

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 hycheck.tex

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

```
1 \langle*check\rangle
2 \documentclass{article}
3 \makeatletter
```

`\checklatex` Optional argument: release date of L^AT_EX.

```
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             \cname ver@\HyC@package.sty\endcsname
39           }}
```

```

40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```


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

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

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

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

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

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

`\HyC@nc@opt` This macro scans the first optional argument of a 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 `\cmd␣` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

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

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

`\HyC@edef`

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

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

\Hy@SetCatcodes

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

\Hy@RestoreCatcodes

```
205 \begingroup
206 \def\x#1{\catcode\‘\noexpand#1=\the\catcode\‘#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\‘%

```

```

210 \x\&%
211 \x\^%
212 \x\_%
213 \x\|%
214 \x\:%
215 \x\(%
216 \x\) %
217 \x\[ %
218 \x\] %
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```

231 \Hy@SetCatcodes

```

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

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

```

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

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

255 \RequirePackage{infwarerr}[2010/04/08]
256 \RequirePackage{keyval}[1997/11/10]
257 \RequirePackage{kvsetkeys}[2007/09/29]
258 \RequirePackage{pdfescape}[2007/11/11]
259 \RequirePackage{ifvtex}
260 \RequirePackage{ifxetex}[2006/08/21]

```

```

261 \RequirePackage{hycolor}
262 \RequirePackage{letltxmacro}[2008/06/13]
263 \def\Hy@Error{\@PackageError{hyperref}}
264 \def\Hy@Warning{\@PackageWarning{hyperref}}
265 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
266 \def\Hy@Info{\@PackageInfo{hyperref}}
267 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
268 \def\Hy@Message#1{%
269   \GenericWarning{%
270     (hyperref)\@spaces\@spaces\@spaces\@spaces
271   }{%
272     Package hyperref Message: #1\ltx@gobble
273   }%
274 }

```

4.2 Version check

\Hy@VersionChecked

```

275 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

\Hy@@VersionCheck

```

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

```

4.3 Checks with regular expressions

```

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

```

4.4 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\AfterBeginDocument` and `\AtBeginDocument`. If `ldump` is not loaded, then a single hook suffices for normal L^AT_EX processing.

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

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

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument`/`\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

4.5 Switches

```
381 \newif\ifHy@stoppedearly
382 \newif\ifHy@typexml
383 \newif\ifHy@activeanchor
384 \newif\ifHy@backref
385 \newif\ifHy@bookmarks
386 \newif\ifHy@bookmarksnumbered
387 \newif\ifHy@bookmarksopen
388 \newif\ifHy@breaklinks
```

```

389 \newif\ifHy@pdfcenterwindow
390 \newif\ifHy@CJKbookmarks
391 \newif\ifHy@colorlinks
392 \newif\ifHy@draft
393 \let\Hy@finaltrue\Hy@draftfalse
394 \let\Hy@finalfalse\Hy@drafttrue
395 \newif\ifHy@pdfescapeform
396 \newif\ifHy@hyperfigures
397 \newif\ifHy@pdffitwindow
398 \newif\ifHy@frenchlinks
399 \newif\ifHy@hyperfootnotes
400 \newif\ifHy@hyperindex
401 \newif\ifHy@hypertextnames
402 \newif\ifHy@implicit
403 \newif\ifHy@linktocpage
404 \newif\ifHy@localanchorname
405 \newif\ifHy@pdfmenubar
406 \newif\ifHy@naturalnames
407 \newif\ifHy@nesting
408 \newif\ifHy@pdfnewwindowset
409 \newif\ifHy@pdfnewwindow
410 \newif\ifHy@ocgcolorlinks
411 \newif\ifHy@pageanchor
412 \newif\ifHy@pdfpagelabels
413 \newif\ifHy@pdfpagehidden
414 \newif\ifHy@pdfstring
415 \newif\ifHy@plainpages
416 \newif\ifHy@psize
417 \newif\ifHy@raiselinks
418 \newif\ifHy@seminarslides
419 \newif\ifHy@setpagesize
420 \newif\ifHy@texht
421 \newif\ifHy@pdftoolbar
422 \newif\ifHy@unicode
423 \newif\ifHy@pdfusetitle
424 \newif\ifHy@verbose
425 \let\Hy@debugtrue\Hy@verbosetrue
426 \let\Hy@debugfalse\Hy@verbosefalse
427 \newif\ifHy@pdfwindowui
428 \newif\ifHy@pdfdisplaydoctitle
429 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

430 \Hy@backreffalse
431 \Hy@bookmarksnumberedfalse
432 \Hy@bookmarksopenfalse
433 \Hy@bookmarkstrue
434 \Hy@breaklinksfalse
435 \Hy@pdfcenterwindowfalse
436 \Hy@CJKbookmarksfalse
437 \Hy@pdfescapeformfalse
438 \Hy@hyperfiguresfalse
439 \Hy@pdffitwindowfalse
440 \Hy@hyperfootnotetrue
441 \Hy@hyperindextrue
442 \Hy@hypertextnametrue
443 \Hy@implicittrue
444 \Hy@linktocpagefalse

```



```

445 \Hy@localanchornamefalse
446 \Hy@pdfmenubartrue
447 \Hy@naturalnamesfalse
448 \Hy@nestingfalse
449 \Hy@pdfnewwindowsetfalse
450 \Hy@pdfnewwindowfalse
451 \Hy@pageanchortrue
452 \Hy@pdfpagelabelstrue
453 \Hy@pdfpagehiddenfalse
454 \Hy@pdfstringfalse
455 \Hy@plainpagesfalse
456 \Hy@raiselinksfalse
457 \Hy@setpagesizetrue
458 \Hy@texhtfalse
459 \Hy@pdftoolbartrue
460 \Hy@typexmlfalse
461 \Hy@unicodetrue
462 \Hy@pdfusetitlefalse
463 \Hy@verbosefalse
464 \Hy@pdfwindowuitrue
465 \Hy@pdfdisplaydoctitlefalse
466 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

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

```

5.1 Macros for recursions

```

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

```

5.2 Babel's protection of shorthand characters

\Hy@safe@activetrue Babel's switch setting commands cannot be used directly, because they can be undefined if babel is not loaded.

```

479 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
480 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

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

Example (T_EX):

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

`\hypercalcbp`

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

```

511     \strip@pt\dimen@
512   }%
513 } \x
514   \HyCal@scan#2\@nil
515 }%
516 \else
517   \def\hypercalcbp#1{%
518     \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
519   }%
520   \def\hypercalcbpdef{\def}%
521 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <code>ddd</code>
- Strings are stored either in `PDFDocEncoding`, which is a superset of ISO-Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

Important: In \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 cat-codes 10 until 12.

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

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

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

```
523 \begingroup
```

6.2.1 Preprocessing

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

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

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

```
524 \escapechar'\%
```

From the view of \TeX an octal sequence consists of the command tokens `\0` until `\3` and two digits. For saving tokens `\0`, `\1`, `\2`, and `\3` are directly used without a preceding `\string` in the glyph definitions. This is done here locally by defining the `\0` until `\3` commands. So the user can use octal escape sequences directly, the disadvantage is that a previous definition of this short commands does not apply.

```
525 \edef\0{\string\0}%
526 \edef\1{\string\1}%
527 \edef\2{\string\2}%
528 \edef\3{\string\3}%
```

Setting font encoding. The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

```
529 \ifHy@unicode
530 \edef\8{\string\8}%
531 \edef\9{\string\9}%
532 \fontencoding{PU}%
533 \HyPsd@UTFviii
534 \def\ifpdfstringunicode##1##2{##1}%
535 \else
536 \fontencoding{PD1}%
```

```

537 \def\ifpdfstringunicode##1##2{##2}%
538 \fi
539 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
540 \enc@update

```

Internal encoding commands. `\pdfstringdef` interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before `\@inmathwarn` will be disabled (see below).

```

541 \@inmathwarn\pdfstringdef

```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```

542 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

543 \let\add@accent\HyPsd@add@accent

```

Commands that don't use NFSS directly. There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

```

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

```

Newline `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

backslash: `\pdfstringdefDisableCommands{\let\\\textbackslash}`

new line: `\pdfstringdefDisableCommands{\let\\\textCR}`

disabled: `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

```

556 \def\\{\pdfstringdefWarn\\}%
557 \def\newline{\pdfstringdefWarn\newline}%

```

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

```

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

```

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

```

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

```

```

609 \let\small\@empty
610 \let\tiny\@empty
611 \let\mathversion\@gobble
612 \let\phantom\@gobble
613 \let\vphantom\@gobble
614 \let\hphantom\@gobble

```

Environments.

```

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

```

Package color.

```

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

```

Upper- and lowercase.

```

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

```

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

```

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

```

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

```

631 \let\cyr\relax

```

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

```

632 \let\es@roman\@Roman

```

Package german.

```

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

```

Package french. The support is deferred, because it needs `\GenericError` to be disabled (see below).

Package FrenchPro. This package uses:

```
\if@mid@expandable{not fully expandable code}{fully expandable
code}
```

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

AMS classes.

```
642 \HyPsd@AMSclassfix
```

Redefinition of `\hspace` `\hspace` don't work in bookmarks, the following fix tries to set a space if the argument is a positive length.

```
643 \let\hspace\HyPsd@hspace
```

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

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

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

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

Miscellaneous commands.

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

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

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

Patch for cjk bookmarks.

```
658 \HyPsd@CJKhook
```

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted within T_EX'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 `\pdfstringdef-PreHook`.

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

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


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

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

Package xspace.

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

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
673 \let\discretionary\@gobbletwo
\@ifstar is defined in LATEX as follows:
```

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

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

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

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

Support for package 'xargs':

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

6.2.2 Expansion

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

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

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

Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

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

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

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

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

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

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

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

6.2.3 Postprocessing

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

```
696 \ifx#1\@empty
697 \else
```

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

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

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

```

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

```

Check tokens. After removing the spaces and the grouping characters the string now should only consist of the following tokens/catcodes:

- 0 command names with start with an escape character.
- 3 math shift
- 4 alignment tabs
- 6 parameter, but this is unlikely.
- 7 superscript
- 8 subscript
- 11 letter
- 12 other
- 13 commands that are active characters.

After `\HyPsd@CheckCatcodes` the command `\HyPsd@RemoveMask` is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if `\HyPsd@CheckCatcodes` is called.

Because of internal local assignments and tabulars group braces are used.

```

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

```

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

should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

```
\xdef#1{\expandafter\strip@prefix\meaning#1}%
```

Looking for wrong glyphs. The case that glyphs aren't defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

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

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

```
714 \HyPsd@StringSubst{\\}{\textbackslash}#1%
```

Spaces. All spaces have already the form `\040`. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command `\HyPsd@SPACEOPTI`. But first it is defined to be `\relax` in order to prevent a too early expansion by an `\edef`. Secondly a `\relax` serves as a marker for a token that is detected by `\xspace`.

The code of `frenchb.ldf` can produce an additional space before `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

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

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

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

```

736     \let\HyPsd@empty\relax
737     \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
738     \fi

```

Support for package `xspace`. `\xspace` looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package `xspace` there are tokens with catcode 11 and 12, `\HyPsd@empty` and `\HyPsd@SPACEOPTI`. With package `xspace` marker for the italic correction `\/` and `\xspace` come with. In the package `xspace` case the two markers are replaced by commands and an `\edef` performs the `\xspace` processing.

In the opposite of the original `\xspace` `\HyPsd@xspace` uses an argument instead of a `\futurelet`, so we have to provide such an argument, if `\HyPsd@xspace` comes last. Because `\HyPsd@Subst` with several equal tokens (`--`) needs a safe last token, in both cases the string gets an additional `\HyPsd@empty`.

```

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

```

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

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

```

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

```

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

```

754     \let\HyPsd@empty\@empty

```

Left parentheses. Left parentheses are now converted to safe forms to avoid problems with unmatched ones (`\(` with `PDFDocEncoding`, the octal sequence with Unicode).

An optimization is possible. Matched parentheses can be replaced by a `()` pair. But this code is removed to save \TeX memory and time.

```

755     \ifHy@unicode

```

```

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

```

Optimizing spaces. Spaces are often used, but they have a very long form \040. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the .out file, but if the entries are read back, several spaces are merged to a single one.

With Unicode the spaces are replaced by their octal sequences.

```

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

```

Converting to Unicode. At last the eight bit letters have to be converted to Unicode, the masks \8 and \9 are removed and the Unicode marker is added.

```

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

```

Try conversion back to PDFDocEncoding.

```

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

```

```

800 \fi
801 \HyPsd@XeTeXBigCharsfalse

```

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

```

802 \pdfstringdefPostHook#1%
803 \endgroup
804 }

```

`\Hy@pdfstringdef`

```

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

```

6.3 Encodings

6.3.1 XeTeX

```

809 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
810 \catcode\z@=12 %
811 \ifxetex
812 \expandafter\@firstofone
813 \else
814 \let\HyPsd@XeTeXBigCharstrue\@empty
815 \let\HyPsd@XeTeXBigCharsfalse\@empty
816 \expandafter\@gobble
817 \fi
818 {%
819 \newif\ifHyPsd@XeTeXBigChars
820 \def\HyPsd@XeTeXBigCharsfalse{%
821 \global\let\ifHyPsd@XeTeXBigChars\iffalse
822 }%
823 \def\HyPsd@XeTeXBigCharstrue{%
824 \global\let\ifHyPsd@XeTeXBigChars\iftrue
825 }%
826 \def\HyPsd@ToBigChars#1{%
827 \ifHyPsd@XeTeXBigChars
828 \EdefEscapeHex\HyPsd@UnescapedString{%
829 \expandafter\@gobbletwo\HyPsd@UnescapedString
830 }%
831 \begingroup
832 \toks@{}%
833 \escapechar=92\relax
834 \let\x\HyPsd@ToBigChar
835 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
836 \relax\relax\relax\relax\relax\relax\relax
837 \edef\x{%
838 \endgroup
839 \gdef\noexpand#1{\the\toks@}%
840 }%
841 \x
842 \fi
843 }%
844 \def\HyPsd@ToBigChar#1#2#3#4{%
845 \ifx\relax#1\relax
846 \let\x\relax

```

```

847 \else
848 \count@=" #1#2#3#4\relax
849 \let\y\@empty
850 \lccode\z@=\count@
851 \ifnum\count@=40 % (
852 \let\y\@backslashchar
853 \else
854 \ifnum\count@=41 % )
855 \let\y\@backslashchar
856 \else
857 \ifnum\count@=92 % backslash
858 \let\y\@backslashchar
859 \else
860 \ifnum\count@=10 % newline
861 \edef\y##1{\string\n}%
862 \else
863 \ifnum\count@=13 % carriage return
864 \edef\y##1{\string\r}%
865 \fi
866 \fi
867 \fi
868 \fi
869 \fi
870 \lowercase{%
871 \toks@\expandafter{%
872 \the\expandafter\toks@
873 \y
874 ^^@%
875 }%
876 }%
877 \fi
878 \x
879 }%
880 }
881 \Hy@temp

```

6.3.2 Workaround for package linguex

```

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

```


6.3.3 PD1 encoding

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

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

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

6.3.4 PU encoding

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

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

```
908 \def\HyPsd@InitUnicode{%
909   \@ifundefined{T@PU}{%
910     \input{puenc.def}%
911     \HyLinguex@Restore
912   }{}%
913   \DeclareFontFamily{PU}{pdf}{}%
914   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
915   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
916   \let\HyPsd@InitUnicode\relax
917 }
```

6.4 Additional user commands

6.4.1 \texorpdfstring

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

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

6.4.2 Hooks for \pdfstringdef

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

```

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

```

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

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

```

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

```

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

```

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

```

`\HyPsd@DisableCommands`

```

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

```

`\pdfstringdefWarn` The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `\<>-` is added to the token. `\noexpand` protects the probably undefined one during the first expansion step. Then `\HyPsd@CheckCatcodes` can detect the not allowed token, `\HyPsd@CatcodeWarning` prints a warning message, after `\HyPsd@RemovePrefix` has removed the prefix.

`\pdfstringdefWarn` is intended for document authors or package writers, examples for use can be seen in the definition of `\HyPsd@ifnextchar` or `\HyPsd@protected@testopt`.

```

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

```

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

`\HyPsd@ignorespaces` With the help of a trick using `\romannumeral` the effect of `\ignorespaces` can be simulated a little, In a special case using an alphabetic constant `\romannumeral` eats an optional space. If the constant is zero, then the `\romannumeral` expression

vanishes. The following macro uses this trick twice, thus `\HyPsd@ignorespaces` eats up to two following spaces.

```

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

```

6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}

```

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

```

952 \def\HyPsd@BabelPatch{%
953   \let\HyOrg@languageshorthands\languageshorthands
954   \let\languageshorthands\HyPsd@LanguageShorthands
955 }
956 \begingroup\expandafter\expandafter\expandafter\endgroup
957 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
958   \let\HyPsd@langshort@system\@empty
959   \def\HyPsd@LanguageShorthands#1{%
960     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
961       \HyPsd@langshort@system
962     \expandafter\@gobble
963   \else
964     \expandafter\@firstofone
965   \fi
966   {%
967     \HyOrg@languageshorthands{#1}%
968   }%
969 }%
970 \else
971   \def\HyPsd@LanguageShorthands#1{%
972     \ifnum\pdf@strcmp{#1}{system}=\z@
973       \expandafter\@gobble
974     \else
975       \expandafter\@firstofone
976     \fi
977     {%
978       \HyOrg@languageshorthands{#1}%
979     }%
980   }%
981 \fi
982 \def\Hy@temp{%
983   \@ifpackageloaded{babel}{%
984     \@ifpackagelater{babel}{2008/03/16}{%

```

```

985 \let\Hy@temp\@empty
986 }{%
987 \def\HyPsd@BabelPatch{%
988 \let\HyOrg@languageshorthands\languageshorthands
989 }%
990 }%
991 }{}%
992 }
993 \Hy@temp
994 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
995 \newif\ifHy@next

Nothing to do for english.

996 \ltx@ifundefined{danish@sh@}{}{}%
997 \def\HyPsd@babel@danish{%
998 \declare@shorthand{danish}{"}{}%
999 \declare@shorthand{danish}{"}~{}{}%
1000 }%
1001 }
1002 \ltx@ifundefined{dutch@sh@}{}{}%
1003 \def\HyPsd@babel@dutch{%
1004 \declare@shorthand{dutch}{"}{}%
1005 \declare@shorthand{dutch}{"}~{}{}%
1006 }%
1007 }
1008 \ltx@ifundefined{finnish@sh@}{}{}%
1009 \def\HyPsd@babel@finnish{%
1010 \declare@shorthand{finnish}{"}{}%
1011 }%
1012 }
1013 \ltx@ifundefined{french@sh@}{}{}%
1014 \def\HyPsd@babel@frenchb{%
1015 \def\guill@spacing{ }%
1016 }%
1017 }
1018 \ltx@ifundefined{german@sh@}{}{}%
1019 \def\HyPsd@babel@german{%
1020 \declare@shorthand{german}{"}f{}f}%
1021 \declare@shorthand{german}{"}{}{}%
1022 \declare@shorthand{german}{"}~{}{}%
1023 }%
1024 }
1025 \ltx@ifundefined{macedonian@sh@}{}{}%
1026 \def\HyPsd@babel@macedonian{%
1027 \declare@shorthand{macedonian}{"}{}{}%
1028 \declare@shorthand{macedonian}{"}~{}{}%
1029 }%
1030 }{}
1031 \ltx@ifundefined{ngerman@sh@}{}{}%
1032 \def\HyPsd@babel@ngerman{%
1033 \declare@shorthand{ngerman}{"}{}{}%
1034 \declare@shorthand{ngerman}{"}~{}{}%
1035 }%
1036 }
1037 \ltx@ifundefined{portuges@sh@}{}{}%
1038 \def\HyPsd@babel@portuges{%
1039 \declare@shorthand{portuges}{"}{}{}%

```

```

1040 }%
1041 }
1042 \ltx@ifundefined{russian@sh@}{}{}%
1043 \def\HyPsd@babel@russian{%
1044   \declare@shorthand{russian}{"}|{}{}%
1045   \declare@shorthand{russian}{"}~{}{}%
1046 }%
1047 }
1048 \ltx@ifundefined{slovene@sh@}{}{}%
1049 \def\HyPsd@babel@slovene{%
1050   \declare@shorthand{slovene}{"}|{}{}%
1051 }%
1052 }

Nested quoting environments are not supported (<<, >>).
1053 \ltx@ifundefined{spanish@sh@>}{}{}%
1054 \def\HyPsd@babel@spanish{%
1055   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1056   \declare@shorthand{spanish}{>>}{\guillemotright}%
1057   \declare@shorthand{spanish}{"}=}{-}%
1058   \declare@shorthand{spanish}{"}~}{-}%
1059   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1060   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1061 }%
1062 }
1063 \ltx@ifundefined{swedish@sh@}{}{}%
1064 \def\HyPsd@babel@swedish{%
1065   \declare@shorthand{swedish}{"}|{}{}%
1066   \declare@shorthand{swedish}{"}~{}{}%
1067 }%
1068 }
1069 \ltx@ifundefined{ukrainian@sh@}{}{}%
1070 \def\HyPsd@babel@ukrainian{%
1071   \declare@shorthand{ukrainian}{"}|{}{}%
1072   \declare@shorthand{ukrainian}{"}~{}{}%
1073 }%
1074 }
1075 \ltx@ifundefined{usorbian@sh@}{}{}%
1076 \def\HyPsd@babel@usorbian{%
1077   \declare@shorthand{usorbian}{"}f}{f}%
1078   \declare@shorthand{usorbian}{"}|{}{}%
1079 }%
1080 }
1081 \ltx@ifundefined{greek@sh@\string~}{}{}%
1082 \let\HyPsd@GreekPatch\@empty
1083 }{}%
1084 \def\HyPsd@GreekPatch{%
1085   \let\greeknumeral\HyPsd@greeknumeral
1086   \let\Greeknumeral\HyPsd@greeknumeral
1087 }%
1088 }
1089 \def\HyPsd@greeknumeral#1{%
1090   \HyPsd@GreekNum\@firstoftwo{#1}%
1091 }
1092 \def\HyPsd@greeknumeral#1{%
1093   \HyPsd@GreekNum\@secondoftwo{#1}%
1094 }
1095 \def\HyPsd@GreekNum#1#2{%

```

```

1096 \ifHy@unicode
1097 \ifnum#2<\@ne
1098 \@arabic{#2}%
1099 \else
1100 \ifnum#2<1000000 %
1101 \HyPsd@@GreekNum#1{#2}%
1102 \else
1103 \@arabic{#2}%
1104 \fi
1105 \fi
1106 \else
1107 \@arabic{#2}%
1108 \fi
1109 }
1110 \def\HyPsd@@GreekNum#1#2{%
1111 \ifnum#2<\@m
1112 \ifnum#2<10 %
1113 \expandafter\HyPsd@GreekNumI
1114 \expandafter\@gobble\expandafter#1\number#2%
1115 \else
1116 \ifnum#2<100 %
1117 \expandafter\HyPsd@GreekNumII
1118 \expandafter\@gobble\expandafter#1\number#2%
1119 \else
1120 \expandafter\HyPsd@GreekNumIII
1121 \expandafter\@gobble\expandafter#1\number#2%
1122 \fi
1123 \fi
1124 \ifnum#2>\z@
1125 \textnumeralsigngreek
1126 \fi
1127 \else
1128 \ifnum#2<\@M
1129 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1130 \else
1131 \ifnum#2<100000 %
1132 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1133 \else
1134 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1135 \fi
1136 \fi
1137 \fi
1138 }
1139 \def\HyPsd@GreekNumI#1#2#3{%
1140 #1{%
1141 \ifnum#3>\z@
1142 \textnumeralsignlowergreek
1143 \fi
1144 }%
1145 \expandafter#2%
1146 \ifcase#3 %
1147 {}{}%
1148 \or\textalpha\textAlpha
1149 \or\textbeta\textBeta
1150 \or\textgamma\textGamma
1151 \or\textdelta\textDelta
1152 \or\textepsilon\textEpsilon

```

```

1153 \or\textstigmagreek\textStigmagreek
1154 \or\textzeta\textZeta
1155 \or\texteta\textEta
1156 \or\texttheta\textTheta
1157 \else
1158   {}{}%
1159 \fi
1160 }
1161 \def\HyPsd@GreekNumII#1#2#3#4{%
1162   #1{%
1163     \ifnum#3>\z@
1164       \textnumeralsignlowergreek
1165     \fi
1166   }%
1167   \expandafter#2%
1168   \ifcase#3 %
1169     {}{}%
1170     \or\textiota\textIota
1171     \or\textkappa\textKappa
1172     \or\textlambda\textLambda
1173     \or\textmu\textMu
1174     \or\textnu\textNu
1175     \or\textxi\textXi
1176     \or\textomicron\textOmicron
1177     \or\textpi\textPi
1178     \or\textkoppagreek\textKoppagreek
1179   \else
1180     {}{}%
1181   \fi
1182   \HyPsd@GreekNumI#1#2#4%
1183 }
1184 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1185   #1{%
1186     \ifnum#3>\z@
1187       \textnumeralsignlowergreek
1188     \fi
1189   }%
1190   \expandafter#2%
1191   \ifcase#3 %
1192     {}{}%
1193     \or\textrho\textRho
1194     \or\textsigma\textSigma
1195     \or\texttau\textTau
1196     \or\textupsilon\textUpsilon
1197     \or\textphi\textPhi
1198     \or\textchi\textChi
1199     \or\textpsi\textPsi
1200     \or\textomega\textOmega
1201     \or\textsampigreek\textSampigreek
1202   \else
1203     {}{}%
1204   \fi
1205   \HyPsd@GreekNumII#1#2#4#5%
1206 }
1207 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1208   \HyPsd@GreekNumI\@firstofone#1#2%
1209   \HyPsd@@GreekNum#1{#3#4#5}%

```

```

1210 }
1211 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1212   \HyPsd@GreekNumII\@firstofone#1#2#3%
1213   \HyPsd@@@GreekNum#1{#4#5#6}%
1214 }
1215 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1216   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1217   \HyPsd@@@GreekNum#1{#5#6#7}%
1218 }

1219 \def\HyPsd@SpanishPatch{%
1220   \ltx@ifundefined{es@save@dot}{%
1221     }{%
1222       \let\.\es@save@dot
1223     }%
1224 }

```

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

```

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

```

6.5.3 CJK patch

```

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

```

\HyPsd@CJKhook

```

1232 \def\HyPsd@CJKhook{%
1233   \ltx@ifpackageloaded{CJK}{%
1234     \let\CJK@kern\relax
1235     \let\CJKkern\relax
1236     \let\CJK@CJK\relax
1237     \ifHy@CJKbookmarks
1238       \HyPsd@CJKhook@bookmarks
1239     \fi
1240     \HyPsd@CJKhook@unicode
1241   }{}%
1242 }

```

6.5.4 CJK bookmarks

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

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

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

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

```

1243 \begingroup
1244   \catcode"7F=\active
1245   \toks@{%

```



```

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

```

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

```

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

```

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

```

1284 \def\HyPsd@DecimalToOctal#1{%
1285   \ifcase #1 %
1286     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1287     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1288     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1289     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1290     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1291     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1292     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1293     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1294     \or @\or A\or B\or C\or D\or E\or F\or G%
1295     \or H\or I\or J\or K\or L\or M\or N\or O%
1296     \or P\or Q\or R\or S\or T\or U\or V\or W%
1297     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%

```

```

1298 \or \140\or a\or b\or c\or d\or e\or f\or g%
1299 \or h\or i\or j\or k\or l\or m\or n\or o%
1300 \or p\or q\or r\or s\or t\or u\or v\or w%
1301 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1302 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1303 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1304 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1305 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1306 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1307 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1308 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1309 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1310 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1311 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1312 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1313 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1314 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1315 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1316 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1317 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1318 \fi
1319 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

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

```

\HyPsd@CJK@Unicode

```

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

1340 \def\HyPsd@HighA#1!{%
1341 \expandafter\expandafter\expandafter\HyPsd@HighB
1342 \IntCalcDiv#1!64!!%
1343 \expandafter\expandafter\expandafter\HyPsd@HighD
1344 \IntCalcMod#1!64!!%
1345 }
1346 \def\HyPsd@HighB#1!{%
1347 \expandafter\expandafter\expandafter\HyPsd@HighC

```

```

1348 \IntCalcDec#1!!%
1349 }
1350 \def\HyPsd@HighC#1!{%
1351 \IntCalcDiv#1!4!%
1352 \@backslashchar
1353 \IntCalcMod#1!4!%
1354 }
1355 \def\HyPsd@HighD#1!{%
1356 \ifcase\IntCalcDiv#1!8! %
1357 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1358 \fi
1359 \ifcase\IntCalcMod#1!8! %
1360 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1361 \fi
1362 }
1363 \def\HyPsd@DecimalToOctalFirst#1{%
1364 \9%
1365 \ifcase#1 %
1366 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1367 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1368 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1369 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1370 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1371 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1372 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1373 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1374 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1375 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1376 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1377 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1378 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1379 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1380 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1381 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1382 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1383 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1384 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1385 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1386 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1387 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1388 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1389 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1390 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1391 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1392 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1393 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1394 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1395 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1396 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1397 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1398 \fi
1399 }
1400 \def\HyPsd@DecimalToOctalSecond#1{%
1401 \ifcase #1 %
1402 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1403 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1404 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%

```

```

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

1436 \def\HyPsd@CJKnumber#1{%
1437 \ifnum#1<\z@
1438 \CJK@minus
1439 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1440 \else
1441 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1442 \fi
1443 }

1444 \def\HyPsd@@CJKnumber#1{%
1445 \ifcase#1 %
1446 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1447 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1448 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1449 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1450 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1451 \CJK@ten\CJK@nine
1452 \else
1453 \ifnum#1<10000 %
1454 \HyPsd@CJKnumberFour#1!\@empty{20}%
1455 \@empty
1456 \else
1457 \ifnum#1<100000000 %
1458 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1459 \IntCalcDiv#1!10000!%
1460 !{ }{20}%
1461 \CJK@tenthousand

```

```

1462     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1463     \IntCalcMod#1!10000!%
1464     !\CJK@zero{10}%
1465     \@empty
1466   \else
1467     \expandafter\HyPsd@CJKnumberLarge
1468     \number\IntCalcDiv#1!100000000!\expandafter!%
1469     \number\IntCalcMod#1!100000000!!%
1470   \fi
1471 \fi
1472 \fi
1473 }
1474 \def\HyPsd@CJKnumberLarge#1!#2!{%
1475   \HyPsd@CJKnumberFour#1!{ }{20}%
1476   \CJK@hundredmillion
1477   \ifnum#2=\z@
1478   \else
1479     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1480     \IntCalcDiv#2!10000!%
1481     !\CJK@zero{10}%
1482     \CJK@tenthousand
1483     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1484     \IntCalcMod#2!10000!%
1485     !\CJK@zero{10}%
1486     \@empty
1487   \fi
1488 }
1489 \def\HyPsd@CJKnumberFour#1!#2#3{%
1490   \ifnum#1=\z@
1491     \expandafter\@gobble
1492   \else
1493     \ifnum#1<1000 %
1494       #2%
1495       \HyPsd@CJKnumberThree#1!{ }{#3}%
1496     \else
1497       \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1498       \CJK@thousand
1499       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1500       \IntCalcMod#1!1000!%
1501       !\CJK@zero{10}%
1502     \fi
1503   \fi
1504 }
1505 \def\HyPsd@CJKnumberThree#1!#2#3{%
1506   \ifnum#1=\z@
1507   \else
1508     \ifnum#1<100 %
1509       #2%
1510       \HyPsd@CJKnumberTwo#1!{ }{#3}%
1511     \else
1512       \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1513       \CJK@hundred
1514       \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1515       \IntCalcMod#1!100!%
1516       !\CJK@zero{10}%
1517     \fi
1518   \fi

```

```

1519 }
1520 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1521   \ifnum#1=\z@
1522   \else
1523     \ifnum#1<#3 %
1524       #2%
1525       \HyPsd@@@CJKnumber{#1}%
1526     \else
1527       \HyPsd@@@CJKnumber{\IntCalcDiv#1!10!}%
1528       \CJK@ten
1529       \ifnum\IntCalcMod#1!10!=\z@
1530       \else
1531         \HyPsd@@@CJKnumber{\IntCalcMod#1!10!}%
1532       \fi
1533     \fi
1534   \fi
1535 }

1536 \def\HyPsd@CJKdigits#1{%
1537   \ifx*#1\relax
1538     \expandafter\HyPsd@@@CJKdigits\expandafter\CJK@zero
1539   \else
1540     \HyPsd@@@CJKdigits\CJK@null{#1}%
1541   \fi
1542 }

1543 \def\HyPsd@@@CJKdigits#1#2{%
1544   \ifx\#2\%
1545   \else
1546     \HyPsd@@@@@CJKdigits#1#2\@nil
1547   \fi
1548 }%

1549 \def\HyPsd@@@@@CJKdigits#1#2#3\@nil{%
1550   \HyPsd@CJKdigit#1{#2}%
1551   \ifx\#3\%
1552     \expandafter\@gobble
1553   \else
1554     \expandafter\@firstofone
1555   \fi
1556   {%
1557     \HyPsd@@@@@CJKdigits#1#3\@nil
1558   }%
1559 }

1560 \def\HyPsd@CJKdigit#1#2{%
1561   \ifcase#2 %
1562     #1\or
1563     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1564     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1565   \fi
1566 }

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

1567 \def\HyPsd@inmathwarn#1#2{%
1568   \ifx#2\expandafter
1569     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1570       \HyPsd@GLYPHERR
1571       \expandafter\@gobble\string#1%
1572       >%
1573       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1574     \else
1575       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1576     \fi
1577   \else
1578     \expandafter#2%
1579   \fi
1580 }
1581 \def\HyPsd@GobbleFiFi#1\fi#2\fi{%
1582 \def\HyPsd@EndWithElse#1\else{\else}

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

```

```

1585  #2%
1586 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in `\HyPsd@CheckCatcodes`.

```

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

```

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

```

1590 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```

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

```

6.5.9 `\hspace` fix

`\HyPsd@hspace`

```

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

```

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

```

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

```

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

```

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

```


6.5.10 Fix for AMS classes

```

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

```

6.5.11 Reference commands

`\HyPsd@href`

```

1620 \def\HyPsd@href#1#{\@secondoftwo}

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

1643 \fi
1644 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

1663 \def\HyPsd@@@nameref#1{%
1664 \expandafter\ifx\csname r@#1\endcsname\relax
1665 ??%
1666 \else
1667 \expandafter\expandafter\expandafter\expandafter
1668 \expandafter\expandafter\expandafter\@car
1669 \expandafter\expandafter\expandafter\@gobbletwo
1670 \csname r@#1\endcsname{}\@nil
1671 \fi
1672 }

```

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

```

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

```

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

```

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

```

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

```

1681 \def\HyPsd@@@autoref#1{%
1682 \expandafter\ifx\csname r@#1\endcsname\relax

```

```

1683   ??%
1684   \else
1685     \expandafter\expandafter\expandafter\HyPsd@autorefname
1686       \csname r@#1\endcsname\}\}\}\@nil
1687     \expandafter\expandafter\expandafter
1688       \@car\csname r@#1\endcsname\@nil
1689   \fi
1690 }

```

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

```

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

```

`\HyPsd@@autorefname`

```

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

```

6.5.12 Redefining the defining commands

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

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

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

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

The difference between `\HyPsd@DefCommand` and `\HyPsd@LetCommand` is that the first one also cancels this arguments, the parameter and definition text.

The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1707 \begingroup
1708   \def\x#1#2{%
1709     \endgroup
1710     \let#1\def
1711     \def\HyPsd@DefCommand##1##2###{%
1712       #1%
1713       \expandafter\noexpand
1714       \csname\expandafter\@gobble\string##1\@empty\endcsname
1715       \@gobble
1716     }%
1717     \let#2\let
1718     \def\HyPsd@@LetCommand##1{%
1719       \expandafter\ifx\csname##1\expandafter\endcsname
1720         \csname iftrue\endcsname
1721       \pdfstringdefWarn\let
1722       \expandafter\@gobble
1723     \else
1724       \expandafter\ifx\csname##1\expandafter\endcsname
1725         \csname iffalse\endcsname
1726       \pdfstringdefWarn\let
1727       \expandafter\expandafter\expandafter\@gobble
1728     \else
1729       #2%
1730       \expandafter\noexpand
1731       \csname##1\expandafter\expandafter\expandafter\endcsname
1732     \fi
1733   \fi
1734   }%
1735 }%
1736 \expandafter\x\csname <def>-command\expandafter\endcsname
1737   \csname <let>-command\endcsname
1738 \def\HyPsd@LetCommand#1{%
1739   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1740   \expandafter\expandafter\expandafter{%
1741     \expandafter\@gobble\string#1\@empty
1742   }%
1743 }
```

6.5.13 `\ifnextchar`

`\HyPsd@ifnextchar` In `\pdfstringdef \@ifnextchar` is disabled via a `\let` command to save time. First a warning message is given, then the three arguments are canceled. `\@ifnextchar` cannot work in a correct manner, because it uses `\futurelet`, but this is a stomach feature, that doesn't work in an expanding context. There are several variants of `\@ifnextchar`:

- `\@ifnextchar`
- `\kernel@ifnextchar`
- `\new@ifnextchar` from package `amsgen.sty` (bug report latex/3662).

```

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

```

6.5.14 \@protected@testoptifnextchar

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

```

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

```

6.6 Help macros for postprocessing

6.6.1 Generic warning.

`\HyPsd@Warning` For several reasons `\space` is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

```

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

```

6.6.2 Protecting spaces

```

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

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

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

```

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

```

1771   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%

```

```

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

```

Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

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

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

```

6.6.3 Remove grouping braces

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

```

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

```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text `#1#2`. By

a comparison with the original form in `#3` we can decide whether `#1` is a single token or a group. To avoid the case that `#2` is a group, the string is extended by a `|` before.

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

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

```

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

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

```

1845 \def\HyPsd@AppendItalcrr#1{%
1846   \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1847 }
1848 \def\HyPsd@@AppendItalcrr#1#2{%
1849   \expandafter\def\expandafter#2\expandafter{#2#1}%
1850 }
```

6.6.4 Catcode check

Check catcodes.

`\HyPsd@CheckCatcodes` Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting spaces and removing braces `#1` should be a single token, no group of several

tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the meaning of `\protect` are removed here. (`\protect` should have the meaning of `\@typeset@protect` that is equal to `\relax`).

```

1851 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1852   \global\let\HyPsd@Rest\relax
1853   \ifcat\relax\noexpand#1\relax
1854     \ifx#1\protect
1855       \else
1856         \ifx#1\penalty
1857           \setbox\z@=\hbox{%
1858             \afterassignment\HyPsd@AfterCountRemove
1859             \count@=#2\HyPsd@End
1860           }%
1861         \else
1862           \ifx#1\kern
1863             \setbox\z@=\hbox{%
1864               \afterassignment\HyPsd@AfterDimenRemove
1865               \dimen@=#2\HyPsd@End
1866             }%
1867           \else
1868             \ifx#1\hskip
1869               \setbox\z@=\hbox{%
1870                 \afterassignment\HyPsd@AfterSkipRemove
1871                 \skip@=#2\HyPsd@End
1872               }%
1873             \else
1874               \HyPsd@CatcodeWarning{#1}%
1875             \fi
1876           \fi
1877         \fi
1878       \fi
1879     \else
1880       \ifcat#1A% letter
1881         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1882           \HyPsd@String#1%
1883         }%
1884       \else
1885         \ifcat#1 % SPACE
1886           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1887             \HyPsd@String\HyPsd@SPACEOPTI
1888           }%
1889         \else
1890           \ifcat$#1%
1891             \HyPsd@CatcodeWarning{math shift}%
1892           \else
1893             \ifcat&#1%
1894               \HyPsd@CatcodeWarning{alignment tab}%
1895             \else
1896               \ifcat^#1%
1897                 \HyPsd@CatcodeWarning{superscript}%
1898               \else
1899                 \ifcat_#1%
1900                   \HyPsd@CatcodeWarning{subscript}%
1901                 \else

```



```

1902         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1903         \HyPsd@String#1%
1904         }%
1905     \fi
1906 \fi
1907 \fi
1908 \fi
1909 \fi
1910 \fi
1911 \fi
1912 \ifx\HyPsd@Rest\relax
1913 \ifx\scrollmode#2\scrollmode
1914 \else
1915 \Hy@ReturnAfterFiFiEnd{%
1916 \HyPsd@CheckCatcodes#2\HyPsd@end
1917 }%
1918 \fi
1919 \else
1920 \ifx\HyPsd@Rest\@empty
1921 \else
1922 \Hy@ReturnAfterFiFiEnd{%
1923 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@end
1924 }%
1925 \fi
1926 \fi
1927 \Hy@ReturnEnd
1928 }

```

Remove counts, dimens, skips.

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

```

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

```

\HyPsd@AfterDimenRemove If the value of the `dimen` (`\kern`) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than `1ex` with a space and removes them else.

```

1932 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1933 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1934 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1935 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1936 \else
1937 \ifdim\dimen@=\z@
1938 \else
1939 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1940 \fi
1941 \gdef\HyPsd@Rest{#1}%
1942 \fi
1943 }

```

\HyPsd@AfterSkipRemove The glue part of skips do not work in PDF strings and are ignored. Skips (`\hskip`), that are not zero, have the same interpreting problems like `dimens` (see above).

```

1944 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1945 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1946 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%

```

```

1947 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1948 \else
1949 \ifdim\skip@=\z@
1950 \else
1951 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1952 \fi
1953 \gdef\HyPsd@Rest{#1}%
1954 \fi
1955 }

```

Catcode warnings.

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

```

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

```

\HyPsd@RemoveSpaceWarning

```

1977 \def\HyPsd@RemoveSpaceWarning#1{%
1978 \HyPsd@Warning{%
1979 Token not allowed in a PDF string (%)
1980 \ifHy@unicode
1981 Unicode%
1982 \else
1983 PDFDocEncoding%
1984 \fi
1985 }:%
1986 \MessageBreak #1\MessageBreak
1987 removed%
1988 }%
1989 }

```

\HyPsd@ReplaceSpaceWarning

```

1990 \def\HyPsd@ReplaceSpaceWarning#1{%
1991 \HyPsd@Warning{%
1992 Token not allowed in a PDF string (%)
1993 \ifHy@unicode
1994 Unicode%
1995 \else

```

```

1996     PDFDocEncoding%
1997     \fi
1998     ):%
1999     \MessageBreak #1\MessageBreak
2000     replaced by space%
2001     }%
2002 }

```

6.6.5 Check for wrong glyphs

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

```

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

```

Spaces.

`\HyPsd@spaceopti` In the string the spaces are represented by `\HyPsd@spaceopti` tokens. Within an `\edef` it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next `\HyPsd@spaceopti` by an protected space `\040`.

