15667 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15668 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15669 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15670 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15671 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15672 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15673 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15674 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15675 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15676 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15677 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15678 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15679 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15680 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15681 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15682 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15683 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15684 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417

15685 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
 15686 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
 15687 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
 15688 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
 15689 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
 15690 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
 15691 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
 15692 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
 15693 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
 15694 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 15695 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 15696 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
 15697 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
 15698 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
 15699 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
 15700 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
 15701 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
 15702 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
 15703 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
 15704 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
 15705 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
 15706 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
 15707 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
 15708 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
 15709 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
 15710 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
 15711 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
 15712 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
 15713 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
 15714 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
 15715 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
 15716 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
 15717 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
 15718 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
 15719 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
 15720 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
 15721 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
 15722 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
 15723 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
 15724 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
 15725 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
 15726 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
 15727 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
 15728 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
 15729 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
 15730 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
 15731 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
 15732 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
 15733 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
 15734 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
 15735 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
 15736 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
 15737 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
 15738 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
 15739 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
 15740 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
 15741 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433

15742 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15743 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15744 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15745 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15746 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15747 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15748 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15749 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15750 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15751 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15752 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15753 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15754 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15755 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15756 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15757 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15758 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
15759 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15760 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15761 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15762 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15763 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15764 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15765 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15766 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15767 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15768 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440
15769 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15770 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441
15771 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15772 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15773 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15774 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443
15775 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15776 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15777 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15778 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15779 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15780 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446
15781 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15782 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15783 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15784 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15785 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15786 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15787 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15788 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15789 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15790 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15791 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15792 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C
15793 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15794 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
15795 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15796 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E
15797 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15798 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F

15799 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 15800 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
 15801 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrrillic
 15802 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
 15803 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 15804 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 15805 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 15806 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 15807 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
 15808 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrrillic
 15809 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 15810 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 15811 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 15812 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
 15813 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 15814 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrrillic
 15815 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 15816 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
 15817 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 15818 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 15819 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 15820 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
 15821 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 15822 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 15823 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrrillic
 15824 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 15825 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 15826 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 15827 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 15828 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
 15829 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrrillic
 15830 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 15831 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 15832 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrrillic
 15833 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 15834 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrrillic
 15835 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 15836 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrrillic
 15837 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 15838 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrrillic, *afii10146
 15839 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 15840 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrrillic
 15841 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
 15842 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrrillic
 15843 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 15844 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrrillic
 15845 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 15846 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrrillic
 15847 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 15848 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrrillic
 15849 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 15850 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrrillic
 15851 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 15852 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrrillic

15853 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 15854 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 15855 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 15856 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 15857 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 15858 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic
 15859 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 15860 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
 15861 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 15862 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 15863 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15864 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15865 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15866 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15867 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15868 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15869 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15870 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15871 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15872 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15873 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15874 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15875 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15876 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15877 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15878 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
 15879 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15880 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
 15881 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15882 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15883 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15884 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15885 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15886 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 15887 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15888 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15889 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15890 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 15891 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15892 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 15893 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15894 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15895 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15896 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15897 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15898 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15899 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15900 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15901 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15902 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

15903 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 15904 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15905 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15906 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15907 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15908 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15909 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15910 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15911 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15912 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15913 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15914 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15915 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15916 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 15917 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15918 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 15919 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15920 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 15921 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15922 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15923 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15924 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 15925 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15926 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 15927 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15928 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 15929 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 15930 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 15931 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 15932 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 15933 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 15934 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 15935 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 15936 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499
 15937 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 15938 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic

15939 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
15940 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesender-cyrillic
15941 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
15942 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
15943 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
15944 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic
15945 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
15946 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
15947 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
15948 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
15949 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
15950 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
15951 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
15952 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
15953 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
15954 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-dercyrillic
15955 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
15956 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-cyrillic
15957 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
15958 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
15959 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
15960 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
15961 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
15962 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-dlehookcyrillic
15963 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
15964 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-hookcyrillic
15965 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
15966 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-lic
15967 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
15968 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
15969 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
15970 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-dercyrillic
15971 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
15972 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
15973 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-cyrillic
15974 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
15975 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
15976 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-dercyrillic
15977 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
15978 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-cyrillic
15979 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
15980 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
15981 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
15982 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
15983 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF

15984 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-
 traightstrokecyrillic
 15985 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 15986 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-
 traightstrokecyrillic
 15987 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 15988 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-
 dercyrillic
 15989 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 15990 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-
 deryrillilic
 15991 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 15992 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 15993 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 15994 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 15995 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5
 15996 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescen-
 dercyrillic
 15997 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 15998 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-
 deryrillilic
 15999 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
 16000 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
 erticalstrokecyrillic
 16001 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16002 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
 erticalstrokecyrillic
 16003 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16004 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16005 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16006 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16007 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16008 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
 cyrillic
 16009 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16010 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
 lic
 16011 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16012 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; Chedescenderabkhasiancyrillic
 16013 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16014 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16015 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; chedescenderabkhasiancyrillic
 16016 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 16017 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16018 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 16019 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 16020 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 16021 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16022 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16023 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 16024 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16025 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16026 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16027 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16028 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL

16029 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16030 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16031 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 16032 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16033 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16034 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16035 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16036 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
 cyrillic
 16037 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16038 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
 cyrillic
 16039 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16040 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16041 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16042 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16043 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16044 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevcyrillic
 16045 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16046 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevcyrillic
 16047 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16048 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
 lic
 16049 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
 16050 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 16051 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
 16052 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 16053 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 16054 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 16055 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 16056 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic
 16057 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 16058 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic
 16059 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 16060 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 16061 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 16062 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afi10846, schwacyrillic
 16063 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9
 16064 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
 siscyrillic
 16065 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 16066 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
 siscyrillic
 16067 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB
 16068 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
 siscyrillic
 16069 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
 16070 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
 cyrillic
 16071 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
 16072 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
 cyrillic
 16073 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
 16074 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
 16075 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

16076 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
16077 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16078 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
16079 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16080 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
16081 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
16082 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
16083 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
16084 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
16085 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4
16086 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
16087 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5
16088 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
16089 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% U+04E6
16090 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
16091 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% U+04E7
16092 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
16093 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16094 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
16095 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16096 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
16097 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% U+04EA
16098 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
16099 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% U+04EB
16100 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16101 \DeclareTextCompositeCommand{\"}{PU}{\CYREREV}{\84\354}% U+04EC
16102 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16103 \DeclareTextCompositeCommand{\"}{PU}{\cyreref}{\84\355}% U+04ED
16104 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16105 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE
16106 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16107 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
16108 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
16109 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U+04F0
16110 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
16111 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% U+04F1
16112 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
16113 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
16114 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
16115 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
16116 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
16117 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
16118 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
16119 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
16120 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
16121 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
16122 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
16123 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7

16124 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
16125 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
16126 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
16127 \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
16128 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
16129 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
16130 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
16131 \DeclareTextCommand{\cyrrhk}{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

16132 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
16133 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16134 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
16135 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
16136 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
16137 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
16138 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
16139 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
16140 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
16141 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
16142 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
16143 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
16144 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
16145 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
16146 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
16147 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
16148 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
16149 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
16150 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
16151 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
16152 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
16153 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
16154 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
16155 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
16156 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16157 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
16158 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16159 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
16160 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16161 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
16162 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16163 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
16164 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16165 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23
16166 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16167 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
16168 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis

16169 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
16170 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16171 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
16172 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16173 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
16174 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16175 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
16176 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16177 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
16178 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16179 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
16180 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16181 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
16182 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16183 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
16184 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16185 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
16186 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16187 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
16188 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16189 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
16190 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16191 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
16192 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16193 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
16194 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16195 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
16196 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16197 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
16198 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16199 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
16200 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16201 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
16202 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16203 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
16204 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16205 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
16206 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16207 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
16208 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16209 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
16210 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16211 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
16212 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
16213 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
16214 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16215 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
16216 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16217 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
16218 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16219 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
16220 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16221 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
16222 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16223 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16224 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16225 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F

16226 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16227 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16228 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16229 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16230 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16231 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16232 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16233 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16234 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16235 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
16236 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16237 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
16238 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16239 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16240 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16241 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16242 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16243 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
16244 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16245 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
16246 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16247 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
16248 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16249 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
16250 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16251 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
16252 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16253 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
16254 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16255 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
16256 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16257 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
16258 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16259 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16260 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16261 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16262 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16263 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16264 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16265 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16266 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16267 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16268 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16269 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
16270 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
16271 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
16272 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
16273 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
16274 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
cent
16275 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
16276 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
16277 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
16278 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
16279 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
16280 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
16281 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

16282 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 16283 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
 16284 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 16285 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 16286 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 16287 \DeclareTextCompositeCommand{\-}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16288 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
 16289 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 16290 % U+2013 EN DASH; endash
 16291 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 16292 % U+2014 EM DASH; emdash
 16293 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 16294 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 16295 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 16296 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 16297 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 16298 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 16299 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 16300 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 16301 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 16302 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 16303 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 16304 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 16305 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 16306 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 16307 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 16308 % U+2020 DAGGER; dagger
 16309 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 16310 % U+2021 DOUBLE DAGGER; daggerdbl
 16311 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 16312 % U+2022 BULLET; bullet
 16313 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 16314 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 16315 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 16316 % U+2030 PER MILLE SIGN; perthousand
 16317 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 16318 % U+2031 PER TEN THOUSAND SIGN
 16319 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 16320 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 inglleft
 16321 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 16322 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
 inglright
 16323 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 16324 % U+203B REFERENCE MARK; referencemark
 16325 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 16326 % U+203D INTERROBANG
 16327 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 16328 % U+2044 FRACTION SLASH; fraction
 16329 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 16330 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 16331 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 16332 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 16333 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 16334 % U+2052 COMMERCIAL MINUS SIGN

16335 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16336 % U+2070 SUPERSCRIPT ZERO; zerosuperior
16337 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
16338 % U+2074 SUPERSCRIPT FOUR; foursuperior
16339 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
16340 % U+2075 SUPERSCRIPT FIVE; fivesuperior
16341 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
16342 % U+2076 SUPERSCRIPT SIX; sixsuperior
16343 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
16344 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
16345 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
16346 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
16347 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
16348 % U+2079 SUPERSCRIPT NINE; ninesuperior
16349 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
16350 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
16351 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
16352 % U+207B SUPERSCRIPT MINUS
16353 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
16354 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
16355 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
16356 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
16357 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
16358 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
16359 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
16360 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
16361 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
16362 % U+2080 SUBSCRIPT ZERO; zeroinferior
16363 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
16364 % U+2081 SUBSCRIPT ONE; oneinferior
16365 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
16366 % U+2082 SUBSCRIPT TWO; twoinferior
16367 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
16368 % U+2083 SUBSCRIPT THREE; threeinferior
16369 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
16370 % U+2084 SUBSCRIPT FOUR; fourinferior
16371 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
16372 % U+2085 SUBSCRIPT FIVE; fiveinferior
16373 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
16374 % U+2086 SUBSCRIPT SIX; sixinferior
16375 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
16376 % U+2087 SUBSCRIPT SEVEN; seveninferior
16377 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
16378 % U+2088 SUBSCRIPT EIGHT; eightinferior
16379 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
16380 % U+2089 SUBSCRIPT NINE; nineinferior
16381 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
16382 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
16383 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
16384 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
16385 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16386 % U+20A1 COLON SIGN; *colonmonetary, colonsign
16387 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1