```

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

```

6.6.6 Replacing tokens

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

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

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

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

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

`\HyPsd@EscapeTeX`

```
2060 \begingroup
2061   \lccode'\!='\%%
2062   \lccode'\|='\%%
2063   \lccode'\(='\{%
2064   \lccode'\)='\}%
2065   \lccode'0=\ltx@zero
2066   \lccode'1=\ltx@zero
2067   \lccode'3=\ltx@zero
2068   \lccode'4=\ltx@zero
2069   \lccode'5=\ltx@zero
2070   \lccode'7=\ltx@zero
2071 \lowercase{\endgroup
2072   \def\HyPsd@EscapeTeX#1{%
2073     \HyPsd@Subst!{|045}#1%
2074     \HyPsd@Subst({|173}#1%
2075     \HyPsd@Subst){|175}#1%
2076   }%
2077 }
```

6.6.7 Support for package `xspace`

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

```

2078 \def\HyPsd@doxspace#1{%
2079   \ifx#1\relax\else
2080   \ifx#1.\else
2081   \ifx#1:\else
2082   \ifx#1,\else
2083   \ifx#1;\else
2084   \ifx#1!\else
2085   \ifx#1?\else
2086   \ifx#1/\else
2087   \ifx#1-\else
2088   \ifx#1'\else
2089   \HyPsd@SPACEOPTI
2090   \fi
2091   \fi
2092   \fi
2093   \fi
2094   \fi
2095   \fi
2096   \fi
2097   \fi
2098   \fi
2099   \fi
2100   #1%
2101 }%

```

6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, \8 is replaced by \00, and \9 is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.

```

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

```

\HyPsd@ConvertToUnicode

```

2105 |gdef|HyPsd@ConvertToUnicode#1{%
2106   |xdef#1{%
2107     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2108   }%
2109   |ifx#1|@empty
2110   |else
2111     |xdef#1{%
2112       \376\377%
2113       #1%
2114     }%
2115   |fi
2116 }%

```

\HyPsd@DoConvert

```

2117 |gdef|HyPsd@DoConvert#1{%
2118   |ifx#1|@empty
2119   |else
2120     |ltx@ReturnAfterFi{%
2121       |ifx#1\%%
2122       \%%
2123       |expandafter|HyPsd@DoEscape
2124     |else

```

```

2125     |HyPsd@Char{#1}%
2126     |expandafter|HyPsd@DoConvert
2127     |fi
2128   }%
2129   |fi
2130 }%

```

\HyPsd@DoEscape

```

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

```

\HyPsd@GetTwoBytes

```

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

```

\HyPsd@GetOneByte

```

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

```

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

```

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

```

\HyPsd@Char

```

2159 \begingroup
2160   \catcode0=9 %
2161   \catcode'\^=7 %
2162   \catcode'\^^=12 %
2163   \def\x{^^^^0000}%
2164   \expandafter\endgroup
2165   \ifx\x\@empty
2166     \def\HyPsd@Char#1{%
2167       \ifnum'#1<128 %
2168         \@backslashchar 000#1%
2169       \else
2170         \ifnum'#1<65536 %

```

```

2171 \expandafter\HyPsd@CharTwoByte\number'#1!%
2172 \else
2173 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2174 \intcalcSub{'#1}{65536}!%
2175 \fi
2176 \fi
2177 }%
2178 \def\HyPsd@CharTwoByte#1!{%
2179 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2180 \IntCalcDiv#1!256!!%
2181 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2182 \IntCalcMod#1!256!!%
2183 }%
2184 \def\HyPsd@CharOctByte#1!{%
2185 \@backslashchar
2186 \IntCalcDiv#1!64!%
2187 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2188 \IntCalcMod#1!8!%
2189 }%
2190 \def\HyPsd@CharSurrogate#1!{%
2191 \@backslashchar 33%
2192 \IntCalcDiv#1!262144!%
2193 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2194 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2195 \@backslashchar 33%
2196 \expandafter\expandafter\expandafter\IntCalcAdd
2197 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2198 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2199 \IntCalcMod#1!256!!%
2200 }%
2201 \else
2202 \def\HyPsd@Char#1{%
2203 \@backslashchar 000#1%
2204 }%
2205 \fi

```

6.6.9 Support for UTF-8 input encoding

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

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

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

```

2206 \begingroup\expandafter\expandafter\expandafter\endgroup
2207 \expandafter\ifx\csname numexpr\endcsname\relax
2208 \let\HyPsd@UTFviii\relax
2209 \else
2210 \begingroup
2211 \lccode'\~='^^f4\relax
2212 \lowercase{\endgroup
2213 \def\HyPsd@UTFviii{%

```

```

2214 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2215 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2216 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2217 \ifx~\HyPsd@UTFviii@ccxliv@undef
2218 \let~\HyPsd@UTFviii@ccxliv@def
2219 \fi
2220 \let\unichar\HyPsd@unichar
2221 }%
2222 }%
2223 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}}%
2224 \edef\HyPsd@UTFviii@ccxliv@def{%
2225 \noexpand\UTFviii@four@octets\string~^f4%
2226 }%

```

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

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

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

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

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

$$(5)$$

```

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

```

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

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

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

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

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

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

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

$$(12)$$

```

2242 \def\HyPsd@UTFviii@three#1#2#3{%
2243 \expandafter\HyPsd@UTFviii@@three
2244 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2245 \number'#1\expandafter| %

```



```

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

```

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

```

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

```

```

2261 \def\HyPsd@UTFviii@four#1#2{%
2262 \expandafter\HyPsd@@UTFviii@four\number
2263 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2264 \expandafter|\number
2265 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2266 }%
2267 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2268 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2269 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2270 \ifodd#2 %
2271 \number\numexpr(#2-1)/2\relax
2272 \else
2273 \number\numexpr#2/2\relax
2274 \fi
2275 \number\numexpr\ifodd#2 4+\fi
2276 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2277 \933%
2278 \expandafter\HyPsd@@@UTFviii@four\number
2279 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2280 }%
2281 \def\HyPsd@@@UTFviii@four#1|#2{%
2282 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2283 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2284 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2285 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2286 }%

```

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

```

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

```

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

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

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

```
2298      \expandafter\HyPsd@unichar\expandafter{%
2299      \number\numexpr#1-9216%
2300      -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2301      \relax\relax\relax
2302      }%
2303      \else
2304      \ifnum#1>"7FF %
2305      \9%
2306      \expandafter\HyPsd@unichar@first@byte\expandafter{%
2307      \number
2308      \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2309      }%
2310      \else
2311      \8%
2312      \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2313      \fi
2314      \expandafter\HyPsd@unichar@second@byte\expandafter{%
2315      \number
2316      \numexpr#1-256*\number
2317      \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2318      }%
2319      \fi
2320      \fi
2321      \else
2322      .% unsupported (Unicode -> PDF Doc Encoding)
2323      \fi
2324      }%
2325      \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2326      \def\HyPsd@unichar@first@byte#1{%
2327      \number\dimexpr.015625\dimexpr#1sp\relax\relax
2328      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2329      \number
2330      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2331      \relax\relax\relax
2332      }%
2333      }%
2334      \def\HyPsd@unichar@second@byte#1{%
2335      \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2336      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2337      \number
2338      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2339      \relax\relax\relax
2340      }%
2341      }%
2342      \def\HyPsd@unichar@octtwo#1{%
2343      \number\dimexpr.125\dimexpr#1sp\relax\relax
2344      \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2345      \relax\relax\relax
2346      }%
```

2347 \fi

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

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

7 Support of other packages

7.1 Class memoir

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

7.2 Package subfigure

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

```
2359 \@ifpackageloaded{subfigure}{%
2360   \ltx@ifundefined{sub@label}{%
2361     \Hy@hypertexnamesfalse
2362   }{%
2363     \renewcommand*{\sub@label}[1]{%
2364       \@bsphack
2365       \subfig@oldlabel{#1}%
2366       \if@filesw
2367         \begingroup
2368           \edef\@currentlabstr{%
2369             \expandafter\strip@prefix\meaning\@currentlabelname
2370           }%
2371           \protected@write\@auxout{}{%
2372             \string\newlabel{sub@#1}{%
2373               {\@nameuse{\@thesub\@capttype}}%
2374               {\thepage}%
2375             }%
2376             \expandafter\strip@period\@currentlabstr
2377             \relax.\relax\@@@%
2378           }%
2379           {\@currentHref}%
2380           {}%
2381         }%
2382       }%
2383     \endgroup
2384   \fi
2385   \@esphack
2386 }%
2387 \@ifpackagelater{subfigure}{2002/03/26}{%
2388   \providecommand*{\toclevel@subfigure}{1}%
2389   \providecommand*{\toclevel@subtable}{1}%
2390 }%
2391 }%
2392 }
```

7.3 Package xr and xr-hyper

The beta version of xr that supports `\XR@addURL` is called **xr-hyper**. Therefore we test for the macro itself and not for the package name:

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

If reading external aux files check whether they have a non zero fourth field in `\newlabel` and if so, add the URL as the fifth field.

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

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

Providing dummy definitions.

```
2406 \let\literalps@out\@gobble
2407 \newcommand\pdfbookmark[3]{}{}
2408 \def\Acrobatmenu#1#2{\leavevmode#2}
2409 \def\Hy@writebookmark#1#2#3#4#5{}%
```

8 Help macros for links

Anchors get created on the baseline of where they occur. If an XYZ PDF view is set, this means that the link places the top of the screen *on the baseline* of the target. If this is an equation, for instance, it means that you cannot see anything. Some links, of course, are created at the start of environments, and so it works. To allow for this, anchors are raised, where possible, by some small amount. This defaults to `\baselineskip`, but users can set it to something else in two ways (thanks to Heiko Oberdiek for suggesting this):

1. Redefine `\HyperRaiseLinkDefault` to be eg the height of a `\strut`
2. Redefine `\HyperRaiseLinkHook` to do something complicated; it must give a value to `\HyperRaiseLinkLength`, which is what actually gets used

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

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

```
2412 \newcount\Hy@SavedSpaceFactor
2413 \def\Hy@SaveSpaceFactor{%
2414   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2415 }
2416 \def\Hy@RestoreSpaceFactor{%
2417   \relax
2418   \ifhmode
2419     \ifnum\Hy@SavedSpaceFactor>\z@
2420       \spacefactor=\Hy@SavedSpaceFactor
2421     \fi
2422   \fi
```

```

2423 }
2424 \def\Hy@SaveSavedSpaceFactor{%
2425 \edef\Hy@RestoreSavedSpaceFactor{%
2426 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2427 }%
2428 }
2429 \def\Hy@raisedlink#1{%
2430 \ifvmode
2431 #1%
2432 \else
2433 \Hy@SaveSpaceFactor
2434 \penalty\@M
2435 \smash{%
2436 \begingroup
2437 \let\HyperRaiseLinkLength\@tempdima
2438 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2439 \HyperRaiseLinkHook
2440 \expandafter\endgroup
2441 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2442 \Hy@RestoreSpaceFactor
2443 #1%
2444 \Hy@SaveSpaceFactor
2445 }%
2446 }%
2447 \Hy@RestoreSpaceFactor
2448 \fi
2449 }

```

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

```

2450 \def\Hy@SaveLastskip{%
2451 \let\Hy@RestoreLastskip\relax
2452 \ifvmode
2453 \ifdim\lastskip=\z@
2454 \let\Hy@RestoreLastskip\nobreak
2455 \else
2456 \begingroup
2457 \skip@=-\lastskip
2458 \edef\x{%
2459 \endgroup
2460 \def\noexpand\Hy@RestoreLastskip{%
2461 \noexpand\ifvmode
2462 \noexpand\nobreak
2463 \vskip\the\skip@
2464 \vskip\the\lastskip\relax
2465 \noexpand\fi
2466 }%
2467 }%
2468 \x
2469 \fi
2470 \else
2471 \ifhmode
2472 \ifdim\lastskip=\z@
2473 \let\Hy@RestoreLastskip\nobreak
2474 \else
2475 \begingroup
2476 \skip@=-\lastskip
2477 \edef\x{%

```

```

2478         \endgroup
2479         \def\noexpand\Hy@RestoreLastskip{%
2480             \noexpand\ifhmode
2481                 \noexpand\nobreak
2482                 \hskip\the\skip@
2483                 \hskip\the\lastskip\relax
2484             \noexpand\fi
2485         }%
2486     }%
2487     \x
2488     \fi
2489     \fi
2490     \fi
2491 }%

```

9 Options

```

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

```

9.1 Help macros

`\IfHyperBooleanExists`

```

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

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

```

`\IfHyperBoolean`

```

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

```

`\Hy@boolkey`

```

2511 \def\Hy@boolkey#1#2{%
2512     \edef\Hy@tempa{#2}%
2513     \lowercase\expandafter{%
2514         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2515     }%
2516     \ifx\Hy@tempa\@empty
2517         \let\Hy@tempa\Hy@true
2518     \fi
2519     \ifx\Hy@tempa\Hy@true
2520     \else
2521         \ifx\Hy@tempa\Hy@false
2522         \else

```

```

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

```

\Hy@WarnOptionValue

```

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

```

\Hy@DisableOption

```

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

```

\Hy@WarnOptionDisabled

```

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

```

\Hy@CheckOptionValue Some options take a string value out of a limited set of values. Macro \Hy@CheckOptionValue checks whether the given value #1 for option #2 is a member of the value list #3.

```

2554 \def\Hy@CheckOptionValue#1#2#3{%
2555   \begingroup
2556   \edef\x{#1}%
2557   \@onelevel@sanitize\x
2558   \let\y=y%
2559   \def\do##1##2{%
2560     \def\z{##1}%
2561     \@onelevel@sanitize\z
2562     \ifx\x\z
2563       \let\y=n%
2564     \let\do\@gobbletwo
2565   \fi
2566   }%
2567   #3%
2568   \ifx\y y%
2569     \def\do##1##2{%

```

```

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

```

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

```

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

```

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

```

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

```

`\Hy@UseNameKey`

```

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

```

9.2 Defining the options

```

2602 \define@key{Hyp}{implicit}[true]{%
2603   \Hy@boolkey{implicit}{#1}%
2604 }
2605 \define@key{Hyp}{draft}[true]{%
2606   \Hy@boolkey{draft}{#1}%
2607 }
2608 \define@key{Hyp}{final}[true]{%
2609   \Hy@boolkey{final}{#1}%
2610 }
2611 \let\KV@Hyp@nolinks\KV@Hyp@draft
2612 \def\Hy@ObsoletePaperOption#1{%

```



```

2613 \Hy@WarningNoLine{%
2614   Option '#1' is no longer used%
2615 }%
2616 \define@key{Hyp}{#1}[true]{}%
2617 }
2618 \def\Hy@temp#1{%
2619   \define@key{Hyp}{#1}[true]{}%
2620   \Hy@ObsoletePaperOption{#1}%
2621 }%
2622 }
2623 \Hy@temp{a4paper}
2624 \Hy@temp{a5paper}
2625 \Hy@temp{b5paper}
2626 \Hy@temp{letterpaper}
2627 \Hy@temp{legalpaper}
2628 \Hy@temp{executivepaper}

2629 \define@key{Hyp}{setpagesize}[true]{}%
2630 \Hy@boolkey{setpagesize}{#1}%
2631 }
2632 \define@key{Hyp}{debug}[true]{}%
2633 \Hy@boolkey{debug}{#1}%
2634 }
2635 \define@key{Hyp}{linktocpage}[true]{}%
2636 \Hy@boolkey{linktocpage}{#1}%
2637 \ifHy@linktocpage
2638   \let\Hy@linktoc\Hy@linktoc@page
2639 \else
2640   \let\Hy@linktoc\Hy@linktoc@section
2641 \fi
2642 }
2643 \chardef\Hy@linktoc@none=0 %
2644 \chardef\Hy@linktoc@section=1 %
2645 \chardef\Hy@linktoc@page=2 %
2646 \chardef\Hy@linktoc@all=3 %
2647 \ifHy@linktocpage
2648   \let\Hy@linktoc\Hy@linktoc@page
2649 \else
2650   \let\Hy@linktoc\Hy@linktoc@section
2651 \fi
2652 \define@key{Hyp}{linktoc}{}%
2653 \@ifundefined{Hy@linktoc@#1}{}%
2654 \Hy@Warning{%
2655   Unexpected value '#1' of\MessageBreak
2656   option 'linktoc' instead of 'none',\MessageBreak
2657   'section', 'page' or 'all'%
2658 }%
2659 }{}%
2660 \expandafter\let\expandafter\Hy@linktoc
2661 \csname Hy@linktoc@#1\endcsname
2662 }%
2663 }
2664 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2665 \let\XR@ext\relax
2666 \define@key{Hyp}{verbose}[true]{}%
2667 \Hy@boolkey{verbose}{#1}%
2668 }
2669 \define@key{Hyp}{typexml}[true]{}%

```

```

2670 \Hy@boolkey{typexml}{#1}%
2671 }

```

If we are going to PDF via HyperTeX `\special` commands, the dvips (-z option) processor does not know the *height* of a link, as it works solely on the position of the closing `\special`. If we use this option, the `\special` is raised up by the right amount, to fool the dvi processor.

```

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

```

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

```

2675 \def\Hy@setbreaklinks#1{%
2676 \csname breaklinks#1\endcsname
2677 }

2678 \def\Hy@breaklinks@unsupported{%
2679 \ifx\Hy@setbreaklinks\@gobble
2680 \ifHy@breaklinks
2681 \Hy@WarningNoLine{%
2682 You have enabled option 'breaklinks'.\MessageBreak
2683 But driver '\Hy@driver.def' does not support this.\MessageBreak
2684 Expect trouble with the link areas of broken links%
2685 }%
2686 \fi
2687 \fi
2688 }

```

```

2689 \define@key{Hyp}{breaklinks}[true]{%
2690 \Hy@boolkey{breaklinks}{#1}%
2691 \let\Hy@setbreaklinks\@gobble
2692 }

```

```

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

```

Determines whether an automatic anchor is put on each page

```

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

```

Are the page links done as plain arabic numbers, or do they follow the formatting of the package? The latter loses if you put in typesetting like `\textbf` or the like.

```

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

```

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

```

2702 \define@key{Hyp}{naturalnames}[true]{%
2703 \Hy@boolkey{naturalnames}{#1}%
2704 }

```

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

```

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

```

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

```

2708 \define@key{Hyp}{nesting}[true]{%

```

```

2709 \Hy@boolkey{nesting}{#1}%
2710 }
2711 \define@key{Hyp}{unicode}[true]{%
2712 \Hy@boolkey{unicode}{#1}%
2713 \ifHy@unicode
2714 \def\HyPsd@pdfencoding{unicode}%
2715 \HyPsd@LoadUnicode
2716 \else
2717 \def\HyPsd@pdfencoding{pdfdoc}%
2718 \fi
2719 }
2720 \def\HyPsd@LoadUnicode{%
2721 \@ifundefined{T@PU}{%
2722 \input{puenc.def}%
2723 \HyLinguex@Restore
2724 }{}%
2725 \DeclareFontFamily{PU}{pdf}{}%
2726 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2727 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2728 \global\let\HyPsd@LoadUnicode\relax
2729 }
2730 \Hy@AtBeginDocument{%
2731 \ifx\HyPsd@LoadUnicode\relax
2732 \else
2733 \def\HyPsd@LoadUnicode{%
2734 \Hy@Error{%
2735 Unicode support for bookmarks is not available.\MessageBreak
2736 Activate unicode support by using one of the options\MessageBreak
2737 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2738 in the preamble%
2739 } \@ehc
2740 \global\let\HyPsd@LoadUnicode\relax
2741 \global\Hy@unicodetrue
2742 \global\let\Hy@unicodetrue\Hy@unicodetrue
2743 }%
2744 \fi
2745 }
2746 \define@key{Hyp}{pdfencoding}{%
2747 \edef\HyPsd@temp{#1}%
2748 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2749 \let\HyPsd@pdfencoding\HyPsd@temp
2750 \Hy@unicodetrue
2751 \else
2752 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2753 \z@
2754 \else
2755 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2756 \z@
2757 \else
2758 \@ne
2759 \fi
2760 \fi
2761 \let\HyPsd@pdfencoding\HyPsd@temp
2762 \hypersetup{unicode}%
2763 \ifHy@unicode
2764 \def\HyPsd@pdfencoding{#1}%
2765 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto

```

```

2766     \HyPsd@LoadStringEnc
2767     \fi
2768   \else
2769     \Hy@Warning{Cannot switch to unicode bookmarks}%
2770     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2771     \fi
2772   \else
2773     \@onelevel@sanitize\HyPsd@temp
2774     \Hy@Warning{%
2775       Values of option 'pdfencoding':\MessageBreak
2776       'pdfdoc', 'unicode', 'auto'.\MessageBreak
2777       Ignoring unknown value '\HyPsd@temp'%
2778     }%
2779   \fi
2780 \fi
2781 }
2782 \def\HyPsd@pdfencoding@auto{auto}
2783 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2784 \def\HyPsd@pdfencoding@unicode{unicode}
2785 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2786 \def\HyPsd@LoadStringEnc{%
2787   \RequirePackage{stringenc}[2009/12/15]%
2788   \let\HyPsd@LoadStringEnc\relax
2789 }
2790 \Hy@AtBeginDocument{%
2791   \@ifpackageloaded{stringenc}{%
2792     \let\HyPsd@LoadStringEnc\relax
2793   }{%
2794     \def\HyPsd@LoadStringEnc{%
2795       \Hy@WarningNoLine{%
2796         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2797         in the preamble or load the package there%
2798       }%
2799     }%
2800   }%
2801 }
2802 \def\hypersetup{\kvsetkeys{Hyp}}
2803 \newif\ifHy@setpdfversion
2804 \define@key{Hyp}{pdfversion}{%
2805   \@ifundefined{Hy@pdfversion@#1}{%
2806     \PackageWarning{hyperref}{%
2807       Unsupported PDF version '#1'.\MessageBreak
2808       Valid values: 1.2 until 1.9%
2809     }%
2810   }{%
2811     \Hy@setpdfversiontrue
2812     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2813   }%
2814 }
2815 \@namedef{Hy@pdfversion@1.2}{2}%
2816 \@namedef{Hy@pdfversion@1.3}{3}%
2817 \@namedef{Hy@pdfversion@1.4}{4}%
2818 \@namedef{Hy@pdfversion@1.5}{5}%
2819 \@namedef{Hy@pdfversion@1.6}{6}%
2820 \@namedef{Hy@pdfversion@1.7}{7}%
2821 \@namedef{Hy@pdfversion@1.8}{8}%
2822 \@namedef{Hy@pdfversion@1.9}{9}%

```

```
2823 \def\Hy@pdfversion{2}
```

10 Options for different drivers

```
2824 \newif\ifHy@DviMode
2825 \let\Hy@DviErrMsg\ltx@empty
2826 \ifpdf
2827   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2828 \else
2829   \ifxetex
2830     \def\Hy@DviErrMsg{XeTeX is running}%
2831   \else
2832     \ifvtex
2833       \ifvtexdvi
2834         \Hy@DviModetrue
2835       \else
2836         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2837       \fi
2838     \else
2839       \Hy@DviModetrue
2840     \fi
2841   \fi
2842 \fi
2843 \def\HyOpt@CheckDvi#1{%
2844   \ifHy@DviMode
2845     \expandafter\ltx@firstofone
2846   \else
2847     \Hy@Error{%
2848       Wrong DVI mode driver option ‘#1’,\MessageBreak
2849       because \Hy@DviErrMsg
2850     }\@ehc
2851     \expandafter\ltx@gobble
2852   \fi
2853 }

2854 \DeclareVoidOption{tex4ht}{%
2855   \Hy@texhttrue
2856   \kvsetkeys{Hyp}{colorlinks=true}%
2857   \def\BeforeTeXIVht{\RequirePackage{color}}}%
2858 \def\Hy@driver{htex4ht}%
2859 \def\MaybeStopEarly{%
2860   \Hy@Message{Stopped early}%
2861   \Hy@AtBeginDocument{%
2862     \PDF@FinishDoc
2863     \gdef\PDF@FinishDoc{}%
2864   }%
2865   \endinput
2866 }%
2867 }

2868 \DeclareVoidOption{pdftex}{%
2869   \ifpdf
2870     \def\Hy@driver{hpdftex}%
2871   \else
2872     \Hy@Error{%
2873       Wrong driver option ‘pdftex’,\MessageBreak
2874       because pdfTeX in PDF mode is not detected%
2875     }\@ehc
2876   \fi
```

```

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

```

```

2934     \def\MaybeStopEarly{%
2935         \Hy@Message{Stopped early}%
2936         \Hy@AtBeginDocument{%
2937             \PDF@FinishDoc
2938             \gdef\PDF@FinishDoc{}%
2939         }%
2940     \endinput
2941 }%
2942 \else
2943     \Hy@Error{%
2944         Wrong driver option 'vtex',\MessageBreak
2945         because of wrong OpMode (\the\OpMode)%
2946     }\@ehc
2947 \fi
2948 \fi
2949 \else
2950     \Hy@Error{%
2951         Wrong driver option 'vtex',\MessageBreak
2952         because VTeX is not running%
2953     }\@ehc
2954 \fi
2955 }
2956 \DeclareVoidOption{vtexpdfmark}{%
2957     \ifvtex
2958         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2959         \def\Hy@driver{hvtexmrk}%
2960     \else
2961         \Hy@Error{%
2962             Wrong driver option 'vtexpdfmark',\MessageBreak
2963             because of wrong OpMode (\the\OpMode)%
2964         }\@ehc
2965     \fi
2966 \else
2967     \Hy@Error{%
2968         Wrong driver option 'vtexpdfmark',\MessageBreak
2969         because VTeX is not running%
2970     }\@ehc
2971 \fi
2972 }
2973 \DeclareVoidOption{dviwindo}{%
2974     \HyOpt@CheckDvi{dviwindo}{%
2975         \def\Hy@driver{hdviwind}%
2976         \kvsetkeys{Hyp}{colorlinks}%
2977         \PassOptionsToPackage{dviwindo}{color}%
2978     }%
2979 }
2980 \DeclareVoidOption{dvipsone}{%
2981     \HyOpt@CheckDvi{dvipsone}{%
2982         \def\Hy@driver{hdvipson}%
2983     }%
2984 }
2985 \DeclareVoidOption{textures}{%
2986     \HyOpt@CheckDvi{textures}{%
2987         \def\Hy@driver{htexture}%
2988     }%
2989 }
2990 \DeclareVoidOption{latex2html}{%

```

```

2991 \HyOpt@CheckDvi{latex2html}{}%
2992 \Hy@AtBeginDocument{\@latex2htmlX}%
2993 }%
2994 }

```

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

```

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

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

```

11 Options to add extra features

Make included figures (assuming they use the standard graphics package) be hypertext links. Off by default. Needs more work.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

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

```

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

```

3018 \def\back@none{none}
3019 \def\back@section{section}
3020 \def\back@page{page}
3021 \def\back@slide{slide}
3022 \define@key{Hyp}{backref}[section]{%
3023   \lowercase{\def\Hy@tempa{#1}}%
3024   \ifx\Hy@tempa\@empty
3025     \let\Hy@tempa\back@section
3026   \fi
3027   \ifx\Hy@tempa\Hy@false
3028     \let\Hy@tempa\back@none
3029   \fi
3030   \ifx\Hy@tempa\back@slide
3031     \let\Hy@tempa\back@section
3032   \fi
3033   \ifx\Hy@tempa\back@page
3034     \PassOptionsToPackage{hyperpageref}{backref}%
3035     \Hy@backreftrue
3036   \else
3037     \ifx\Hy@tempa\back@section

```



```

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

```

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

```

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

```

Configuration of encap char.

```

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

```

12 Language options

The `\autoref` feature depends on the language.

```

3076 \def\HyLang@afrikaans{%
3077 \def\equationautorefname{Vergelyking}%
3078 \def\footnoteautorefname{Voetnota}%
3079 \def\itemautorefname{Item}%
3080 \def\figureautorefname{Figuur}%
3081 \def\tableautorefname{Tabel}%
3082 \def\partautorefname{Deel}%
3083 \def\appendixautorefname{Bylae}%
3084 \def\chapterautorefname{Hoofstuk}%
3085 \def\sectionautorefname{Afdeling}%

```

```

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

```

```

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

```

```

3200 \def\pageautorefname{P\'agina}%
3201 }

```

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`.

```

3202 \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`?

```

3203 \def\equationautorefname{\cyr\cyrv\cyrry\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`.

```

3204 % \def\equationautorefname{%
3205 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3206 % }%

```

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

```

3207 \def\footnoteautorefname{%
3208   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrn.%
3209 }%

```

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}`”

```

3210 % \def\footnoteautorefname{%
3211 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3212 %   \cyrp\cyrr\cyri\cyrn\cyre\cyrch\cyra\cyrn\cyri\cyre
3213 % }%

```

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

```

3214 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3215 % \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.

```

3216 \def\itemautorefname{\cyr\cyrp.}%
3217 % \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.

```

3218 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3219 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%

```

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

```

3220 \def\partautorefname{\cyr\cyrch.}%
3221 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3222 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

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

```
3223 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
3224 % \def\appendixautorefname{%
3225 % \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrzh\cyre\cyrn\cyri\cyre
3226 % }%
```

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

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

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

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

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

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

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

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

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

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

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

```
3236 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%
```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

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

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

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

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

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

```
3242 \def\HyLang@spanish{%
3243 \def\equationautorefname{Ecuaci'on}%
3244 \def\footnoteautorefname{Nota a pie de p'agina}%
3245 \def\itemautorefname{Elemento}%
3246 \def\figureautorefname{Figura}%
```

```

3247 \def\tableautorefname{Tabla}%
3248 \def\partautorefname{Parte}%
3249 \def\appendixautorefname{Ap\`endice}%
3250 \def\chapterautorefname{Cap\`itulo}%
3251 \def\sectionautorefname{Secci\`on}%
3252 \def\subsectionautorefname{Subsecci\`on}%
3253 \def\subsubsectionautorefname{Subsubsecci\`on}%
3254 \def\paragraphautorefname{P\`arrafo}%
3255 \def\subparagraphautorefname{Subp\`arrafo}%
3256 \def\FancyVerbLineautorefname{L\`inea}%
3257 \def\theoremautorefname{Teorema}%
3258 \def\pageautorefname{P\`agina}%
3259 }
3260 \def\HyLang@vietnamese{%
3261 \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3262 \def\footnoteautorefname{Ch\`u th\`ich}%
3263 \def\itemautorefname{m\`d{u}c}%
3264 \def\figureautorefname{H\`inh}%
3265 \def\tableautorefname{B\`h{a}ng}%
3266 \def\partautorefname{Ph\`acircumflex{n}}%
3267 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3268 \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3269 \def\sectionautorefname{m\`d{u}c}%
3270 \def\subsectionautorefname{m\`d{u}c}%
3271 \def\subsubsectionautorefname{m\`d{u}c}%
3272 \def\paragraphautorefname{d{J}{o}{d}{a}{n}}%
3273 \def\subparagraphautorefname{d{J}{o}{d}{a}{n}}%
3274 \def\FancyVerbLineautorefname{d\`ong}%
3275 \def\theoremautorefname{D{J}{d}{i}{nh} l\`y}%
3276 \def\pageautorefname{Trang}%
3277 }

```

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

```

3278 \def\HyLang@addto#1#2{%
3279 #2%
3280 \@temptokena{#2}%
3281 \ifx#1\relax
3282 \let#1\@empty
3283 \fi
3284 \ifx#1\@undefined
3285 \edef#1{\the\@temptokena}%
3286 \else
3287 \toks@\expandafter{#1}%
3288 \edef#1{\the\toks@\the\@temptokena}%
3289 \fi
3290 \@temptokena{}\toks@\@temptokena
3291 }
3292 \def\HyLang@DeclareLang#1#2#3{%
3293 \@ifpackagewith{babel}{#1}{%
3294 \expandafter\HyLang@addto
3295 \csname extras#1\expandafter\endcsname
3296 \csname HyLang@#2\endcsname
3297 \begingroup
3298 \edef\x{\endgroup
3299 #3%
3300 }%

```

```

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

```

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

```

3344 \DeclareVoidOption{vietnamese}{%
3345 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3346 \Hy@AtEndOfPackage{%
3347 \@ifundefined{T@PU}{%
3348 \input{puvnenc.def}%
3349 }%
3350 }%
3351 }
3352 \DeclareVoidOption{vietnam}{%
3353 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3354 \Hy@AtEndOfPackage{%
3355 \@ifundefined{T@PU}{%
3356 \input{puvnenc.def}%

```

```

3357 }%
3358 }%
3359 }

```

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

```

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

```

13 Options to change appearance of links

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

```

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

```

14 Bookmarking

```

3397 \begingroup\expandafter\expandafter\expandafter\endgroup
3398 \expandafter\ifx\csname chapter\endcsname\relax
3399   \def\toclevel@part{0}%
3400 \else
3401   \def\toclevel@part{-1}%
3402 \fi
3403 \def\toclevel@chapter{0}

```



```

3404 \def\toclevel@section{1}
3405 \def\toclevel@subsection{2}
3406 \def\toclevel@subsubsection{3}
3407 \def\toclevel@paragraph{4}
3408 \def\toclevel@subparagraph{5}
3409 \def\toclevel@figure{0}
3410 \def\toclevel@table{0}
3411 \@ifpackageloaded{listings}{%
3412   \providecommand*\theHlstlisting{\thelstlisting}%
3413   \providecommand*\toclevel@lstlisting{0}%
3414 }{}
3415 \@ifpackageloaded{listing}{%
3416   \providecommand*\theHlisting{\thelisting}%
3417   \providecommand*\toclevel@listing{0}%
3418 }{}

3419 \define@key{Hyp}{bookmarks}[true]{%
3420   \Hy@boolkey{bookmarks}{#1}%
3421 }

3422 \define@key{Hyp}{bookmarksopen}[true]{%
3423   \Hy@boolkey{bookmarksopen}{#1}%
3424 }

```

The depth of the outlines is controlled by option `bookmarksdepth`. The option acts globally and distinguishes three cases:

- `bookmarksdepth`: Without value `hyperref` uses counter `tocdepth` (compatible behaviour and default).
- `bookmarksdepth=<number>`: the depth is set to `<number>`.
- `bookmarksdepth=<name>`: The `<name>` must not start with a number or minus sign. It is a document division name (part, chapter, section, ...). Internally the value of macro `\toclevel@<name>` is used.

```

3425 \let\Hy@bookmarksdepth\c@tocdepth
3426 \define@key{Hyp}{bookmarksdepth}[]{}%
3427 \begingroup
3428   \edef\x{#1}%
3429   \ifx\x\empty
3430     \global\let\Hy@bookmarksdepth\c@tocdepth
3431   \else
3432     \@ifundefined{toclevel@\x}{%
3433       \@onelevel@sanitize\x
3434       \edef\y{\expandafter\@car\x\@nil}%
3435       \ifcase 0\expandafter\ifx\y-1\fi
3436         \expandafter\ifnum\expandafter'\y>47 %
3437         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3438       \Hy@Warning{Unknown document division name (\x)}%
3439     \else
3440       \setbox\z@=\hbox{%
3441         \count@=\x
3442         \xdef\Hy@bookmarksdepth{\the\count@}%
3443       }%
3444     \fi
3445   }{}%
3446   \setbox\z@=\hbox{%
3447     \count@=\csname toclevel@\x\endcsname
3448     \xdef\Hy@bookmarksdepth{\the\count@}%

```

```

3449     }%
3450   }%
3451   \fi
3452 \endgroup
3453 }

```

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

```

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

```

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

```

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

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

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

3469 \def\Hy@temp#1{%
3470   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3471 }
3472 \def\Hy@@temp#1#2#3{%
3473   \define@key{Hyp}{#2color}{%
3474     \HyColor@HyperrefColor{##1}#1%
3475   }%
3476   \def#1{#3}%
3477 }
3478 \Hy@temp{link}{red}
3479 \Hy@temp{anchor}{black}
3480 \Hy@temp{cite}{green}
3481 \Hy@temp{file}{cyan}
3482 \Hy@temp{url}{magenta}
3483 \Hy@temp{menu}{red}
3484 \Hy@temp{run}{\@filecolor}
3485 \define@key{Hyp}{pagecolor}{%
3486   \Hy@WarningPageColor
3487 }
3488 \def\Hy@WarningPageColor{%
3489   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3490   \global\let\Hy@WarningPageColor\relax
3491 }
3492 \define@key{Hyp}{allcolors}{%
3493   \HyColor@HyperrefColor{#1}\@linkcolor
3494   \HyColor@HyperrefColor{#1}\@anchorcolor
3495   \HyColor@HyperrefColor{#1}\@citecolor
3496   \HyColor@HyperrefColor{#1}\@filecolor
3497   \HyColor@HyperrefColor{#1}\@urlcolor
3498   \HyColor@HyperrefColor{#1}\@menucolor
3499   \HyColor@HyperrefColor{#1}\@runcolor

```

```

3500 }
3501 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3502 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3503 \let\@baseurl\@empty
3504 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3505 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3506 \hyperlinkfileprefix{file:}

```

15 PDF-specific options

`\@pdfpagetransition` The value of option `pdfpagetransition` is stored in `\@pdfpagetransition`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

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

```

`\@pdfpageduration` The value of option `pdfpageduration` is stored in `\@pdfpageduration`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

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

```

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

```

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

```

The value of the `bordercolor` options are not processed by the color package. Therefore the value consists of space separated rgb numbers in the range 0 until 1.

Package `xcolor` provides `\XC@bordercolor` since version 1.1. If the two spaces in the color specification are missing, then the value is processed as color specification from package `xcolor` by using `\XC@bordercolor` (since `xcolor` 2004/05/09

v1.11, versions 2005/03/24 v2.02 until 2006/11/28 v2.10 do not work because of a bug that is fixed in 2007/01/21 v2.11).

```

3533 \def\Hy@ColorList{cite,file,link,menu,run,url}
3534 \@for\Hy@temp:=\Hy@ColorList\do{%
3535   \edef\Hy@temp{%
3536     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3537       \noexpand\HyColor@HyperrefBorderColor
3538       {##1}%
3539       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3540       {hyperref}%
3541       {\Hy@temp bordercolor}%
3542     }%
3543   }%
3544   \Hy@temp
3545 }
3546 \define@key{Hyp}{pagebordercolor}{%
3547   \Hy@WarningPageBorderColor
3548 }
3549 \def\Hy@WarningPageBorderColor{%
3550   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3551   \global\let\Hy@WarningPageBorderColor\relax
3552 }
3553 \define@key{Hyp}{allbordercolors}{%
3554   \def\Hy@temp##1##2{%
3555     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3556   }%
3557   \Hy@temp\@citebordercolor{cite}%
3558   \Hy@temp\@filebordercolor{file}%
3559   \Hy@temp\@linkbordercolor{link}%
3560   \Hy@temp\@menubordercolor{menu}%
3561   \Hy@temp\@runbordercolor{run}%
3562   \Hy@temp\@urlbordercolor{url}%
3563 }
3564 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3565 \Hy@DefNameKey{pdfhighlight}{%
3566   \do{/I}{Invert}%
3567   \do{/N}{None}%
3568   \do{/O}{Outline}%
3569   \do{/P}{Push}%
3570 }
3571 \define@key{Hyp}{pdfborder}{%
3572   \let\Hy@temp\@pdfborder
3573   \def\@pdfborder{#1}%
3574   \Hy@Match\@pdfborder{%
3575     ^\HyPat@NonNegativeReal/ %
3576     \HyPat@NonNegativeReal/ %
3577     \HyPat@NonNegativeReal/%
3578     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?%%
3579   }{}{%
3580     \Hy@Warning{%
3581       Invalid value '\@pdfborder'\MessageBreak
3582       for option 'pdfborder'\MessageBreak
3583       Option setting is ignored%
3584     }%
3585     \let\@pdfborder\Hy@temp
3586   }%
3587 }

```

```

3588 \define@key{Hyp}{pdfborderstyle}{%
3589   \let\Hy@temp\@pdfborderstyle
3590   \def\@pdfborderstyle{#1}%
3591   \Hy@Match\@pdfborderstyle{%
3592     ~%
3593     ( */Type */Border%
3594     | */W +\HyPat@NonNegativeReal/%
3595     | */S */[SDBIU]%
3596     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3597     )* *$%
3598   }{}{%
3599     \Hy@Warning{%
3600       Invalid value '\@pdfborderstyle'\MessageBreak
3601       for option 'pdfborderstyle'\MessageBreak
3602       Option setting is ignored%
3603     }%
3604     \let\@pdfborderstyle\Hy@temp
3605   }%
3606 }
3607 \def\Hy@setpdfborder{%
3608   \ifx\@pdfborder\@empty
3609     \else
3610       /Border[\@pdfborder]%
3611     \fi
3612   \ifx\@pdfborderstyle\@empty
3613     \else
3614       /BS<<\@pdfborderstyle>>%
3615     \fi
3616 }
3617 \Hy@DefNameKey{pdfpagemode}{%
3618   \do{UseNone}{}%
3619   \do{UseOutlines}{}%
3620   \do{UseThumbs}{}%
3621   \do{FullScreen}{}%
3622   \do{UseOC}{PDF 1.5}%
3623   \do{UseAttachments}{PDF 1.6}%
3624 }
3625 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3626   \do{UseNone}{}%
3627   \do{UseOutlines}{}%
3628   \do{UseThumbs}{}%
3629   \do{FullScreen}{}%
3630   \do{UseOC}{PDF 1.5}%
3631   \do{UseAttachments}{PDF 1.6}%
3632 }
3633 \Hy@DefNameKey{pdfdirection}{%
3634   \do{L2R}{Left to right}%
3635   \do{R2L}{Right to left}%
3636 }
3637 \Hy@DefNameKey{pdfviewarea}{%
3638   \do{MediaBox}{}%
3639   \do{CropBox}{}%
3640   \do{BleedBox}{}%
3641   \do{TrimBox}{}%
3642   \do{ArtBox}{}%
3643 }
3644 \Hy@DefNameKey{pdfviewclip}{%

```

```

3645 \do{MediaBox}{}%
3646 \do{CropBox}{}%
3647 \do{BleedBox}{}%
3648 \do{TrimBox}{}%
3649 \do{ArtBox}{}%
3650 }
3651 \Hy@DefNameKey{pdfprintarea}{%
3652 \do{MediaBox}{}%
3653 \do{CropBox}{}%
3654 \do{BleedBox}{}%
3655 \do{TrimBox}{}%
3656 \do{ArtBox}{}%
3657 }
3658 \Hy@DefNameKey{pdfprintclip}{%
3659 \do{MediaBox}{}%
3660 \do{CropBox}{}%
3661 \do{BleedBox}{}%
3662 \do{TrimBox}{}%
3663 \do{ArtBox}{}%
3664 }
3665 \Hy@DefNameKey{pdfprintscaling}{%
3666 \do{AppDefault}{}%
3667 \do{None}{}%
3668 }
3669 \Hy@DefNameKey{pdfduplex}{%
3670 \do{Simplex}{}%
3671 \do{DuplexFlipShortEdge}{}%
3672 \do{DuplexFlipLongEdge}{}%
3673 }
3674 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3675 \do{true}{}%
3676 \do{false}{}%
3677 }
3678 \define@key{Hyp}{pdfprintpagerange}{%
3679 \def\@pdfprintpagerange{#1}%
3680 }
3681 \Hy@DefNameKey{pdfnumcopies}{%
3682 \do{2}{two copies}%
3683 \do{3}{three copies}%
3684 \do{4}{four copies}%
3685 \do{5}{five copies}%
3686 }
3687 \define@key{Hyp}{pdfusetitle}[true]{%
3688 \Hy@boolkey{pdfusetitle}{#1}%
3689 }
3690 \def\HyXeTeX@CheckUnicode{%
3691 \ifxetex
3692 \ifHy@unicode
3693 \else
3694 \Hy@WarningNoLine{%
3695 XeTeX driver only supports unicode.\MessageBreak
3696 Enabling option 'unicode'%
3697 }%
3698 \kvsetkeys{Hyp}{unicode}%
3699 \fi
3700 \else
3701 \let\HyXeTeX@CheckUnicode\relax

```

```

3702 \fi
3703 }
3704 \def\HyPsd@PrerenderUnicode#1{%
3705 \begingroup
3706 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3707 \else
3708 \sbox0{%
3709 \let\GenericInfo\@gobbletwo
3710 \let\GenericWarning\@gobbletwo
3711 \let\GenericError\@gobblefour
3712 \PrerenderUnicode{#1}%
3713 }%
3714 \fi
3715 \endgroup
3716 }
3717 \define@key{Hyp}{pdftitle}{%
3718 \HyXeTeX@CheckUnicode
3719 \HyPsd@XeTeXBigCharstrue
3720 \HyPsd@PrerenderUnicode{#1}%
3721 \pdfstringdef\@pdftitle{#1}%
3722 }
3723 \define@key{Hyp}{pdfauthor}{%
3724 \HyXeTeX@CheckUnicode
3725 \HyPsd@XeTeXBigCharstrue
3726 \HyPsd@PrerenderUnicode{#1}%
3727 \pdfstringdef\@pdfauthor{#1}%
3728 }
3729 \define@key{Hyp}{pdfproducer}{%
3730 \HyXeTeX@CheckUnicode
3731 \HyPsd@XeTeXBigCharstrue
3732 \HyPsd@PrerenderUnicode{#1}%
3733 \pdfstringdef\@pdfproducer{#1}%
3734 }
3735 \define@key{Hyp}{pdfcreator}{%
3736 \HyXeTeX@CheckUnicode
3737 \HyPsd@XeTeXBigCharstrue
3738 \HyPsd@PrerenderUnicode{#1}%
3739 \pdfstringdef\@pdfcreator{#1}%
3740 }
3741 \define@key{Hyp}{pdfcreationdate}{%
3742 \begingroup
3743 \Hy@unicodedefalse
3744 \pdfstringdef\@pdfcreationdate{#1}%
3745 \endgroup
3746 }
3747 \define@key{Hyp}{pdfmoddate}{%
3748 \begingroup
3749 \Hy@unicodedefalse
3750 \pdfstringdef\@pdfmoddate{#1}%
3751 \endgroup
3752 }
3753 \define@key{Hyp}{pdfsubject}{%
3754 \HyXeTeX@CheckUnicode
3755 \HyPsd@XeTeXBigCharstrue
3756 \HyPsd@PrerenderUnicode{#1}%
3757 \pdfstringdef\@pdfsubject{#1}%
3758 }

```

```

3759 \define@key{Hyp}{pdfkeywords}{%
3760   \HyXeTeX@CheckUnicode
3761   \HyPsd@XeTeXBigCharstrue
3762   \HyPsd@PrerenderUnicode{#1}%
3763   \pdfstringdef\@pdfkeywords{#1}%
3764 }
3765 \define@key{Hyp}{pdftrapped}{%
3766   \lowercase{\edef\Hy@temp{#1}}%
3767   \ifx\Hy@temp\HyInfo@trapped@true
3768     \def\@pdftrapped{True}%
3769   \else
3770     \ifx\Hy@temp\HyInfo@trapped@false
3771       \def\@pdftrapped{False}%
3772     \else
3773       \ifx\Hy@temp\HyInfo@trapped@unknown
3774         \def\@pdftrapped{Unknown}%
3775       \else
3776         \ifx\Hy@temp\@empty
3777           \else
3778             \Hy@Warning{%
3779               Unsupported value '#1'\MessageBreak
3780               for option 'pdftrapped'%
3781             }%
3782           \fi
3783         \def\@pdftrapped{}%
3784       \fi
3785     \fi
3786   \fi
3787 }
3788 \def\HyInfo@trapped@true{true}
3789 \def\HyInfo@trapped@false{false}
3790 \def\HyInfo@trapped@unknown{unknown}
3791 \def\HyInfo@TrappedUnsupported{%
3792   \ifx\@pdftrapped\@empty
3793   \else
3794     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3795     \gdef\HyInfo@TrappedUnsupported{}%
3796   \fi
3797 }
3798 \define@key{Hyp}{pdfinfo}{%
3799   \kvsetkeys{pdfinfo}{#1}%
3800 }
3801 \def\Hy@temp#1{%
3802   \lowercase{\Hy@temp@A{#1}}{#1}%
3803 }
3804 \def\Hy@temp@A#1#2{%
3805   \define@key{pdfinfo}{#2}{%
3806     \hypersetup{pdf#1={##1}}%
3807   }%
3808 }
3809 \Hy@temp{Title}
3810 \Hy@temp{Author}
3811 \Hy@temp{Keywords}
3812 \Hy@temp{Subject}
3813 \Hy@temp{Creator}
3814 \Hy@temp{Producer}
3815 \Hy@temp{CreationDate}

```



```

3816 \Hy@temp{ModDate}
3817 \Hy@temp{Trapped}
3818 \newif\ifHyInfo@AddonUnsupported
3819 \kv@set@family@handler{pdfinfo}{%
3820   \HyInfo@AddonHandler{#1}{#2}%
3821 }
3822 \let\HyInfo@do\relax
3823 \def\HyInfo@AddonHandler#1#2{%
3824   \ifx\kv@value\relax
3825     \Hy@Warning{%
3826       Option 'pdfinfo': ignoring key '\kv@key' without value%
3827     }%
3828   \else
3829     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3830     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3831     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3832     \ifHyInfo@AddonUnsupported
3833       \Hy@Warning{%
3834         This driver does not support additional\MessageBreak
3835         information entries, therefore\MessageBreak
3836         '\kv@key' is ignored%
3837       }%
3838     \else
3839       \define@key{pdfinfo}{\HyInfo@Key}{%
3840         \HyXeTeX@CheckUnicode
3841         \HyPsd@XeTeXBigCharstrue
3842         \HyPsd@PrerenderUnicode{##1}%
3843         \pdfstringdef\HyInfo@Value{##1}%
3844         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3845         \HyInfo@Value
3846       }%
3847     \edef\HyInfo@AddonList{%
3848       \HyInfo@AddonList
3849       \HyInfo@do{\HyInfo@Key}%
3850     }%
3851     \kv@parse@normalized{%
3852       \HyInfo@Key={#2}%
3853     }{%
3854       \kv@processor@default{pdfinfo}%
3855     }%
3856   \fi
3857 \else
3858   \kv@parse@normalized{%
3859     \HyInfo@Key={#2}%
3860   }{%
3861     \kv@processor@default{pdfinfo}%
3862   }%
3863 \fi
3864 \fi
3865 }
3866 \def\HyInfo@GenerateAddons{%
3867   \ifHyInfo@AddonUnsupported
3868     \def\HyInfo@Addons{}%
3869   \else
3870     \begingroup
3871     \toks@{}%
3872     \def\HyInfo@do##1{%

```

```

3873 \EdefEscapeName\HyInfo@Key{##1}%
3874 \edef\x{%
3875 \toks@{%
3876 \the\toks@
3877 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3878 }%
3879 }%
3880 \x
3881 }%
3882 \HyInfo@AddonList
3883 \edef\x{\endgroup
3884 \def\noexpand\HyInfo@Addons{\the\toks@}%
3885 }%
3886 \x
3887 \fi
3888 }
3889 \let\HyInfo@AddonList\ltx@empty

3890 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3891 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3892 \let\setpdfinkmargin@gobble
3893 \def\calculate@pdfview#1 #2\{\%
3894 \def\@pdfview{#1}%
3895 \ifx\#2\%
3896 \def\@pdfviewparams{-32768}%
3897 \else
3898 \def\@pdfviewparams{#2}%
3899 \fi
3900 }
3901 \begingroup\expandafter\expandafter\expandafter\endgroup
3902 \expandafter\ifx\csname numexpr\endcsname\relax
3903 \def\Hy@number#1{%
3904 \expandafter\@firstofone\expandafter{\number#1}%
3905 }%
3906 \else
3907 \def\Hy@number#1{%
3908 \the\numexpr#1\relax
3909 }%
3910 \fi
3911 \define@key{Hyp}{pdfstartpage}{\%
3912 \ifx\#1\%
3913 \let\@pdfstartpage\ltx@empty
3914 \else
3915 \edef\@pdfstartpage{\Hy@number{#1}}%
3916 \fi
3917 }%
3918 \define@key{Hyp}{pdfstartview}{\%
3919 \ifx\#1\%
3920 \let\@pdfstartview\ltx@empty
3921 \else
3922 \hypercalcbpdef\@pdfstartview{/#1}%
3923 \fi
3924 }
3925 \def\HyPat@NonNegativeReal/{\%
3926 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3927 }
3928 \define@key{Hyp}{pdfremotestartview}{\%
3929 \ifx\#1\%

```

```

3930 \def\@pdfremotestartview{/Fit}%
3931 \else
3932 \hypercalcbpdef\@pdfremotestartview{#1}%
3933 \edef\@pdfremotestartview{\@pdfremotestartview}%
3934 \Hy@Match\@pdfremotestartview{%
3935   ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
3936   -?(null|\HyPat@NonNegativeReal/) %
3937   (null|\HyPat@NonNegativeReal/)|%
3938   Fit(|B| %
3939   (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3940   R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3941   \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3942   )}$%
3943 }-}%
3944 \Hy@Warning{%
3945   Invalid value '\@pdfremotestartview'\MessageBreak
3946   of 'pdfremotestartview'\MessageBreak
3947   is replaced by 'Fit'%
3948 }%
3949 \let\@pdfremotestartview\@empty
3950 }%
3951 \ifx\@pdfremotestartview\@empty
3952 \def\@pdfremotestartview{/Fit}%
3953 \else
3954 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3955 \fi
3956 \fi
3957 }
3958 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3959 \define@key{Hyp}{pdftoolbar}[true]{%
3960 \Hy@boolkey{pdftoolbar}{#1}%
3961 }
3962 \define@key{Hyp}{pdfmenubar}[true]{%
3963 \Hy@boolkey{pdfmenubar}{#1}%
3964 }
3965 \define@key{Hyp}{pdfwindowui}[true]{%
3966 \Hy@boolkey{pdfwindowui}{#1}%
3967 }
3968 \define@key{Hyp}{pdffitwindow}[true]{%
3969 \Hy@boolkey{pdffitwindow}{#1}%
3970 }
3971 \define@key{Hyp}{pdfcenterwindow}[true]{%
3972 \Hy@boolkey{pdfcenterwindow}{#1}%
3973 }
3974 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3975 \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3976 }
3977 \define@key{Hyp}{pdfa}[true]{%
3978 \Hy@boolkey{pdfa}{#1}%
3979 }
3980 \define@key{Hyp}{pdfnewwindow}[true]{%
3981 \def\Hy@temp{#1}%
3982 \ifx\Hy@temp\@empty
3983 \Hy@pdfnewwindowsetfalse
3984 \else
3985 \Hy@pdfnewwindowsettrue
3986 \Hy@boolkey{pdfnewwindow}{#1}%

```

```

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

```

Default values:

```

4012 \def\@linkbordercolor{1 0 0}
4013 \def\@urlbordercolor{0 1 1}
4014 \def\@menubordercolor{1 0 0}
4015 \def\@filebordercolor{0 .5 .5}
4016 \def\@runbordercolor{0 .7 .7}
4017 \def\@citebordercolor{0 1 0}
4018 \def\@pdfhighlight{/I}
4019 \let\@pdftitle\ltx@empty
4020 \let\@pdfauthor\ltx@empty
4021 \let\@pdfproducer\relax
4022 \def\@pdfcreator{LaTeX with hyperref package}
4023 \let\@pdfcreationdate\ltx@empty
4024 \let\@pdfmoddate\ltx@empty
4025 \let\@pdfsubject\ltx@empty
4026 \let\@pdfkeywords\ltx@empty
4027 \let\@pdftrapped\ltx@empty
4028 \let\@pdfpagescrop\ltx@empty
4029 \def\@pdfstartview{/Fit}
4030 \def\@pdfremotestartview{/Fit}
4031 \def\@pdfstartpage{1}
4032 \let\@pdfprintpagerange\ltx@empty
4033 \let\@pdflang\ltx@empty
4034 \let\PDF@SetupDoc\@empty
4035 \let\PDF@FinishDoc\@empty
4036 \let\phantomsection\@empty
4037 \let\special@paper\@empty
4038 \def\HyperDestNameFilter#1{#1}
4039 \Hy@AtBeginDocument{%
4040 \begingroup
4041 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4042 \dimen@=\x\relax

```

```

4043 \ifdim\dimen@>\z@
4044 \else
4045 \dimen@=11in\relax
4046 \Hy@WarningNoLine{%
4047   Height of page (\expandafter\string\x) %
4048   is invalid (\the\x),\MessageBreak
4049   using 11in%
4050 }%
4051 \fi
4052 \dimen@=0.99626401\dimen@
4053 \xdef\Hy@pageheight{\strip@pt\dimen@}%
4054 \endgroup
4055 }
4056 \def\HyInd@EncapChar{\|}

```

Allow the user to use `\ExecuteOptions` in the `cfg` file even though this package does not use the normal option mechanism. Use `\hyper@normalise` as a scratch macro, since it is going to be defined in a couple of lines anyway.

```

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

```

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

```

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

```

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

```

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

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

```

After processing options.

15.1 Package `xspace` support

```

4080 \def\Hy@xspace@end{}
4081 \ltx@ifundefined{xspaceaddeceptions}{%
4082 \Hy@AtBeginDocument{%
4083 \ltx@ifundefined{xspaceaddeceptions}{%
4084 }{%
4085 \def\Hy@xspace@end{%
4086 \ltx@gobble{end for xspace}%

```

```

4087 }%
4088 \xspaceaddeceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4089 }%
4090 }%
4091 }{%
4092 \def\Hy@xspace@end{%
4093 \ltx@gobble{end for xspace}%
4094 }%
4095 \xspaceaddeceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4096 }

```

15.2 Option draft

```

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

```

15.3 PDF/A

```

4121 \Hy@DisableOption{pdfa}
4122 \ifHy@pdfa
4123 \kvsetkeys{Hyp}{pdfversion=1.4}%
4124 \def\Hy@Acrobatmenu#1#2{%
4125 \leavevmode
4126 \begingroup
4127 \edef\x{#1}%
4128 \@onelevel@sanitize\x
4129 \ifx\x\Hy@NextPage
4130 \let\y=Y%
4131 \else
4132 \ifx\x\Hy@PrevPage
4133 \let\y=Y%
4134 \else
4135 \ifx\x\Hy@FirstPage
4136 \let\y=Y%
4137 \else
4138 \ifx\x\Hy@LastPage
4139 \let\y=Y%

```

```

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

```

15.4 Patch for babel’s \texttilde

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

```

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

4174 \def\Hy@wrapper@babel#1#2{%
4175     \begingroup
4176     \Hy@safe@activetrue
4177     \set@display@protect
4178     \edef\x{#2}%
4179     \@onelevel@sanitize\x
4180     \toks@{#1}%
4181     \edef\x{\endgroup\the\toks@{\x}}%
4182     \x
4183 }
4184 \def\Hy@WrapperDef#1{%
4185     \begingroup
4186     \escapechar=\m@ne
4187     \xdef\Hy@gtemp{%
4188         \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4189     }%
4190     \endgroup

```

```

4191 \edef#1{%
4192   \noexpand\Hy@wrapper@babel
4193   \expandafter\noexpand\Hy@gtemp
4194 }%
4195 \expandafter\def\Hy@gtemp
4196 }

4197 \ifHy@hyperfigures
4198   \Hy@Info{Hyper figures ON}%
4199 \else
4200   \Hy@Info{Hyper figures OFF}%
4201 \fi
4202 \ifHy@nesting
4203   \Hy@Info{Link nesting ON}%
4204 \else
4205   \Hy@Info{Link nesting OFF}%
4206 \fi
4207 \ifHy@hyperindex
4208   \Hy@Info{Hyper index ON}%
4209 \else
4210   \Hy@Info{Hyper index OFF}%
4211 \fi
4212 \ifHy@plainpages
4213   \Hy@Info{Plain pages ON}%
4214 \else
4215   \Hy@Info{Plain pages OFF}%
4216 \fi
4217 \ifHy@backref
4218   \Hy@Info{Backreferencing ON}%
4219 \else
4220   \Hy@Info{Backreferencing OFF}%
4221 \fi
4222 \ifHy@typexml
4223   \Hy@AtEndOfPackage{%
4224     \RequirePackage{color}%
4225     \RequirePackage{nameref}%
4226   }%
4227 \fi
4228 \Hy@DisableOption{typexml}
4229 \ifHy@implicit
4230   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4231 \else
4232   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4233   \def\MaybeStopEarly{%
4234     \Hy@Message{Stopped early}%
4235     \Hy@AtBeginDocument{%
4236       \PDF@FinishDoc
4237       \gdef\PDF@FinishDoc{}}%
4238   }%
4239   \endinput
4240 }%
4241 \Hy@AtBeginDocument{%
4242   \let\autoref\ref
4243   \let\autopageref\pageref
4244   \ifx\@pdfpagemode\@empty
4245     \gdef\@pdfpagemode{UseNone}%
4246   \fi
4247   \global\Hy@backreffalse

```



```

4248 }%
4249 \Hy@AtEndOfPackage{%
4250   \global\let\ReadBookmarks\relax
4251   \global\let\WriteBookmarks\relax
4252 }%
4253 \fi
4254 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

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

```

Some drivers can be detected. Check for these drivers, whether the given driver option is ok. Otherwise force the right driver or use the default driver.

```

4260   \ifx\Hy@driver\@empty
4261   \else
4262     \def\Hy@temp{hpdftex}%
4263     \ifpdf
4264       \ifx\Hy@driver\Hy@temp
4265       \else
4266         \Hy@WarningNoLine{%
4267           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4268           pdfTeX is running in PDF mode.\MessageBreak
4269           Forcing driver ‘\Hy@temp.def’%
4270         }%
4271       \let\Hy@driver\Hy@temp
4272     \fi
4273   \else
4274     \ifx\Hy@driver\Hy@temp
4275     \Hy@WarningNoLine{%
4276       Wrong driver ‘\Hy@driver.def’;\MessageBreak
4277       pdfTeX is not running in PDF mode.\MessageBreak
4278       Using default driver%
4279     }%
4280     \let\Hy@driver\@empty
4281   \fi
4282 \fi
4283 \fi
4284 \ifHy@texht
4285 \else
4286   \ifx\Hy@driver\@empty
4287   \else
4288     \def\Hy@temp{hxdetex}%
4289     \ifxdetex
4290       \ifx\Hy@driver\Hy@temp
4291       \else
4292         \Hy@WarningNoLine{%
4293           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4294           XeTeX is running.\MessageBreak
4295           Forcing driver ‘\Hy@temp.def’ for XeTeX%
4296         }%
4297       \let\Hy@driver\Hy@temp
4298     \fi
4299   \fi

```

```

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

```

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

```

4326 \def\HyOpt@DriverType{%
4327 \ifx\Hy@driver\@empty
4328 \def\HyOpt@DriverType{ (autodetected)}%
4329 \providecommand*\Hy@defaultdriver{\hypertex}%
4330 \ifpdf
4331 \def\Hy@driver{hpdftex}%
4332 \else
4333 \ifxetex
4334 \def\Hy@driver{hxetex}%
4335 \else
4336 \ifvtexhtml
4337 \def\Hy@driver{hvtexhtm}%
4338 \def\MaybeStopEarly{%
4339 \Hy@Message{Stopped early}%
4340 \Hy@AtBeginDocument{%
4341 \PDF@FinishDoc
4342 \gdef\PDF@FinishDoc{}}%
4343 }%
4344 \endinput
4345 }%
4346 \else
4347 \ifvtexpdf
4348 \def\Hy@driver{hvtex}%
4349 \else
4350 \ifvtexps
4351 \def\Hy@driver{hvtex}%
4352 \else
4353 \ifx\HyOpt@DriverFallback\ltx@empty
4354 \let\Hy@driver\Hy@defaultdriver
4355 \def\HyOpt@DriverType{ (default)}%

```

```

4356         \else
4357         \begingroup
4358         \toks@\expandafter{\HyOpt@DriverFallback}%
4359         \edef\x{\endgroup
4360         \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4361         }%
4362         \x
4363         \ifx\Hy@driver\ltx@empty
4364         \let\Hy@driver\Hy@defaultdriver
4365         \def\HyOpt@DriverType{ (default)}%
4366         \else
4367         \def\HyOpt@DriverType{ (fallback)}%
4368         \fi
4369     \fi
4370 \fi
4371 \fi
4372 \fi
4373 \fi
4374 \fi
4375 \ifx\Hy@driver\Hy@defaultdriver
4376 \def\Hy@temp{hdvwind}%
4377 \ifx\Hy@temp\Hy@driver
4378 \kvsetkeys{Hyp}{colorlinks}%
4379 \PassOptionsToPackage{dviwindo}{color}%
4380 \fi
4381 \fi
4382 \fi
4383 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4384 \chardef\Hy@VersionChecked=0 %
4385 \input{\Hy@driver.def}%
4386 \ifcase\Hy@VersionChecked
4387 \Hy@VersionCheck{\Hy@driver.def}%
4388 \fi
4389 \let\@unprocessedoptions\relax
4390 \Hy@RestoreCatcodes
4391 \Hy@DisableOption{tex4ht}%
4392 \Hy@DisableOption{pdftex}%
4393 \Hy@DisableOption{nativepdf}%
4394 \Hy@DisableOption{dvipdfm}%
4395 \Hy@DisableOption{dvipdfmx}%
4396 \Hy@DisableOption{dvipdfmx-outline-open}%
4397 \Hy@DisableOption{pdfmark}%
4398 \Hy@DisableOption{dvips}%
4399 \Hy@DisableOption{hypertex}%
4400 \Hy@DisableOption{vtex}%
4401 \Hy@DisableOption{vtexpdfmark}%
4402 \Hy@DisableOption{dviwindo}%
4403 \Hy@DisableOption{dvipsone}%
4404 \Hy@DisableOption{textures}%
4405 \Hy@DisableOption{latex2html}%
4406 \Hy@DisableOption{ps2pdf}%
4407 \Hy@DisableOption{xetex}%
4408 \Hy@DisableOption{pdfversion}%
4409 }

```

Support for open outlines is enabled for 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.

```

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

```

15.4.2 Bookmarks

```

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

```

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

```

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

```

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

```

4454 \def\Hy@CatcodeWrapper#1{%
4455 \let\Hy@endWrap\ltx@empty
4456 \def\TMP@EnsureCode##1##2{%
4457 \edef\Hy@endWrap{%
4458 \Hy@endWrap
4459 \catcode##1 \the\catcode##1\relax
4460 }%
4461 \catcode##1 ##2\relax

```

```

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

```

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

```

4493 \Hy@AtBeginDocument{%
4494   \ifHy@ocgcolorlinks
4495     \kvsetkeys{Hyp}{colorlinks}%
4496     \ifHy@pdfa
4497       \Hy@Warning{%
4498         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4499         using 'colorlinks' instead of 'ocgcolorlinks'%
4500       }%
4501       \Hy@ocgcolorlinksfalse
4502     \fi
4503   \fi
4504   \ifHy@ocgcolorlinks
4505   \else
4506     \Hy@DisableOption{ocgcolorlinks}%
4507   \fi
4508   \ifHy@colorlinks
4509     \def\@pdfborder{0 0 0}%
4510     \let\@pdfborderstyle\@empty
4511   \ifHy@typexml
4512   \else
4513     \Hy@CatcodeWrapper{%
4514       \RequirePackage{color}%
4515     }%
4516   \fi

```

```

4517 \def\Hy@colorlink#1{%
4518 \begingroup
4519 \HyColor@UseColor#1%
4520 }%
4521 \def\Hy@endcolorlink{\endgroup}%
4522 \Hy@Info{Link coloring ON}%
4523 \else
4524 \ifHy@frenchlinks
4525 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4526 \def\Hy@endcolorlink{\endgroup}%
4527 \Hy@Info{French linking ON}%
4528 \else
for grouping consistency:
4529 \def\Hy@colorlink#1{\begingroup}%
4530 \def\Hy@endcolorlink{\endgroup}%
4531 \Hy@Info{Link coloring OFF}%
4532 \fi
4533 \fi
4534 \Hy@DisableOption{colorlinks}%
4535 \Hy@DisableOption{frenchlinks}%
4536 \ifHy@texht
4537 \long\def\@firstoffive#1#2#3#4#5{#1}%
4538 \long\def\@secondoffive#1#2#3#4#5{#2}%
4539 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4540 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4541 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4542 \providecommand*\@safe@activetrue{}%
4543 \providecommand*\@safe@activesfalse{}%
4544 \def\T@ref#1{%
4545 \Hy@safe@activetrue
4546 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4547 \Hy@safe@activesfalse
4548 }%
4549 \def\T@pageref#1{%
4550 \Hy@safe@activetrue
4551 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4552 \Hy@safe@activesfalse
4553 }%
4554 \else
4555 \ifHy@typexml
4556 \else
4557 \Hy@CatcodeWrapper{%
4558 \RequirePackage{nameref}%
4559 }%
4560 \fi
4561 \fi
4562 \DeclareRobustCommand\ref{%
4563 \@ifstar\@refstar\T@ref
4564 }%
4565 \DeclareRobustCommand\pageref{%
4566 \@ifstar\@pagerefstar\T@pageref
4567 }%
4568 % \ifclassloaded{memoir}{%
4569 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4570 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4571 % }%
4572 % }\ltx@secondoftwo

```

```

4573 % {%
4574 %   \DeclareRobustCommand*{\nameref}{%
4575 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4576 %   }%
4577 % }{%
4578   \DeclareRobustCommand*{\nameref}{%
4579     \@ifstar\@namerefstar\T@nameref
4580   }%
4581 % }%
4582 }
4583 \Hy@AtBeginDocument{%
4584   \ifHy@texht
4585   \else
4586     \Hy@CatcodeWrapper\ReadBookmarks
4587   \fi
4588 }
4589 \ifHy@backref
4590   \RequirePackage{backref}%
4591 \else
4592   \let\Hy@backout\@gobble
4593 \fi
4594 \Hy@DisableOption{backref}
4595 \Hy@DisableOption{pagebackref}
4596 \Hy@activeanchorfalse

```

16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: `\#`, `\%`, `\~` produce `#`, `%`, `~` respectively. for consistency `\~` produces `~` as well. At the *top level only* ie not within the argument of another command, you can use `#` and `%` unescaped, to produce themselves. even if, say, `#` is entered as `#` it will be converted to `\#` so it does not die if written to an aux file etc. `\#` will write as `#` locally while making `\specials`.

```

4597 \begingroup
4598   \endlinechar=-1 %
4599   \catcode'\^^A=14 %
4600   \catcode'\^^M\active
4601   \catcode'\%\active
4602   \catcode'\#\active
4603   \catcode'\_\active
4604   \catcode'\$\active
4605   \catcode'\&\active
4606   \gdef\hyper@normalise{^^A
4607     \begingroup
4608       \catcode'\^^M\active
4609       \def^^M{ }^^A
4610       \catcode'\%\active
4611       \let%\@percentchar
4612       \let\%\@percentchar
4613       \catcode'\#\active
4614       \def#{\hyper@hash}^^A
4615       \def\#{\hyper@hash}^^A
4616       \@makeother\&^^A
4617       \edef&{\string&}^^A
4618       \edef\&{\string&}^^A

```

```

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

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

4670 \def\Hy@VerboseLinkStart#1#2{%
4671 \ifHy@verbose
4672 \begingroup
4673 \Hy@safe@activetrue
4674 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4675 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%

```



```

4676 \xdef\Hy@VerboseGlobalTemp{%
4677 \Hy@VerboseGlobalTemp, %
4678 line \the\inputlineno
4679 }%
4680 \endgroup
4681 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4682 \@onelevel@sanitize\Hy@VerboseLinkInfo
4683 \fi
4684 }

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

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

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

4713 \DeclareRobustCommand*{\href}[1][]{%
4714 \begingroup
4715 \setkeys{href}{#1}%
4716 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4717 }
4718 \def\Hy@href#1{%
4719 \hyper@normalise\href@
4720 }
4721 \begingroup
4722 \catcode'\$=6 %
4723 \catcode'\#=12 %
4724 \gdef\href@#1{\expandafter\href@split$1##\}%
4725 \gdef\href@split$1##$2##$3\\$4{%
4726 \hyper@@link{$1}{$2}{$3}{$4}%
4727 \endgroup
4728 }%
4729 \endgroup

```

Option ‘page’.

```

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

```

If a next action is set, then also a new window should be opened. Otherwise AR reclaims that it closes the current file with discarding the next actions.

```

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

```

Option ‘pdfremotestartview’.

```

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

```

Option ‘pdfnewwindow’.

```

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

```

Option ‘ismap’.

```

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

```

Option ‘nextactionraw’.

```

4776 \let\Hy@href@nextactionraw\@empty
4777 \define@key{href}{nextactionraw}{%

```

```

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

```

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

```

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

```

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

```

4813 \DeclareRobustCommand*{\hyperref}{%
4814 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4815 }
4816 \def\Hy@babelnormalise#1[#2]{%
4817 \begingroup
4818 \Hy@safe@activestruer
4819 \edef\Hy@tempa{%
4820 \endgroup
4821 \noexpand#1[#2]}%
4822 }%
4823 \Hy@tempa
4824 }

```

```

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

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

```

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

```

4846 \def\label@hyperref[#1]{%
4847   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4848 }%
4849 \def\label@@hyperref#1#2#3{%
4850   \ifx#1\relax
4851     \protect\G@refundefinedtrue
4852     \@latex@warning{%
4853       Hyper reference ‘#2’ on page \thepage \space undefined%
4854     }%
4855     \begingroup
4856       #3%
4857     \endgroup
4858   \else
4859     \hyper@@link{\expandafter\@fifthoffive#1}%
4860     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4861   \fi
4862 }
4863 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4864                               % anchor text
4865   \@bsphack
4866   \ifx\#2\%
4867     \def\Hy@AnchorName{#3}%
4868   \else
4869     \def\Hy@AnchorName{#2.#3}%
4870   \fi
4871   \if@filesw
4872     \protected@write\@auxout{}{%
4873       \string\newlabel{#1}{\{#\}\}\{\Hy@AnchorName\}\}%
4874     }%
4875   \fi
4876   \@esphack
4877   \ifHy@nesting
4878     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%

```

```

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

```

17 Underlying basic hypertext macros

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

```

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

```

The problem here is that the first (URL) parameter may be a local **file**: reference (in which case some browsers treat it differently) or a genuine URL, in which case we'll have to activate a real Web browser. Note that a simple name is also a URL, as that is interpreted as a relative file name. We have to worry about **#** signs in a local file as well.

```

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

```

Parameters are:

1. The URL or file name
2. The type

3. The internal name

4. The link string

We need to get the 1st parameter properly expanded, so we delimit the arguments rather than passing it inside a group.

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

Now (potentially), we are passed: 1) The link type 2) The internal name, 3) the link string, 4) the URL type (http, mailto, file etc), 5) the URL details 6) anything after a real : in the URL 7) the whole URL again

```
4919 \def\@pdftempwordfile{file}%  
4920 \def\@pdftempwordrun{run}%  
4921 \def\@hyper@readexternallink#1#2#3#4:#5:#6\#7{%
```

If there are no colons at all (#6 is blank), its a local file; if the URL type (#4) is blank, its probably a Mac filename, so treat it like a file: URL. The only flaw is if its a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

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

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

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

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

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

otherwise its a URL

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

By default, turn run: into file:

```
4951 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname  
4952   \hyper@linkurl{#2}{%
```

```

4953 \Hy@linkfileprefix
4954 #1%
4955 \ifx\\#3\\%
4956 \else
4957 \hyper@hash
4958 #3%
4959 \fi
4960 }%
4961 }

```

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

```

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

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

4999 \def\Hy@StringLocalhost{localhost}
5000 \@onelevel@sanitize\Hy@StringLocalhost
5001 \def\Hy@CleanupFile#1{%
5002 \edef#1{#1}%
5003 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5004 }
5005 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5006 \begingroup

```

```

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

```

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

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

```

5022 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5023 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5024 \ifx\#1\%
5025 #2\Hy@Warning{Ignoring empty anchor}%
5026 \else
5027 \def\anchor@spot{#2#3}%
5028 \let\put@me@back\@empty
5029 \ifx\relax#2\relax
5030 \else
5031 \ifHy@nesting
5032 \else
5033 \ifcat a\noexpand#2\relax
5034 \else
5035 \ifcat 0\noexpand#2 \relax
5036 \else
5037 % \typeout{Anchor start is not alphanumeric %
5038 % on input line\the\inputlineno%
5039 % }%
5040 \let\anchor@spot\@empty
5041 \def\put@me@back{#2#3}%
5042 \fi
5043 \fi
5044 \fi
5045 \fi
5046 \ifHy@activeanchor
5047 \anchor@spot
5048 \else
5049 \hyper@anchor{#1}%
5050 \fi
5051 \expandafter\put@me@back
5052 \fi
5053 \let\anchor@spot\@empty
5054 }
5055 \let\anchor@spot\ltx@empty

```


18 Compatibility with the *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.

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

This is really too much. The *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.

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

19 Forms creation

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

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

19.1 Field flags

The field flags are organized in a bit set.

```
5071 \RequirePackage{bitset}
```

Each flag has a option name, an `\if` switch, and a bit position. The default is always 'false', the flag is clear. This is also the default of the switch created by `\newif`.

The names of the flags in the PDF specification (1.7) are used as lowercase option names.

```
\HyField@NewFlag #1: type: F annot flags, Ff field flags
#2: PDF name
#3: PDF position
5072 \def\HyField@NewFlag#1#2{%
5073   \lowercase{\HyField@NewOption{#2}}%
5074   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5075 }
```

```

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

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

\HyField@NewBitsetFlag Package 'bitset' uses zero based positions, the PDF specification starts with one.
#1: option
#2: PDF name
#3: type: F annot flags, Ff field flags
#4: PDF position
5085 \def\HyField@NewBitsetFlag#1#2#3#4{%
5086   \begingroup
5087     \count@=#4\relax
5088     \advance\count@\m@ne
5089     \def\x##1{%
5090       \endgroup
5091       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5092       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5093         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5094           (\number#4) #2%
5095         }%
5096       \else
5097         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5098           \csname HyField@#3@#1\endcsname
5099           /#2%
5100         }%
5101       \fi
5102     }%
5103   \expandafter\x\expandafter{\the\count@}%
5104 }

\HyField@UseFlag The bit set is HyField@#1
5105 \def\HyField@UseFlag#1#2{%
5106   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5107 }

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

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

```

```

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

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

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

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

```

“Table 8.75 Field flags specific to button fields”

```

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

```

“Table 8.77 Field flags specific to text fields”

```

5155 \HyField@NewFlag{Ff}{Multiline}{13}
5156 \HyField@NewFlag{Ff}{Password}{14}
5157 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5158 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5159 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5160 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5161 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5162 \HyField@NewFlag{Ff}{Combo}{18}

```

```

5163 \HyField@NewFlag{Ff}{Edit}{19}
5164 \HyField@NewFlag{Ff}{Sort}{20}
5165 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5166 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5167 \HyField@NewFlag{Ff}{CommitOnSelChange}{27}% PDF 1.5

```

Signature fields are not supported.

Until 6.76i hyperref uses field option ‘combo’ to set three flags ‘Combo’, ‘Edit’, and ‘Sort’. Option ‘popdown’ sets flag ‘Combo’ only.

```

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

```

Annotation flags. The form objects are widget annotations. There are two flags for readonly settings, the one in the annotation flags is ignored, instead the other in the field flags is used.

Flag **Print** is not much useful, because hyperref do not use the appearance entry of the annotations for most fields.

```

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

5181 \ifHy@pdfa
5182 \def\HyField@PDFAFflagWarning#1#2{%
5183 \Hy@Warning{%
5184 PDF/A: Annotation flag ‘#1’ must\MessageBreak
5185 be set to ‘#2’%
5186 }%
5187 }%
5188 \Fld@invisiblefalse
5189 \def\Fld@invisibletrue{%
5190 \HyField@PDFAFflagWarning{invisible}{false}%
5191 }%
5192 \Fld@hiddenfalse
5193 \def\Fld@hiddentrue{%
5194 \HyField@PDFAFflagWarning{hidden}{false}%
5195 }%
5196 \Fld@printtrue
5197 \def\Fld@printfalse{%
5198 \HyField@PDFAFflagWarning{print}{true}%
5199 }%
5200 \Fld@nozoomtrue
5201 \def\Fld@nozoomfalse{%
5202 \HyField@PDFAFflagWarning{nozoom}{true}%
5203 }%
5204 \Fld@norotatetrue
5205 \def\Fld@norotatefalse{%
5206 \HyField@PDFAFflagWarning{norotate}{true}%
5207 }%
5208 \Fld@noviewfalse
5209 \def\Fld@noviewtrue{%

```

```

5210 \HyField@PDFAFIWarning{noview}{false}%
5211 }%
5212 \fi

```

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

```

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

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

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5242 \def\HyField@FlagsSubmit{%
5243 \bitsetReset{HyField@Submit}%
5244 \ifcase\@nameuse{Fld@export@\Fld@export} %
5245 % FDF
5246 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5247 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5248 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5249 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5250 \HyField@UseFlag{Submit}{CanonicalFormat}%
5251 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5252 \HyField@UseFlag{Submit}{ExclFKey}%
5253 \HyField@UseFlag{Submit}{EmbedForm}%
5254 \or % HTML
5255 \HyField@SetFlag{Submit}{ExportFormat}%
5256 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5257 \HyField@UseFlag{Submit}{GetMethod}%
5258 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5259 \HyField@UseFlag{Submit}{CanonicalFormat}%

```

```

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

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

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

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5294 \def\HyField@FlagsPushButton{%
5295   \HyField@FlagsAnnot{push button field}%
5296   \bitsetReset{HyField@Ff}%
5297   \HyField@UseFlag{Ff}{ReadOnly}%
5298   \HyField@UseFlag{Ff}{Required}%
5299   \HyField@UseFlag{Ff}{NoExport}%
5300   \HyField@SetFlag{Ff}{Pushbutton}%
5301   \HyField@PrintFlags{Ff}{push button field}%
5302   \bitsetIsEmpty{HyField@Ff}{%
5303     \let\Fld@flags\tx@empty
5304   }{%
5305     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5306   }%
5307 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

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

19.1.6 Radio button field

\HyField@FlagsRadioButton

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

19.1.7 Text fields

\HyField@FlagsText

```
5337 \def\HyField@FlagsText{%
5338   \HyField@FlagsAnnot{text field}%
5339   \bitsetReset{HyField@Ff}%
5340   \HyField@UseFlag{Ff}{ReadOnly}%
5341   \HyField@UseFlag{Ff}{Required}%
5342   \HyField@UseFlag{Ff}{NoExport}%
5343   \HyField@UseFlag{Ff}{Multiline}%
5344   \HyField@UseFlag{Ff}{Password}%
5345   \HyField@UseFlag{Ff}{FileSelect}%
5346   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5347   \HyField@UseFlag{Ff}{DoNotScroll}%
5348   \ifFld@comb
5349     \ifcase0\ifFld@multiline
5350       \else\ifFld@password
5351       \else\ifFld@fileselect
5352       \else 1\fi\fi\fi\relax
5353     \Hy@Error{%
```

```

5354     Field option 'comb' cannot used together with \MessageBreak
5355     'multiline', 'password', or 'fileselect'%
5356   }\@ehc
5357   \else
5358     \HyField@UseFlag{Ff}{Comb}%
5359   \fi
5360 \fi
5361 \HyField@UseFlag{Ff}{RichText}%
5362 \HyField@PrintFlags{Ff}{text field}%
5363 \bitsetIsEmpty{HyField@Ff}{%
5364   \let\Fld@flags\ltx@empty
5365 }{%
5366   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5367 }%
5368 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

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

```

19.2 Choice field

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, \ifFld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

```

5394 \def\HyField@PDFChoices#1{%
5395   \begingroup
5396   \global\let\Fld@choices\ltx@empty
5397   \let\HyTmp@optlist\ltx@empty
5398   \let\HyTmp@optitem\relax

```



```

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

```

\HyField@@PDFChoices

```

5437 \def\HyField@@PDFChoices#1#2{%
5438 \ifx#2\relax
5439 \else
5440 \count@=0 %
5441 \def\HyTmp@optitem##1##2##3{%
5442 \def\HyTmp@key{##2}%
5443 \ifx\HyTmp@key\Hy@gtemp
5444 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5445 \HyTmp@optlist
5446 \HyTmp@optitem{##1}{##2}1%
5447 }%
5448 \let\HyTmp@found=Y%
5449 \else
5450 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5451 \HyTmp@optlist
5452 \HyTmp@optitem{##1}{##2}##3%
5453 }%
5454 \fi

```

```

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

```

19.3 Forms

\HyField@SetKeys

```

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

5501 \newif\ifFld@checked
5502 \newif\ifFld@disabled
5503 \Fld@checkedfalse
5504 \Fld@disabledfalse
5505 \newcount\Fld@menulength
5506 \newdimen\Field@Width

```

```

5507 \newdimen\Fld@charsize
5508 \Fld@charsize=10\p@
5509 \def\Fld@maxlen{0}
5510 \def\Fld@align{0}
5511 \def\Fld@color{0 0 0 rg}
5512 \def\Fld@bcolor{1 1 1}
5513 \def\Fld@bordercolor{1 0 0}
5514 \def\Fld@bordersep{1\p@}
5515 \def\Fld@borderwidth{1}
5516 \def\Fld@borderstyle{S}
5517 \def\Fld@cbsymbol{4}
5518 \def\Fld@radiosymbol{H}
5519 \def\Fld@rotation{0}
5520 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5521 \def\endForm{\@endForm}
5522 \newif\ifForm@html
5523 \Form@htmlfalse
5524 \def\Form@boolkey#1#2{%
5525   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5526 }
5527 \define@key{Form}{action}{%
5528   \hyper@normalise\Hy@DefFormAction{#1}%
5529 }
5530 \def\Hy@DefFormAction{\def\Form@action}
5531 \def\enc@html{html}
5532 \define@key{Form}{encoding}{%
5533   \def\Hy@tempa{#1}%
5534   \ifx\Hy@tempa\enc@html
5535     \Form@htmltrue
5536     \def\Fld@export{html}%
5537   \else
5538     \Hy@Warning{%
5539       Form 'encoding' key with \MessageBreak
5540       unknown value '#1'%
5541     }%
5542     \Form@htmlfalse
5543   \fi
5544 }
5545 \define@key{Form}{method}{%
5546   \lowercase{\def\Hy@temp{#1}}%
5547   \@ifundefined{Form@method@\Hy@temp}{%
5548     \@onelevel@sanitize\Hy@temp
5549     \Hy@Error{%
5550       Unknown method '\Hy@temp'\MessageBreak
5551       Known values are 'post' and 'get'%
5552     }\@ehc
5553   }{%
5554     \let\Form@method\Hy@temp
5555     \ifcase\@nameuse{Form@method@\Hy@temp} %
5556       \Fld@getmethodfalse
5557     \else
5558       \Fld@getmethodtrue
5559     \fi
5560   }%
5561 }
5562 \def\Form@method{}
5563 \@namedef{Form@method@post}{0}