16388 % U+20A4 LIRA SIGN; afii08941, *lira
 16389 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 16390 % U+20A6 NAIRA SIGN
 16391 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 16392 % U+20A7 PESETA SIGN; peseta
 16393 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 16394 % U+20A9 WON SIGN; won
 16395 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 16396 % U+20AB DONG SIGN; dong
 16397 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 16398 % U+20AC EURO SIGN; *Euro, euro
 16399 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 16400 % U+20B1 PESO SIGN
 16401 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 16402 % U+20B2 GUARANI SIGN
 16403 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16404 % U+2103 DEGREE CELSIUS; centigrade
 16405 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 16406 % U+2116 NUMERO SIGN; *afii61352, numero
 16407 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 16408 % U+2117 SOUND RECORDING COPYRIGHT
 16409 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 16410 % U+211E PRESCRIPTION TAKE; prescription
 16411 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 16412 % U+2120 SERVICE MARK
 16413 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 16414 % U+2122 TRADE MARK SIGN; trademark
 16415 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 16416 % U+2126 OHM SIGN; Ohm, Omega
 16417 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 16418 % U+2127 INVERTED OHM SIGN
 16419 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 16420 % U+212B ANGSTROM SIGN; angstrom
 16421 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 16422 % U+212E ESTIMATED SYMBOL; estimated
 16423 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 16424 % U+2135 ALEF SYMBOL; aleph
 16425 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16426 % U+2190 LEFTWARDS ARROW; arrowleft
 16427 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 16428 % U+2191 UPWARDS ARROW; arrowup
 16429 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16430 % U+2192 RIGHTWARDS ARROW; arrowright
 16431 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16432 % U+2193 DOWNWARDS ARROW; arrowdown
 16433 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16434 % U+2212 MINUS SIGN; minus
 16435 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16436 % U+221A SQUARE ROOT; radical
 16437 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16438 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
16439 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
16440 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
16441 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16442 % U+2422 BLANK SYMBOL
16443 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
16444 % U+2423 OPEN BOX; blank
16445 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16446 % U+2460 CIRCLED DIGIT ONE; onecircle
16447 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
16448 % U+2461 CIRCLED DIGIT TWO; twocircle
16449 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
16450 % U+2462 CIRCLED DIGIT THREE; threecircle
16451 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
16452 % U+2463 CIRCLED DIGIT FOUR; fourcircle
16453 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
16454 % U+2464 CIRCLED DIGIT FIVE; fivecircle
16455 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
16456 % U+2465 CIRCLED DIGIT SIX; sixcircle
16457 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
16458 % U+2466 CIRCLED DIGIT SEVEN; sevendigit
16459 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
16460 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
16461 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
16462 % U+2468 CIRCLED DIGIT NINE; ninecircle
16463 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
16464 % U+2469 CIRCLED NUMBER TEN; tencircle
16465 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
16466 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
16467 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
16468 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
16469 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
16470 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
16471 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
16472 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
16473 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
16474 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
16475 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
16476 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
16477 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
16478 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
16479 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
16480 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
16481 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
16482 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
16483 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
16484 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
16485 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
16486 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
16487 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
16488 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
16489 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7

16490 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16491 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16492 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16493 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16494 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16495 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16496 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16497 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16498 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16499 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16500 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16501 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16502 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16503 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16504 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16505 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16506 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16507 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16508 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16509 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16510 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16511 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16512 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16513 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16514 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16515 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16516 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16517 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16518 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16519 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16520 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16521 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16522 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16523 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16524 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16525 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16526 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16527 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16528 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16529 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16530 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16531 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16532 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 16533 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 16534 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 16535 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 16536 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 16537 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 16538 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 16539 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 16540 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 16541 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 16542 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 16543 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 16544 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 16545 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 16546 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle

16547 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 16548 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 16549 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 16550 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 16551 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 16552 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 16553 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 16554 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 16555 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 16556 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 16557 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 16558 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 16559 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 16560 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 16561 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 16562 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 16563 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 16564 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 16565 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 16566 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 16567 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 16568 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 16569 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 16570 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 16571 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 16572 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 16573 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 16574 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 16575 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 16576 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 16577 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 16578 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 16579 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 16580 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 16581 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 16582 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 16583 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 16584 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 16585 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 16586 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 16587 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 16588 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 16589 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 16590 % U+24EA CIRCLED DIGIT ZERO
 16591 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16592 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16593 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16594 % U+25EF LARGE CIRCLE; largecircle
 16595 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16596 % U+266A EIGHTH NOTE; musicalnote
 16597 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16598 % U+26AD MARRIAGE SYMBOL
 16599 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD

16600 % U+26AE DIVORCE SYMBOL
 16601 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

16602 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16603 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16604 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16605 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

16606 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16607 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16608 % U+FB02 LATIN SMALL LIGATURE FL; fl
 16609 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16610 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

16611 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
 16612 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
 16613 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
 16614 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
 16615 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
 16616 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
 16617 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
 16618 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16619 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
 16620 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
 16621 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
 16622 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
 16623 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
 16624 </puenc>

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

16625 <*puvnenc>
 16626 \DeclareTextCommand{\abreve}{PU}{\81\003}
 16627 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
 16628 \DeclareTextCommand{\dj}{PU}{\81\021}
 16629 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
 16630 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
 16631 \DeclareTextCommand{\ohorn}{PU}{\81\241}
 16632 \DeclareTextCommand{\uhorn}{PU}{\81\260}
 16633 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
 16634 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
 16635 \DeclareTextCommand{\DJ}{PU}{\81\020}
 16636 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
 16637 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
 16638 \DeclareTextCommand{\OHORN}{PU}{\81\240}
 16639 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16640 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16641 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16642 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16643 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16644 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16645 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16646 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16647 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16648 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16649 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16650 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16651 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16652 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16653 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16654 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16655 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16656 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16657 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16658 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16659 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16660 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16661 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16662 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16663 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16664 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16665 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16666 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16667 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16668 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16669 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16670 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16671 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16672 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16673 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16674 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16675 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16676 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16677 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16678 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16679 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16680 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16681 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16682 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
16683 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16684 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16685 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16686 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16687 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16688 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16689 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16690 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16691 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16692 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16693 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16694 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16695 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16696 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}