```

```

5564 \@namedef{Form@method@get}{1}
5565 \newif\ifHyField@NeedAppearances
5566 \def\HyField@NeedAppearancesfalse{%
5567   \global\let\ifHyField@NeedAppearances\iffalse
5568 }
5569 \def\HyField@NeedAppearancetrue{%
5570   \global\let\ifHyField@NeedAppearances\iftrue
5571 }
5572 \HyField@NeedAppearancetrue
5573 \define@key{Form}{NeedAppearances}[true]{%
5574   \edef\Hy@tempa{#1}%
5575   \ifx\Hy@tempa\Hy@true
5576     \HyField@NeedAppearancetrue
5577   \else
5578     \ifx\Hy@tempa\Hy@false
5579       \HyField@NeedAppearancesfalse
5580     \else
5581       \Hy@Error{%
5582         Unexpected value '\Hy@tempa'\MessageBreak
5583         of option 'NeedAppearances' instead of\MessageBreak
5584         'true' or 'false'%
5585       }\@ehc
5586     \fi
5587   \fi
5588 }
5589 \def\Field@boolkey#1#2{%
5590   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5591 }
5592 \ifHy@texht
5593   \newtoks\Field@toks
5594   \Field@toks={ }%
5595   \def\Field@addtoks#1#2{%
5596     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5597     \@processme
5598   }%
5599 \else
5600   \def\Hy@WarnHTMLFieldOption#1{%
5601     \Hy@Warning{%
5602       HTML field option '#1'\MessageBreak
5603       is ignored%
5604     }%
5605   }%
5606 \fi
5607 \def\Fld@checkequals#1=#2=#3\\{%
5608   \def\@currDisplay{#1}%
5609   \ifx\\#2\\%
5610     \def\@currValue{#1}%
5611   \else
5612     \def\@currValue{#2}%
5613   \fi
5614 }
5615 \define@key{Field}{loc}{%
5616   \def\Fld@loc{#1}%
5617 }
5618 \define@key{Field}{checked}[true]{%
5619   \lowercase{\Field@boolkey{#1}}{checked}%
5620 }

```

```

5621 \define@key{Field}{disabled}[true]{%
5622   \lowercase{\Field@boolkey{#1}}{disabled}%
5623 }
5624 \ifHy@texht
5625   \define@key{Field}{accesskey}{%
5626     \Field@addtoks{accesskey}{#1}%
5627   }%
5628   \define@key{Field}{tabkey}{%
5629     \Field@addtoks{tabkey}{#1}%
5630   }%
5631 \else
5632   \define@key{Field}{accesskey}{%
5633     \Hy@WarnHTMLFieldOption{accesskey}%
5634   }%
5635   \define@key{Field}{tabkey}{%
5636     \Hy@WarnHTMLFieldOption{tabkey}%
5637   }%
5638 \fi
5639 \define@key{Field}{name}{%
5640   \def\Fld@name{#1}%
5641 }
5642 \let\Fld@altname\relax
5643 \define@key{Field}{altname}{%
5644   \def\Fld@altname{#1}%
5645 }
5646 \let\Fld@mappingname\relax
5647 \define@key{Field}{mappingname}{%
5648   \def\Fld@mappingname{#1}%
5649 }
5650 \define@key{Field}{width}{%
5651   \def\Fld@width{#1}%
5652   \Field@Width#1\setbox0=\hbox{m}%
5653 }
5654 \define@key{Field}{maxlen}{%
5655   \def\Fld@maxlen{#1}%
5656 }
5657 \define@key{Field}{menulength}{%
5658   \Fld@menulength=#1\relax
5659 }
5660 \define@key{Field}{height}{%
5661   \def\Fld@height{#1}%
5662 }
5663 \define@key{Field}{charsize}{%
5664   \Fld@charsize#1%
5665 }
5666 \define@key{Field}{borderwidth}{%
5667   \def\Fld@borderwidth{#1}%
5668 }
5669 \define@key{Field}{borderstyle}{%
5670   \let\Hy@temp\Fld@borderstyle
5671   \def\Fld@borderstyle{#1}%
5672   \Hy@Match\Fld@borderstyle{%
5673     ~[SDBIU]$%
5674   }{ }{%
5675     \Hy@Warning{%
5676       Invalid value '~\@pdfborderstyle'\MessageBreak
5677       for option 'pdfborderstyle'. Valid values:\MessageBreak

```

```

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

5730 \define@key{Field}{rotation}{%
5731 \def\Fld@rotation{#1}%
5732 }

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

```

```

5735 }
5736 \define@key{Field}{bordercolor}{%
5737   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5738 }
5739 \define@key{Field}{color}{%
5740   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5741 }

5742 \let\Fld@onclick@code\ltx@empty
5743 \let\Fld@format@code\ltx@empty
5744 \let\Fld@validate@code\ltx@empty
5745 \let\Fld@calculate@code\ltx@empty
5746 \let\Fld@keystroke@code\ltx@empty
5747 \let\Fld@onfocus@code\ltx@empty
5748 \let\Fld@onblur@code\ltx@empty
5749 \let\Fld@onmousedown@code\ltx@empty
5750 \let\Fld@onmouseup@code\ltx@empty
5751 \let\Fld@onenter@code\ltx@empty
5752 \let\Fld@onexit@code\ltx@empty
5753 \def\Hy@temp#1{%
5754   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5755 }
5756 \def\Hy@@temp#1#2{%
5757   \ifHy@pdfa
5758     \define@key{Field}{#2}{%
5759       \Hy@Error{%
5760         PDF/A: Additional action '#2' is prohibited%
5761       } \@ehc
5762     }%
5763   \else
5764     \define@key{Field}{#2}{%
5765       \def#1{##1}%
5766     }%
5767   \fi
5768 }
5769 \Hy@temp{keystroke}
5770 \Hy@temp{format}
5771 \Hy@temp{validate}
5772 \Hy@temp{calculate}
5773 \Hy@temp{onfocus}
5774 \Hy@temp{onblur}
5775 \Hy@temp{onenter}
5776 \Hy@temp{onexit}
5777 \ifHy@texht
5778   \def\Hy@temp#1{%
5779     \define@key{Field}{#1}{%
5780       \Field@addtoks{#1}{##1}%
5781     }%
5782   }%
5783 \else
5784   \def\Hy@temp#1{%
5785     \define@key{Field}{#1}{%
5786       \Hy@WarnHTMLFieldOption{#1}%
5787     }%
5788   }%
5789 \fi
5790 \Hy@temp{ondblclick}
5791 \Hy@temp{onmousedown}

```

```

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

5818 \DeclareRobustCommand\TextField{%
5819   \@ifnextchar[{\@TextField}{\@TextField[]}%
5820 }
5821 \DeclareRobustCommand\ChoiceMenu{%
5822   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5823 }
5824 \DeclareRobustCommand\CheckBox{%
5825   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5826 }
5827 \DeclareRobustCommand\PushButton{%
5828   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5829 }
5830 \DeclareRobustCommand\Gauge{%
5831   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5832 }
5833 \DeclareRobustCommand\Submit{%
5834   \@ifnextchar[{\@Submit}{\@Submit[]}%
5835 }
5836 \DeclareRobustCommand\Reset{%
5837   \@ifnextchar[{\@Reset}{\@Reset[]}%
5838 }
5839 \def\LayoutTextField#1#2{% label, field
5840   #1 #2%
5841 }
5842 \def\LayoutChoiceField#1#2{% label, field
5843   #1 #2%
5844 }
5845 \def\LayoutCheckField#1#2{% label, field
5846   #1 #2%
5847 }
5848 \def\LayoutPushButtonField#1{% button

```



```

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

```

Default options for the types of \ChoiceMenu.

```

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

```

20 Setup

```

5889 \ifHy@hyperfigures
5890   \Hy@Info{Hyper figures ON}%
5891 \else
5892   \Hy@Info{Hyper figures OFF}%
5893 \fi
5894 \ifHy@nesting
5895   \Hy@Info{Link nesting ON}%
5896 \else
5897   \Hy@Info{Link nesting OFF}%
5898 \fi
5899 \ifHy@hyperindex
5900   \Hy@Info{Hyper index ON}%

```

```

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

```

21 Low-level utility macros

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

```

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

```

Support \label before \begin{document}.

```

5927 \def\@currentHref{Doc-Start}
5928 \let\Hy@footnote@currentHref\@empty

```

We give the start of document a special label; this is used in backreferencing-by-section, to allow for cites before any sectioning commands. Set up PDF info.

```

5929 \Hy@AtBeginDocument{%
5930   \Hy@pdfstringtrue
5931   \PDF@SetupDoc
5932   \let\PDF@SetupDoc\@empty
5933   \Hy@DisableOption{pdfpagescrop}%
5934   \Hy@DisableOption{pdfpagemode}%
5935   \Hy@DisableOption{pdfnonfullscreenpagemode}%
5936   \Hy@DisableOption{pdfdirection}%
5937   \Hy@DisableOption{pdfviewarea}%
5938   \Hy@DisableOption{pdfviewclip}%
5939   \Hy@DisableOption{pdfprintarea}%
5940   \Hy@DisableOption{pdfprintclip}%
5941   \Hy@DisableOption{pdfprintscaling}%
5942   \Hy@DisableOption{pdfduplex}%
5943   \Hy@DisableOption{pdfpicktraybypdfsize}%
5944   \Hy@DisableOption{pdfprintpagerange}%
5945   \Hy@DisableOption{pdfnumcopies}%
5946   \Hy@DisableOption{pdfstartview}%
5947   \Hy@DisableOption{pdfstartpage}%
5948   \Hy@DisableOption{pdftoolbar}%

```

```

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

```

Ignore star from referencing macros:

```

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

```

22 Localized nullifying of package

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

```

5968 \def\NoHyper{%
5969 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
5970 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
5971 \global\let\hyper@livelink\hyper@link
5972 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
5973 \let\hyper@anchor\ltx@gobble
5974 \let\hyper@anchorstart\ltx@gobble
5975 \def\hyper@anchorend{\Hy@xspace@end}%
5976 \let\hyper@linkstart\ltx@gobbletwo
5977 \def\hyper@linkend{\Hy@xspace@end}%
5978 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
5979 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
5980 \let\Hy@backout\@gobble
5981 }
5982 \def\stop@hyper{%
5983 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
5984 \let\Hy@backout\@gobble
5985 \let\hyper@@anchor\ltx@gobble
5986 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
5987 \let\hyper@anchor\ltx@gobble
5988 \let\hyper@anchorstart\ltx@gobble
5989 \def\hyper@anchorend{\Hy@xspace@end}%
5990 \let\hyper@linkstart\ltx@gobbletwo
5991 \def\hyper@linkend{\Hy@xspace@end}%
5992 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
5993 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
5994 }
5995 \def\endNoHyper{%

```

```

5996 \global\let\hyper@link\hyper@livelink
5997 }
5998 \end{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:

```

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

```

Some top-level commands:

```

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

```

Ignore star from referencing macros:

```

6030 \LetLtxMacro\NoHy@OrgRef\ref
6031 \DeclareRobustCommand*\ref{%
6032   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6033 }
6034 \LetLtxMacro\NoHy@OrgPageRef\pageref
6035 \DeclareRobustCommand*\pageref{%
6036   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6037 }
6038 \end{nohyperref}

```

24 The Mangling Of Aux and Toc Files

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

```
6039 \*package
6040 \Hy@AtBeginDocument{%
```

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

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

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

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

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.

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

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

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

```

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

```

25 Title strings

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

```

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

```

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

```

6116 \begingroup
6117 \def\process@me#1\@nil#2{%
6118 \expandafter\let\expandafter\x\csname @#2\endcsname
6119 \edef\y{\expandafter\strip@prefix\meaning\x}%
6120 \def\c##1##2\@nil{%
6121 \ifx\\##1\\%
6122 \else

```

```

6123     \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6124     \expandafter{\x}%
6125     \fi
6126   }%
6127   \expandafter\c\y\relax#1\@nil
6128 }%
6129 \expandafter\process@me\string\@latex@\@nil{title}%
6130 \expandafter\process@me\string\@latex@\@nil{author}%
6131 \endgroup
6132 \fi
6133 \Hy@DisableOption{pdfusetitle}

```

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

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

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

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

```

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

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6157 \RequirePackage{atbegshi}[2007/09/09]
6158 \let\Hy@EveryPageHook\ltx@empty
6159 \let\Hy@EveryPageBoxHook\ltx@empty
6160 \let\Hy@FirstPageHook\ltx@empty

```

```

6161 \AtBeginShipout{%
6162   \Hy@EveryPageHook
6163   \ifx\Hy@EveryPageBoxHook\ltx@empty
6164   \else
6165     \setbox\AtBeginShipoutBox=\vbox{%
6166       \offinterlineskip
6167       \Hy@EveryPageBoxHook
6168       \box\AtBeginShipoutBox
6169     }%
6170   \fi
6171 }
6172 \AtBeginShipoutFirst{%
6173   \Hy@FirstPageHook
6174 }
6175 \g@addto@macro\Hy@FirstPageHook{%
6176   \PDF@FinishDoc
6177   \global\let\PDF@FinishDoc\ltx@empty
6178 }

```

27.1 PDF /PageLabels

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

```

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

```

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

```

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

```

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

```

6194 \let\HyPL@Labels\ltx@empty

```

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

```

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

```

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

```

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

```

Definitions for the PDF names of the \LaTeX pendants.

```

6200 \def\HyPL@arabic{D}%
6201 \def\HyPL@Roman{R}%

```



```

6202 \def\HyPL@roman{r}%
6203 \def\HyPL@Alph{A}%
6204 \def\HyPL@alph{a}%

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

```

`\HyPL@EveryPage` If a page is shipout and the page number is known, `\HyPL@EveryPage` has to be called. It stores the current page label.

```

6223 \def\HyPL@EveryPage{%
6224   \begingroup
6225   \ifx\HyPL@thisLabel\relax
6226     \let\HyPL@page\thepage
6227     \HyPL@SlidesSetPage
6228   \else
6229     \let\HyPL@page\HyPL@thisLabel
6230     \global\let\HyPL@thisLabel\relax
6231   \fi
6232   \let\HyPL@Type\relax
6233   \ifnum\the\c@page>0 %
6234     \ifx\HyPL@SlidesSetPage\ltx@empty
6235       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6236     \fi
6237   \fi
6238   \let\Hy@temp Y%
6239   \ifx\HyPL@Type\HyPL@LastType
6240   \else
6241     \let\Hy@temp N%
6242   \fi
6243   \ifx\HyPL@Type\relax
6244     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6245   \else
6246     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6247   \fi
6248   \ifx\HyPL@Prefix\HyPL@LastPrefix
6249   \else
6250     \let\Hy@temp N%
6251   \fi
6252   \if Y\Hy@temp
6253     \advance\c@page by -1 %
6254     \ifnum\HyPL@LastNumber=\the\c@page\relax
6255     \else

```

```

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

```

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

```

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

```

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

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

```

6286 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6287   \def\Hy@tempa{#4}%
6288   \def\Hy@tempb{\csname\endcsname\c@page}%
6289   \ifx\Hy@tempa\Hy@tempb
6290   \expandafter\ifx\csname HyPL#3\endcsname\relax
6291   \else
6292   \def\HyPL@Type{#3}%
6293   \def\HyPL@Prefix{#2}%
6294   \fi
6295   \else
6296   \begingroup
6297   \let\Hy@next\endgroup
6298   \let\HyPL@found\@undefined
6299   \def\arabic{\HyPL@Format{arabic}}%
6300   \def\Roman{\HyPL@Format{Roman}}%
6301   \def\roman{\HyPL@Format{roman}}%
6302   \def\Alph{\HyPL@Format{Alph}}%
6303   \def\alph{\HyPL@Format{alph}}%
6304   \protected@edef\Hy@temp{#1}%

```

```

6305     \ifx\HyPL@found\relax
6306       \toks@\expandafter{\Hy@temp}%
6307       \edef\Hy@next{\endgroup
6308         \noexpand\HyPL@@@CheckThePage\the\toks@
6309         \noexpand\HyPL@found\relax\noexpand\@nil
6310       }%
6311     \fi
6312   \Hy@next
6313 \fi
6314 }%

```

\HyPL@Format The help macro `\HyPL@Format` is executed while a `\protected@edef` in the second check method of `\HyPL@@@CheckPage`. The first occurrences of, for example, `\arabic{page}` is marked by `\HyPL@found` that is also defined by `\csname`.

```

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

```

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

```

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

```

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

```

6334 \providecommand*{\HyPL@storePageLabel}[1]{}%

```

\HyPL@Useless The `/PageLabels` entry does not make sense, if the absolute page numbers and the page labels are the same. Then `\HyPL@Labels` has the meaning of `\HyPL@Useless`.

```

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

```

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

```

6337 \def\HyPL@SetPageLabels{%
6338   \@onelevel@sanitize\HyPL@Labels
6339   \ifx\HyPL@Labels\@empty
6340     \else
6341       \ifx\HyPL@Labels\HyPL@Useless
6342       \else
6343         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6344       \fi

```

```

6345 \fi
6346 }%

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

```

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

```

6349 \Hy@DisableOption{pdfpagelabels}
6350 \end{package}

```

27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```

6351 \ifpdf
6352 \pdf@ifdraftmode{%
6353 \let\Hy@PutCatalog\ltx@gobble
6354 }{%
6355 \let\Hy@PutCatalog\pdfcatalog
6356 }
6357 \end{ifpdf}

```

The code for VTeX is more complicate, because it does not allow the direct access to the `/Catalog` object. The command scans its argument and looks for a `/PageLabels` entry.

VTeX 6.59g is the first version, that implements `\special{!pdfpagelabels...}`. For this version `\VTeXversion` reports 660.

```

6358 \ifvtex
6359 \providecommand*\XR@ext{pdf}
6360 \edef\Hy@VTeXversion{%
6361 \ifx\VTeXversion\@undefined
6362 \z@
6363 \else
6364 \ifx\VTeXversion\relax
6365 \z@
6366 \else
6367 \VTeXversion
6368 \fi
6369 \fi
6370 }
6371 \begin{group}
6372 \ifnum\Hy@VTeXversion<660 %
6373 \gdef\Hy@PutCatalog#1{%
6374 \Hy@WarningNoLine{%
6375 VTeX 6.59g or above required for pdfpagelabels%
6376 }%
6377 }%
6378 \else
6379 \gdef\Hy@PutCatalog#1{%
6380 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6381 }%
6382 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6383 \ifx\#2\%
6384 \else
6385 \immediate\special{!pdfpagelabels #2}%

```

```

6386 \fi
6387 }%
6388 \fi
6389 \endgroup
6390 </vtex>

6391 <{*pdftex | vtex>

```

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

```

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

```

Package `atveryend` is used to get behind the final `\clearpage` and to avoid a `\clearpage` in `\AtEndDocument`. Then the PDF catalog entry for `\PageLabels` is set.

```

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

6404 \fi
6405 </pdftex | vtex>

```

27.1.2 xetex

```

6406 <{*xetex>
6407 \HyPsd@LoadUnicode
6408 \Hy@unicodetrue
6409 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6410 \else
6411 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6412 \fi
6413 \HyPsd@LoadStringEncoding
6414 \define@key{Hyp}{unicode}[true]{%
6415 \Hy@boolkey{unicode}{#1}%
6416 \ifHy@unicode
6417 \else
6418 \Hy@Warning{%
6419 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6420 option setting 'unicode=false'%
6421 }%
6422 \Hy@unicodetrue
6423 \fi
6424 }
6425 \define@key{Hyp}{pdfencoding}{%
6426 \edef\HyPsd@temp{#1}%
6427 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6428 \let\HyPsd@pdfencoding\HyPsd@temp
6429 \else
6430 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6431 \let\HyPsd@pdfencoding\HyPsd@temp
6432 \else

```

```

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

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

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

\Hy@PutCatalog

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

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

```

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

```

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

```

Write a dummy definition of \HyPL@Entry for the case, that the next run is done without hyperref. A marker for the rerun warning is set and the /PageLabels

is written.

```

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

\HyPL@Entry

```

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

6500 \fi
6501 </pdfmarkbase | dvipdfm | xetex>

6502 <*package>

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

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```

6509 \def\Hy@CounterExists#1{%
```

```

6510 \begingroup\expandafter\expandafter\expandafter\endgroup
6511 \expandafter\ifx\csname c@#1\endcsname\relax
6512 \expandafter\@gobble
6513 \else
6514 \begingroup\expandafter\expandafter\expandafter\endgroup
6515 \expandafter\ifx\csname the#1\endcsname\relax
6516 \expandafter\expandafter\expandafter\@gobble
6517 \else
6518 \expandafter\expandafter\expandafter\@firstofone
6519 \fi
6520 \fi
6521 }
6522 \Hy@CounterExists{section}{%
6523 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6524 }
6525 \Hy@CounterExists{part}{%
6526 \providecommand\theHpart{\arabic{part}}}%
6527 }
6528 \ltx@ifundefined{thechapter}{%
6529 \providecommand\theHsection {\arabic{section}}}%
6530 \providecommand\theHfigure {\arabic{figure}}}%
6531 \providecommand\theHtable {\arabic{table}}}%
6532 }{%
6533 \providecommand\theHchapter {\arabic{chapter}}}%
6534 \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
6535 \providecommand\theHtable {\theHchapter.\arabic{table}}}%
6536 \providecommand\theHsection {\theHchapter.\arabic{section}}}%
6537 }
6538 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6539 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6540 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6541 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6542 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6543 \providecommand\theHthm {\theHsection.\arabic{thm}}

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration
starts at 0 for every list! But \item occurs inside \trivlist, so check if its a
real \item before incrementing counters.

6544 \let\H@item\item
6545 \newcounter{Item}
6546 \def\theHItem{\arabic{Item}}
6547 \def\item{%
6548 \@hyper@itemfalse
6549 \if@nmbrlist\@hyper@itemtrue\fi
6550 \H@item
6551 }

6552 \providecommand\theHenumi {\theHItem}
6553 \providecommand\theHenumii {\theHItem}
6554 \providecommand\theHenumiii {\theHItem}
6555 \providecommand\theHenumiv {\theHItem}
6556 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6557 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6558 \@ifundefined{theHHmpfootnote}{%
6559 \let\theHHmpfootnote\theHHfootnote
6560 }{}

```

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.

```
6561 \let\H@refstepcounter\refstepcounter
6562 \edef\name@of@eq{equation}%
6563 \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.

```
6564 \newif\if@hyper@item
6565 \newif\if@skiphyperref
6566 \@hyper@itemfalse
6567 \@skiphyperreffalse
6568 \def\refstepcounter#1{%
6569   \ifHy@pdfstring
6570   \else
6571     \H@refstepcounter{#1}%
6572     \edef\This@name{#1}%
6573     \ifx\This@name\name@of@slide
6574     \else
6575       \if@skiphyperref
6576       \else
6577         \if@hyper@item
6578           \stepcounter{Item}%
6579           \hyper@refstepcounter{Item}%
6580         \@hyper@itemfalse
6581       \else
6582         \hyper@refstepcounter{#1}%
6583       \fi
6584     \fi
6585   \fi
6586 \fi
6587 }
6588 \let\Hy@saved@refstepcounter\refstepcounter
```

AMSTeX 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.

```
6589 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6590 \def\hyper@refstepcounter#1{%
6591   \edef\This@name{#1}%
6592   \ifx\This@name\name@of@eq
6593     \@ifundefined{theHequation}{%
6594       \make@stripped@name{\theequation}%
6595       \let\theHequation\newname
6596     }{}%
6597   \fi
6598   \@ifundefined{theH#1}{%
6599     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6600   }{}%
6601   \hyper@makecurrent{#1}%
6602   \ifmeasuring@
6603   \else
6604     \Hy@raisedlink{%
6605       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6606     }%
6607   \fi
```

6608 }

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`.

```
6609 \begingroup\expandafter\expandafter\expandafter\endgroup
6610 \expandafter\ifx\csname chapter\endcsname\relax
6611   \def\Hy@chapterstring{section}%
6612 \else
6613   \def\Hy@chapterstring{chapter}%
6614 \fi
6615 \def\Hy@appendixstring{appendix}
6616 \def\Hy@chapapp{\Hy@chapterstring}
6617 \ltx@ifundefined{appendix}{%
6618 }{%
6619   \let\HyOrg@appendix\appendix
6620   \def\appendix{%
6621     \ltx@ifundefined{chapter}%
6622       {\gdef\theHsection{\Alph{section}}}%
6623       {\gdef\theHchapter{\Alph{chapter}}}%
6624     \xdef\Hy@chapapp{\Hy@appendixstring}%
6625     \HyOrg@appendix
6626   }%
6627 }
```

`\Hy@Test@alph`

```
6628 \def\Hy@Test@alph#1{%
6629   \ifcase#1\or
6630     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6631     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6632     u\or v\or w\or x\or y\or z%
6633   \else
6634     \@ctrerr
6635   \fi
6636 }
```

`\Hy@Test@Alph`

```
6637 \def\Hy@Test@Alph#1{%
6638   \ifcase#1\or
6639     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6640     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6641     U\or V\or W\or X\or Y\or Z%
6642   \else
6643     \@ctrerr
6644   \fi
6645 }
```

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

```
6646 \def\hyper@makecurrent#1{%
6647   \begingroup
6648     \edef\Hy@param{#1}%
6649     \ifx\Hy@param\Hy@chapterstring
```

```

6650 \let\Hy@param\Hy@chapapp
6651 \fi
6652 \ifHy@hypertextnames
6653 \let\@number\@firstofone
6654 \def\@fnsymbol##1{\fnsymbol\number##1}%
6655 \def\@arabic##1{\number##1}%
6656 \ifx\@alph\Hy@Test@alph
6657 \else
6658 \def\@alph{alph\number}%
6659 \fi
6660 \ifx\@Alph\Hy@Test@Alph
6661 \else
6662 \def\@Alph{Alph\number}%
6663 \fi
6664 \ifHy@naturalnames
6665 \let\textlatin\@firstofone
6666 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6667 \else
6668 \xdef\HyperGlobalCurrentHref{%
6669 \csname
6670 the%
6671 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6672 #1%
6673 \endcsname
6674 }%
6675 \fi
6676 \xdef\HyperGlobalCurrentHref{%
6677 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6678 }%
6679 \else
6680 \Hy@GlobalStepCount\Hy@linkcounter
6681 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6682 \fi
6683 \endgroup
6684 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6685 \ifHy@localanchorname
6686 \let\@currentHref\HyperLocalCurrentHref
6687 \else
6688 \global\let\@currentHref\HyperGlobalCurrentHref
6689 \fi
6690 }

```

\Hy@MakeCurrentHref

```

6691 \def\Hy@MakeCurrentHref#1{%
6692 \edef\HyperLocalCurrentHref{#1}%
6693 \@onelevel@sanitize\HyperLocalCurrentHref
6694 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6695 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6696 \ifHy@localanchorname
6697 \let\@currentHref\HyperLocalCurrentHref
6698 \else
6699 \global\let\@currentHref\HyperGlobalCurrentHref
6700 \fi
6701 }

```

\Hy@MakeCurrentHrefAuto

```

6702 \def\Hy@MakeCurrentHrefAuto#1{%

```

```

6703 \Hy@GlobalStepCount\Hy@linkcounter
6704 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6705 }

```

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

```

6706 \def\@currentHlabel{\@currentHref}

6707 \@ifpackageloaded{fancyvrb}{%
6708   \@ifpackagelater{fancyvrb}{1998/05/20}{%
6709     \def\FV@StepLineNo{%
6710       \FV@SetLineNo
6711       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6712       \FV@StepLineNo
6713     }%
6714   }%
6715 }{}

```

29 Package lastpage support

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

\lastpage@putlabel

```

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

```

```

6744 \fi
6745 \immediate\write\@auxout{%
6746 \string\newlabel
6747 {LastPage}{\thepage}{\thepage}{\thepage}{\thepage}{\thepage}%
6748 \ifHy@pageanchor page.\Hy@temp\fi}{\thepage}}%
6749 }%
6750 \endgroup
6751 \fi
6752 \addtocounter{page}{1}%
6753 }%
6754 \@ifclassloaded{revtex4}{%
6755 \begingroup
6756 \toks@{\expandafter{\lastpage@putlabel}}%
6757 \edef\x{\endgroup
6758 \def\noexpand\lastpage@putlabel{%
6759 \noexpand\stepcounter{page}%
6760 \the\toks@
6761 \noexpand\addtocounter{page}\noexpand\m@ne
6762 }%
6763 }%
6764 \x
6765 }{}%
6766 }{}%
6767 }
6768 \end{package}
6769 \check
6770 \checkpackage{lastpage}[1994/06/25]
6771 \checkcommand\def\lastpage@putlabel{%
6772 \addtocounter{page}{-1}%
6773 \immediate\write\@auxout{%
6774 \string\newlabel{LastPage}{\thepage}{\thepage}{\thepage}{\thepage}%
6775 }%
6776 \addtocounter{page}{1}%
6777 }
6778 \end{check}
6779 \end{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.

```

6780 \def\hypergetref#1{\getrefbykeydefault{#1}{\thepage}}
6781 \def\hypergetpageref#1{\getrefbykeydefault{#1}{\thepage}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

6782 \@ifpackageloaded{titlesec}{%
6783 \def\ttl@Hy@steplink#1{%
6784 \Hy@MakeCurrentHrefAuto{#1}%
6785 \edef\ttl@Hy@saveanchor{%
6786 \noexpand\Hy@raisedlink{%
6787 \noexpand\hyper@anchorstart{\@currentHref}%

```

```

6788 \noexpand\hyper@anchorend
6789 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6790 \noexpand\ttl@Hy@PatchSaveWrite
6791 }%
6792 }%
6793 }%
6794 \def\ttl@Hy@PatchSaveWrite{%
6795 \begingroup
6796 \toks@{\expandafter\ttl@savewrite}%
6797 \edef\x{\endgroup
6798 \def\noexpand\ttl@savewrite{%
6799 \let\noexpand\@currentHref
6800 \noexpand\ttl@Hy@SavedCurrentHref
6801 \the\toks@
6802 }%
6803 }%
6804 \x
6805 }%
6806 \def\ttl@Hy@refstepcounter#1{%
6807 \let\ttl@b\Hy@raisedlink
6808 \def\Hy@raisedlink##1{%
6809 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6810 }%
6811 \refstepcounter{#1}%
6812 \let\Hy@raisedlink\ttl@b
6813 }%
6814 }{}

Package titletoc support:
6815 \@ifpackageloaded{titletoc}{%
6816 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6817 }{}

```

32 Package varioref support

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

```

6818 \def\Hy@varioref@undefined{{??}{??}{-}{-}}
6819 \@ifpackageloaded{varioref}{%
6820 \def\vref@pagenum#1#2{%
6821 \@ifundefined{r@#2}{%
6822 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6823 }{}%
6824 \edef#1{\getpagerefnumber{#2}}%
6825 }%
6826 }{}

```

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

```

6827 \def\Hy@varioref@refstepcounter#1{%
6828 \stepcounter{#1}%
6829 \protected@edef\@currentlabel{%
6830 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6831 }%
6832 }
6833 \AtBeginDocument{%
6834 \ifx\refstepcounter\Hy@varioref@refstepcounter

```

```

6835 \let\H@refstepcounter\refstepcounter
6836 \let\refstepcounter\Hy@saved@refstepcounter
6837 \fi
6838 }

```

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

```

6839 \@ifpackageloaded{longtable}{%
6840 \begingroup
6841 \def\y{\LT@array}%
6842 \@ifundefined{scr@LT@array}{%
6843 \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
6844 }\def\y{\scr@LT@array}}%
6845 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6846 \expandafter\endgroup
6847 \expandafter\def\y[#1]#2{%
6848 \H@refstepcounter{#1}%
6849 \hyper@makecurrent{table}%
6850 \let\Hy@LT@currentHref\@currentHref
6851 #2\@sharp###4%
6852 }%
6853 }%
6854 \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

6855 \begingroup
6856 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6857 \endgroup
6858 \def\LT@start{%
6859 #1%
6860 \ifvoid\LT@foot#2\fi
6861 \let\@currentHref\Hy@LT@currentHref
6862 \Hy@raisedlink{%
6863 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6864 }%
6865 #3%
6866 }%
6867 }%
6868 \expandafter\x\LT@start\@nil
6869 }{}

```

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.

```

6870 \let\new@refstepcounter\refstepcounter
6871 \let\H@equation\equation

```

```

6872 \let\H@endequation\endequation
6873 \@ifpackageloaded{amsmath}{%
6874   \long\def\Hy@temp{%
6875     \incr@eqnum
6876     \mathdisplay@push
6877     \st@rredfalse \global\@eqnswtrue
6878     \mathdisplay{equation}%
6879   }%
6880   \ifx\Hy@temp\equation
6881     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6882       \csname iftrue\endcsname
6883     \else
6884       \long\def\equation{%
6885         \mathdisplay@push
6886         \st@rredfalse \global\@eqnswtrue
6887         \mathdisplay{equation}%
6888         \incr@eqnum
6889       }%
6890     \fi
6891   \fi
6892 }{%
6893 \def\equation{%
6894   \let\refstepcounter\H@refstepcounter
6895   \H@equation
6896   \@ifundefined{theHequation}{%
6897     \make@stripped@name{\theequation}%
6898     \let\theHequation\newname
6899   }{%
6900     \hyper@makecurrent{equation}%
6901     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
6902   \let\refstepcounter\new@refstepcounter
6903 }%
6904 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6905 }

```

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.

```

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

```



```

6923 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6924 \fi
6925 \fi
6926 }
6927 \def\endeqnarray{%
6928 \H@endeqnarray
6929 }

```

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.

```

6930 \@namedef{eqnarray*}{%
6931 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6932 }
6933 \@namedef{endeqnarray*}{%
6934 \nonumber\endeqnarray\@eqnstarfalse
6935 }

```

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

```

6936 \ltx@ifundefined{subeqnarray}{\fi}{%
6937 \let\H@subeqnarray\subeqnarray
6938 \let\H@endsubeqnarray\endsubeqnarray
6939 \def\subeqnarray{%
6940 \let\Hy@reserved@a\relax
6941 \H@subeqnarray
6942 \@ifundefined{theHequation}{%
6943 \make@stripped@name{\theequation}%
6944 \let\theHequation\newname
6945 }{}%
6946 \hyper@makecurrent{equation}%
6947 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6948 }%
6949 \def\endsubeqnarray{%
6950 \H@endsubeqnarray
6951 }%
6952 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
6953 }

```

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

```

6954 \def\make@stripped@name#1{%
6955 \begingroup
6956 \escapechar\m@ne
6957 \global\let\newname\@empty
6958 \protected@edef\Hy@tempa{#1}%
6959 \edef\@tempb{%
6960 \noexpand\@tfor\noexpand\Hy@tempa:=%
6961 \expandafter\strip@prefix\meaning\Hy@tempa
6962 }%
6963 \@tempb\do{%
6964 \if\Hy@tempa\else
6965 \if\Hy@tempa\else
6966 \xdef\newname{\newname\Hy@tempa}%
6967 \fi
6968 \fi
6969 }%
6970 \endgroup
6971 }

```

Support for amsmath's subequations:

```

6972 \begingroup\expandafter\expandafter\expandafter\endgroup
6973 \expandafter\ifx\csname subequations\endcsname\relax
6974 \else
6975   \let\HyOrg@subequations\subequations
6976   \def\subequations{%
6977     \stepcounter{equation}%
6978     \protected@edef\theHparentequation{%
6979       \@ifundefined{theHequation}\theequation\theHequation
6980     }%
6981     \addtocounter{equation}{-1}%
6982     \HyOrg@subequations
6983     \def\theHequation{\theHparentequation\alph{equation}}%
6984     \ignorespaces
6985   }%
6986 \fi

```

Support for package amsthm (Daniel Müllner):

```

6987 \@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

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

```

```

7021 \thm@headfont{\scshape}% heading font small caps
7022 \thm@notefont{\fontseries\mddefault\upshape}%
7023 \thm@headpunct{.}% add period after heading
7024 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7025 \thm@space@setup
7026 #1% style overrides
7027 \@topsep \thm@preskip          % used by thm head
7028 \@topsepadd \thm@postskip      % used by \@endparenv
7029 \def\dth@counter{#2}%
7030 \ifx\@empty\dth@counter
7031   \def\@tempa{%
7032     \@oparg{\@begintheorem{#3}{}}{}%
7033   }%
7034 \else
7035   \H@refstepcounter{#2}%
7036   \hyper@makecurrent{#2}%
7037   \let\Hy@dth@currentHref\@currentHref
7038   \def\@tempa{%
7039     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7040   }%
7041 \fi
7042 \@tempa
7043 }%
7044 \else
7045 \def\@thm#1#2#3{%
7046   \ifhmode
7047     \unskip\unskip\par
7048   \fi
7049   \normalfont
7050   \trivlist
7051   \let\thmheadnl\relax
7052   \let\thm@swap\@gobble
7053   \thm@notefont{\fontseries\mddefault\upshape}%
7054   \thm@headpunct{.}% add period after heading
7055   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7056   \thm@space@setup
7057   #1% style overrides
7058   \@topsep \thm@preskip          % used by thm head
7059   \@topsepadd \thm@postskip      % used by \@endparenv
7060   \def\dth@counter{#2}%
7061   \ifx\@empty\dth@counter
7062     \def\@tempa{%
7063       \@oparg{\@begintheorem{#3}{}}{}%
7064     }%
7065   \else
7066     \H@refstepcounter{#2}%
7067     \hyper@makecurrent{#2}%
7068     \let\Hy@dth@currentHref\@currentHref
7069     \def\@tempa{%
7070       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7071     }%
7072   \fi
7073   \@tempa
7074 }%
7075 \fi
7076 \dth@everypar={%
7077   \@minipagefalse

```

```

7078 \global\@newlistfalse
7079 \@noparitemfalse
7080 \if@inlabel
7081 \global\@inlabelfalse
7082 \begingroup
7083 \setbox\z@\lastbox
7084 \ifvoid\z@
7085 \kern-\itemindent
7086 \fi
7087 \endgroup
7088 \ifx\@empty\dth@counter
7089 \else
7090 \Hy@raisedlink{%
7091 \hyper@anchorstart{%
7092 \itx@ifundefined{Hy@dth@currentHref}%
7093 \@currentHref\Hy@dth@currentHref
7094 }\hyper@anchorend
7095 }%
7096 \fi
7097 \unhbox\@labels
7098 \fi
7099 \if@nobreak
7100 \@nobreakfalse \clubpenalty\@M
7101 \else
7102 \clubpenalty\@clubpenalty \everypar{}%
7103 \fi
7104 }%
7105 }{}

```

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.

```

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

```

```

7126 \H@@footnotemark
7127 }%
7128 \let\H@@mpfootnotetext\@mpfootnotetext
7129 \long\def\@mpfootnotetext#1{%
7130 \H@@mpfootnotetext{%
7131 \ifHy@nesting
7132 \expandafter\hyper@@anchor\expandafter{%
7133 \Hy@footnote@currentHref
7134 }{#1}%
7135 \else
7136 \Hy@raisedlink{%
7137 \expandafter\hyper@@anchor\expandafter{%
7138 \Hy@footnote@currentHref
7139 }{\relax}%
7140 }#1%
7141 \fi
7142 }%
7143 }%
7144 \long\def\@footnotetext#1{%
7145 \H@@footnotetext{%
7146 \ifHy@nesting
7147 \expandafter\hyper@@anchor\expandafter{%
7148 \Hy@footnote@currentHref
7149 }{#1}%
7150 \else
7151 \Hy@raisedlink{%
7152 \expandafter\hyper@@anchor\expandafter{%
7153 \Hy@footnote@currentHref
7154 }{\relax}%
7155 }%
7156 \let\@currentHref\Hy@footnote@currentHref
7157 \let\@currentlabelname\@empty
7158 #1%
7159 \fi
7160 }%
7161 }%

```

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.

```

7162 \def\@footnotemark{%
7163 \leavevmode
7164 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7165 \stepcounter{Hfootnote}%
7166 \global\let\Hy@saved@currentHref\@currentHref
7167 \hyper@makecurrent{Hfootnote}%
7168 \global\let\Hy@footnote@currentHref\@currentHref
7169 \global\let\@currentHref\Hy@saved@currentHref
7170 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7171 \@makefnmark
7172 \hyper@linkend
7173 \ifhmode\spacefactor\@x@sf\fi
7174 \relax
7175 }%

```

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

```

7176 \ifpackageloaded{tabularx}{%
7177   \let\HyOrg@TX@endtabularx\TX@endtabularx
7178   \def\Hy@tabularx@hook{%
7179     \let\@footnotetext\H@@footnotetext
7180     \let\@footnotemark\H@@footnotemark
7181     \let\@mpfootnotetext\H@@mpfootnotetext
7182   }%
7183   \begingroup
7184     \toks@\expandafter{\TX@endtabularx}%
7185     \xdef\Hy@gtemp{%
7186       \noexpand\Hy@tabularx@hook
7187       \the\toks@
7188     }%
7189   \endgroup
7190   \let\TX@endtabularx\Hy@gtemp
7191 }{}%
```

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

```

7192 \ifpackageloaded{longtable}{%
7193   \CheckCommand*{\LT@p@ftntext}[1]{%
7194     \edef\@tempa{%
7195       \the\LT@p@ftn
7196       \noexpand\footnotetext[\the\c@footnote]%
7197     }%
7198     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7199   }%
7200   \long\def\LT@p@ftntext#1{%
7201     \edef\@tempa{%
7202       \the\LT@p@ftn
7203       \begingroup
7204         \noexpand\c@footnote=\the\c@footnote\relax
7205         \noexpand\protected\xdef\noexpand\@thefnmark{%
7206           \noexpand\thempfn
7207         }%
7208         \noexpand\Hy@LT@footnotetext{%
7209           \Hy@footnote@currentHref
7210         }%
7211       }%
7212       \global\LT@p@ftn\expandafter{%
7213         \@tempa{#1}%
7214       }%
7215     }%
7216   }%
7217   \long\def\Hy@LT@footnotetext#1#2{%
7218     \H@@footnotetext{%
7219       \ifHy@nesting
7220         \hyper@@anchor{#1}{#2}%
7221       \else
7222         \Hy@raisedlink{%
7223           \hyper@@anchor{#1}{\relax}%
7224         }%
7225     }%
7226   }%
7227 }
```

```

7226     \let\@currentlabelname\@empty
7227     #2%
7228     \fi
7229 }%
7230 }%
7231 }{}%

```

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

```

7232 \ifpackageloaded{fancyvrb}{%
7233   \def\V@@footnotetext{%
7234     \insert\footins\bgroup
7235     \csname reset@font\endcsname
7236     \footnotesize
7237     \interlinepenalty\interfootnotelinepenalty
7238     \splittopskip\footnotesep
7239     \splitmaxdepth\dp\strutbox
7240     \floatingpenalty \@MM
7241     \hsize\columnwidth
7242     \@parboxrestore
7243     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7244     \@makefnintext{%
7245       \rule{\z@}{\footnotesep}%
7246       \bgroup
7247       \aftergroup\V@@@footnotetext
7248       \Hy@raisedlink{%
7249         \expandafter\hyper@@anchor\expandafter{%
7250           \Hy@footnote@currentHref
7251         }\relax}%
7252       }%
7253       \let\@currentHref\Hy@footnote@currentHref
7254       \let\@currentlabelname\@empty
7255       \ignorespaces
7256     }%
7257   }{}%

```

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

```

7258 \def\Hy@temp#1{%
7259   \begingroup
7260   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7261   \endgroup
7262   \@footnotemark
7263 }%
7264 \ifx\Hy@temp\footref
7265   \def\footref#1{%
7266     \begingroup
7267     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7268     \endgroup
7269     \H@@@footnotemark
7270   }%
7271 \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.

```

7272 \let\HyOrg@maketitle\maketitle
7273 \def\maketitle{%
7274   \let\Hy@saved@footnotemark\@footnotemark

```

```

7275 \let\Hy@saved@footnotetext\@footnotetext
7276 \let\@footnotemark\H@@footnotemark
7277 \let\@footnotetext\H@@footnotetext
7278 \@ifnextchar[\Hy@maketitle@optarg{% ]
7279 \HyOrg@maketitle
7280 \Hy@maketitle@end
7281 }%
7282 }%
7283 \def\Hy@maketitle@optarg[#1]{%
7284 \HyOrg@maketitle[{#1}]%
7285 \Hy@maketitle@end
7286 }%
7287 \def\Hy@maketitle@end{%
7288 \ifx\@footnotemark\H@@footnotemark
7289 \let\@footnotemark\Hy@saved@footnotemark
7290 \fi
7291 \ifx\@footnotetext\H@@footnotetext
7292 \let\@footnotetext\Hy@saved@footnotetext
7293 \fi
7294 }%

```

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

```

7295 \def\realfootnote{%
7296 \@ifnextchar[\@xfootnote{%
7297 \stepcounter{\@mpfn}%
7298 \protected@xdef\@thefnmark{\thempfn}%
7299 \H@@@footnotemark\H@@@footnotetext
7300 }%
7301 }%
7302 \fi
7303 \Hy@DisableOption{hyperfootnotes}
7304 \</package>
7305 \< *check>
7306 \checklatex
7307 \checkcommand\def\@xfootnotenext[#1]{%
7308 \begingroup
7309 \csname c@\@mpfn\endcsname #1\relax
7310 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7311 \endgroup
7312 \@footnotetext
7313 }
7314 \checkcommand\def\@xfootnotemark[#1]{%
7315 \begingroup
7316 \c@footnote #1\relax
7317 \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7318 \endgroup
7319 \@footnotemark
7320 }
7321 \checkcommand\def\@footnotemark{%
7322 \leavevmode
7323 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7324 \@makefnmark
7325 \ifhmode\spacefactor\@x@sf\fi
7326 \relax
7327 }
7328 \</check>
7329 \< *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.

```

7330 \def\caption{%
7331   \ifx\@capytype\@undefined
7332     \@latex@error{\noexpand\caption outside float}\@ehd
7333     \expandafter\@gobble
7334   \else
7335     \H@refstepcounter\@capytype
7336     \let\Hy@tempa\@caption
7337     \@ifundefined{float@caption}{%
7338       }{%
7339         \expandafter\ifx\csname @float@c@\@capytype\endcsname
7340           \float@caption
7341           \let\Hy@tempa\Hy@float@caption
7342         \fi
7343       }%
7344     \expandafter\@firstofone
7345   \fi
7346   {\@dblarg{\Hy@tempa\@capytype}}}%
7347 }
7348 \long\def\@caption#1[#2]#3{%
7349   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7350     \csname iftrue\endcsname
7351     \global\let\@currentHref\hc@currentHref
7352   \else
7353     \hyper@makecurrent{\@capytype}%
7354   \fi
7355   \@ifundefined{NR@getttitle}{%
7356     \def\@currentlabelname{#2}%
7357   }{%
7358     \NR@getttitle{#2}%
7359   }%
7360   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7361     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7362   }%
7363   \begingroup
7364     \@parboxrestore
7365     \if@minipage
7366       \setminipage
7367     \fi
7368     \normalsize
7369     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7370       \csname iftrue\endcsname
7371       \global\@capstartfalse
7372       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7373     \else
7374       \@makecaption{\csname fnum@#1\endcsname}{%
7375         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7376     \ifHy@nesting
7377       \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7378     \else
7379       \Hy@raisedlink{%
7380         \expandafter\hyper@@anchor\expandafter{%
7381           \@currentHref

```

```

7382         }\relax}%
7383     }%
7384     #3%
7385     \fi
7386 }%
7387 \fi
7388 \par
7389 \endgroup
7390 }

```

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.

```

7391 \let\Hy@float@caption\@caption
7392 \@ifpackageloaded{float}{%
7393   \def\Hy@float@caption{%
7394     \ifx\Hy@float@currentHref\@undefined
7395       \hyper@makecurrent{\@cuptype}%
7396       \global\let\Hy@float@currentHref\@currentHref
7397     \else
7398       \let\@currentHref\Hy@float@currentHref
7399     \fi
7400     \float@caption
7401   }%
7402   \let\HyOrg@float@makebox\float@makebox
7403   \renewcommand{\float@makebox}[1]{%
7404     \HyOrg@float@makebox{%
7405       #1\relax
7406       \ifx\Hy@float@currentHref\@undefined
7407       \else
7408         \expandafter\hyper@@anchor\expandafter{%
7409           \Hy@float@currentHref
7410         }\relax}%
7411       \global\let\Hy@float@currentHref\@undefined
7412     \fi
7413   }%
7414 }%
7415 }{}

7416 \</package>
7417 \<*check>
7418 \checklatex[1999/06/01 - 2000/06/01]
7419 \checkcommand\def\caption{%
7420   \ifx\@cuptype\@undefined
7421     \@latex@error{\noexpand\caption outside float}\@ehd
7422     \expandafter\@gobble
7423   \else
7424     \refstepcounter\@cuptype
7425     \expandafter\@firstofone
7426     \fi
7427   {\@dblarg{\@caption\@cuptype}}}%
7428 }

7429 \checkcommand\long\def\@caption#1[#2]#3{%
7430   \par
7431   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7432     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7433   }%
7434   \begingroup

```

```

7435 \parboxrestore
7436 \ifminipage
7437 \setminipage
7438 \fi
7439 \normalsize
7440 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7441 \endgroup
7442 }
7443 </check>
7444 <*package>

```

37 Bibliographic references

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

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

```

7445 \def\hyper@natlinkstart#1{%
7446 \Hy@backout{#1}%
7447 \hyper@linkstart{cite}{cite.#1}%
7448 \def\hyper@nat@current{#1}%
7449 }
7450 \def\hyper@natlinkend{%
7451 \hyper@linkend
7452 }
7453 \def\hyper@natlinkbreak#1#2{%
7454 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7455 }
7456 \def\hyper@natanchorstart#1{%
7457 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7458 }
7459 \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.

```

7460 \ltx@ifundefined{NAT@parse}{%
7461 \providecommand*\@extra@binfo{}%
7462 \providecommand*\@extra@b@citeb{}%
7463 \def\bibcite#1#2{%
7464 \@newl@bel{b}{#1\@extra@binfo}{%
7465 \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
7466 }%
7467 }%
7468 \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.”.

```

7469 \let\Hy@bibcite\bibcite
7470 \begingroup
7471 \@ifundefined{bbl@cite@choice}{}{%

```

```

7472 \g@addto@macro\bbl@cite@choice{%
7473 \let\bibcite\Hy@bibcite
7474 }%
7475 }%
7476 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
7477 \providecommand*\@BIBLABEL*\@biblabel}%
7478 \def\@bibitem[#1]#2{%
7479 \@skiphyperreftrue
7480 \H@item[%
7481 \ifx\Hy@raisedlink\@empty
7482 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7483 \@BIBLABEL{#1}%
7484 \hyper@anchorend
7485 \else
7486 \Hy@raisedlink{%
7487 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7488 }%
7489 \@BIBLABEL{#1}%
7490 \fi
7491 \hfill
7492 ]%
7493 \@skiphyperreffalse
7494 \if@filesw
7495 \begingroup
7496 \let\protect\noexpand
7497 \immediate\write\@auxout{%
7498 \string\bibcite{#2}{#1}%
7499 }%
7500 \endgroup
7501 \fi
7502 \ignorespaces
7503 }%

```

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

```

7504 \def\@bibitem#1{%
7505 \@skiphyperreftrue\H@item\@skiphyperreffalse
7506 \Hy@raisedlink{%
7507 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7508 }%
7509 \if@filesw
7510 \begingroup
7511 \let\protect\noexpand
7512 \immediate\write\@auxout{%
7513 \string\bibcite{#1}{\the\value{\@listctr}}}%
7514 }%
7515 \endgroup
7516 \fi
7517 \ignorespaces
7518 }%
7519 }{}

7520 \</package>
7521 \< *check>
7522 \checklatex
7523 \checkcommand\def\@bibitem[#1]#2{%
7524 \item[\@biblabel{#1}\hfill]%

```

```

7525 \if@filesw
7526 {%
7527   \let\protect\noexpand
7528   \immediate\write\@auxout{%
7529     \string\bibcite{#2}{#1}%
7530   }%
7531 }%
7532 \fi
7533 \ignorespaces
7534 }
7535 \checkcommand\def\@bibitem#1{%
7536 \item
7537 \if@filesw
7538   \immediate\write\@auxout{%
7539     \string\bibcite{#1}{\the\value{\@listctr}}%
7540   }%
7541 \fi
7542 \ignorespaces
7543 }
7544 </check>
7545 <*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.

```

7546 \ifclassloaded{revtex}{%
7547   \Hy@Info{*** compatibility with revtex **** }%
7548   \def\revtex@checking#1#2{%
7549     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7550     \expandafter\def\csname b@#1\endcsname{#2}%
7551     \@SetMaxRnhefLabel{#1}%
7552     \expandafter\let\csname b@#1\endcsname\T@temp
7553   }%

```

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

```

7554 \ifundefined{@CITE}{\def\@CITE{\@cite}}}%
7555 \providecommand*{\@extra@b@citeb}{}%
7556 \def\@CITEX[#1]#2{%
7557   \let\@citea\@empty
7558   \leavevmode
7559   \unskip
7560   $\{
7561   \scriptstyle
7562   \@CITE{%
7563     \@for\@citeb:=#2\do{%
7564       \@citea
7565       \def\@citea{,\penalty\@m\ }%
7566       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7567       \if@filesw
7568         \immediate\write\@auxout{\string\citation{\@citeb}}%
7569       \fi
7570       \ifundefined{b@\@citeb\extra@b@citeb}{%
7571         \mbox{\reset@font\bfseries ?}%
7572         \G@refundefinedtrue
7573         \@latex@warning{%
7574           Citation ‘\@citeb’ on page \thepage \space undefined%
7575         }%

```

```

7576      }{%
7577      {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7578      }%
7579      }%
7580      }{#1}%
7581      }$%
7582      }%

```

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.

```

7583 \def\@citex[#1]#2{%
7584   \let\@citea\@empty
7585   \@cite{%
7586     \@for\@citeb:=#2\do{%
7587       \@citea
7588       \def\@citea{\penalty\@m\ }%
7589       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7590       \if@filesw
7591         \immediate\write\@auxout{\string\citation{\@citeb}}%
7592       \fi
7593       \ifundefined{b@\@citeb\@extra@b@citeb}{%
7594         \mbox{\reset@font\bfseries ?}%
7595         \G@refundefinedtrue
7596         \@latex@warning{%
7597           Citation ‘\@citeb’ on page \thepage \space undefined%
7598         }%
7599       }{%
7600         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7601       }%
7602     }%
7603   }{#1}%
7604 }%
7605 }{}

```

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.

```

7606 \ifpackageloaded{harvard}{%
7607   \Hy@AtBeginDocument{%
7608     \Hy@Info{*** compatibility with harvard **** }%
7609     \Hy@raiselinksfalse
7610     \def\harvardcite#1#2#3#4{%
7611       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
7612       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
7613       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
7614       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7615     }%
7616     \def\HAR@citetoaux#1{%
7617       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7618       \ifHy@backref
7619         \ifx\@empty\@currentlabel

```

```

7620 \else
7621 \@bsphack
7622 \if@filesw
7623 \protected@write\@auxout{}\{
7624 \string\@writefile{brf}\{
7625 \string\backcite{#1}\{
7626 {\thepage}\@currentlabel}\@currentHref}%
7627 }%
7628 }%
7629 }%
7630 \fi
7631 \@esphack
7632 \fi
7633 \fi
7634 }%
7635 \def\harvarditem{%
7636 \ifnextchar{\@harvarditem}\@harvarditem[\null]}%
7637 }%
7638 \def\@harvarditem[#1]#2#3#4#5\par{%
7639 \item[]%
7640 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7641 \if@filesw
7642 \begingroup
7643 \def\protect##1{\string ##1\space}%
7644 \ifthenelse{equal{#1}\null}}%
7645 {\def\next{{#4}{#2}{#2}{#3}}}%
7646 {\def\next{{#4}{#2}{#1}{#3}}}%
7647 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7648 \endgroup
7649 \fi
7650 \protect\hspace*{-\labelwidth}%
7651 \protect\hspace*{-\labelsep}%
7652 \ignorespaces
7653 #5%
7654 \ifHy@backref
7655 \newblock
7656 \backref{\csname br@#4\endcsname}%
7657 \fi
7658 \par
7659 }%

```

\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:

```

7660 \long\def\HAR@checkcitations#1#2#3#4{%
7661 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#2}}%
7662 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7663 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#3}}%
7664 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7665 \def\HAR@tempa{\hyper@@link[cite]\{cite.#1\}{#4}}%
7666 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7667 \else
7668 \@tempswatrue
7669 \fi
7670 \else
7671 \@tempswatrue
7672 \fi

```

```

7673     \else
7674         \@tempswatrue
7675     \fi
7676 }%
7677 }%

7678 }{}

```

37.2 Package chicago

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

```

7679 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

7680 \def\citeN{%
7681     \def\@citesep{-1000}%
7682     \def\@cite##1##2{##1}%
7683     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7684     \@citedata@opt
7685 }%

```

`\shortciteN`

```

7686 \def\shortciteN{%
7687     \def\@citesep{-1000}%
7688     \def\@cite##1##2{##1}%
7689     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7690     \@citedata@opt
7691 }%

```

`\@citedata@opt`

```

7692 \def\@citedata@opt{%
7693     \let\@cite@opt\@empty
7694     \@ifnextchar [{%
7695         \@tempswatrue
7696         \@citedatax@opt
7697     }{%
7698         \@tempswafalse
7699         \@citedatax[]%
7700     }%
7701 }%

```

`\@citedatax@opt`

```

7702 \def\@citedatax@opt[#1]{%
7703     \def\@cite@opt{, #1}%
7704     \@citedatax[{#1}]%
7705 }%

7706 }{}

```

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.

```

7707 \ltx@ifclassloaded{slides}{%
7708   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7709   \def\Hy@PageAnchorSlidesPlain{%
7710     \advance\c@page\ltx@one
7711     \edef\Hy@TempPageAnchor{%
7712       \noexpand\hyper@@anchor{%
7713         page.\the\c@slide.\the\c@overlay.\the\c@note%
7714         \ifnum\c@page=\ltx@one
7715           \else
7716             .\the\c@page
7717           \fi
7718       }%
7719     }%
7720     \advance\c@page-\ltx@one
7721   }%
7722   \def\Hy@PageAnchorSlide{%
7723     \advance\c@page\ltx@one
7724     \ifnum\c@page>\ltx@one
7725       \ltx@ifundefined{theHpage}{%
7726         \protected@edef\Hy@TheSlideOptionalPage{%
7727           \Hy@SlidesFormatOptionalPage{theHpage}%
7728         }%
7729       }{%
7730         \protected@edef\Hy@TheSlideOptionalPage{%
7731           \Hy@SlidesFormatOptionalPage{theHpage}%
7732         }%
7733       }%
7734     \else
7735       \def\Hy@TheSlideOptionalPage{}%
7736     \fi
7737     \advance\c@page-\ltx@one
7738     \pdfstringdef\@the@H@page{%
7739       \csname
7740         the%
7741         \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7742         \Hy@SlidesPage
7743       \endcsname
7744     \Hy@TheSlideOptionalPage
7745   }%
7746   \ltx@gobblethree
7747 }%
7748 \def\Hy@SlidesPage{slide}%
7749 \g@addto@macro\slide{%
7750   \def\Hy@SlidesPage{slide}%
7751 }%
7752 \g@addto@macro\overlay{%
7753   \def\Hy@SlidesPage{overlay}%
7754 }%
7755 \g@addto@macro\note{%
7756   \def\Hy@SlidesPage{note}%
7757 }%
7758 }{%
7759   \def\Hy@PageAnchorSlidesPlain{}%
7760   \def\Hy@PageAnchorSlide{}%
7761 }
7762 \def\Hy@EveryPageAnchor{%

```

```

7763 \Hy@DistillerDestFix
7764 \ifHy@pageanchor
7765 \ifHy@hypertexnames
7766 \ifHy@plainpages
7767 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7768 \Hy@PageAnchorSlidesPlain
7769 \else
7770 \begingroup
7771 \let\@number\@firstofone
7772 \Hy@unicodefalse
7773 \Hy@PageAnchorSlide
7774 \pdfstringdef\@the@H@page{\the@H@page}%
7775 \endgroup
7776 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7777 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7778 \fi
7779 \else
7780 \Hy@GlobalStepCount\Hy@pagecounter
7781 \def\Hy@TempPageAnchor{%
7782 \hyper@@anchor{page.\the\Hy@pagecounter}%
7783 }%
7784 \fi
7785 \vbox to 0pt{%
7786 \kern\voffset
7787 \kern\topmargin
7788 \kern-1bp\relax
7789 \hbox to 0pt{%
7790 \kern\hoffset
7791 \kern\ifodd\value{page}%
7792 \oddsidemargin
7793 \else
7794 \evensidemargin
7795 \fi
7796 \kern-1bp\relax
7797 \Hy@TempPageAnchor\relax
7798 \hss
7799 }%
7800 \vss
7801 }%
7802 \fi
7803 }
7804 \g@addto@macro\Hy@EveryPageBoxHook{%
7805 \Hy@EveryPageAnchor
7806 }

```

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.

```

7807 \def\addcontentsline#1#2#3{% toc extension, type, tag
7808 \begingroup
7809 \let\label\@gobble
7810 \ifx\@currentHref\@empty
7811 \Hy@Warning{%
7812 No destination for bookmark of \string\addcontentsline,%

```

```

7813     \MessageBreak destination is added%
7814 }%
7815 \phantomsection
7816 \fi
7817 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7818 \begingroup
7819   \def\Hy@tempa{#1}%
7820   \ifx\Hy@tempa\Hy@bookmarkstype
7821     \Hy@WarningNoLine{%
7822       bookmark level for unknown #2 defaults to 0%
7823     }%
7824   \else
7825     \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7826   \fi
7827 \endgroup
7828 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7829 \fi
7830 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7831 \Hy@writebookmark{\csname the#2\endcsname}%
7832   {#3}%
7833   {\@currentHref}%
7834   {\Hy@toclevel}%
7835   {#1}%
7836 \ifHy@verbose
7837 \begingroup
7838   \def\Hy@tempa{#3}%
7839   \@onelevel@sanitize\Hy@tempa
7840   \let\temp@online\on@line
7841   \let\on@line\@empty
7842   \Hy@Info{%
7843     bookmark\temp@online:\MessageBreak
7844     thecounter {\csname the#2\endcsname}\MessageBreak
7845     text {\Hy@tempa}\MessageBreak
7846     reference {\@currentHref}\MessageBreak
7847     toplevel {\Hy@toclevel}\MessageBreak
7848     type {#1}%
7849   }%
7850 \endgroup
7851 \fi
7852 \addtocontents{#1}{%
7853   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7854 }%
7855 \endgroup
7856 }
7857 \def\contentsline#1#2#3#4{%
7858   \ifx\#4\%
7859     \csname l@#1\endcsname{#2}{#3}%
7860   \else
7861     \ifcase\Hy@linktoc % none
7862       \csname l@#1\endcsname{#2}{#3}%
7863     \or % section
7864       \csname l@#1\endcsname{%
7865         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7866       }{#3}%
7867     \or % page
7868       \csname l@#1\endcsname{{#2}}{%
7869         \hyper@linkstart{link}{#4}{#3}\hyper@linkend

```

```

7870 }%
7871 \else % all
7872 \csname l@#1\endcsname{%
7873 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7874 }{%
7875 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7876 }%
7877 \fi
7878 \fi
7879 }

7880 \</package>
7881 \<*check>
7882 \checklatex
7883 \checkcommand\def\addcontentsline#1#2#3{%
7884 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7885 }
7886 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7887 \</check>
7888 \<*package>

```

40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

7889 \let\H@definecounter\@definecounter
7890 \def\@definecounter#1{%
7891 \H@definecounter{#1}%
7892 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7893 }

```

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.

```

7894 \let\H@newctr\@newctr
7895 \def\@newctr#1[#2]{%
7896 \H@newctr#1[#2]%
7897 \expandafter\def\csname theH#1\endcsname{%
7898 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7899 }%
7900 }

```

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.

```

7901 \@ifpackageloaded{amsmath}{%
7902 \def\Hy@make@anchor{%
7903 \Hy@MakeCurrentHrefAuto{AMS}%
7904 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7905 }%
7906 \def\Hy@make@cdf@tag@#1{%

```

```

7907 \gdef\df@tag{%
7908 \maketag@@@{\Hy@make@anchor#1}%
7909 \def\@currentlabel{#1}%
7910 }%
7911 }%
7912 \def\Hy@make@df@tag@@#1{%
7913 \gdef\df@tag{%
7914 \tagform@{\Hy@make@anchor#1}%
7915 \toks@{\xp{\p@equation{#1}}}%
7916 \edef\@currentlabel{\the\toks@}%
7917 }%
7918 }%
7919 \let\HyOrg@make@df@tag@@\make@df@tag@@
7920 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
7921 \let\make@df@tag@@\Hy@make@df@tag@@
7922 \let\make@df@tag@@@ \Hy@make@df@tag@@@
7923 }{}

```

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

```

7924 \@ifpackagewith{hyperref}{pdftex}{%
7925 \let\H@seteqlabel\@seteqlabel
7926 \def\@seteqlabel#1{%
7927 \H@seteqlabel{#1}%
7928 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7929 \Hy@raisedlink{%
7930 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7931 }%
7932 }%
7933 }{}

```

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.

```

7934 \let\HyOrg@addtoreset\@addtoreset
7935 \def\@addtoreset#1#2{%
7936 \HyOrg@addtoreset{#1}{#2}%
7937 \expandafter\xdef\csname theH#1\endcsname{%
7938 \expandafter\noexpand
7939 \csname the\@ifundefined{theH#2}{ }H#2\endcsname
7940 .\noexpand\the\noexpand\value{#1}%
7941 }%
7942 }

```

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

```

7943 \</package>
7944 \< *check>
7945 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7946 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7947   \ifundefined{c@#2}{\@nocounterr{#2}}{%
7948     \ifundefined{c@#3}{\@nocnterr{#3}}{%
7949       \@addtoreset{#2}{#3}%
7950       \@xp\xdef\csname the#2\endcsname{%
7951         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7952       }%
7953     }%
7954   }%
7955 }%
7956 \</check>
7957 \< *package>
7958 \ifpackageloaded{amsmath}{%
7959   \ifpackagelater{amsmath}{1999/12/14}{%
7960     \renewcommand*\numberwithin[3][\arabic]{%
7961       \ifundefined{c@#2}{\@nocounterr{#2}}{%
7962         \ifundefined{c@#3}{\@nocnterr{#3}}{%
7963           \HyOrg@addtoreset{#2}{#3}%
7964           \@xp\xdef\csname the#2\endcsname{%
7965             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7966           }%
7967           \@xp\xdef\csname theH#2\endcsname{%
7968             \@xp\@nx
7969             \csname the\ifundefined{theH#3}{H#3}\endcsname
7970             .\@nx#1{#2}%
7971           }%
7972         }%
7973       }%
7974     }%
7975   }%
7976   \Hy@WarningNoLine{%
7977     \string\numberwithin\space of package 'amsmath' %
7978     only fixed\MessageBreak
7979     for version 2000/06/06 v2.12 or newer%
7980   }%
7981 }%
7982 \< }>

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7983 \ifHy@hyperfigures
7984   \let\Hy@Gin@setfile\Gin@setfile
7985   \def\Gin@setfile#1#2#3{%
7986     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7987   }%
7988 \fi
7989 \Hy@DisableOption{hyperfigures}

```

43 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like boldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

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

```

```

8039 \else
8040 \def\@wrindex#1{\@@wrindex#1||\}%
8041 \def\@@wrindex#1|#2|#3\{\%
8042 \if@filesw
8043 \ifx\|#2\%
8044 \protected@write\@indexfile{\%
8045 \string\indexentry{#1|hyperpage}{\thepage}%
8046 }%
8047 \else
8048 \HyInd@@@wrindex{#1}#2\%
8049 \fi
8050 \fi
8051 \endgroup
8052 \@esphack
8053 }%
8054 \def\HyInd@@@wrindex#1#2#3\{\%
8055 \def\Hy@temp@A{#2}%
8056 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8057 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8058 \relax
8059 \protected@write\@indexfile{\%
8060 \string\indexentry{\%
8061 #1|hyperindexformat{/#2#3}%
8062 }{\thepage}%
8063 }%
8064 \else
8065 \ifx\|#3\%
8066 \ifx\Hy@temp@A\HyInd@ParenRight
8067 \protected@write\@indexfile{\%
8068 \string\indexentry{#1|#2}{\thepage}%
8069 }%
8070 \else
8071 \protected@write\@indexfile{\%
8072 \string\indexentry{#1|#2hyperpage}{\thepage}%
8073 }%
8074 \fi
8075 \else
8076 \protected@write\@indexfile{\%
8077 \string\indexentry{\%
8078 #1|#2hyperindexformat{/#3}%
8079 }{\thepage}%
8080 }%
8081 \fi
8082 \fi
8083 }%
8084 \fi
8085 }%
8086 \fi
8087 \Hy@DisableOption{hyperindex}
8088 \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.

```
8089 \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.


```

8090 \def\hyperpage#1{%
8091   \HyInd@hyperpage#1\nohyperpage{}\@nil
8092 }
8093 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8094   \HyInd@@hyperpage{#1}%
8095   #2%
8096   \def\Hy@temp{#3}%
8097   \ifx\Hy@temp\@empty
8098   \else
8099     \ltx@ReturnAfterFi{%
8100       \HyInd@hyperpage#3\@nil
8101     }%
8102   \fi
8103 }
8104 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8105 \def\@hyperpage#1--#2--#3\{%
8106   \ifx\#2\%
8107     \@commahyperpage{#1}%
8108   \else
8109     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8110   \fi
8111 }
8112 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8113 \def\@commahyperpage#1, #2,#3\{%
8114   \ifx\#2\%
8115     \HyInd@pagelink{#1}%
8116   \else
8117     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8118   \fi
8119 }

```

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

```

8120 \def\HyInd@pagelink#1{%
8121   \begingroup
8122   \toks@={}%
8123   \HyInd@removespaces#1 \@nil
8124   \endgroup
8125 }
8126 \def\HyInd@removespaces#1 #2\@nil{%
8127   \toks@=\expandafter{\the\toks@#1}%
8128   \ifx\#2\%
8129     \edef\x{\the\toks@}%
8130     \ifx\x\@empty
8131     \else
8132       \hyperlink{page.\the\toks@}{\the\toks@}%
8133     \fi
8134   \else
8135     \ltx@ReturnAfterFi{%
8136       \HyInd@removespaces#2\@nil
8137     }%
8138   \fi
8139 }

```

44 Compatibility with foiltex

```

8140 \@ifclassloaded{foils}{%

```



```

8193         {slideheading.\theHslidesection}%
8194         {1}%
8195         {toc}%
8196     \fi
8197 \else
8198     \Hy@GlobalStepCount\Hy@linkcounter
8199     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8200     \Hy@writebookmark
8201         {\theslidesection}%
8202         {\Hy@slidetitle}%
8203         {slideheading.\the\Hy@linkcounter}%
8204         {1}%
8205         {toc}%
8206 \fi
8207 }%
8208 \def\slide@subheading[#1]#2{%
8209     \H@refstepcounter{slidesubsection}%
8210     \addtocontents{los}{%
8211         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8212         {\@SCTR}{slideheading.\theslidesubsection}%
8213     }%
8214     \def\Hy@tempa{#2}%
8215     \ifx\Hy@tempa\@empty
8216     \else
8217         {%
8218             \edef\@currentlabel{%
8219                 \csname p@slidesubsection\endcsname\theslidesubsection
8220             }%
8221             \makeslidesubheading{#2}%
8222         }%
8223     \fi
8224     \gdef\theslidesubheading{#1}%
8225     \ifHy@bookmarksnumbered
8226         \def\Hy@slidetitle{\theslidesubsection\space #1}%
8227     \else
8228         \def\Hy@slidetitle{#1}%
8229     \fi
8230     \ifHy@hypertextnames
8231         \ifHy@naturalnames
8232             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8233             \Hy@writebookmark
8234                 {\theslidesubsection}%
8235                 {\Hy@slidetitle}%
8236                 {slideheading.\theslidesubsection}%
8237                 {2}%
8238                 {toc}%
8239         \else
8240             \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8241             \Hy@writebookmark
8242                 {\theslidesubsection}%
8243                 {\Hy@slidetitle}%
8244                 {slideheading.\theHslidesubsection}%
8245                 {2}%
8246                 {toc}%
8247         \fi
8248     \else
8249         \Hy@GlobalStepCount\Hy@linkcounter

```

```

8250 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8251 \Hy@writebookmark
8252 {\theslidesubsection}%
8253 {\Hy@slidetitle}%
8254 {slideheading.\the\Hy@linkcounter}%
8255 {1}%
8256 {toc}%
8257 \fi
8258 }%
8259 \providecommand*{\listslidenam}{List of Slides}%
8260 \def\listofslides{%
8261 \section*{%
8262 \listslidenam
8263 \@mkboth{%
8264 \expandafter\MakeUppercase\listslidenam
8265 }{%
8266 \expandafter\MakeUppercase\listslidenam
8267 }%
8268 }%
8269 \def\l@slide##1##2##3##4{%
8270 \slide@undottedcline{%
8271 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
8272 }{}%
8273 }%
8274 \let\l@subslide\l@slide
8275 \@startlos
8276 }%
8277 \def\slide@contents{%
8278 \def\l@slide##1##2##3##4{%
8279 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8280 }%
8281 \let\l@subslide\@gobblefour
8282 \@startlos
8283 }%
8284 \def\Slide@contents{%
8285 \def\l@slide##1##2##3##4{%
8286 \ifcase\lslide@flag
8287 \message{##1 ** \the\c@slidesection}%
8288 \ifnum##1>\c@slidesection
8289 \def\lslide@flag{1}%
8290 {%
8291 \large
8292 \slide@ccline{%
8293 \slidenumberline{$\rightarrow\bullet$}%
8294 {\hyperlink{##4}{##2}}}%
8295 }{##3}%
8296 }%
8297 \else
8298 {%
8299 \large
8300 \slide@ccline{%
8301 \slidenumberline{$\surd\;\bullet$}%
8302 {\hyperlink{##4}{##2}}}%
8303 }{##3}%
8304 }%
8305 \fi
8306 \or

```

```

8307 \def\lslide@flag{2}%
8308 {%
8309 \large
8310 \slide@cline{%
8311 \slidenumberline{$\bullet$}%
8312 {\hyperlink{##4}{##2}}%
8313 }{##3}%
8314 }%
8315 \or
8316 {%
8317 \large
8318 \slide@cline{%
8319 \slidenumberline{$\bullet$}%
8320 {\hyperlink{##4}{##2}}%
8321 }{##3}%
8322 }%
8323 \fi
8324 }%
8325 \def\l@subslide##1##2##3##4{%
8326 \ifnum\lslide@flag=1 %
8327 \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8328 \fi
8329 }%
8330 \def\lslide@flag{0}%
8331 \@startlos
8332 }%
8333 }{}

```

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.)

```

8334 \ifHy@texht
8335 \expandafter\endinput
8336 \fi
8337 \let\real@setref\@setref
8338 \def\@setref#1#2#3{% curname, extract group, refname
8339 \ifx#1\relax
8340 \protect\G@refundefinedtrue
8341 \nfss@text{\reset@font\bfseries ??}%
8342 \@latex@warning{%
8343 Reference ‘#3’ on page \thepage \space undefined%
8344 }%
8345 \else
8346 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8347 \fi
8348 }

```

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

```

8349 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8350 \begingroup
8351 \toks0={\hyper@link{#5}{#4}}%
8352 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8353 \edef\x{\endgroup
8354 \the\toks0 {\the\toks1 }%
8355 }%
8356 \x
8357 }

```

```

8358 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8359 \ifx#1\relax
8360 \protect\G@refundefinedtrue
8361 \nfss@text{\reset@font\bfseries ??}%
8362 \@latex@warning{%
8363   Reference ‘#3’ on page \thepage \space undefined%
8364 }%
8365 \else
8366 \protect\hyper@@link
8367 {\expandafter\@fifthoffive#1}%
8368 {page.\expandafter\@secondoffive#1}%
8369 {\expandafter\@secondoffive#1}%
8370 \fi
8371 }

8372 \end{package}
8373 \check
8374 \checklatex
8375 \checkcommand\def\@setref#1#2#3{%
8376 \ifx#1\relax
8377 \protect\G@refundefinedtrue
8378 \nfss@text{\reset@font\bfseries ??}%
8379 \@latex@warning{%
8380   Reference ‘#3’ on page \thepage\space undefined%
8381 }%
8382 \else
8383 \expandafter#2#1\null
8384 \fi
8385 }
8386 \end{check}
8387 \end{package}

```

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

```

8388 \def\HyRef@StarSetRef#1{%
8389 \begingroup
8390 \Hy@safe@activestrue
8391 \edef\x{#1}%
8392 \@onelevel@sanitize\x
8393 \edef\x{\endgroup
8394 \noexpand\HyRef@@StarSetRef
8395 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8396 }%
8397 \x
8398 }
8399 \def\HyRef@@StarSetRef#1#2#3{%
8400 \ifx#1\@undefined
8401 \let#1\relax
8402 \fi
8403 \real@setref#1#3{#2}%
8404 }
8405 \def\@refstar#1{%
8406 \HyRef@StarSetRef{#1}\@firstoffive
8407 }
8408 \def\@pagerefstar#1{%
8409 \HyRef@StarSetRef{#1}\@secondoffive
8410 }
8411 \def\@namerefstar#1{%

```

```

8412 \HyRef@StarSetRef{#1}\@thirdoffive
8413 }
8414 \Hy@AtBeginDocument{%
8415 \ifpackageloaded{varioref}{%
8416 \def\@Refstar#1{%
8417 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8418 }%
8419 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8420 \MakeUppercase#1%
8421 }%
8422 \DeclareRobustCommand*\Ref}{\Ref}{%
8423 \@ifstar\@Refstar\HyRef@Ref
8424 }%
8425 \def\HyRef@Ref#1{%
8426 \hyperref[{#1}]{\Ref*{#1}}%
8427 }%
8428 \def\Verf#1{%
8429 \leavevmode\unskip\vref@space
8430 \hyperref[{#1}]{%
8431 \Ref*{#1}%
8432 \let\vref@space\nobreakspace
8433 \@vpageref[\unskip]{#1}%
8434 }%
8435 }%
8436 \def\vr@f#1{%
8437 \leavevmode\unskip\vref@space
8438 \begingroup
8439 \let\T@pageref\@pagerefstar
8440 \hyperref[{#1}]{%
8441 \ref*{#1}%
8442 \vpageref[\unskip]{#1}%
8443 }%
8444 \endgroup
8445 }%
8446 }{}%
8447 }
8448 \DeclareRobustCommand*\autopageref}{%
8449 \@ifstar{%
8450 \HyRef@autopagerefname\pageref*%
8451 }\HyRef@autopageref
8452 }
8453 \def\HyRef@autopageref#1{%
8454 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8455 }
8456 \def\HyRef@autopagerefname{%
8457 \ltx@ifundefined{pageautorefname}{%
8458 \ltx@ifundefined{pagename}{%
8459 \Hy@Warning{No autoref name for 'page'}%
8460 }{%
8461 \pagename\nobreakspace
8462 }%
8463 }{}%
8464 \pageautorefname\nobreakspace
8465 }%
8466 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8467 \DeclareRobustCommand*{\autoref}{%
8468   \leavevmode
8469   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8470 }
8471 \def\HyRef@autoref#1#2{%
8472   \begingroup
8473   \Hy@safe@activetrue
8474   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8475   \endgroup
8476 }
8477 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8478   \HyRef@ShowKeysRef{#2}%
8479   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8480     \edef\HyRef@thisref{%
8481       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8482     }%
8483     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8484     \Hy@safe@activesfalse
8485     #3{%
8486       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8487     }{%
8488       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8489     }{%
8490       \HyRef@currentHtag
8491       \expandafter\@firstoffive#1\@empty\@empty\@empty
8492       \null
8493     }%
8494   \else
8495     \protect\G@refundefinedtrue
8496     \nfss@text{\reset@font\bfseries ??}%
8497     \@latex@warning{%
8498       Reference ‘#2’ on page \thepage\space undefined%
8499     }%
8500   \fi
8501 }
8502 \def\HyRef@testreftype#1.#2\{%
8503   \ltx@ifundefined{#1autorefname}{%
8504     \ltx@ifundefined{#1name}{%
8505       \HyRef@StripStar#1\*\@nil{#1}%
8506       \ltx@ifundefined{\HyRef@name autorefname}{%
8507         \ltx@ifundefined{\HyRef@name name}{%
8508           \def\HyRef@currentHtag{%
8509             \Hy@Warning{No autoref name for ‘#1’}%
8510           }{%
8511             \edef\HyRef@currentHtag{%
8512               \expandafter\noexpand\csname\HyRef@name name\endcsname
8513               \noexpand~%
8514             }%
8515           }%
8516         }{%
8517           \edef\HyRef@currentHtag{%
8518             \expandafter\noexpand
8519             \csname\HyRef@name autorefname\endcsname
8520             \noexpand~%
8521           }%
8522         }%
8523       }%

```



```

8524 \edef\HyRef@currentHtag{%
8525   \expandafter\noexpand\csname#1name\endcsname
8526   \noexpand~%
8527 }%
8528 }%
8529 }{%
8530 \edef\HyRef@currentHtag{%
8531   \expandafter\noexpand\csname#1autorefname\endcsname
8532   \noexpand~%
8533 }%
8534 }%
8535 }
8536 \def\HyRef@StripStar#1*\#2\@nil#3{%
8537 \def\HyRef@name{#2}%
8538 \ifx\HyRef@name\HyRef@CaseStar
8539 \def\HyRef@name{#1}%
8540 \else
8541 \def\HyRef@name{#3}%
8542 \fi
8543 }
8544 \def\HyRef@CaseStar{*\\}
8545 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8546 \let\HyRef@ShowKeysRef\@gobble
8547 \def\HyRef@ShowKeysInit{%
8548   \begingroup\expandafter\expandafter\expandafter\endgroup
8549   \expandafter\ifx\csname SK@@label\endcsname\relax
8550 \else
8551   \ifx\SK@ref\@empty
8552   \else
8553   \def\HyRef@ShowKeysRef{%
8554     \SK@\SK@@ref
8555   }%
8556 \fi
8557 \fi
8558 }
8559 \@ifpackageloaded{showkeys}{%
8560 \HyRef@ShowKeysInit
8561 }{%
8562 \Hy@AtBeginDocument{%
8563   \@ifpackageloaded{showkeys}{%
8564     \HyRef@ShowKeysInit
8565   }{}%
8566 }%
8567 }

```

Defaults for the names that \autoref uses.

```

8568 \providecommand*{\AMSautorefname}{\equationautorefname}
8569 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
8570 \providecommand*{\Itemautorefname}{\itemautorefname}
8571 \providecommand*{\itemautorefname}{item}
8572 \providecommand*{\equationautorefname}{Equation}
8573 \providecommand*{\footnoteautorefname}{footnote}
8574 \providecommand*{\itemautorefname}{item}
8575 \providecommand*{\figureautorefname}{Figure}

```

```

8576 \providecommand*\tableautorefname{Table}
8577 \providecommand*\partautorefname{Part}
8578 \providecommand*\appendixautorefname{Appendix}
8579 \providecommand*\chapterautorefname{chapter}
8580 \providecommand*\sectionautorefname{section}
8581 \providecommand*\subsectionautorefname{subsection}
8582 \providecommand*\subsubsectionautorefname{subsubsection}
8583 \providecommand*\paragraphautorefname{paragraph}
8584 \providecommand*\subparagraphautorefname{subparagraph}
8585 \providecommand*\FancyVerbLineautorefname{line}
8586 \providecommand*\theoremautorefname{Theorem}
8587 \providecommand*\pageautorefname{page}
8588 \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`.