16697 \DeclareTextCompositeCommand{'}{PU}{y}{\9036\363}
16698 \DeclareTextCompositeCommand{h}{PU}{y}{\9036\367}
16699 \DeclareTextCompositeCommand{~}{PU}{y}{\9036\371}
16700 \DeclareTextCompositeCommand{'}{PU}{A}{\80\301}
16701 \DeclareTextCompositeCommand{d}{PU}{A}{\9036\240}
16702 \DeclareTextCompositeCommand{'}{PU}{A}{\80\300}
16703 \DeclareTextCompositeCommand{h}{PU}{A}{\9036\242}
16704 \DeclareTextCompositeCommand{~}{PU}{A}{\80\303}
16705 \DeclareTextCompositeCommand{'}{PU}{\ABREVE}{\9036\256}
16706 \DeclareTextCompositeCommand{d}{PU}{\ABREVE}{\9036\266}
16707 \DeclareTextCompositeCommand{'}{PU}{\ABREVE}{\9036\260}
16708 \DeclareTextCompositeCommand{h}{PU}{\ABREVE}{\9036\262}
16709 \DeclareTextCompositeCommand{~}{PU}{\ABREVE}{\9036\264}
16710 \DeclareTextCompositeCommand{'}{PU}{\ACIRCUMFLEX}{\9036\244}
16711 \DeclareTextCompositeCommand{d}{PU}{\ACIRCUMFLEX}{\9036\254}
16712 \DeclareTextCompositeCommand{'}{PU}{\ACIRCUMFLEX}{\9036\246}
16713 \DeclareTextCompositeCommand{h}{PU}{\ACIRCUMFLEX}{\9036\250}
16714 \DeclareTextCompositeCommand{~}{PU}{\ACIRCUMFLEX}{\9036\252}
16715 \DeclareTextCompositeCommand{'}{PU}{E}{\80\311}
16716 \DeclareTextCompositeCommand{d}{PU}{E}{\9036\270}
16717 \DeclareTextCompositeCommand{'}{PU}{E}{\80\310}
16718 \DeclareTextCompositeCommand{h}{PU}{E}{\9036\272}
16719 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}
16720 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\276}
16721 \DeclareTextCompositeCommand{d}{PU}{\ECIRCUMFLEX}{\9036\306}
16722 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\300}
16723 \DeclareTextCompositeCommand{h}{PU}{\ECIRCUMFLEX}{\9036\302}
16724 \DeclareTextCompositeCommand{~}{PU}{\ECIRCUMFLEX}{\9036\304}
16725 \DeclareTextCompositeCommand{'}{PU}{I}{\80\315}
16726 \DeclareTextCompositeCommand{d}{PU}{I}{\9036\312}
16727 \DeclareTextCompositeCommand{'}{PU}{I}{\80\314}
16728 \DeclareTextCompositeCommand{h}{PU}{I}{\9036\310}
16729 \DeclareTextCompositeCommand{~}{PU}{I}{\81\050}
16730 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}
16731 \DeclareTextCompositeCommand{d}{PU}{O}{\9036\314}
16732 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}
16733 \DeclareTextCompositeCommand{h}{PU}{O}{\9036\316}
16734 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325}
16735 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\320}
16736 \DeclareTextCompositeCommand{d}{PU}{\OCIRCUMFLEX}{\9036\330}
16737 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\322}
16738 \DeclareTextCompositeCommand{h}{PU}{\OCIRCUMFLEX}{\9036\324}
16739 \DeclareTextCompositeCommand{~}{PU}{\OCIRCUMFLEX}{\9036\326}
16740 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\332}
16741 \DeclareTextCompositeCommand{d}{PU}{\OHORN}{\9036\342}
16742 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\334}
16743 \DeclareTextCompositeCommand{h}{PU}{\OHORN}{\9036\336}
16744 \DeclareTextCompositeCommand{~}{PU}{\OHORN}{\9036\340}
16745 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}
16746 \DeclareTextCompositeCommand{d}{PU}{U}{\9036\344}
16747 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}
16748 \DeclareTextCompositeCommand{h}{PU}{U}{\9036\346}
16749 \DeclareTextCompositeCommand{~}{PU}{U}{\81\150}
16750 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\350}
16751 \DeclareTextCompositeCommand{d}{PU}{\UHORN}{\9036\360}
16752 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}
16753 \DeclareTextCompositeCommand{h}{PU}{\UHORN}{\9036\354}

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16754 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
16755 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
16756 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16757 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
16758 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16759 \DeclareTextCompositeCommand{\-}{PU}{Y}{\9036\370}

16760 </puvnc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

16761 <*puarenc>

16762 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16763 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16764 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16765 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16766 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
16767 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16768 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16769 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16770 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16771 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16772 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16773 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16774 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
16775 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
16776 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16777 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL
16778 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16779 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16780 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN
16781 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
TER SHEEN
16782 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16783 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16784 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16785 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16786 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16787 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16788 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16789 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16790 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16791 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16792 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16793 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
16794 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON

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16795 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16796 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW
16797 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
16798 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16799 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16800 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16801 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN
16802 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
16803 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
16804 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
16805 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
16806 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN

Farsi
16807 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16808 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
16809 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16810 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16811 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16812 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

16813 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16814 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16815 </puarenc>

```

51 End of file hyccheck.tex

```

16816 <*check>
16817 \typeout{}
16818 \begin{document}
16819 \end{document}
16820 </check>

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52 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

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