```

8589 {*\pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo}
8590 \begingroup\expandafter\expandafter\expandafter\endgroup
8591 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8592 \begingroup
8593 \catcode'\=0 %
8594 \@makeother\%
8595 |@firstofone{|endgroup
8596 |def\Hy@pstringdef#1#2{%
8597 |begingroup
8598 |edef~{|string~}%
8599 |xdef\Hy@gtemp{#2}%
8600 |endgroup
8601 |let#1|\Hy@gtemp
8602 |@onelevel@sanitize#1%
8603 |edef#1{|expandafter\Hy@ExchangeBackslash#1|\@nil}%
8604 |edef#1{|expandafter\Hy@ExchangeLeftParenthesis#1(|@nil}%
8605 |edef#1{|expandafter\Hy@ExchangeRightParenthesis#1)|@nil}%
8606 }%
8607 |def\Hy@ExchangeBackslash#1\#2|\@nil{%
8608 #1%
8609 |ifx|\#2|\%%
8610 |else
8611 \\\%
8612 |ltx@ReturnAfterFi{%
8613 |Hy@ExchangeBackslash#2|\@nil
8614 }%
8615 |fi
8616 }%
8617 }%
8618 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8619 #1%

```

```

8620 \ifx\|#2\%
8621 \else
8622 \@backslashchar{%
8623 \ltx@ReturnAfterFi{%
8624 \Hy@ExchangeLeftParenthesis#2\@nil
8625 }%
8626 \fi
8627 }%
8628 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8629 #1%
8630 \ifx\|#2\%
8631 \else
8632 \@backslashchar{%
8633 \ltx@ReturnAfterFi{%
8634 \Hy@ExchangeRightParenthesis#2\@nil
8635 }%
8636 \fi
8637 }%
8638 \else
8639 \def\Hy@pstringdef#1#2{%
8640 \begingroup
8641 \edef~{\string~}%
8642 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8643 \endgroup
8644 \let#1\Hy@gtemp
8645 }%
8646 \fi
8647 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8648 <(*pdfTeX)
8649 \providecommand*{\XR@ext}{pdf}
8650 \Hy@setbreaklinks{true}
8651 \def\HyPat@ObjRef{%
8652 [0-9]*[1-9][0-9]* 0 R%
8653 }

```

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

```

8654 \let\Hy@pdfminorversion\relax
8655 \begingroup\expandafter\expandafter\expandafter\endgroup
8656 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8657 \begingroup\expandafter\expandafter\expandafter\endgroup
8658 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8659 \else
8660 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8661 \fi
8662 \else
8663 \def\Hy@pdfminorversion{\pdfminorversion}%
8664 \fi
8665 \@ifundefined{Hy@pdfminorversion}{%

```

```

8666 \PackageInfo{hyperref}{%
8667   PDF version is not set, because pdfTeX is too old (<1.10a)%
8668 }%
8669 }{%
8670 \ifHy@ocgcolorlinks
8671   \ifnum\Hy@pdfminorversion<5 %
8672     \kvsetkeys{Hyp}{pdfversion=1.5}%
8673   \fi
8674 \fi
8675 \ifHy@setpdfversion
8676   \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8677   \else
8678     \Hy@pdfminorversion=\Hy@pdfversion\relax
8679   \fi
8680 \PackageInfo{hyperref}{%
8681   \expandafter\string\Hy@pdfminorversion
8682   :=\number\Hy@pdfversion\space
8683 }%
8684 \fi
8685 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8686 }
8687 \Hy@DisableOption{pdfversion}%

8688 \ifHy@ocgcolorlinks
8689 \pdf@ifdraftmode{}{%
8690   \immediate\pdfobj{%
8691     <<%
8692       /Type/OCG%
8693       /Name(View)%
8694       /Usage<<%
8695         /Print<<%
8696           /PrintState/OFF%
8697         >>%
8698       /View<<%
8699         /ViewState/ON%
8700       >>%
8701     >>%
8702   }%
8703 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8704 \immediate\pdfobj{%
8705   <<%
8706     /Type/OCG%
8707     /Name(Print)%
8708     /Usage<<%
8709       /Print<<%
8710         /PrintState/ON%
8711       >>%
8712     /View<<%
8713       /ViewState/OFF%
8714     >>%
8715   >>%
8716 }%
8717 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8718 \immediate\pdfobj{%
8719   [%
8720   \OBJ@OCG@view\space\OBJ@OCG@print

```

```

8723 ]%
8724 }%
8725 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8726 \pdfcatalog{%
8727   /OCProperties<<%
8728     /OCGs \OBJ@OCGs
8729   /D<<%
8730     /OFF[\OBJ@OCG@print]%
8731   /AS[%
8732     <<%
8733       /Event/View%
8734       /OCGs \OBJ@OCGs
8735       /Category[/View]%
8736     >>%
8737     <<%
8738       /Event/Print%
8739       /OCGs \OBJ@OCGs
8740       /Category[/Print]%
8741     >>%
8742     <<%
8743       /Event/Export%
8744       /OCGs \OBJ@OCGs
8745       /Category[/Print]%
8746     >>%
8747   ]%
8748   >>%
8749   >>%
8750 }%
8751 \begingroup
8752 \edef\x{\endgroup
8753   \pdfpageresources{%
8754     /Properties<<%
8755       /OCView \OBJ@OCG@view
8756       /OCPrint \OBJ@OCG@print
8757     >>%
8758   }%
8759 }%
8760 \x
8761 }%
8762 \Hy@AtBeginDocument{%
8763   \def\Hy@colorlink#1{%
8764     \begingroup
8765     \ifHy@ocgcolorlinks
8766       \def\Hy@ocgcolor{#1}%
8767       \setbox0=\hbox\bgroup\color@begingroup
8768     \else
8769       \HyColor@UseColor#1%
8770     \fi
8771   }%
8772   \def\Hy@endcolorlink{%
8773     \ifHy@ocgcolorlinks
8774       \color@endgroup\egroup
8775     \mbox{%
8776       \pdfliteral page{/OC/OCPrint BDC}%
8777       \rlap{\copy0}%
8778       \pdfliteral page{EMC/OC/OCView BDC}%
8779     }%

```

```

8780      \expandafter\HyColor@UseColor\Hy@ocgcolor
8781      \box0 %
8782      \endgroup
8783      \pdfifliteral page{EMC}%
8784      }%
8785      \fi
8786      \endgroup
8787      }%
8788      }%
8789 \else
8790 \Hy@DisableOption{ocgcolorlinks}%
8791 \fi

```

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

```

8792 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8793 \ifx\pdfstartlink\@undefined% less than version 14
8794 \let\pdfstartlink\pdfannotlink
8795 \let\pdfinkmargin\@tempdima
8796 \let\pdfxform\pdfform
8797 \let\pdfastxform\pdfastform
8798 \let\pdfrefxform\pdfrefform
8799 \else
8800 \pdfinkmargin1pt %
8801 \fi

```

First set up the default linking

```

8802 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8803 \Hy@WrapperDef\new@pdfink#1{%
8804 \ifhmode
8805 \@savsf\spacefactor
8806 \fi
8807 \Hy@SaveLastskip
8808 \Hy@VerboseAnchor{#1}%
8809 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8810 \Hy@DestName\Hy@pstringDest\@pdfview
8811 \Hy@RestoreLastskip
8812 \ifhmode
8813 \spacefactor\@savsf
8814 \fi
8815 }
8816 \let\pdf@endanchor\@empty

```

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

```

8817 \def\Hy@DestName#1#2{%
8818 \pdfdest name{#1}#2\relax
8819 }

```

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.

```

8820 \providecommand*\@pdfborder{0 0 1}
8821 \providecommand*\@pdfborderstyle{}
8822 \def\Hy@undefinedname{UNDEFINED}
8823 \def\find@pdfink#1#2{%

```

```

8824 \leavevmode
8825 \protected@edef\Hy@testname{#2}%
8826 \ifx\Hy@testname\@empty
8827   \Hy@Warning{%
8828     Empty destination name,\MessageBreak
8829     using '\Hy@undefinedname'%
8830   }%
8831   \let\Hy@testname\Hy@undefinedname
8832 \else
8833   \Hy@pstringdef\Hy@testname{%
8834     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8835   }%
8836 \fi
8837 \Hy@StartlinkName{%
8838   \ifHy@pdfa /F 4\fi
8839   \Hy@setpdfborder
8840   \ifx\@pdfhighlight\@empty
8841     \else
8842       /H\@pdfhighlight
8843     \fi
8844     \ifx\CurrentBorderColor\relax
8845     \else
8846       /C[\CurrentBorderColor]%
8847     \fi
8848   }\Hy@testname
8849   \expandafter\Hy@colorlink\csname @#1color\endcsname
8850 }
8851 \def\Hy@StartlinkName#1#2{%
8852   \pdfstartlink attr{#1}goto name{#2}\relax
8853 }
8854 \def\close@pdfink{%
8855   \Hy@endcolorlink
8856   \Hy@VerboseLinkStop
8857   \pdfendlink
8858 }
8859 \def\hyper@anchor#1{%
8860   \new@pdfink{#1}\anchor@spot\pdf@endanchor
8861 }
8862 \def\hyper@anchorstart#1{%
8863   \new@pdfink{#1}%
8864   \Hy@activeanchortrue
8865 }
8866 \def\hyper@anchorend{%
8867   \pdf@endanchor
8868   \Hy@activeanchorfalse
8869 }
8870 \def\hyper@linkstart#1#2{%
8871   \Hy@VerboseLinkStart{#1}{#2}%
8872   \ltx@ifundefined{@#1bordercolor}{%
8873     \let\CurrentBorderColor\relax
8874   }{%
8875     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8876   }%
8877   \find@pdfink{#1}{#2}%
8878 }
8879 \def\hyper@linkend{\close@pdfink}
8880 \def\hyper@link#1#2#3{%

```

```

8881 \Hy@VerboseLinkStart{#1}{#2}%
8882 \ltx@ifundefined{#@#1bordercolor}{%
8883   \let\CurrentBorderColor\relax
8884 }{%
8885   \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8886 }%
8887 \find@pdflink{#1}{#2}#3\Hy@xspace@end
8888 \close@pdflink
8889 }
8890 \let\CurrentBorderColor\@linkbordercolor
8891 \def\hyper@linkurl#1#2{%
8892   \begingroup
8893     \Hy@pstringdef\Hy@pstringURI{#2}%
8894     \hyper@chars
8895     \leavevmode
8896     \pdfstartlink
8897     attr{%
8898       \Hy@setpdfborder
8899       \ifx\@pdfhighlight\@empty
8900       \else
8901         /H\@pdfhighlight
8902       \fi
8903       \ifx\@urlbordercolor\relax
8904       \else
8905         /C[\@urlbordercolor]%
8906       \fi
8907     }%
8908     user{%
8909       /Subtype/Link%
8910       \ifHy@pdfa /F 4\fi
8911       /A<<%
8912         /Type/Action%
8913         /S/URI%
8914         /URI(\Hy@pstringURI)%
8915         \ifHy@href@ismap
8916           /IsMap true%
8917         \fi
8918         \Hy@href@nextactionraw
8919       >>%
8920     }%
8921     \relax
8922     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8923   \close@pdflink
8924 \endgroup
8925 }
8926 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8927   \begingroup
8928     \def\Hy@pstringF{#2}%
8929     \Hy@CleanupFile\Hy@pstringF
8930     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8931     \Hy@pstringdef\Hy@pstringD{#3}%
8932     \Hy@MakeRemoteAction
8933     \leavevmode
8934     \pdfstartlink
8935     attr{%
8936       \Hy@setpdfborder
8937       \ifx\@pdfhighlight\@empty

```



```

8938      \else
8939      /H\@pdfhighlight
8940      \fi
8941      \ifx\@filebordercolor\relax
8942      \else
8943      /C[\@filebordercolor]%
8944      \fi
8945      }%
8946      user {%
8947      /Subtype/Link%
8948      \ifHy@pdfa /F 4\fi
8949      /A<<%
8950      /F(\Hy@pstringF)%
8951      /S/GoToR%
8952      \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}

```

```

8953      \ifx\#3\%
8954      /D[\Hy@href@page\@pdfremotestartview]%
8955      \else
8956      /D(\Hy@pstringD)%
8957      \fi
8958      \Hy@href@nextactionraw
8959      >>%
8960      }%
8961      \relax
8962      \Hy@colorlink\@filecolor#1\Hy@xspace@end
8963      \close@pdfink
8964      \endgroup
8965      }
8966      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8967      \begingroup
8968      \Hy@pstringdef\Hy@pstringF{#1}%
8969      \Hy@pstringdef\Hy@pstringP{#3}%
8970      \leavevmode
8971      \pdfstartlink
8972      attr{%
8973      \Hy@setpdfborder
8974      \ifx\@pdfhighlight\@empty
8975      \else
8976      /H\@pdfhighlight
8977      \fi
8978      \ifx\@runbordercolor\relax
8979      \else
8980      /C[\@runbordercolor]%
8981      \fi
8982      }%

```

```

8983 user {%
8984   /Subtype/Link%
8985   \ifHy@pdfa /F 4\fi
8986   /A<<%
8987   /F(\Hy@pstringF)%
8988   /S/Launch%
8989   \Hy@SetNewWindow
8990   \ifx\#3\%
8991   \else
8992     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8993   \fi
8994   \Hy@href@nextactionraw
8995   >>%
8996   }%
8997   \relax
8998   \Hy@colorlink\@runcolor#2\Hy@xspace@end
8999   \close@pdfink
9000 \endgroup
9001 }

```

\@pdfproducer

```

9002 \ifx\@pdfproducer\relax
9003 \begingroup\expandafter\expandafter\expandafter\endgroup
9004 \expandafter\ifx\csname luatexversion\endcsname\relax
9005   \def\@pdfproducer{pdfTeX}%
9006   \ifx\eTeXversion\@undefined
9007   \else
9008     \ifx\eTeXversion\relax
9009     \else
9010       \ifnum\eTeXversion>0 %
9011         \def\@pdfproducer{pdfTeX}%
9012       \fi
9013     \fi
9014   \fi
9015   \ifx\pdfTeXversion\@undefined
9016   \else
9017     \ifnum\pdfTeXversion<100 %
9018       \edef\@pdfproducer{%
9019         \@pdfproducer
9020         \the\pdfTeXversion.\pdfTeXrevision
9021       }%
9022     \else
9023       \ifnum\pdfTeXversion<130 %
9024         \edef\@pdfproducer{%
9025           \@pdfproducer-%
9026           \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9027           \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9028           \pdfTeXrevision
9029         }%
9030       \else
9031         \ifnum\pdfTeXversion<140 %
9032         \else
9033           \def\@pdfproducer{pdfTeX}%
9034         \fi
9035         \edef\@pdfproducer{%
9036           \@pdfproducer-%
9037           \expandafter\@car\the\pdfTeXversion\@empty\@nil.%

```

```

9038         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9039         \pdfTeXrevision
9040     }%
9041     \fi
9042     \fi
9043     \fi
9044     \else
9045     \begingroup
9046         \count@=\luatexversion
9047         \divide\count@ by 100 %
9048         \edef\x{\the\count@}%
9049         \count@=-\x\relax
9050         \multiply\count@ by 100 %
9051         \advance\count@ by \luatexversion
9052         \edef\x{\endgroup
9053             \def\noexpand\@pdfproducer{%
9054                 LuaTeX-\x.\the\count@.\luatexrevision
9055             }%
9056         }%
9057     \x
9058     \fi
9059     \fi

```

\PDF@SetupDox

```

9060 \def\PDF@SetupDoc{%
9061     \ifx\@pdfpagescrop\@empty
9062     \else
9063         \edef\process@me{%
9064             \pdfpagesattr={%
9065                 /CropBox[\@pdfpagescrop]%
9066                 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9067                 \else
9068                     ^^J\the\pdfpagesattr
9069                 \fi
9070             }%
9071         }%
9072         \process@me
9073     \fi
9074     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9075     \pdfcatalog{%
9076         /PageMode/\@pdfpagemode
9077         \ifx\@baseurl\@empty
9078         \else
9079             /URI<</Base(\Hy@pstringB)>>%
9080         \fi
9081     }%
9082     \ifx\@pdfstartpage\@empty
9083     \else
9084         \ifx\@pdfstartview\@empty
9085         \else
9086             openaction goto page\@pdfstartpage{\@pdfstartview}%
9087         \fi
9088     \fi
9089     \edef\Hy@temp{%
9090         \ifHy@pdftoolbar\else /HideToolbar true\fi
9091         \ifHy@pdfmenubar\else /HideMenubar true\fi
9092         \ifHy@pdfwindowui\else /HideWindowUI true\fi
9093         \ifHy@pdfwindow /FitWindow true\fi

```

```

9094 \ifHy@pdfcenterwindow /CenterWindow true\fi
9095 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9096 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9097 \Hy@UseNameKey{Direction}\@pdfdirection
9098 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9099 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9100 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9101 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9102 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9103 \Hy@UseNameKey{Duplex}\@pdfduplex
9104 \ifx\@pdfpicktraybypdfsize\@empty
9105 \else
9106 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9107 \fi
9108 \ifx\@pdfprintpagerange\@empty
9109 \else
9110 /PrintPageRange[\@pdfprintpagerange]%
9111 \fi
9112 \ifx\@pdfnumcopies\@empty
9113 \else
9114 /NumCopies \@pdfnumcopies
9115 \fi
9116 }%
9117 \pdfcatalog{%
9118 \ifx\Hy@temp\@empty
9119 \else
9120 /ViewerPreferences<<\Hy@temp>>%
9121 \fi
9122 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9123 \ifx\@pdflang\@empty
9124 \else
9125 /Lang(\@pdflang)%
9126 \fi
9127 }%
9128 }

```

\PDF@FinishDoc

```

9129 \def\PDF@FinishDoc{%
9130 \pdf@ifdraftmode{}{%
9131 \Hy@UseMaketitleInfos
9132 \HyInfo@GenerateAddons
9133 \pdfinfo{%
9134 /Author(\@pdfauthor)%
9135 /Title(\@pdftitle)%
9136 /Subject(\@pdfsubject)%
9137 /Creator(\@pdfcreator)%
9138 \ifx\@pdfcreationdate\@empty
9139 \else
9140 /CreationDate(\@pdfcreationdate)%
9141 \fi
9142 \ifx\@pdfmoddate\@empty
9143 \else
9144 /ModDate(\@pdfmoddate)%
9145 \fi
9146 \ifx\@pdfproducer\relax
9147 \else
9148 /Producer(\@pdfproducer)%
9149 \fi

```

```

9150 /Keywords(\@pdfkeywords)%
9151 \ifx\@pdftrapped\@empty
9152 \else
9153 /Trapped/\@pdftrapped
9154 \fi
9155 \HyInfo@Addons
9156 }%
9157 }%
9158 \Hy@DisableOption{pdfauthor}%
9159 \Hy@DisableOption{pdftitle}%
9160 \Hy@DisableOption{pdfsubject}%
9161 \Hy@DisableOption{pdfcreator}%
9162 \Hy@DisableOption{pdfcreationdate}%
9163 \Hy@DisableOption{pdfmoddate}%
9164 \Hy@DisableOption{pdfproducer}%
9165 \Hy@DisableOption{pdfkeywords}%
9166 \Hy@DisableOption{pdftrapped}%
9167 \Hy@DisableOption{pdfinfo}%
9168 }

```

`\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`.

```

9169 \def\hyper@pagetransition{%
9170 \ifx\@pdfpagetransition\relax
9171 \else
9172 \expandafter\Hy@RemoveTransPageAttr
9173 \the\pdfpageattr^^J/Trans{}>>\END
9174 \ifx\@pdfpagetransition\@empty
9175 \else
9176 \edef\@processme{%
9177 \global\pdfpageattr{%
9178 \the\pdfpageattr
9179 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9180 }%
9181 }%
9182 \@processme
9183 \fi
9184 \fi
9185 }

```

`\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.

```

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

```

`\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`.

```

9193 \def\hyper@pageduration{%
9194 \ifx\@pdfpageduration\relax
9195 \else
9196 \expandafter
9197 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9198 \ifx\@pdfpageduration\@empty
9199 \else
9200 \edef\@processme{%
9201 \global\pdfpageattr{%
9202 \the\pdfpageattr
9203 ^^J/Dur \@pdfpageduration\space
9204 }%
9205 }%
9206 \@processme
9207 \fi
9208 \fi
9209 }

```

`\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.

```

9210 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9211 \ifx\#2\%
9212 \global\pdfpageattr{#1}%
9213 \else
9214 \Hy@RemoveDurPageAttr#1#4\END
9215 \fi
9216 }

```

`\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).

```

9217 \def\hyper@pagehidden{%
9218 \ifHy@useHidKey
9219 \expandafter
9220 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9221 \ifHy@pdfpagehidden
9222 \edef\@processme{%
9223 \global\pdfpageattr{%
9224 \the\pdfpageattr
9225 ^^J/Hid true % SPACE
9226 }%
9227 }%
9228 \@processme
9229 \fi
9230 \fi
9231 }

```

`\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.

```

9232 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9233 \ifx\#2\%
9234 \global\pdfpageattr{#1}%

```

```

9235 \else
9236 \Hy@RemoveHidPageAttr#1#4\END
9237 \fi
9238 }

9239 \pdf@ifdraftmode{}{%
9240 \g@addto@macro\Hy@EveryPageHook{%
9241 \hyper@pagetransition
9242 \hyper@pageduration
9243 \hyper@pagehidden
9244 }%
9245 }

```

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

```

9246 </pdftex>
9247 <*pdftex|xetex>
9248 \Hy@AtBeginDocument{%
9249 \ifHy@setpagesize
9250 \expandafter\@firstofone
9251 \else
9252 \expandafter\@gobble
9253 \fi
9254 {%
9255 \@ifclassloaded{seminar}{%
9256 <*pdftex>
9257 \setlength{\pdfhorigin}{1truein}%
9258 \setlength{\pdfvorigin}{1truein}%
9259 </pdftex>
9260 \ifportrait
9261 \ifdim\paperwidth=\z@
9262 \else
9263 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9264 \fi
9265 \ifdim\paperheight=\z@
9266 \else
9267 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9268 \fi
9269 \else
9270 \ifdim\paperheight=\z@
9271 \else
9272 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9273 \fi
9274 \ifdim\paperwidth=\z@
9275 \else
9276 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9277 \fi
9278 \fi
9279 }{%
9280 \ltx@ifundefined{stockwidth}{%
9281 \ifdim\paperwidth>\z@
9282 \setlength{\pdfpagewidth}{\paperwidth}%
9283 \fi
9284 \ifdim\paperheight>\z@
9285 \setlength{\pdfpageheight}{\paperheight}%
9286 \fi
9287 }{%
9288 \ifdim\stockwidth>\z@

```

```

9289     \setlength{\pdfpagewidth}{\stockwidth}%
9290     \fi
9291     \ifdim\stockheight>\z@
9292     \setlength{\pdfpageheight}{\stockheight}%
9293     \fi
9294   }%
9295 }%
9296 }%
9297 \Hy@DisableOption{setpagesize}%
9298 }
9299 </pdfTeX | xetex>
9300 <*pdfTeX>
9301 \def\Acrobatmenu#1#2{%
9302 \Hy@Acrobatmenu{#1}{#2}{%
9303 \pdfstartlink
9304   attr{%
9305     \Hy@setpdfborder
9306     \ifx\@pdfhighlight\@empty
9307     \else
9308       /H\@pdfhighlight
9309     \fi
9310     \ifx\@menubordercolor\relax
9311     \else
9312       /C[\@menubordercolor]%
9313     \fi
9314   }%
9315   user{%
9316     /Subtype/Link%
9317     \ifHy@pdfa /F 4\fi
9318     /A<<%
9319     /S/Named%
9320     /N/#1%
9321     \Hy@href@nextactionraw
9322     >>%
9323   }%
9324   \relax
9325   \Hy@colorlink\@menucolor#2%
9326   \close@pdflink
9327 }%
9328 }

```

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`.

```

9329 \def\Hy@FixNotFirstPage{%
9330 \gdef\Hy@FixNotFirstPage{%
9331 \setbox\AtBeginShipoutBox=\hbox{%
9332 \copy\AtBeginShipoutBox
9333 }%
9334 }%
9335 }

```



```

9336 \AtBeginShipout{\Hy@FixNotFirstPage}
9337 </pdfTeX>

```

46.3 hypertex

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

```

href: html:<a href = "href_string">
name: html:<a name = "name_string">
end: html:</a>
image: html:<img src = "href_string">
base_name: html:<base href = "href_string">

```

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

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

```

9338 (*hypertex)
9339 \providecommand*\XR@ext}{dvi}
9340 \let\PDF@FinishDoc\ltx@empty
9341 \def\PDF@SetupDoc{%
9342   \ifx\@baseurl\@empty
9343     \else
9344       \special{html:<base href="\@baseurl">}%
9345     \fi
9346 }
9347 \Hy@WrapperDef\hyper@anchor#1{%
9348   \Hy@SaveLastskip
9349   \Hy@VerboseAnchor{#1}%
9350   \begingroup
9351     \let\protect=\string
9352     \hyper@chars
9353     \special{html:<a name=%
9354       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9355   \endgroup
9356   \Hy@activeanchortrue
9357   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

9358 \special{html:</a>}%
9359 \Hy@activeanchorfalse
9360 \Hy@RestoreLastskip
9361 }
9362 \Hy@WrapperDef\hyper@anchorstart#1{%
9363 \Hy@SaveLastskip
9364 \Hy@VerboseAnchor{#1}%
9365 \begingroup
9366 \hyper@chars
9367 \special{html:<a name=%
9368 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9369 \endgroup
9370 \Hy@activeanchortrue
9371 }
9372 \def\hyper@anchorend{%
9373 \special{html:</a>}%
9374 \Hy@activeanchorfalse
9375 \Hy@RestoreLastskip
9376 }
9377 \def\@urltype{url}
9378 \def\hyper@linkstart#1#2{%
9379 \Hy@VerboseLinkStart{#1}{#2}%
9380 \expandafter\Hy@colorlink\csname @#1color\endcsname
9381 \def\Hy@tempa{#1}%
9382 \ifx\Hy@tempa\@urltype
9383 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9384 \else
9385 \begingroup
9386 \hyper@chars
9387 \special{html:<a href=%
9388 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9389 \endgroup
9390 \fi
9391 }
9392 \def\hyper@linkend{%
9393 \special{html:</a>}%
9394 \Hy@endcolorlink
9395 }
9396 \def\hyper@linkfile#1#2#3{%
9397 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9398 }
9399 \def\hyper@linkurl#1#2{%

```

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

```

9400 \leavevmode
9401 \ifHy@raiselinks
9402 \Hy@SaveSpaceFactor
9403 \Hy@SaveSavedSpaceFactor
9404 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9405 \Hy@RestoreSavedSpaceFactor
9406 \@linkdim\dp\@tempboxa
9407 \lower\@linkdim\hbox{%
9408 \hyper@chars
9409 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9410 }%
9411 \Hy@colorlink\@urlcolor

```

```

9412 \Hy@RestoreSpaceFactor
9413 #1%
9414 \Hy@SaveSpaceFactor
9415 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvilips 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).

```

9416 \advance\@linkdim by -6.5\p@
9417 \raise\@linkdim\hbox{\special{html:</a>}}%
9418 \Hy@endcolorlink
9419 \Hy@RestoreSpaceFactor
9420 \else
9421 \begingroup
9422 \hyper@chars
9423 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9424 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9425 \special{html:</a>}%
9426 \Hy@endcolorlink
9427 \endgroup
9428 \fi
9429 }

```

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

```

9430 \def\hyper@link#1#2#3{%
9431 \Hy@VerboseLinkStart{#1}{#2}%
9432 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
9433 }

9434 \def\hyper@image#1#2{%
9435 \begingroup
9436 \hyper@chars
9437 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9438 \endgroup
9439 }
9440 </hypertex>
9441 <*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.

```

9442 \providecommand*\XR@ext{dvi}
9443 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9444 \Hy@WrapperDef\hyper@anchor#1{%
9445 \Hy@SaveLastskip
9446 \Hy@VerboseAnchor{#1}%
9447 \begingroup

```

```

9448 \let\protect=\string
9449 \special{mark: #1}%
9450 \endgroup
9451 \Hy@activeanchortrue
9452 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9453 \Hy@activeanchorfalse
9454 \Hy@RestoreLastskip
9455 }
9456 \Hy@WrapperDef\hyper@anchorstart#1{%
9457 \Hy@SaveLastskip
9458 \Hy@VerboseAnchor{#1}%
9459 \special{mark: #1}%
9460 \Hy@activeanchortrue
9461 }
9462 \def\hyper@anchorend{%
9463 \Hy@activeanchorfalse
9464 \Hy@RestoreLastskip
9465 }
9466 \def\hyper@linkstart#1#2{%
9467 \Hy@VerboseLinkStart{#1}{#2}%
9468 \expandafter\Hy@colorlink\csname @#1color\endcsname
9469 \special{button: %
9470 10000000 %
9471 \number\baselineskip\space
9472 #2%
9473 }%
9474 }
9475 \def\hyper@linkend{%
9476 \Hy@endcolorlink
9477 }
9478 \def\hyper@link#1#2#3{%
9479 \Hy@VerboseLinkStart{#1}{#2}%
9480 \leavevmode
9481 \ifHy@raiselinks
9482 \Hy@SaveSpaceFactor
9483 \Hy@SaveSavedSpaceFactor
9484 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9485 \Hy@RestoreSavedSpaceFactor
9486 \@linkdim\dp\@tempboxa
9487 \lower\@linkdim\hbox{%
9488 \special{button: %
9489 \number\wd\@tempboxa\space
9490 \number\ht\@tempboxa\space
9491 #2%
9492 }%
9493 \expandafter\Hy@colorlink\csname @#1color\endcsname
9494 \Hy@RestoreSpaceFactor
9495 #3\Hy@xspace@end
9496 \Hy@SaveSpaceFactor
9497 \Hy@endcolorlink
9498 }%
9499 \@linkdim\ht\@tempboxa
9500 \advance\@linkdim by -6.5\p@
9501 \raise\@linkdim\hbox{}}%
9502 \Hy@RestoreSpaceFactor
9503 \else
9504 \special{button: %

```

```

9505 \number\wd\@tempboxa\space
9506 \number\ht\@tempboxa\space
9507 #2%
9508 }%
9509 \expandafter\Hy@colorlink\csname @#1color\endcsname
9510 #3\Hy@xspace@end
9511 \Hy@endcolorlink
9512 \fi
9513 }
9514 \def\hyper@linkurl#1#2{%
9515 \begingroup
9516 \hyper@chars
9517 \leavevmode
9518 \ifHy@raiselinks
9519 \Hy@SaveSpaceFactor
9520 \Hy@SaveSavedSpaceFactor
9521 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9522 \Hy@RestoreSavedSpaceFactor
9523 \@linkdim\dp\@tempboxa
9524 \lower\@linkdim\hbox{%
9525 \special{button: %
9526 \number\wd\@tempboxa\space
9527 \number\ht\@tempboxa\space
9528 launch: \wwwbrowser\space
9529 #2%
9530 }%
9531 \Hy@colorlink\@urlcolor
9532 \Hy@RestoreSpaceFactor
9533 #1\Hy@xspace@end
9534 \Hy@SaveSpaceFactor
9535 \Hy@endcolorlink
9536 }%
9537 \@linkdim\ht\@tempboxa
9538 \advance\@linkdim by -6.5\p@
9539 \raise\@linkdim\hbox{}}%
9540 \Hy@RestoreSpaceFactor
9541 \else
9542 \special{button: %
9543 \number\wd\@tempboxa\space
9544 \number\ht\@tempboxa\space
9545 launch: \wwwbrowser\space
9546 #2%
9547 }%
9548 \Hy@colorlink\@urlcolor
9549 #1\Hy@xspace@end
9550 \Hy@endcolorlink
9551 \fi
9552 \endgroup
9553 }
9554 \def\hyper@linkfile#1#2#3{%
9555 \begingroup
9556 \hyper@chars
9557 \leavevmode
9558 \ifHy@raiselinks
9559 \Hy@SaveSpaceFactor
9560 \Hy@SaveSavedSpaceFactor
9561 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%

```

```

9562 \Hy@RestoreSavedSpaceFactor
9563 \@linkdim\dp\@tempboxa
9564 \lower\@linkdim\hbox{%
9565 \special{button: %
9566 \number\wd\@tempboxa\space
9567 \number\ht\@tempboxa\space
9568 #3,%
9569 file: #2%
9570 }%
9571 \Hy@colorlink\@filecolor
9572 \Hy@RestoreSpaceFactor
9573 #1\Hy@xspace@end
9574 \Hy@SaveSpaceFactor
9575 \Hy@endcolorlink
9576 }%
9577 \@linkdim\ht\@tempboxa
9578 \advance\@linkdim by -6.5\p@
9579 \raise\@linkdim\hbox{}%
9580 \Hy@RestoreSpaceFactor
9581 \else
9582 \special{button: %
9583 \number\wd\@tempboxa\space
9584 \number\ht\@tempboxa\space
9585 #3,%
9586 file: #2%
9587 }%
9588 \Hy@colorlink\@filecolor
9589 #1\Hy@xspace@end
9590 \Hy@endcolorlink
9591 \fi
9592 \endgroup
9593 }
9594 \ifx\@pdfproducer\relax
9595 \def\@pdfproducer{dviwindo + Distiller}%
9596 \fi
9597 \HyInfo@AddonUnsupportedtrue
9598 \def\PDF@FinishDoc{%
9599 \Hy@UseMaketitleInfos
9600 \HyInfo@TrappedUnsupported
9601 \special{PDF: Keywords \@pdfkeywords}%
9602 \special{PDF: Title \@pdftitle}%
9603 \special{PDF: Creator \@pdfcreator}%
9604 \ifx\@pdfcreationdate\@empty
9605 \else
9606 \special{PDF: CreationDate \@pdfcreationdate}%
9607 \fi
9608 \ifx\@pdfmoddate\@empty
9609 \else
9610 \special{PDF: ModDate \@pdfmoddate}%
9611 \fi
9612 \special{PDF: Author \@pdfauthor}%
9613 \ifx\@pdfproducer\relax
9614 \else
9615 \special{PDF: Producer \@pdfproducer}%
9616 \fi
9617 \special{PDF: Subject \@pdfsubject}%
9618 \Hy@DisableOption{pdfauthor}%

```

```

9619 \Hy@DisableOption{pdftitle}%
9620 \Hy@DisableOption{pdfsubject}%
9621 \Hy@DisableOption{pdfcreator}%
9622 \Hy@DisableOption{pdfcreationdate}%
9623 \Hy@DisableOption{pdfmoddate}%
9624 \Hy@DisableOption{pdfproducer}%
9625 \Hy@DisableOption{pdfkeywords}%
9626 \Hy@DisableOption{pdftrapped}%
9627 \Hy@DisableOption{pdfinfo}%
9628 }
9629 \def\PDF@SetupDoc{%
9630 \ifx\@baseurl\@empty
9631 \else
9632 \special{PDF: Base \@baseurl}%
9633 \fi
9634 \ifx\@pdfpagescrop\@empty\else
9635 \special{PDF: BBox \@pdfpagescrop}%
9636 \fi
9637 \def\Hy@temp{}%
9638 \ifx\@pdfstartpage\@empty
9639 \else
9640 \ifx\@pdfstartview\@empty
9641 \else
9642 \edef\Hy@temp{%
9643 ,Page=\@pdfstartpage
9644 ,View=\@pdfstartview
9645 }%
9646 \fi
9647 \fi
9648 \edef\Hy@temp{%
9649 \noexpand\pdfmark{%
9650 pdfmark=/DOCVIEW,%
9651 PageMode=/\@pdfpagemode
9652 \Hy@temp
9653 }%
9654 }%
9655 \Hy@temp
9656 \ifx\@pdfpagescrop\@empty
9657 \else
9658 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9659 \fi
9660 \edef\Hy@temp{%
9661 \ifHy@pdftoolbar\else /HideToolbar true\fi
9662 \ifHy@pdfmenubar\else /HideMenubar true\fi
9663 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9664 \ifHy@pdffitwindow /FitWindow true\fi
9665 \ifHy@pdfcenterwindow /CenterWindow true\fi
9666 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9667 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9668 \Hy@UseNameKey{Direction}\@pdfdirection
9669 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9670 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9671 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9672 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9673 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9674 \Hy@UseNameKey{Duplex}\@pdfduplex
9675 \ifx\@pdfpicktraybypdfsize\@empty

```

```

9676 \else
9677   /PickTrayByPDFSize \@pdfpicktraybypdfsize
9678 \fi
9679 \ifx\@pdfprintpagerange\@empty
9680 \else
9681   /PrintPageRange[\@pdfprintpagerange]%
9682 \fi
9683 \ifx\@pdfnumcopies\@empty
9684 \else
9685   /NumCopies \@pdfnumcopies
9686 \fi
9687 }%
9688 \pdfmark{pdfmark=/PUT,%
9689   Raw={%
9690     \string{Catalog\string}<<%
9691     \ifx\Hy@temp\@empty
9692     \else
9693       /ViewerPreferences<<\Hy@temp>>%
9694     \fi
9695     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9696     \ifx\@pdflang\@empty
9697     \else
9698       /Lang(\@pdflang)%
9699     \fi
9700     >>%
9701   }%
9702 }%
9703 }
9704 </dviwindo>
9705 <*\dvipdfm|xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9706 \providecommand*\XR@ext}{pdf}
9707 \Hy@setbreaklinks{true}
9708 \def\HyPat@ObjRef{%
9709   @[\^ ]+}%
9710 }
9711 \newsavebox{\pdfm@box}
9712 \def\@pdfm@mark#1{\special{pdf:#1}}
9713 \Hy@WrapperDef\@pdfm@dest#1{%
9714   \Hy@SaveLastskip
9715   \Hy@VerboseAnchor{#1}%
9716   \begingroup
9717     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9718     \def\x{XYZ}%
9719     \ifx\x\@pdfview
9720       \def\x{XYZ @xpos @ypos null}%
9721     \else
9722       \def\x{FitH}%
9723       \ifx\x\@pdfview
9724         \def\x{FitH @ypos}%
9725       \else
9726         \def\x{FitBH}%
9727         \ifx\x\@pdfview
9728           \def\x{FitBH @ypos}%

```



```

9729 \else
9730 \def\x{FitV}%
9731 \ifx\x\@pdfview
9732 \def\x{FitV @xpos}%
9733 \else
9734 \def\x{FitBV}%
9735 \ifx\x\@pdfview
9736 \def\x{FitBV @xpos}%
9737 \else
9738 \def\x{Fit}%
9739 \ifx\x\@pdfview
9740 \let\x\@pdfview
9741 \else
9742 \def\x{FitB}%
9743 \ifx\x\@pdfview
9744 \let\x\@pdfview
9745 \else
9746 \def\x{FitR}%
9747 \ifx\x\@pdfview
9748 \Hy@Warning{'pdfview=FitR' is not supported}%
9749 \def\x{XYZ @xpos @ypos null}%
9750 \else
9751 \@onelevel@sanitize\@pdfview
9752 \Hy@Warning{%
9753   Unknown value '\@pdfview' for pdfview%
9754 }%
9755 \def\x{XYZ @xpos @ypos null}%
9756 \fi
9757 \fi
9758 \fi
9759 \fi
9760 \fi
9761 \fi
9762 \fi
9763 \fi
9764 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9765 \endgroup
9766 \Hy@RestoreLastskip
9767 }
9768 \providecommand*\@pdfview{XYZ}
9769 \providecommand*\@pdfborder{0 0 1}
9770 \providecommand*\@pdfborderstyle{}
9771 \def\hyper@anchor#1{%
9772 \@pdfm@dest{#1}%
9773 }
9774 \def\hyper@anchorstart#1{%
9775 \Hy@activeanchortrue
9776 \@pdfm@dest{#1}%
9777 }
9778 \def\hyper@anchorend{%
9779 \Hy@activeanchorfalse
9780 }
9781 \newcounter{Hy@AnnotLevel}
9782 \ifHy@ocgcolorlinks
9783 \def\OBJ@OCG@view{@OCG@view}%
9784 \@pdfm@mark{%
9785   obj \OBJ@OCG@view <<%

```

```

9786 /Type/OCG%
9787 /Name(View)%
9788 /Usage<<%
9789 /Print<<%
9790 /PrintState/OFF%
9791 >>%
9792 /View<<%
9793 /ViewState/ON%
9794 >>%
9795 >>%
9796 >>%
9797 }%
9798 \@pdfmark{close \OBJ@OCG@view}%
9799 \def\OBJ@OCG@print{@OCG@print}%
9800 \@pdfmark{%
9801 obj \OBJ@OCG@print <<%
9802 /Type/OCG%
9803 /Name(Print)%
9804 /Usage<<%
9805 /Print<<%
9806 /PrintState/ON%
9807 >>%
9808 /View<<%
9809 /ViewState/OFF%
9810 >>%
9811 >>%
9812 >>%
9813 }%
9814 \@pdfmark{close \OBJ@OCG@print}%
9815 \def\OBJ@OCGs{@OCGs}%
9816 \@pdfmark{%
9817 obj \OBJ@OCGs [%
9818 \OBJ@OCG@view\space\OBJ@OCG@print
9819 ]%
9820 }%
9821 \@pdfmark{close \OBJ@OCGs}%
9822 \@pdfmark{%
9823 put @catalog <<%
9824 /OCProperties<<%
9825 /OCGs \OBJ@OCGs
9826 /D<<%
9827 /OFF[\OBJ@OCG@print]%
9828 /AS[%
9829 <<%
9830 /Event/View%
9831 /OCGs \OBJ@OCGs
9832 /Category[/View]%
9833 >>%
9834 <<%
9835 /Event/Print%
9836 /OCGs \OBJ@OCGs
9837 /Category[/Print]%
9838 >>%
9839 <<%
9840 /Event/Export%
9841 /OCGs \OBJ@OCGs
9842 /Category[/Print]%

```

```

9843         >>%
9844     ]%
9845     >>%
9846     >>%
9847     >>%
9848 }%
9849 \AtBeginShipout{%
9850     \setbox\AtBeginShipoutBox=\hbox{%
9851         \copy\AtBeginShipoutBox
9852         \@pdfm@mark{%
9853             put @resources <<%
9854             /Properties<<%
9855             /OCView \OBJ@OCG@view
9856             /OCPrint \OBJ@OCG@print
9857             >>%
9858             >>%
9859         }%
9860     }%
9861 }%
9862 \Hy@AtBeginDocument{%
9863     \def\Hy@colorlink#1{%
9864         \begingroup
9865         \ifHy@ocgcolorlinks
9866             \def\Hy@ocgcolor{#1}%
9867             \setbox0=\hbox\bgroup\color@begingroup
9868         \else
9869             \HyColor@UseColor#1%
9870         \fi
9871     }%
9872     \def\Hy@endcolorlink{%
9873         \ifHy@ocgcolorlinks
9874             \color@endgroup\egroup
9875             \mbox{%
9876                 \@pdfm@mark{content /OC/OCPrint BDC}%
9877                 \rlap{\copy0}%
9878                 \@pdfm@mark{content EMC/OC/OCView BDC}%
9879                 \begingroup
9880                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9881                 \box0 %
9882                 \endgroup
9883                 \@pdfm@mark{content EMC}%
9884             }%
9885         \fi
9886     \endgroup
9887 }%
9888 }%
9889 \else
9890     \Hy@DisableOption{ocgcolorlinks}%
9891 \fi

9892 \def\Hy@BeginAnnot#1{%
9893     \stepcounter{Hy@AnnotLevel}%
9894     \ifnum\value{Hy@AnnotLevel}=\@ne
9895         #1%
9896     \fi
9897 }
9898 \def\Hy@endAnnot{%
9899     \ifnum\value{Hy@AnnotLevel}=\@ne

```

```

9900 \Hy@endcolorlink
9901 \@pdfm@mark{eann}%
9902 \fi
9903 \addtocounter{Hy@AnnotLevel}\m@ne
9904 }

9905 \def\Hy@undefinedname{UNDEFINED}
9906 \def\hyper@linkstart#1#2{%
9907 \Hy@VerboseLinkStart{#1}{#2}%
9908 \leavevmode
9909 \Hy@BeginAnnot{%
9910 \protected@edef\Hy@testname{#2}%
9911 \ifx\Hy@testname\@empty
9912 \Hy@Warning{%
9913 Empty destination name,\MessageBreak
9914 using '\Hy@undefinedname'%
9915 }%
9916 \let\Hy@testname\Hy@undefinedname
9917 \else
9918 \Hy@pstringdef\Hy@testname{%
9919 \expandafter\HyperDestNameFilter\expandafter{%
9920 \Hy@testname
9921 }%
9922 }%
9923 \fi
9924 \@pdfm@mark{%
9925 bann<<%
9926 /Type/Annot%
9927 /Subtype/Link%
9928 \ifHy@pdfa /F 4\fi
9929 \Hy@setpdfborder
9930 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9931 \else
9932 /C[\csname @#1bordercolor\endcsname]%
9933 \fi
9934 /A<<%
9935 /S/GoTo%
9936 /D(\Hy@testname)%
9937 \Hy@href@nextactionraw
9938 >>%
9939 >>%
9940 }%
9941 \expandafter\Hy@colorlink\csname @#1color\endcsname
9942 }%
9943 }

9944 \def\hyper@linkend{\Hy@EndAnnot}%
9945 \def\hyper@link#1#2#3{%
9946 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9947 }

9948 \def\hyper@linkfile#1#2#3{%
9949 \leavevmode
9950 \Hy@BeginAnnot{%
9951 \def\Hy@pstringF{#2}%
9952 \Hy@CleanupFile\Hy@pstringF
9953 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9954 \Hy@pstringdef\Hy@pstringD{#3}%
9955 \Hy@MakeRemoteAction
9956 \@pdfm@mark{%

```

```

9957      bann<<%
9958      /Type/Annot%
9959      /Subtype/Link%
9960      \ifHy@pdfa /F 4\fi
9961      \Hy@setpdfborder
9962      \ifx\@filebordercolor\relax
9963      \else
9964      /C[\@filebordercolor]%
9965      \fi
9966      /A<<%
9967      /S/GoToR%
9968      /F(\Hy@pstringF)%
9969      /D%
9970      \ifx\#3\%
9971      [\Hy@href@page\@pdfremotestartview]%
9972      \else
9973      (\Hy@pstringD)%
9974      \fi
9975      \Hy@SetNewWindow
9976      \Hy@href@nextactionraw
9977      >>%
9978      >>%
9979      }%
9980      \Hy@colorlink\@filecolor
9981      }%
9982      #1\Hy@xspace@end
9983      \Hy@endAnnot
9984      }
9985      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9986      \leavevmode
9987      \Hy@BeginAnnot{%
9988      \Hy@pstringdef\Hy@pstringF{#1}%
9989      \Hy@pstringdef\Hy@pstringP{#3}%
9990      \@pdfm@mark{%
9991      bann<<%
9992      /Type/Annot%
9993      /Subtype/Link%
9994      \ifHy@pdfa /F 4\fi
9995      \Hy@setpdfborder
9996      \ifx\@runbordercolor\relax
9997      \else
9998      /C[\@runbordercolor]%
9999      \fi
10000     /A<<%
10001     /F(\Hy@pstringF)%
10002     /S/Launch%
10003     \Hy@SetNewWindow
10004     \ifx\#3\%
10005     \else
10006     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10007     \fi
10008     \Hy@href@nextactionraw
10009     >>%
10010     >>%
10011     }%
10012     \Hy@colorlink\@runcolor
10013     }%

```

```

10014 #2\Hy@xspace@end
10015 \Hy@EndAnnot
10016 }
10017 \def\hyper@linkurl#1#2{%
10018 \leavevmode
10019 \Hy@BeginAnnot{%
10020 \Hy@pstringdef\Hy@pstringURI{#2}%
10021 \@pdfm@mark{%
10022 bann<<%
10023 /Type/Annot%
10024 /Subtype/Link%
10025 \ifHy@pdfa /F 4\fi
10026 \Hy@setpdfborder
10027 \ifx\@urlbordercolor\relax
10028 \else
10029 /C[\@urlbordercolor]%
10030 \fi
10031 /A<<%
10032 /S/URI%
10033 /URI(\Hy@pstringURI)%
10034 \ifHy@href@ismap
10035 /IsMap true%
10036 \fi
10037 \Hy@href@nextactionraw
10038 >>%
10039 >>%
10040 }%
10041 \Hy@colorlink\@urlcolor
10042 }%
10043 #1\Hy@xspace@end
10044 \Hy@EndAnnot
10045 }
10046 \def\Acrobatmenu#1#2{%
10047 \Hy@Acrobatmenu{#1}{#2}{%
10048 \Hy@BeginAnnot{%
10049 \@pdfm@mark{%
10050 bann<<%
10051 /Type/Annot%
10052 /Subtype/Link%
10053 \ifHy@pdfa /F 4\fi
10054 /A<<%
10055 /S/Named%
10056 /N/#1%
10057 \Hy@href@nextactionraw
10058 >>%
10059 \Hy@setpdfborder
10060 \ifx\@menubordercolor\relax
10061 \relax
10062 /C[\@menubordercolor]%
10063 \fi
10064 >>%
10065 }%
10066 \Hy@colorlink\@menucolor
10067 }%
10068 #2\Hy@xspace@end
10069 \Hy@EndAnnot
10070 }%

```

```

10071 }
10072 \ifx\@pdfproducer\relax
10073 \def\@pdfproducer{dvipdfm}%

```

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

```

10074 \begingroup\expandafter\expandafter\expandafter\endgroup
10075 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10076 \else
10077 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10078 \fi
10079 \fi
10080 \def\PDF@FinishDoc{%
10081 \Hy@UseMaketitleInfos
10082 \HyInfo@GenerateAddons
10083 \@pdfm@mark{%
10084 docinfo<<%
10085 /Title(\@pdftitle)%
10086 /Subject(\@pdfsubject)%
10087 /Creator(\@pdfcreator)%
10088 \ifx\@pdfcreationdate\@empty
10089 \else
10090 /CreationDate(\@pdfcreationdate)%
10091 \fi
10092 \ifx\@pdfmoddate\@empty
10093 \else
10094 /ModDate(\@pdfmoddate)%
10095 \fi
10096 /Author(\@pdfauthor)%
10097 \ifx\@pdfproducer\relax
10098 \else
10099 /Producer(\@pdfproducer)%
10100 \fi
10101 /Keywords(\@pdfkeywords)%
10102 \ifx\@pdftrapped\@empty
10103 \else
10104 /Trapped/\@pdftrapped
10105 \fi
10106 \HyInfo@Addons
10107 >>%
10108 }%
10109 \Hy@DisableOption{pdfauthor}%
10110 \Hy@DisableOption{pdftitle}%
10111 \Hy@DisableOption{pdfsubject}%
10112 \Hy@DisableOption{pdfcreator}%
10113 \Hy@DisableOption{pdfcreationdate}%
10114 \Hy@DisableOption{pdfmoddate}%
10115 \Hy@DisableOption{pdfproducer}%
10116 \Hy@DisableOption{pdfkeywords}%
10117 \Hy@DisableOption{pdftrapped}%
10118 \Hy@DisableOption{pdfinfo}%
10119 }
10120 \def\PDF@SetupDoc{%
10121 \edef\Hy@temp{%
10122 \ifHy@pdftoolbar\else /HideToolbar true\fi
10123 \ifHy@pdfmenubar\else /HideMenubar true\fi
10124 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10125 \ifHy@pdfitwindow /FitWindow true\fi

```

```

10126 \ifHy@pdfcenterwindow /CenterWindow true\fi
10127 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10128 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10129 \Hy@UseNameKey{Direction}\@pdfdirection
10130 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10131 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10132 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10133 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10134 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10135 \Hy@UseNameKey{Duplex}\@pdfduplex
10136 \ifx\@pdfpicktraybypdfsize\@empty
10137 \else
10138 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10139 \fi
10140 \ifx\@pdfprintpagerange\@empty
10141 \else
10142 /PrintPageRange[\@pdfprintpagerange]%
10143 \fi
10144 \ifx\@pdfnumcopies\@empty
10145 \else
10146 /NumCopies \@pdfnumcopies
10147 \fi
10148 }%
10149 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10150 \@pdfm@mark{%
10151 docview<<%
10152 \ifx\@pdfstartpage\@empty
10153 \else
10154 \ifx\@pdfstartview\@empty
10155 \else
10156 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10157 \fi
10158 \fi
10159 \ifx\@baseurl\@empty
10160 \else
10161 /URI<</Base(\Hy@pstringB)>>%
10162 \fi
10163 /PageMode/\@pdfpagemode
10164 \ifx\Hy@temp\@empty
10165 \else
10166 /ViewerPreferences<<\Hy@temp>>%
10167 \fi
10168 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10169 \ifx\@pdflang\@empty
10170 \else
10171 /Lang(\@pdflang)%
10172 \fi
10173 >>%
10174 }%
10175 \ifx\@pdfpagescrop\@empty
10176 \else
10177 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10178 \fi
10179 }
10180 </dvipdfm | xetex>
10181 <*dvipdfm | xetex>

```


\hyper@pagetransition

```

10182 \def\hyper@pagetransition{%
10183   \ifx\@pdfpagetransition\relax
10184   \else
10185     \ifx\@pdfpagetransition\@empty
10186     \else
10187       \special{pdf:put @thispage %
10188         <</Trans<</S/\@pdfpagetransition>>>>%
10189       }%
10190   \fi
10191 \fi
10192 }

```

\hyper@pageduration

```

10193 \def\hyper@pageduration{%
10194   \ifx\@pdfpageduration\relax
10195   \else
10196     \ifx\@pdfpageduration\@empty
10197     \else
10198       \special{pdf:put @thispage %
10199         <</Dur \@pdfpageduration>>>%
10200       }%
10201   \fi
10202 \fi
10203 }

```

\hyper@pagehidden

```

10204 \def\hyper@pagehidden{%
10205   \ifHy@useHidKey
10206     \special{pdf:put @thispage %
10207       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10208     }%
10209 \fi
10210 }

10211 \g@addto@macro\Hy@EveryPageBoxHook{%
10212   \hyper@pagetransition
10213   \hyper@pageduration
10214   \hyper@pagehidden
10215 }

10216 </dvipdfm | xetex>

```

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

```

10217 < *dvipdfm>
10218 \AtBeginShipoutFirst{%
10219   \ifHy@setpagesize
10220     \begingroup
10221     \@ifundefined{stockwidth}{%
10222       \ifdim\paperwidth>\z@
10223       \ifdim\paperheight>\z@
10224         \special{papersize=\the\paperwidth,\the\paperheight}%
10225       \fi
10226     \fi
10227   }{%
10228     \ifdim\stockwidth>\z@
10229     \ifdim\stockheight>\z@

```

```

10230         \special{papersize=\the\stockwidth,\the\stockheight}%
10231     \fi
10232 \fi
10233 }%
10234 \endgroup
10235 \fi
10236 \Hy@DisableOption{setpagesize}%
10237 }
10238 </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.

```

10239 <*vtexhtml>
10240 \providecommand*\XR@ext\{htm}
10241 \RequirePackage{vtexhtml}
10242 \newif\if@Localurl
10243 \let\PDF@FinishDoc\ltx@empty
10244 \def\PDF@SetupDoc{%
10245     \ifx\@baseurl\@empty
10246     \else
10247         \special{!direct <base href="\@baseurl">}%
10248     \fi
10249 }
10250 \def\@urltype{url}
10251 \def\hyper@link#1#2#3{%
10252     \Hy@VerboseLinkStart{#1}{#2}%
10253     \leavevmode
10254     \special{!direct <a href=%
10255         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10256     #3\Hy@xspace@end
10257     \special{!direct </a>}%
10258 }
10259 \def\hyper@linkurl#1#2{%
10260     \begingroup
10261     \hyper@chars
10262     \leavevmode
10263     \MathBSuppress=1\relax
10264     \special{!direct <a href=%
10265         \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10266     #1\Hy@xspace@end
10267     \MathBSuppress=0\relax
10268     \special{!direct </a>}%
10269 \endgroup
10270 }
10271 \def\hyper@linkfile#1#2#3{%
10272     \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10273 }
10274 \def\hyper@linkstart#1#2{%
10275     \Hy@VerboseLinkStart{#1}{#2}%
10276     \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10277         \@Localurltrue
10278         \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10279     \else
10280         \@Localurlfalse
10281     \begingroup

```

```

10282 \hyper@chars
10283 \special{!aref \HyperDestNameFilter{#2}}%
10284 \endgroup
10285 \fi
10286 }
10287 \def\hyper@linkend{%
10288 \if@Localurl
10289 \special{!endaref}%
10290 \else
10291 \special{!direct </a>}%
10292 \fi
10293 }
10294 \Hy@WrapperDef\hyper@anchorstart#1{%
10295 \Hy@SaveLastskip
10296 \Hy@VerboseAnchor{#1}%
10297 \begingroup
10298 \hyper@chars
10299 \special{!aname #1}%
10300 \special{!direct <a name=%
10301 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10302 \endgroup
10303 \Hy@activeanchortrue
10304 }
10305 \def\hyper@anchorend{%
10306 \special{!direct </a>}%
10307 \Hy@activeanchorfalse
10308 \Hy@RestoreLastskip
10309 }
10310 \Hy@WrapperDef\hyper@anchor#1{%
10311 \Hy@SaveLastskip
10312 \Hy@VerboseAnchor{#1}%
10313 \begingroup
10314 \let\protect=\string
10315 \hyper@chars
10316 \leavevmode
10317 \special{!aname #1}%
10318 \special{!direct <a name=%
10319 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10320 \endgroup
10321 \Hy@activeanchortrue
10322 \bgroup\anchor@spot\egroup
10323 \special{!direct </a>}%
10324 \Hy@activeanchorfalse
10325 \Hy@RestoreLastskip
10326 }
10327 \def\@Form[#1]{%
10328 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10329 }
10330 \let\@endForm\ltx@empty
10331 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10332 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10333 }
10334 \def\@TextField[#1]#2{% parameters, label
10335 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10336 }
10337 \def\@CheckBox[#1]#2{% parameters, label
10338 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%

```

```

10339 }
10340 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10341   \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10342 }
10343 \def\@PushButton[#1]#2{% parameters, label
10344   \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10345 }
10346 \def\@Reset[#1]#2{%
10347   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10348 }
10349 \def\@Submit[#1]#2{%
10350   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10351 }
10352 </vtexhtml>
10353 <*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.

```

10354 \ifx\mediaheight\@undefined
10355 \else
10356   \ifx\mediaheight\relax
10357   \else
10358     \ifHy@setpagesize
10359       \providecommand*\VTeXInitMediaSize{%
10360         \ltx@ifundefined{stockwidth}{%
10361           \ifdim\paperheight>0pt %
10362             \setlength\mediaheight\paperheight
10363           \fi
10364           \ifdim\paperheight>0pt %
10365             \setlength\mediawidth\paperwidth
10366           \fi
10367         }{%
10368           \ifdim\stockheight>0pt %
10369             \setlength\mediaheight\stockheight
10370           \fi
10371           \ifdim\stockwidth>0pt %
10372             \setlength\mediawidth\stockwidth
10373           \fi
10374         }%
10375       }%
10376       \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10377     \fi
10378     \Hy@DisableOption{setpagesize}%
10379   \fi
10380 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10381 \providecommand*\@pdfview{xyz}
10382 \providecommand*\@pdfborder{0 0 1}
10383 \providecommand*\@pdfborderstyle{}
10384 \let\CurrentBorderColor\@linkbordercolor
10385 \Hy@WrapperDef\hyper@anchor#1{%
10386   \Hy@SaveLastskip
10387   \Hy@VerboseAnchor{#1}%
10388   \begingroup
10389     \let\protect=\string
10390     \hyper@chars

```

```

10391 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10392 \endgroup
10393 \Hy@activeanchortrue
10394 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10395 \Hy@activeanchorfalse
10396 \Hy@RestoreLastskip
10397 }
10398 \Hy@WrapperDef\hyper@anchorstart#1{%
10399 \Hy@SaveLastskip
10400 \Hy@VerboseAnchor{#1}%
10401 \begingroup
10402 \hyper@chars
10403 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10404 \endgroup
10405 \Hy@activeanchortrue
10406 }
10407 \def\hyper@anchorend{%
10408 \Hy@activeanchorfalse
10409 \Hy@RestoreLastskip
10410 }
10411 \def\@urlltype{url}
10412 \def\Hy@undefinedname{UNDEFINED}
10413 \def\hyper@linkstart#1#2{%
10414 \Hy@VerboseLinkStart{#1}{#2}%
10415 \Hy@pstringdef\Hy@pstringURI{#2}%
10416 \expandafter\Hy@colorlink\csname @#1color\endcsname
10417 \ltx@ifundefined{@#1bordercolor}{%
10418 \let\CurrentBorderColor\relax
10419 }{%
10420 \edef\CurrentBorderColor{%
10421 \csname @#1bordercolor\endcsname
10422 }%
10423 }%
10424 \def\Hy@tempa{#1}%
10425 \ifx\Hy@tempa\@urlltype
10426 \special{!%
10427 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10428 \ifHy@href@ismap
10429 /IsMap true%
10430 \fi
10431 \Hy@href@nextactionraw
10432 >;%
10433 a=<%
10434 \ifHy@pdfa /F 4\fi
10435 \Hy@setpdfborder
10436 \ifx\CurrentBorderColor\relax
10437 \else
10438 /C [\CurrentBorderColor]%
10439 \fi
10440 >%
10441 }%
10442 \else
10443 \protected@edef\Hy@testname{#2}%
10444 \ifx\Hy@testname\@empty
10445 \Hy@Warning{%
10446 Empty destination name,\MessageBreak
10447 using '\Hy@undefinedname'%

```

```

10448 }%
10449 \let\Hy@testname\Hy@undefinedname
10450 \fi
10451 \special{!%
10452   aref \expandafter\HyperDestNameFilter
10453     \expandafter{\Hy@testname};%
10454   a=<%
10455     \ifHy@pdfa /F 4\fi
10456     \Hy@setpdfborder
10457     \ifx\CurrentBorderColor\relax
10458     \else
10459     /C [\CurrentBorderColor]%
10460     \fi
10461   >%
10462 }%
10463 \fi
10464 }
10465 \def\hyper@linkend{%
10466   \special{!endaref}%
10467   \Hy@endcolorlink
10468 }
10469 \def\hyper@linkfile#1#2#3{%
10470   \leavevmode
10471   \def\Hy@pstringF{#2}%
10472   \Hy@CleanupFile\Hy@pstringF
10473   \special{!%
10474     aref <%
10475       \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10476       f=\Hy@pstringF>#3;%
10477     a=<%
10478       \ifHy@pdfa /F 4\fi
10479       \Hy@setpdfborder
10480       \ifx\@filebordercolor\relax
10481       \else
10482       /C [\@filebordercolor]%
10483       \fi
10484     >%
10485   }%
10486   \Hy@colorlink\@filecolor
10487   #1\Hy@xspace@end
10488   \Hy@endcolorlink
10489   \special{!endaref}%
10490 }
10491 \def\hyper@linkurl#1#2{%
10492   \begingroup
10493   \Hy@pstringdef\Hy@pstringURI{#2}%
10494   \hyper@chars
10495   \leavevmode
10496   \special{!%
10497     aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10498       \ifHy@href@ismap
10499       /IsMap true%
10500     \fi
10501     \Hy@href@nextactionraw
10502     >;%
10503     a=<%
10504     \ifHy@pdfa /F 4\fi

```

```

10505 \Hy@setpdfborder
10506 \ifx\@urlbordercolor\relax
10507 \else
10508 /C [\@urlbordercolor]%
10509 \fi
10510 >%
10511 }%
10512 \Hy@colorlink\@urlcolor
10513 #1\Hy@xspace@end
10514 \Hy@endcolorlink
10515 \special{!endaref}%
10516 \endgroup
10517 }
10518 \def\hyper@link#1#2#3{%
10519 \Hy@VerboseLinkStart{#1}{#2}%
10520 \ltx@ifundefined{#@#1bordercolor}{%
10521 \let\CurrentBorderColor\relax
10522 }{%
10523 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10524 }%
10525 \leavevmode
10526 \protected@edef\Hy@testname{#2}%
10527 \ifx\Hy@testname\@empty
10528 \Hy@Warning{%
10529 Empty destination name,\MessageBreak
10530 using '\Hy@undefinedname'%
10531 }%
10532 \let\Hy@testname\Hy@undefinedname
10533 \fi
10534 \special{!%
10535 aref \expandafter\HyperDestNameFilter
10536 \expandafter{\Hy@testname};%
10537 a=<%
10538 \ifHy@pdfa /F 4\fi
10539 \Hy@setpdfborder
10540 \ifx\CurrentBorderColor\relax
10541 \else
10542 /C [\CurrentBorderColor]%
10543 \fi
10544 >%
10545 }%
10546 \expandafter
10547 \Hy@colorlink\csname @#1color\endcsname
10548 #3\Hy@xspace@end
10549 \Hy@endcolorlink
10550 \special{!endaref}%
10551 }
10552 \def\hyper@image#1#2{%
10553 \hyper@linkurl{#2}{#1}%
10554 }
10555 \def\@hyper@launch run:#1\#2#3{%
10556 \Hy@pstringdef\Hy@pstringF{#1}%
10557 \Hy@pstringdef\Hy@pstringP{#3}%
10558 \leavevmode
10559 \special{!aref %
10560 <u=%
10561 /Type/Action%

```

```

10562 /S/Launch%
10563 /F(\Hy@pstringF)%
10564 \Hy@SetNewWindow
10565 \ifx\|#3\|%
10566 \else
10567 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10568 \fi
10569 \Hy@href@nextactionraw
10570 >;%
10571 a=<%
10572 \ifHy@pdfa /F 4\fi
10573 \Hy@setpdfborder
10574 \ifx\@runbordercolor\relax
10575 \else
10576 /C[\@runbordercolor]%
10577 \fi
10578 >%
10579 }%
10580 \Hy@colorlink\@runcolor
10581 #2\Hy@xspace@end
10582 \Hy@endcolorlink
10583 \special{!endaref}%
10584 }
10585 \def\Acrobatmenu#1#2{%
10586 \Hy@Acrobatmenu{#1}{#2}{%
10587 \special{!%
10588 aref <u=/S /Named /N /#1>;%
10589 a=<%
10590 \ifHy@pdfa /F 4\fi
10591 \Hy@setpdfborder
10592 \ifx\@menubordercolor\relax
10593 \else
10594 /C[\@menubordercolor]%
10595 \fi
10596 >%
10597 }%
10598 \Hy@colorlink\@menucolor
10599 #2\Hy@xspace@end
10600 \Hy@endcolorlink
10601 \special{!endaref}%
10602 }%
10603 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for \TeX 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

10604 \ifnum\Hy@VTeXversion<702 %
10605 \else
10606 \def\hyper@pagetransition{%
10607 \ifx\@pdfpagetransition\relax
10608 \else
10609 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10610 \else
10611 \hvtex@parse@trans\@pdfpagetransition
10612 \fi

```



```

10613 \fi
10614 }%

```

I have to write an “honest” parser to convert raw PDF code into V_T_EX_{special}. (AVK)

Syntax of V_T_EX_{special}{!trans <transition_effect>}:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

10615 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10616 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10617 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10618 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10619 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10620 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10621 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10622 \def\hvtex@param@dimension{/Dm}%
10623 \def\hvtex@param@direction{/Di}%
10624 \def\hvtex@param@duration{/D}%
10625 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

10626 \def\hvtex@gettoken{%
10627   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10628 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10629 \def\hvtex@gettoken@#1 #2\@nil{%
10630   \edef\hvtex@token{#1}%
10631   \edef\hvtex@buffer{#2}%
10632 }%
10633 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10634 \let\hvtex@trans@code\@empty
10635 \let\hvtex@param@dimension\@empty
10636 \let\hvtex@param@direction\@empty
10637 \let\hvtex@param@duration\@empty
10638 \let\hvtex@param@motion\@empty
10639 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10640 \hvtex@gettoken
10641 \ifx\hvtex@token\@empty

```

Leading space(s)?

```
10642 \ifx\hvtex@buffer\@empty
The buffer is empty, nothing to do.
10643 \else
10644 \hvtex@gettoken
10645 \fi
10646 \fi
10647 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10648 \hvtex@trans@params
10649 }%
```

Reentrantable macro to parse optional parameters.

```
10650 \def\hvtex@trans@params{%
10651 \ifx\hvtex@buffer\@empty
10652 \else
10653 \hvtex@gettoken
10654 \let\hvtex@trans@par\hvtex@token
10655 \ifx\hvtex@buffer\@empty
10656 \else
10657 \hvtex@gettoken
10658 \ifx\hvtex@trans@par\hvtex@par@duration
/D is the effect duration in seconds. VTEX special takes it in milliseconds.
10659 \let\hvtex@param@duration\hvtex@token
10660 \else \ifx\hvtex@trans@par\hvtex@par@motion
/M can be either /I or /O
10661 \expandafter\edef\expandafter\hvtex@param@motion
10662 \expandafter{\expandafter\@gobble\hvtex@token}%
10663 \else \ifx\hvtex@trans@par\hvtex@par@dimension
/Dm can be either /H or /V
10664 \expandafter\edef\expandafter\hvtex@param@dimension
10665 \expandafter{\expandafter\@gobble\hvtex@token}%
10666 \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).

```
10667 \let\hvtex@param@direction\hvtex@token
10668 \fi\fi\fi\fi
10669 \fi
10670 \fi
10671 \ifx\hvtex@buffer\@empty
10672 \let\next\hvtex@produce@trans
10673 \else
10674 \let\next\hvtex@trans@params
10675 \fi
10676 \next
10677 }%
```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
10678 \def\hvtex@produce@trans{%
10679 \let\vtex@trans@special\@empty
10680 \if S\hvtex@trans@code
10681 \edef\vtex@trans@special{\hvtex@trans@code
10682 \hvtex@param@dimension\hvtex@param@motion}%
```

```

10683 \else\if B\hvtex@trans@code
10684 \edef\vtex@trans@special{%
10685 \hvtex@trans@code\hvtex@param@dimension
10686 }%
10687 \else\if X\hvtex@trans@code
10688 \edef\vtex@trans@special{%
10689 \hvtex@trans@code\hvtex@param@motion
10690 }%
10691 \else\if W\hvtex@trans@code
10692 \edef\vtex@trans@special{%
10693 \hvtex@trans@code\hvtex@param@direction
10694 }%
10695 \else\if D\hvtex@trans@code
10696 \let\vtex@trans@special\hvtex@trans@code
10697 \else\if R\hvtex@trans@code
10698 \let\vtex@trans@special\hvtex@trans@code
10699 \else\if G\hvtex@trans@code
10700 \edef\vtex@trans@special{%
10701 \hvtex@trans@code\hvtex@param@direction
10702 }%
10703 \fi\fi\fi\fi\fi\fi
10704 \ifx\vtex@trans@special\@empty
10705 \else
10706 \ifx\hvtex@param@duration\@empty
10707 \else
10708 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10709 \multiply\dimen@\@m
10710 \edef\vtex@trans@special{%
10711 \vtex@trans@special,\strip@pt\dimen@
10712 }%
10713 \fi

```

And all the mess is just for this.

```

10714 \special{!trans \vtex@trans@special}%
10715 \fi
10716 }%
10717 \def\hyper@pageduration{%
10718 \ifx\@pdfpageduration\relax
10719 \else
10720 \ifx\@pdfpageduration\@empty
10721 \special{!duration-}%
10722 \else
10723 \special{!duration \@pdfpageduration}%
10724 \fi
10725 \fi
10726 }%
10727 \def\hyper@pagehidden{%
10728 \ifHy@useHidKey
10729 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10730 \fi
10731 }%
10732 \g@addto@macro\Hy@EveryPageBoxHook{%
10733 \hyper@pagetransition
10734 \hyper@pageduration
10735 \hyper@pagehidden
10736 }%

```

10737 \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

```

10738 \ifx\@pdfproducer\relax
10739 \def\@pdfproducer{VTeX}%
10740 \ifnum\Hy@VTeXversion>\z@
10741 \count@\VTeXversion
10742 \divide\count@ 100 %
10743 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10744 \multiply\count@ -100 %
10745 \advance\count@\VTeXversion
10746 \edef\@pdfproducer{%
10747 \@pdfproducer
10748 .\ifnum\count@<10 0\fi\the\count@
10749 \ifx\VTeXOS\@undefined\else
10750 \ifnum\VTeXOS>0 %
10751 \ifnum\VTeXOS<6 %
10752 \space(%
10753 \ifcase\VTeXOS
10754 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10755 \fi
10756 )%
10757 \fi
10758 \fi
10759 \fi
10760 ,\space
10761 \ifnum\OpMode=\@ne PDF\else PS\fi
10762 \space backend%
10763 \ifx\gexmode\@undefined\else
10764 \ifnum\gexmode>\z@\space with GeX\fi
10765 \fi
10766 }%
10767 \fi
10768 \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).

```
10769 \def\PDF@SetupDoc{%
10770   \ifx\@pdfpagescrop\@empty
10771   \else
10772     \special{!pdfinfo b=<\@pdfpagescrop>}%
10773   \fi
10774   \ifx\@pdfstartpage\@empty
10775   \else
10776     \ifx\@pdfstartview\@empty
10777     \else
10778       \special{!onopen Page\@pdfstartpage}%
10779     \fi
10780   \fi
10781   \special{!pdfinfo p=</\@pdfpagemode>}%
10782   \ifx\@baseurl\@empty
10783   \else
10784     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10785   \fi
10786   \special{!pdfinfo v=<<<%
10787     \ifHy@pdftoolbar\else /HideToolbar true\fi
10788     \ifHy@pdfmenubar\else /HideMenubar true\fi
10789     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10790     \ifHy@pdfwindow /FitWindow true\fi
10791     \ifHy@pdfcenterwindow /CenterWindow true\fi
10792     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10793     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10794     \Hy@UseNameKey{Direction}\@pdfdirection
10795     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10796     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10797     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10798     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10799     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10800     \Hy@UseNameKey{Duplex}\@pdfduplex
10801     \ifx\@pdfpicktraybypdfsize\@empty
10802     \else
10803       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10804     \fi
10805     \ifx\@pdfprintpagerange\@empty
10806     \else
10807       /PrintPageRange[\@pdfprintpagerange]%
10808     \fi
10809     \ifx\@pdfnumcopies\@empty
10810     \else
10811       /NumCopies \@pdfnumcopies
10812     \fi
10813   >>>}%
10814   \ifx\@pdfpagelayout\@empty
10815   \else
10816     \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10817   \fi
10818 }%
10819 \HyInfo@AddonUnsupportedtrue
10820 \def\PDF@FinishDoc{%
10821   \Hy@UseMaketitleInfos
10822   \HyInfo@TrappedUnsupported
10823   \special{!pdfinfo a=<\@pdfauthor>}%
10824   \special{!pdfinfo t=<\@pdftitle>}%
```

```

10825 \special{!pdfinfo s=<\pdfsubject>}%
10826 \special{!pdfinfo c=<\pdfcreator>}%
10827 \ifx\pdfproducer\relax
10828 \else
10829 \special{!pdfinfo r=<\pdfproducer>}%
10830 \fi
10831 \special{!pdfinfo k=<\pdfkeywords>}%
10832 \Hy@DisableOption{pdfauthor}%
10833 \Hy@DisableOption{pdftitle}%
10834 \Hy@DisableOption{pdfsubject}%
10835 \Hy@DisableOption{pdfcreator}%
10836 \Hy@DisableOption{pdfcreationdate}%
10837 \Hy@DisableOption{pdfmoddate}%
10838 \Hy@DisableOption{pdfproducer}%
10839 \Hy@DisableOption{pdfkeywords}%
10840 \Hy@DisableOption{pdftrapped}%
10841 \Hy@DisableOption{pdfinfo}%
10842 }
10843 </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.

```

10844 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10845 <package>\providecommand*{\Hy@DistillerDestFix}{%
10846 <*pdfmark | dviwindo>
10847 \def\Hy@DistillerDestFix{%
10848 \begingroup
10849 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10850 \ifnum \@ifundefined{OpMode}{0}{%
10851 \ifundefined{gexmode}{0}{%
10852 \ifnum\gexmode>0 \OpMode\else 0\fi
10853 }}>1 %
10854 \def\x##1{%
10855 \immediate\special{!##1}%
10856 }%
10857 \fi
10858 \x{%
10859 /product where{%
10860 pop %
10861 product(Distiller)search{%
10862 pop pop pop %
10863 version(.)search{%
10864 exch pop exch pop%
10865 (3011)eq{%
10866 gsave %

```

```

10867      newpath 0 0 moveto closepath clip%
10868      /Courier findfont 10 scalefont setfont %
10869      72 72 moveto(.)show %
10870      grestore%
10871      }if%
10872      }{pop}ifelse%
10873      }{pop}ifelse%
10874      }if%
10875      }%
10876      \endgroup
10877      }
10878      </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

```

```

10879 (*pdfmark)
10880 \Hy@breaklinks@unsupported
10881 \def\HyPat@ObjRef{%
10882   \[~{}]+}%
10883 }
10884 \Hy@WrapperDef\hyper@anchor#1{%
10885   \Hy@SaveLastskip
10886   \Hy@VerboseAnchor{#1}%
10887   \begingroup
10888     \pdfmark[\anchor@spot]{%
10889       pdfmark=/DEST,%
10890       linktype=anchor,%
10891       View=/\@pdfview \@pdfviewparams,%
10892       DestAnchor={#1}%
10893     }%
10894   \endgroup
10895   \Hy@RestoreLastskip
10896 }
10897 \ltx@ifundefined{hyper@anchorstart}{~}{\endinput}
10898 \Hy@WrapperDef\hyper@anchorstart#1{%
10899   \Hy@SaveLastskip
10900   \Hy@VerboseAnchor{#1}%
10901   \literalps@out{H.S}%
10902   \Hy@AllowHyphens
10903   \xdef\hyper@currentanchor{#1}%
10904   \Hy@activeanchortrue
10905 }
10906 \def\hyper@anchorend{%
10907   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%

```

```

10908 \pdfmark{%
10909   pdfmark=/DEST,%
10910   linktype=anchor,%
10911   View=/\@pdfview \@pdfviewparams,%
10912   DestAnchor=\hyper@currentanchor,%
10913 }%
10914 \Hy@activeanchorfalse
10915 \Hy@RestoreLastskip
10916 }
10917 \def\hyper@linkstart#1#2{%
10918   \Hy@VerboseLinkStart{#1}{#2}%
10919   \ifHy@breaklinks
10920   \else
10921     \leavevmode
10922     \ifmmode
10923       \def\Hy@LinkMath{$}%
10924     \else
10925       \let\Hy@LinkMath\ltx@empty
10926     \fi
10927     \Hy@SaveSpaceFactor
10928     \hbox\bgroup
10929     \Hy@RestoreSpaceFactor
10930     \Hy@LinkMath
10931   \fi
10932   \expandafter\Hy@colorlink\csname @#1color\endcsname
10933   \literalps@out{H.S}%
10934   \Hy@AllowHyphens
10935   \xdef\hyper@currentanchor{#2}%
10936   \gdef\hyper@currentlinktype{#1}%
10937 }
10938 \def\hyper@linkend{%
10939   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10940   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10941     \let\Hy@tempcolor\relax
10942   }{%
10943     \edef\Hy@tempcolor{%
10944       \csname @\hyper@currentlinktype bordercolor\endcsname
10945     }%
10946   }%
10947   \pdfmark{%
10948     pdfmark=/ANN,%
10949     linktype=link,%
10950     Subtype=/Link,%
10951     PDFAFflags=4,%
10952     Dest=\hyper@currentanchor,%
10953     AcroHighlight=\@pdfhighlight,%
10954     Border=\@pdfborder,%
10955     BorderStyle=\@pdfborderstyle,%
10956     Color=\Hy@tempcolor,%
10957     Raw=H.B%
10958   }%
10959   \Hy@endcolorlink
10960   \ifHy@breaklinks
10961   \else
10962     \Hy@LinkMath
10963     \Hy@SaveSpaceFactor
10964     \egroup

```



```

10965 \Hy@RestoreSpaceFactor
10966 \fi
10967 }

```

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.

```

10968 \begingroup
10969 \catcode'P=12 %
10970 \catcode'T=12 %
10971 \lowercase{\endgroup
10972 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10973 }
10974 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10975 \def\hyper@pagetransition{%
10976 \ifx\@pdfpagetransition\relax
10977 \else
10978 \ifx\@pdfpagetransition\@empty
10979 % 1. Does an old entry have to be deleted?
10980 % 2. If 1=yes, how to delete?
10981 \else
10982 \pdfmark{%
10983 pdfmark=/PUT,%
10984 Raw={%
10985 \string{ThisPage\string}%
10986 <</Trans << /S /\@pdfpagetransition\space >> >>%
10987 }%
10988 }%
10989 \fi
10990 \fi
10991 }

```

`\hyper@pageduration`

```

10992 \def\hyper@pageduration{%
10993 \ifx\@pdfpageduration\relax
10994 \else
10995 \ifx\@pdfpageduration\@empty
10996 % 1. Does an old entry have to be deleted?
10997 % 2. If 1=yes, how to delete?
10998 \else
10999 \pdfmark{%
11000 pdfmark=/PUT,%
11001 Raw={%
11002 \string{ThisPage\string}%
11003 <</Dur \@pdfpageduration>>%
11004 }%
11005 }%
11006 \fi
11007 \fi
11008 }

```

`\hyper@pagehidden`

```

11009 \def\hyper@pagehidden{%
11010 \ifHy@useHidKey
11011 \pdfmark{%

```

```

11012 pdfmark=/PUT,%
11013 Raw={%
11014 \string{ThisPage\string}%
11015 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11016 }%
11017 }%
11018 \fi
11019 }

11020 \g@addto@macro\Hy@EveryPageBoxHook{%
11021 \hyper@pagetransition
11022 \hyper@pageduration
11023 \hyper@pagehidden
11024 }

11025 \def\hyper@image#1#2{%
11026 \hyper@linkurl{#2}{#1}%
11027 }

11028 \def\Hy@undefinedname{UNDEFINED}
11029 \def\hyper@link#1#2#3{%
11030 \Hy@VerboseLinkStart{#1}{#2}%
11031 \ltx@ifundefined{#1bordercolor}{%
11032 \let\Hy@tempcolor\relax
11033 }{%
11034 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11035 }%
11036 \begingroup
11037 \protected@edef\Hy@testname{#2}%
11038 \ifx\Hy@testname\@empty
11039 \Hy@Warning{%
11040 Empty destination name,\MessageBreak
11041 using '\Hy@undefinedname'%
11042 }%
11043 \let\Hy@testname\Hy@undefinedname
11044 \fi
11045 \pdfmark[{#3}]{%
11046 Color=\Hy@tempcolor,%
11047 linktype={#1},%
11048 AcroHighlight=\@pdfhighlight,%
11049 Border=\@pdfborder,%
11050 BorderStyle=\@pdfborderstyle,%
11051 pdfmark=/ANN,%
11052 Subtype=/Link,%
11053 PDFAFlags=4,%
11054 Dest=\Hy@testname
11055 }%
11056 \endgroup
11057 }

11058 \newtoks\pdf@docset
11059 \def\PDF@FinishDoc{%
11060 \Hy@UseMaketitleInfos
11061 \Hy@Info@GenerateAddons
11062 \let\Hy@temp\@empty
11063 \ifx\@pdfcreationdate\@empty
11064 \else
11065 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11066 \fi
11067 \ifx\@pdfmoddate\@empty
11068 \else

```

```

11069 \expandafter\def\expandafter\Hy@temp\expandafter{%
11070 \Hy@temp
11071 ModDate=\@pdfmoddate,%
11072 }%
11073 \fi
11074 \ifx\@pdfproducer\relax
11075 \else
11076 \expandafter\def\expandafter\Hy@temp\expandafter{%
11077 \Hy@temp
11078 Producer=\@pdfproducer,%
11079 }%
11080 \fi
11081 \expandafter
11082 \pdfmark\expandafter{%
11083 \Hy@temp
11084 pdfmark=/DOCINFO,%
11085 Title=\@pdftitle,%
11086 Subject=\@pdfsubject,%
11087 Creator=\@pdfcreator,%
11088 Author=\@pdfauthor,%
11089 Keywords=\@pdfkeywords,%
11090 Trapped=\@pdftrapped
11091 }%
11092 \ifx\HyInfo@Addons\@empty
11093 \else
11094 \pdfmark{%
11095 pdfmark=/DOCINFO,%
11096 Raw={\HyInfo@Addons}%
11097 }%
11098 \fi
11099 \Hy@DisableOption{pdfauthor}%
11100 \Hy@DisableOption{pdftitle}%
11101 \Hy@DisableOption{pdfsubject}%
11102 \Hy@DisableOption{pdfcreator}%
11103 \Hy@DisableOption{pdfcreationdate}%
11104 \Hy@DisableOption{pdfmoddate}%
11105 \Hy@DisableOption{pdfproducer}%
11106 \Hy@DisableOption{pdfkeywords}%
11107 \Hy@DisableOption{pdftrapped}%
11108 \Hy@DisableOption{pdfinfo}%
11109 }
11110 \def\PDF@SetupDoc{%
11111 \def\Hy@temp{}%
11112 \ifx\@pdfstartpage\@empty
11113 \else
11114 \ifx\@pdfstartview\@empty
11115 \else
11116 \edef\Hy@temp{%
11117 ,Page=\@pdfstartpage
11118 ,View=\@pdfstartview
11119 }%
11120 \fi
11121 \fi
11122 \edef\Hy@temp{%
11123 \noexpand\pdfmark{%
11124 pdfmark=/DOCVIEW,%
11125 PageMode=/\@pdfpagemode

```

```

11126     \Hy@temp
11127   }%
11128 }%
11129 \Hy@temp
11130 \ifx\@pdfpagescrop\@empty
11131 \else
11132   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11133 \fi
11134 \edef\Hy@temp{%
11135   \ifHy@pdftoolbar\else /HideToolbar true\fi
11136   \ifHy@pdfmenubar\else /HideMenubar true\fi
11137   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11138   \ifHy@pdfwindow /FitWindow true\fi
11139   \ifHy@pdfcenterwindow /CenterWindow true\fi
11140   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11141   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11142   \Hy@UseNameKey{Direction}\@pdfdirection
11143   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11144   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11145   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11146   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11147   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11148   \Hy@UseNameKey{Duplex}\@pdfduplex
11149   \ifx\@pdfpicktraybypdfsize\@empty
11150     \else
11151       /PickTrayByPDFSize \@pdfpicktraybypdfsize
11152     \fi
11153   \ifx\@pdfprintpagerange\@empty
11154     \else
11155       /PrintPageRange[\@pdfprintpagerange]%
11156     \fi
11157   \ifx\@pdfnumcopies\@empty
11158     \else
11159       /NumCopies \@pdfnumcopies
11160     \fi
11161   }%
11162 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11163 \pdfmark{%
11164   pdfmark=/PUT,%
11165   Raw={%
11166     \string{Catalog\string}<<%
11167     \ifx\Hy@temp\@empty
11168       \else
11169         /ViewerPreferences<<\Hy@temp>>%
11170       \fi
11171     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11172     \ifx\@pdflang\@empty
11173       \else
11174         /Lang(\@pdflang)%
11175       \fi
11176     \ifx\@baseurl\@empty
11177       \else
11178         /URI<</Base(\Hy@pstringB)>>%
11179       \fi
11180     >>%
11181   }%
11182 }%

```

```

11183 }
11184 </pdfmark>
11185 <*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.

```

11186 \newif\ifHy@pdfmarkerror
11187 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11188 \def\pdfmark@[#1]#2{%
11189   \Hy@pdfmarkerrorfalse
11190   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11191   \@processme
11192   \let\pdf@type\relax
11193   \kvsetkeys{PDF}{#2}%
11194   \ifHy@pdfmarkerror
11195   \else
11196     \ifx\pdf@type\relax
11197       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11198       \ifx\#1\%
11199       \else
11200         \pdf@rect{#1}%
11201         \fi
11202       \else
11203         \ifx\#1\%
11204           \literalps@out{%
11205             [\the\pdf@toks\space\pdf@type\space pdfmark%
11206             ]%
11207           \else
11208             \ltx@ifundefined{@\pdf@linktype color}{%
11209               \Hy@colorlink\@linkcolor
11210             }{%
11211               \expandafter\Hy@colorlink
11212               \csname @\pdf@linktype color\endcsname
11213             }%
11214             \pdf@rect{#1}%
11215             \literalps@out{%
11216               [\the\pdf@toks\space\pdf@type\space pdfmark%
11217               ]%
11218               \Hy@endcolorlink
11219             }%
11220           \fi
11221         \fi
11222 }

```

The complicated bit is working out the right enclosing rectangle of some piece of T_EX 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}

11223 \newsavebox{\pdf@box}
11224 \providecommand*{\Hy@setouterhbox}{\sbox}
11225 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11226 \def\Hy@DEST{/DEST}
11227 \def\pdf@rect#1{%
11228   \begingroup
11229   \chardef\x=1 %
11230   \def\Hy@temp{#1}%
11231   \ifx\Hy@temp\ltx@empty
11232     \chardef\x=0 %
11233   \else
11234     \def\y{\anchor@spot}%
11235     \ifx\Hy@temp\y
11236       \def\y{\relax}%
11237       \ifx\anchor@spot\y
11238         \chardef\x=0 %
11239       \fi
11240     \fi
11241   \fi
11242   \expandafter\endgroup
11243   \ifcase\x
11244     \literalps@out{H.S}%
11245     \literalps@out{H.R}%
11246   \else
11247     \leavevmode
11248     \Hy@SaveSpaceFactor
11249     \ifmmode
11250       \def\Hy@LinkMath{$}%
11251     \else
11252       \let\Hy@LinkMath\ltx@empty
11253     \fi
11254     \ifHy@breaklinks
11255       \Hy@setouterhbox\pdf@box{%
11256         \Hy@RestoreSpaceFactor
11257         \Hy@LinkMath
11258         \Hy@AllowHyphens#1\Hy@xspace@end
11259         \Hy@LinkMath
11260         \Hy@SaveSpaceFactor
11261       }%
11262     \else
11263       \sbox\pdf@box{%
11264         \Hy@RestoreSpaceFactor
11265         \Hy@LinkMath
11266         #1\Hy@xspace@end
11267         \Hy@LinkMath
11268         \Hy@SaveSpaceFactor
11269       }%
11270     \fi
11271     \dimen@{\ht\pdf@box}
11272     \ifdim\dp\pdf@box=\z@
11273       \literalps@out{H.S}%
11274     \else
11275       \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11276     \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...).

```

11277 \ifHy@breaklinks
11278 \ifhmode
11279 \Hy@breaklinkshbox\pdf@box
11280 \else
11281 \box\pdf@box
11282 \fi
11283 \else
11284 \expandafter\box\pdf@box
11285 \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

11286 \ifdim\dimen@=\z@
11287 \literalps@out{H.R}%
11288 \else
11289 \raise\dimen@ \hbox{\literalps@out{H.R}}%
11290 \fi
11291 \Hy@RestoreSpaceFactor
11292 \fi
11293 \ifx\pdf@type\Hy@DEST
11294 \else
11295 \pdf@addtoksx{H.B}%
11296 \fi
11297 }

```

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.

```

11298 \newtoks\pdf@toks
11299 \newtoks\pdf@defaulttoks
11300 \pdf@defaulttoks={} %
11301 \def\pdf@addtoks#1#2{%
11302 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11303 \@processme
11304 }
11305 \def\pdf@addtoksx#1{%
11306 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11307 \@processme
11308 }
11309 \def\PDFdefaults#1{%
11310 \pdf@defaulttoks={#1}%
11311 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11312 % what is the type of pdfmark?
11313 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11314 % what is the link type?
11315 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11316 \def\pdf@linktype{link}
11317 % parameter is a stream of PDF
11318 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11319 % parameter is a name
11320 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}

```

```

11321 % parameter is a array
11322 \define@key{PDF}{Border}{%
11323   \edef\Hy@temp{#1}%
11324   \ifx\Hy@temp\@empty
11325     \else
11326       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11327     \fi
11328 }
11329 \let\Hy@BorderArrayPatch\@empty
11330 % parameter is a dictionary
11331 \define@key{PDF}{BorderStyle}{%
11332   \edef\Hy@temp{#1}%
11333   \ifx\Hy@temp\@empty
11334     \else
11335       \pdf@addtoks{<<#1>>}{BS}%
11336     \fi
11337 }
11338 % parameter is a array
11339 \define@key{PDF}{Color}{%
11340   \ifx\relax#1\relax
11341     \else
11342       \pdf@addtoks{[#1]}{Color}% hash-ok
11343     \fi
11344 }
11345 % parameter is a string
11346 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11347 % parameter is a integer
11348 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11349 % parameter is a array
11350 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11351 % parameter is a string
11352 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11353 % parameter is a string or file
11354 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11355 % parameter is a destination
11356 \define@key{PDF}{Dest}{%
11357   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11358   \ifx\Hy@pstringDest\@empty
11359     \Hy@pdfmarkerrortrue
11360     \Hy@Warning{Destination with empty name ignored}%
11361   \else
11362     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11363   \fi
11364 }
11365 \define@key{PDF}{DestAnchor}{%
11366   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11367   \ifx\Hy@pstringDest\@empty
11368     \Hy@pdfmarkerrortrue
11369     \Hy@Warning{Destination with empty name ignored}%
11370   \else
11371     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11372   \fi
11373 }
11374 % parameter is a string
11375 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11376 % parameter is a string
11377 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}

```



```

11378 % parameter is a int
11379 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11380 \define@key{PDF}{PDFAFlags}{%
11381   \ifHy@pdfa
11382     \pdf@addtoks{#1}{F}%
11383   \fi
11384 }
11385 % parameter is a name
11386 \define@key{PDF}{AcroHighlight}{%
11387   \begingroup
11388     \edef\x{#1}%
11389     \expandafter\endgroup\ifx\x\@empty
11390     \else
11391       \pdf@addtoks{#1}{H}%
11392     \fi
11393 }
11394 % parameter is a string
11395 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
11396 % parameter is a string
11397 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
11398 % parameter is a string
11399 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11400 % parameter is a string
11401 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}
11402 % parameter is a Boolean
11403 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11404 % parameter is a integer or name
11405 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11406 % parameter is a name
11407 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11408 % parameter is a string
11409 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
11410 % parameter is a array
11411 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
11412 % parameter is a integer
11413 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11414 % parameter is a name
11415 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11416 % parameter is a string
11417 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
11418 % parameter is a string
11419 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
11420 % parameter is a string
11421 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
11422 % parameter is an array
11423 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
11424 % parameter is a string
11425 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11426 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
11427 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
11428 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
11429 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11430 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
11431 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
11432 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
11433 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}

```

```

11434 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11435 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11436 \define@key{PDF}{Trapped}{%
11437   \edef\Hy@temp{#1}%
11438   \ifx\Hy@temp\@empty
11439   \else
11440     \pdf@addtoks{/#1}{Trapped}%
11441   \fi
11442 }
11443
11444 </pdfmarkbase>
11445 <*pdfmark>
11446 \def\Acrobatmenu#1#2{%
11447   \Hy@Acrobatmenu{#1}{#2}{%
11448     \pdfmark[{#2}]{%
11449       linktype=menu,%
11450       pdfmark=/ANN,%
11451       AcroHighlight=\@pdfhighlight,%
11452       Border=\@pdfborder,%
11453       BorderStyle=\@pdfborderstyle,%
11454       Action={<< /Subtype /Named /N /#1 >>},%
11455       Subtype=/Link,%
11456       PDFAFlags=4%
11457     }%
11458   }%
11459 }

```

And now for some useful examples:

```

11460 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11461 \def\PDFNextPage@[#1]#2{%
11462   \pdfmark[{#2}]{%
11463     #1,%
11464     Border=\@pdfborder,%
11465     BorderStyle=\@pdfborderstyle,%
11466     Color=.2 .1 .5,%
11467     pdfmark=/ANN,%
11468     Subtype=/Link,%
11469     PDFAFlags=4,%
11470     Page=/Next%
11471   }%
11472 }
11473 \def\PDFPreviousPage{%
11474   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11475 }
11476 \def\PDFPreviousPage@[#1]#2{%
11477   \pdfmark[{#2}]{%
11478     #1,%
11479     Border=\@pdfborder,%
11480     BorderStyle=\@pdfborderstyle,%
11481     Color=.4 .4 .1,%
11482     pdfmark=/ANN,%
11483     Subtype=/Link,%
11484     PDFAFlags=4,%
11485     Page=/Prev%
11486   }%
11487 }
11488 \def\PDFOpen#1{%
11489   \pdfmark{#1,pdfmark=/DOCVIEW}%

```

11490 }

This will only work if you use Distiller 2.1 or higher.

```
11491 \def\hyper@linkurl#1#2{%
11492   \begingroup
11493   \Hy@pstringdef\Hy@pstringURI{#2}%
11494   \hyper@chars
11495   \leavevmode
11496   \pdfmark[{#1}]{%
11497     pdfmark=/ANN,%
11498     linktype=url,%
11499     AcroHighlight=\@pdfhighlight,%
11500     Border=\@pdfborder,%
11501     BorderStyle=\@pdfborderstyle,%
11502     Color=\@urlbordercolor,%
11503     Action={<<%
11504       /Subtype/URI%
11505       /URI(\Hy@pstringURI)%
11506       \ifHy@href@ismap
11507         /IsMap true%
11508       \fi
11509     >>},%
11510     Subtype=/Link,%
11511     PDFAFlags=4%
11512   }%
11513 \endgroup
11514 }
11515 \def\hyper@linkfile#1#2#3{%
11516   \begingroup
11517   \def\Hy@pstringF{#2}%
11518   \Hy@CleanupFile\Hy@pstringF
11519   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11520   \Hy@pstringdef\Hy@pstringD{#3}%
11521   \Hy@MakeRemoteAction
11522   \leavevmode
11523   \pdfmark[{#1}]{%
11524     pdfmark=/ANN,%
11525     Subtype=/Link,%
11526     PDFAFlags=4,%
11527     AcroHighlight=\@pdfhighlight,%
11528     Border=\@pdfborder,%
11529     BorderStyle=\@pdfborderstyle,%
11530     linktype=file,%
11531     Color=\@filebordercolor,%
11532     Action={%
11533       <<%
11534         /S/GoToR%
11535         \Hy@SetNewWindow
11536         /F(\Hy@pstringF)%
11537         /D%
11538         \ifx\#3\%
11539           [\Hy@href@page\@pdfremotestartview]%
11540         \else
11541           (\Hy@pstringD)cvn%
11542         \fi
11543         \Hy@href@nextactionraw
11544       >>%
11545     }%
11546   }
```

```

11546 }%
11547 \endgroup
11548 }
11549 \def\@hyper@launch run:#1\|#2#3{%
11550 \begingroup
11551 \Hy@pstringdef\Hy@pstringF{#1}%
11552 \Hy@pstringdef\Hy@pstringP{#3}%
11553 \leavevmode
11554 \pdfmark[{#2}]{%
11555 pdfmark=/ANN,%
11556 Subtype=/Link,%
11557 PDFAFlags=4,%
11558 AcroHighlight=\@pdfhighlight,%
11559 Border=\@pdfborder,%
11560 BorderStyle=\@pdfborderstyle,%
11561 linktype=run,%
11562 Color=\@runbordercolor,%
11563 Action={%
11564 <<%
11565 /S/Launch%
11566 \Hy@SetNewWindow
11567 /F(\Hy@pstringF)%
11568 \ifx\|#3\|
11569 \else
11570 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11571 \fi
11572 \Hy@href@nextactionraw
11573 >>%
11574 }%
11575 }%
11576 \endgroup
11577 }
11578 \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.

```

11579 \langle *dvips\rangle
11580 \providecommand*\XR@ext}{pdf}
11581 \let\Hy@raisedlink\ltx@empty
11582 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11583 \def\headerps@out#1{\special{! #1}}%
11584 \input{pdfmark.def}%
11585 \ifx\@pdfproducer\relax
11586 \def\@pdfproducer{dvips + Distiller}%
11587 \fi
11588 \providecommand*\@pdfborder{0 0 1}
11589 \providecommand*\@pdfborderstyle{}
11590 \providecommand*\@pdfview{XYZ}
11591 \providecommand*\@pdfviewparams{ H.V}
11592 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

```

11593 \g@addto@macro\Hy@FirstPageHook{%
11594   \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.

```

11595   /DvipsToPDF{72.27 mul Resolution div} def%
11596   /PDFToDvips{72.27 div Resolution mul} def%
11597   /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.

```

11598   /BorderArrayPatch{%
11599     [exch{%
11600       dup dup type/integertype eq exch type/realtype eq or%
11601       {BPToDvips}if%
11602     }forall]%
11603   }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.

```

11604   /HyperBorder {1 PDFToDvips} def%
11605   /H.V {pdf@hoff pdf@voff null} def%
11606   /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

```

11607   /H.S {%
11608     currentpoint %
11609     HyperBorder add /pdf@lly exch def %
11610     dup DvipsToPDF 72 add /pdf@hoff exch def %
11611     HyperBorder sub /pdf@llx exch def%
11612   } def%

```

The calculation of upper left *y* is done without raising the point in T_EX, 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

```

11613   /H.L {%
11614     2 sub dup%
11615     /HyperBasePt exch def %
11616     PDFToDvips /HyperBaseDvips exch def %
11617     currentpoint %
11618     HyperBaseDvips sub /pdf@ury exch def%

```

```

11619    /pdf@urx exch def%
11620  } def%
11621  /H.A {%
11622    H.L %
11623 % | /pdf@voff| = the distance from the top of the page to a point
11624 % | \baselineskip| above the current point in PDF coordinates
11625    currentpoint exch pop %
11626    vsize 72 sub exch DvipsToPDF %
11627    HyperBasePt sub % baseline skip
11628    sub /pdf@voff exch def%
11629  } def%
11630  /H.R {%
11631    currentpoint %
11632    HyperBorder sub /pdf@ury exch def %
11633    HyperBorder add /pdf@urx exch def %
11634 % | /pdf@voff| = the distance from the top of the page to the current point, in
11635 % PDF coordinates
11636    currentpoint exch pop vsize 72 sub %
11637    exch DvipsToPDF sub /pdf@voff exch def%
11638  } def%
11639 }%
11640 }
11641 \AtBeginShipoutFirst{%
11642   \ifHy@setpagesize
11643     \begingroup
11644       \@ifundefined{stockwidth}{%
11645         \ifdim\paperwidth>\z@
11646           \ifdim\paperheight>\z@
11647             \special{papersize=\the\paperwidth,\the\paperheight}%
11648           \fi
11649         \fi
11650       }{%
11651         \ifdim\stockwidth>\z@
11652           \ifdim\stockheight>\z@
11653             \special{papersize=\the\stockwidth,\the\stockheight}%
11654           \fi
11655         \fi
11656       }%
11657     \endgroup
11658   \fi
11659   \Hy@DisableOption{setpagesize}%
11660 }
11661 </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.

```

11662 (*vtexpdfmark)
11663 \providecommand*{\XR@ext}{pdf}
11664 \let\Hy@raisedlink\ltx@empty
11665 \def\literalps@out#1{\special{pS:#1}}%
11666 \def\headerps@out#1{\immediate\special{pS:#1}}%
11667 \input{pdfmark.def}%
11668 \ifx\@pdfproducer\relax

```

```

11669 \ifnum\OpMode=\@ne
11670 \def\@pdfproducer{VTeX}%
11671 \else
11672 \def\@pdfproducer{VTeX + Distiller}%
11673 \fi
11674 \fi
11675 \providecommand*\@pdfborder{0 0 1}
11676 \providecommand*\@pdfborderstyle{}
11677 \providecommand*\@pdfview{XYZ}
11678 \providecommand*\@pdfviewparams{ H.V}
11679 \g@addto@macro\Hy@FirstPageHook{%
11680 \headerps@out{%
11681 /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.

```

11682 /HyperBorder {1} def%
11683 /H.V {pdf@hoff pdf@voff null} def%
11684 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11685 /H.S {%
11686 currentpoint %
11687 HyperBorder sub%
11688 /pdf@lly exch def %
11689 dup 72 add /pdf@hoff exch def %
11690 HyperBorder sub%
11691 /pdf@llx exch def%
11692 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11693 /H.L {%
11694 2 sub%
11695 /HyperBasePt exch def %
11696 currentpoint %
11697 HyperBasePt add HyperBorder add%
11698 /pdf@ury exch def %
11699 HyperBorder add%
11700 /pdf@urx exch def%
11701 } def%
11702 /H.A {%
11703 H.L %
11704 currentpoint exch pop %
11705 vsize 72 sub exch %
11706 HyperBasePt add add%
11707 /pdf@voff exch def%
11708 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11709 /H.R {%
11710 currentpoint %
11711 HyperBorder add%
11712 /pdf@ury exch def %
11713 HyperBorder add%
11714 /pdf@urx exch def %

```

```

11715     currentpoint exch pop vsize 72 sub add%
11716     /pdf@voff exch def%
11717   } def%
11718 }%
11719 }
11720 </vtxpdfmark>

```

46.11 Textures

```

11721 (*textures)
11722 \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.

```

11723 \begingroup
11724   \obeylines %
11725   \gdef\Hy@ps@CR{\noexpand
11726   }%
11727 \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`.

```

11728 \def\literalps@out#1{%
11729   \special{postscript 0 0 transform}%
11730   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11731 }%
11732 %

```

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.

```

11733 \def\headerps@out#1{%
11734   \special{%
11735     prepostscript TeXdict begin\Hy@ps@CR
11736     #1\Hy@ps@CR
11737     end%
11738   }%
11739 }%
11740 %

```


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.

```

11741 \g@addto@macro\Hy@FirstPageHook{%
11742   \headerps@out{%
11743     /betterpdfmark {%
11744       systemdict begin %
11745         dup /BP eq%
11746         {cleartomark gsave nulldevice []%
11747           {dup /EP eq%
11748             {cleartomark cleartomark grestore}%
11749             {cleartomark}%
11750             ifelse%
11751           }ifelse %
11752         end%
11753       }def\Hy@ps@CR
11754     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11755   }% end of \headerps@out
11756 }% end of \AtBeginShipoutFirst
11757 %
11758 \input{pdfmark.def}%
11759 %
11760 \ifx\@pdfproducer\relax
11761   \def\@pdfproducer{Textures + Distiller}%
11762 \fi
11763 \providecommand*\@pdfborder{0 0 1}
11764 \providecommand*\@pdfborderstyle{}
11765 \providecommand*\@pdfview{XYZ}
11766 \providecommand*\@pdfviewparams{ H.V}
11767 %

```

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 .

```

11768 \Hy@AtBeginDocument{%
11769   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11770   /vsize {\Hy@pageheight} def%
11771   /DvipsToPDF {} def%
11772   /PDFToDvips {} def%
11773   /BPToDvips {} def%
11774   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11775   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11776   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11777   /H.S {%
11778     currentpoint %
11779     HyperBorder add /pdf@lly exch def %
11780     dup DvipsToPDF 72 add /pdf@hoff exch def %
11781     HyperBorder sub /pdf@llx exch def%
11782   } def\Hy@ps@CR
11783   /H.L {%
11784     2 sub %
11785     PDFToDvips /HyperBase exch def %

```

```

11786     currentpoint %
11787     HyperBase sub /pdf@ury exch def%
11788     /pdf@urx exch def%
11789   } def\Hy@ps@CR
11790   /H.A {%
11791     H.L %
11792     currentpoint exch pop %
11793     vsize 72 sub exch DvipsToPDF %
11794     HyperBase sub % baseline skip
11795     sub /pdf@voff exch def%
11796   } def\Hy@ps@CR
11797   /H.R {%
11798     currentpoint %
11799     HyperBorder sub /pdf@ury exch def %
11800     HyperBorder add /pdf@urx exch def %
11801     currentpoint exch pop vsize 72 sub %
11802     exch DvipsToPDF sub /pdf@voff exch def%
11803   } def\Hy@ps@CR
11804 }%
11805 }

11806 \Hy@AtBeginDocument{%
11807   \ifHy@colorlinks
11808     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11809   \fi
11810 }

```

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.

```

11811 \expandafter\let\expandafter\keepPDF@SetupDoc
11812   \csname PDF@SetupDoc\endcsname
11813 \def\PDF@SetupDoc{%
11814   \ifx\@baseurl\@empty
11815     \else
11816       \special{html:<base href="\@baseurl">}%
11817     \fi
11818   \keepPDF@SetupDoc
11819 }
11820 \Hy@WrapperDef\hyper@anchor#1{%
11821   \Hy@SaveLastskip
11822   \Hy@VerboseAnchor{#1}%
11823   \begingroup
11824     \let\protect=\string
11825     \special{html:<a name=%
11826       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11827   \endgroup
11828   \Hy@activeanchortrue
11829   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11830   \special{html:</a>}%
11831   \Hy@activeanchorfalse
11832   \Hy@RestoreLastskip
11833 }
11834 \Hy@WrapperDef\hyper@anchorstart#1{%
11835   \Hy@SaveLastskip
11836   \Hy@VerboseAnchor{#1}%
11837   \begingroup
11838   \hyper@chars

```

```

11839 \special{html:<a name=%
11840 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11841 \endgroup
11842 \Hy@activeanchortrue
11843 }
11844 \def\hyper@anchorend{%
11845 \special{html:</a>}%
11846 \Hy@activeanchorfalse
11847 \Hy@RestoreLastskip
11848 }
11849 \def\@urltype{url}
11850 \def\hyper@linkstart#1#2{%
11851 \Hy@VerboseLinkStart{#1}{#2}%
11852 \expandafter\Hy@colorlink\csname @#1color\endcsname
11853 \def\Hy@tempa{#1}%
11854 \ifx\Hy@tempa\@urltype
11855 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11856 \else
11857 \begingroup
11858 \hyper@chars
11859 \special{%
11860 html:<a href=%
11861 \hyper@quote#\Hy@HyperDestNameFilter{#2}\hyper@quote>%
11862 }%
11863 \endgroup
11864 \fi
11865 }
11866 \def\hyper@linkend{%
11867 \special{html:</a>}%
11868 \Hy@endcolorlink
11869 }
11870 \def\hyper@linkfile#1#2#3{%
11871 \hyper@linkurl{#1}{%
11872 \Hy@linkfileprefix#2\ifx\#3\else\#3\fi
11873 }%
11874 }
11875 \def\hyper@linkurl#1#2{%
11876 \leavevmode
11877 \ifHy@raiselinks
11878 \Hy@SaveSpaceFactor
11879 \Hy@SaveSavedSpaceFactor
11880 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11881 \Hy@RestoreSavedSpaceFactor
11882 \@linkdim\dp\@tempboxa
11883 \lower\@linkdim\hbox{%
11884 \hyper@chars
11885 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11886 }%
11887 \Hy@colorlink\@urlcolor
11888 \Hy@RestoreSpaceFactor
11889 #1\Hy@xspace@end
11890 \Hy@SaveSpaceFactor
11891 \@linkdim\ht\@tempboxa
11892 \advance\@linkdim by -6.5\p@
11893 \raise\@linkdim\hbox{\special{html:</a>}}%
11894 \Hy@endcolorlink
11895 \Hy@RestoreSpaceFactor

```

```

11896 \else
11897 \begingroup
11898 \hyper@chars
11899 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11900 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11901 \special{html:</a>}%
11902 \Hy@endcolorlink
11903 \endgroup
11904 \fi
11905 }

```

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

```

11906 \def\hyper@link#1#2#3{%
11907 \Hy@VerboseLinkStart{#1}{#2}%
11908 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
11909 }
11910 \def\hyper@image#1#2{%
11911 \begingroup
11912 \hyper@chars
11913 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11914 \endgroup
11915 }
11916 </textures>

```

46.12 dvipsone

```

11917 % \subsection{dvipsone driver}
11918 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11919 % |\special| commands.
11920 <*(dvipsone)
11921 \providecommand*\XR@ext}{pdf}
11922 \let\Hy@raisedlink\ltx@empty
11923 \providecommand*\@pdfborder{0 0 1}
11924 \providecommand*\@pdfborderstyle{}
11925 \def\literalps@out#1{\special{ps:#1}}%
11926 \def\headerps@out#1{\special{headertext=#1}}%
11927 \input{pdfmark.def}%
11928 \ifx\@pdfproducer\relax
11929 \def\@pdfproducer{dvipsone + Distiller}%
11930 \fi
11931 \HyInfo@AddonUnsupportedtrue
11932 \def\PDF@FinishDoc{%
11933 \Hy@UseMaketitleInfos
11934 \HyInfo@TrappedUnsupported
11935 \special{PDF: Keywords \@pdfkeywords}%
11936 \special{PDF: Title \@pdftitle}%
11937 \special{PDF: Creator \@pdfcreator}%
11938 \ifx\@pdfcreationdate\@empty
11939 \else
11940 \special{PDF: CreationDate \@pdfcreationdate}%
11941 \fi
11942 \ifx\@pdfmoddate\@empty
11943 \else
11944 \special{PDF: ModDate \@pdfmoddate}%
11945 \fi
11946 \special{PDF: Author \@pdfauthor}%
11947 \ifx\@pdfproducer\relax
11948 \else

```

```

11949 \special{PDF: Producer \@pdfproducer}%
11950 \fi
11951 \special{PDF: Subject \@pdfsubject}%
11952 \Hy@DisableOption{pdfauthor}%
11953 \Hy@DisableOption{pdftitle}%
11954 \Hy@DisableOption{pdfsubject}%
11955 \Hy@DisableOption{pdfcreator}%
11956 \Hy@DisableOption{pdfcreationdate}%
11957 \Hy@DisableOption{pdfmoddate}%
11958 \Hy@DisableOption{pdfproducer}%
11959 \Hy@DisableOption{pdfkeywords}%
11960 \Hy@DisableOption{pdftrapped}%
11961 \Hy@DisableOption{pdfinfo}%
11962 }
11963 \def\PDF@SetupDoc{%
11964 \def\Hy@temp{}%
11965 \ifx\@pdfstartpage\@empty
11966 \else
11967 \ifx\@pdfstartview\@empty
11968 \else
11969 \edef\Hy@temp{%
11970 ,Page=\@pdfstartpage
11971 ,View=\@pdfstartview
11972 }%
11973 \fi
11974 \fi
11975 \edef\Hy@temp{%
11976 \noexpand\pdfmark{%
11977 pdfmark=/DOCVIEW,%
11978 PageMode=/\@pdfpagemode
11979 \Hy@temp
11980 }%
11981 }%
11982 \Hy@temp
11983 \ifx\@pdfpagescrop\@empty
11984 \else
11985 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11986 \fi
11987 \edef\Hy@temp{%
11988 \ifHy@pdftoolbar\else /HideToolbar true\fi
11989 \ifHy@pdfmenubar\else /HideMenubar true\fi
11990 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11991 \ifHy@pdfwindow /FitWindow true\fi
11992 \ifHy@pdfcenterwindow /CenterWindow true\fi
11993 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11994 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11995 \Hy@UseNameKey{Direction}\@pdfdirection
11996 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11997 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11998 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11999 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12000 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12001 \Hy@UseNameKey{Duplex}\@pdfduplex
12002 \ifx\@pdfpicktraybypdfsize\@empty
12003 \else
12004 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12005 \fi

```

```

12006 \ifx\@pdfprintpagerange\@empty
12007 \else
12008 /PrintPageRange[\@pdfprintpagerange]%
12009 \fi
12010 \ifx\@pdfnumcopies\@empty
12011 \else
12012 /NumCopies \@pdfnumcopies
12013 \fi
12014 }%
12015 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12016 \pdfmark{%
12017 pdfmark=/PUT,%
12018 Raw={%
12019 \string{Catalog\string}<<%
12020 \ifx\Hy@temp\@empty
12021 \else
12022 /ViewerPreferences<<\Hy@temp>>%
12023 \fi
12024 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12025 \ifx\@pdflang\@empty
12026 \else
12027 /Lang(\@pdflang)%
12028 \fi
12029 \ifx\@baseurl\@empty
12030 \else
12031 /URI<</Base(\Hy@pstringB)>>%
12032 \fi
12033 >>%
12034 }%
12035 }%
12036 }
12037 \providecommand*\@pdfview{XYZ}
12038 \providecommand*\@pdfviewparams{ %
12039 gsave revscl currentpoint grestore %
12040 72 add exch pop null exch null%
12041 }
12042 \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 .

```

12043 \g@addto@macro\Hy@FirstPageHook{%
12044 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12045 /DvipsToPDF { 65781 div } def%
12046 /PDFToDvips { 65781 mul } def%
12047 /BPToDvips{65781 mul}def%
12048 /HyperBorder { 1 PDFToDvips } def%
12049 /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.

```

12050 /BorderArrayPatch{%
12051 [exch{%
12052 dup dup type/integertype eq exch type/realtype eq or%

```

```

12053     {BPToDvips}if%
12054     }forall]%
12055 }def%

12056 /H.S {%
12057     currentpoint %
12058     HyperBorder add /pdf@lly exch def %
12059     dup DvipsToPDF 72 add /pdf@hoff exch def %
12060     HyperBorder sub /pdf@llx exch def%
12061 } def%
12062 /H.L {%
12063     2 sub %
12064     PDFToDvips /HyperBase exch def %
12065     currentpoint %
12066     HyperBase sub /pdf@ury exch def%
12067     /pdf@urx exch def%
12068 } def%
12069 /H.A {%
12070     H.L %
12071     currentpoint exch pop %
12072     HyperBase sub % baseline skip
12073     DvipsToPDF /pdf@voff exch def%
12074 } def%
12075 /H.R {%
12076     currentpoint %
12077     HyperBorder sub /pdf@ury exch def %
12078     HyperBorder add /pdf@urx exch def %
12079     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12080 } def%
12081 }%
12082 }
12083 </dvipsone>

```

46.13 TeX4ht

```

12084 <*tex4ht>
12085 \providecommand*\XR@ext}{html}
12086 \let\Hy@raisedlink\ltx@empty
12087 \@ifpackageloaded{tex4ht}{%
12088   \Hy@InfoNoLine{tex4ht is already loaded}%
12089 }{%
12090   \RequirePackage[hx4ht]{tex4ht}%
12091 }
12092 \hyperlinkfileprefix{}
12093 \let\PDF@FinishDoc\ltx@empty
12094 \def\PDF@SetupDoc{%
12095   \ifx\@baseurl\@empty
12096   \else
12097     \special{t4ht=<base href="\@baseurl">}%
12098   \fi
12099 }
12100 \Hy@WrapperDef\hyper@anchor#1{%
12101   \Hy@SaveLastskip
12102   \Hy@VerboseAnchor{#1}%
12103   \begingroup
12104     \let\protect=\string
12105     \special{t4ht=<a name=%
12106       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12107   \endgroup

```

```

12108 \Hy@activeanchortrue
12109 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12110 \special{t4ht=</a>}%
12111 \Hy@activeanchorfalse
12112 \Hy@RestoreLastskip
12113 }
12114 \Hy@WrapperDef\hyper@anchorstart#1{%
12115 \Hy@SaveLastskip
12116 \Hy@VerboseAnchor{#1}%
12117 \begingroup
12118 \hyper@chars\special{t4ht=<a name=%
12119 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12120 \endgroup
12121 \Hy@activeanchortrue
12122 }
12123 \def\hyper@anchorend{%
12124 \special{t4ht=</a>}%
12125 \Hy@activeanchorfalse
12126 \Hy@RestoreLastskip
12127 }
12128 \def\@urltype{url}
12129 \def\hyper@linkstart#1#2{%
12130 \Hy@VerboseLinkStart{#1}{#2}%
12131 \expandafter\Hy@colorlink\csname @#1color\endcsname
12132 \def\Hy@tempa{#1}%
12133 \ifx\Hy@tempa\@urltype
12134 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12135 \else
12136 \begingroup
12137 \hyper@chars
12138 \special{t4ht=<a href=%
12139 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12140 \endgroup
12141 \fi
12142 }
12143 \def\hyper@linkend{%
12144 \special{t4ht=</a>}%
12145 \Hy@endcolorlink
12146 }
12147 \def\hyper@linkfile#1#2#3{%
12148 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12149 }
12150 \def\hyper@linkurl#1#2{%
12151 \leavevmode
12152 \ifHy@raiselinks
12153 \Hy@SaveSpaceFactor
12154 \Hy@SaveSavedSpaceFactor
12155 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12156 \Hy@RestoreSavedSpaceFactor
12157 \@linkdim\dp\@tempboxa
12158 \lower\@linkdim\hbox{%
12159 \begingroup
12160 \hyper@chars
12161 \special{%
12162 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12163 }%
12164 \endgroup

```



```

12165 }%
12166 \Hy@colorlink\@urlcolor
12167 \Hy@RestoreSpaceFactor
12168 #1\Hy@xspace@end
12169 \Hy@SaveSpaceFactor
12170 \Hy@endcolorlink
12171 \@linkdim\ht\@tempboxa
12172 \advance\@linkdim by -6.5\p@
12173 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12174 \Hy@RestoreSpaceFactor
12175 \else
12176 \begingroup
12177 \hyper@chars
12178 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12179 \Hy@colorlink\@urlcolor
12180 #1\Hy@xspace@end
12181 \Hy@endcolorlink
12182 \special{t4ht=</a>}%
12183 \endgroup
12184 \fi
12185 }

```

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

```

12186 \def\hyper@link#1#2#3{%
12187 \Hy@VerboseLinkStart{#1}{#2}%
12188 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
12189 }
12190 \def\hyper@image#1#2{%
12191 \begingroup
12192 \hyper@chars
12193 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12194 \endgroup
12195 }
12196 \let\autoref\ref
12197 \ifx \rEFLiNK \UnDef
12198 \def\rEFLiNK #1#2{#2}%
12199 \fi
12200 \let\backref\ltx@gobble

```

Fix for `tex4ht`.

```

12201 \AtBeginDocument{%
12202 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endc-
12203 sname
12204 \expandafter\def\csname Make:Label\endcsname#1#2{%
12205 \ifhmode
12206 \Hy@SaveSpaceFactor
12207 \else
12208 \global\Hy@SavedSpaceFactor=1000 %
12209 \fi
12210 \Hy@OrgMakeLabel{#1}{%
12211 \Hy@RestoreSpaceFactor
12212 #2\Hy@xspace@end%
12213 \Hy@SaveSpaceFactor
12214 }%
12215 \Hy@RestoreSpaceFactor
12216 }%
12217 </tex4ht>
12218 <*tex4htcfg>

```

```

12219 \IfFileExists{\jobname.cfg}{\endinput}{}
12220 \Preamble{html}
12221 \begin{document}%
12222 \EndPreamble
12223 \def\TeX{\TeX}
12224 \def\OMEGA{\Omega}
12225 \def\LaTeX{\LaTeX}
12226 \def\LaTeXe{\LaTeX2e}
12227 \def\TeXe{\TeX}
12228 \def\MF{Metafont}
12229 \def\MP{MetaPost}
12230 \</tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12231 \<*pdfmark>
12232 \long\def\@Form[#1]{%
12233 \g@addto@macro\Hy@FirstPageHook{%
12234 \headerps@out{%
12235 [%
12236 /__objdef{pdfDocEncoding}%
12237 /type/dict%
12238 /OBJ pdfmark%
12239 [%
12240 {pdfDocEncoding}%
12241 <<%
12242 /Type/Encoding%
12243 /Differences[%
12244 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12245 /tilde %
12246 39/quotesingle %
12247 96/grave %
12248 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12249 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12250 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12251 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12252 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12253 164/currency %
12254 166/brokenbar %
12255 168/dieresis/copyright/ordfeminine %
12256 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12257 /twosuperior/threesuperior/acute/mu %
12258 183/periodcentered/cedilla/onesuperior/ordmasculine %
12259 188/onequarter/onehalf/threequarters %
12260 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12261 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12262 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12263 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12264 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12265 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12266 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12267 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12268 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
12269 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12270 ]%
12271 >>%

```

```

12272 /PUT pdfmark%
12273 [%
12274   /_objdef{ZaDb}%
12275   /type/dict%
12276 /OBJ pdfmark%
12277 [%
12278   {ZaDb}%
12279   <<%
12280     /Type/Font%
12281     /Subtype/Type1%
12282     /Name/ZaDb%
12283     /BaseFont/ZapfDingbats%
12284   >>%
12285 /PUT pdfmark%
12286 [%
12287   /_objdef{Helv}%
12288   /type/dict%
12289 /OBJ pdfmark%
12290 [%
12291   {Helv}%
12292   <<%
12293     /Type/Font%
12294     /Subtype/Type1%
12295     /Name/Helv%
12296     /BaseFont/Helvetica%
12297     /Encoding{pdfDocEncoding}%
12298   >>%
12299 /PUT pdfmark%
12300 [%
12301   /_objdef{aform}%
12302   /type/dict%
12303 /OBJ pdfmark%
12304 [%
12305   /_objdef{afields}%
12306   /type/array%
12307 /OBJ pdfmark%
12308 {%
12309   [%
12310     /BBox[0 0 100 100]%
12311     /_objdef{Check}%
12312 /BP pdfmark %
12313   1 0 0 setrgbcolor%
12314   /ZapfDingbats 80 selectfont %
12315   20 20 moveto%
12316   (4)show%
12317 [/EP pdfmark%
12318 [%
12319   /BBox[0 0 100 100]%
12320   /_objdef{Cross}%
12321 /BP pdfmark %
12322   1 0 0 setrgbcolor%
12323   /ZapfDingbats 80 selectfont %
12324   20 20 moveto%
12325   (8)show%
12326 [/EP pdfmark%
12327 [%
12328   /BBox[0 0 250 100]%

```

```

12329  /__objdef{Submit}%
12330  /BP pdfmark %
12331  0.6 setgray %
12332  0 0 250 100 rectfill %
12333  1 setgray %
12334  2 2 moveto %
12335  2 98 lineto %
12336  248 98 lineto %
12337  246 96 lineto %
12338  4 96 lineto %
12339  4 4 lineto %
12340  fill %
12341  0.34 setgray %
12342  248 98 moveto %
12343  248 2 lineto %
12344  2 2 lineto %
12345  4 4 lineto %
12346  246 4 lineto %
12347  246 96 lineto %
12348  fill%
12349  /Helvetica 76 selectfont %
12350  0 setgray %
12351  8 22.5 moveto%
12352  (Submit)show%
12353  [/EP pdfmark%
12354  [%
12355  /BBox[0 0 250 100]%
12356  /__objdef{SubmitP}%
12357  /BP pdfmark %
12358  0.6 setgray %
12359  0 0 250 100 rectfill %
12360  0.34 setgray %
12361  2 2 moveto %
12362  2 98 lineto %
12363  248 98 lineto %
12364  246 96 lineto %
12365  4 96 lineto %
12366  4 4 lineto %
12367  fill %
12368  1 setgray %
12369  248 98 moveto %
12370  248 2 lineto %
12371  2 2 lineto %
12372  4 4 lineto %
12373  246 4 lineto %
12374  246 96 lineto %
12375  fill%
12376  /Helvetica 76 selectfont %
12377  0 setgray %
12378  10 20.5 moveto%
12379  (Submit)show%
12380  [/EP pdfmark%
12381  } ?pdfmark%
12382  [%
12383  {aform}%
12384  <<%
12385  /Fields{afields}%

```

```

12386 /DR<<%
12387 /Font<<%
12388 /ZaDb{ZaDb}%
12389 /Helv{Helv}%
12390 >>%
12391 >>%
12392 /DA(/Helv 10 Tf 0 g)%
12393 /CO{corder}%
12394 \ifHy@pdfa
12395 \else
12396 \ifHyField@NeedAppearances
12397 /NeedAppearances true%
12398 \fi
12399 \fi
12400 >>%
12401 /PUT pdfmark%
12402 [%
12403 {Catalog}%
12404 <<%
12405 /AcroForm{aform}%
12406 >>%
12407 /PUT pdfmark%
12408 [%
12409 /_objdef{corder}%
12410 /type/array%
12411 /OBJ pdfmark% dps
12412 }}%
12413 \kvsetkeys{Form}{#1}%
12414 }
12415 \let\@endForm\ltx@empty
12416 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12417 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12418 }
12419 \def\@TextField[#1]#2{% parameters, label
12420 \def\Fld@name{#2}%
12421 \let\Fld@default\ltx@empty
12422 \let\Fld@value\@empty
12423 \def\Fld@width{\DefaultWidthofText}%
12424 \def\Fld@height{%
12425 \ifFld@multiline
12426 \DefaultHeightofTextMultiline
12427 \else
12428 \DefaultHeightofText
12429 \fi
12430 }%
12431 \begingroup
12432 \expandafter\HyField@SetKeys\expandafter{%
12433 \DefaultOptionsofText,#1%
12434 }%
12435 \HyField@FlagsText
12436 \ifFld@hidden\def\Fld@width{1sp}\fi
12437 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12438 \LayoutTextField{#2}{%
12439 \Hy@escapeform\PDFForm@Text
12440 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12441 pdfmark=/ANN,Raw={\PDFForm@Text}%
12442 }%

```

```

12443 }%
12444 \endgroup
12445 }
12446 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12447 \def\Fld@name{#2}%
12448 \let\Fld@default\relax
12449 \let\Fld@value\relax
12450 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12451 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12452 \begingroup
12453 \Fld@menulength=0 %
12454 \@tempdima\z@
12455 \for\@curropt:=#3\do{%
12456 \expandafter\Fld@checkequals\@curropt==\\%
12457 \Hy@StepCount\Fld@menulength
12458 \settowidth{\@tempdimb}{\@currDisplay}%
12459 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12460 }%
12461 \advance\@tempdima by 15\p@
12462 \begingroup
12463 \HyField@SetKeys{#1}%
12464 \edef\x{\endgroup
12465 \noexpand\expandafter
12466 \noexpand\HyField@SetKeys
12467 \noexpand\expandafter{%
12468 \expandafter\noexpand\csname DefaultOptionsof%
12469 \ifFld@radio
12470 Radio%
12471 \else
12472 \ifFld@combo
12473 \ifFld@popdown
12474 PopdownBox%
12475 \else
12476 ComboBox%
12477 \fi
12478 \else
12479 ListBox%
12480 \fi
12481 \fi
12482 \endcsname
12483 }%
12484 }\x
12485 \HyField@SetKeys{#1}%
12486 \ifFld@hidden\def\Fld@width{1sp}\fi
12487 \ifx\Fld@value\relax
12488 \let\Fld@value\Fld@default
12489 \fi
12490 \LayoutChoiceField{#2}{%
12491 \ifFld@radio
12492 \HyField@FlagsRadioButton
12493 \@@Radio{#3}%
12494 \else
12495 \begingroup
12496 \HyField@FlagsChoice
12497 \ifdim\Fld@width<\@tempdima
12498 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12499 \edef\Fld@width{\the\@tempdima}%

```

```

12500      \fi
12501      \ifFld@combo
12502      \else
12503          \@tempdima=\the\Fld@menulength\Fld@charsize
12504          \advance\@tempdima by \Fld@borderwidth bp %
12505          \advance\@tempdima by \Fld@borderwidth bp %
12506          \edef\Fld@height{\the\@tempdima}%
12507      \fi
12508      \@@ListBox{#3}%
12509  \endgroup
12510  \fi
12511 }%
12512 \endgroup
12513 }
12514 \def\@@Radio#1{%
12515   \Fld@listcount=0 %
12516   \EdefEscapeName\Fld@default{\Fld@default}%
12517   \@for\@curropt:=#1\do{%
12518     \expandafter\Fld@checkequals\@curropt==\%
12519     \EdefEscapeName\@currValue{\@currValue}%
12520     \Hy@StepCount\Fld@listcount
12521     \@currDisplay\space
12522     \Hy@escapeform\PDFForm@Radio
12523     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12524       pdfmark=/ANN,%
12525       Raw={%
12526         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12527       }%
12528     } % deliberate space between radio buttons
12529   }%
12530 }
12531 \newcount\Fld@listcount
12532 \def\@@ListBox#1{%
12533   \HyField@PDFChoices{#1}%
12534   \Hy@escapeform\PDFForm@List
12535   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12536     pdfmark=/ANN,Raw={\PDFForm@List}%
12537   }%
12538 }
12539 \def\@PushButton[#1]#2{% parameters, label
12540   \def\Fld@name{#2}%
12541   \begingroup
12542     \expandafter\HyField@SetKeys\expandafter{%
12543       \DefaultOptionsofPushButton,#1%
12544     }%
12545     \ifHy@pdfa
12546       \Hy@Error{%
12547         PDF/A: Push button with JavaScript is prohibited%
12548       }\@ehc
12549       \LayoutPushButtonField{%
12550         \leavevmode
12551         \MakeButtonField{#2}%
12552       }%
12553     \else
12554       \HyField@FlagsPushButton
12555       \ifFld@hidden\def\Fld@width{1sp}\fi
12556       \LayoutPushButtonField{%

```

```

12557     \leavevmode
12558     \Hy@escapeform\PDFForm@Push
12559     \pdfmark[\MakeButtonField{#2}]{%
12560         pdfmark=/ANN,Raw={\PDFForm@Push}%
12561     }%
12562 }%
12563 \fi
12564 \endgroup
12565 }
12566 \def\@Submit[#1]#2{%
12567     \def\Fld@width{\DefaultWidthofSubmit}%
12568     \def\Fld@height{\DefaultHeightofSubmit}%
12569     \begingroup
12570     \expandafter\HyField@SetKeys\expandafter{%
12571         \DefaultOptionsofSubmit,#1%
12572     }%
12573     \HyField@FlagsPushButton
12574     \HyField@FlagsSubmit
12575     \ifFld@hidden\def\Fld@width{1sp}\fi
12576     \Hy@escapeform\PDFForm@Submit
12577     \pdfmark[\MakeButtonField{#2}]{%
12578         pdfmark=/ANN,%
12579         Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12580     }%
12581 \endgroup
12582 }
12583 \def\@Reset[#1]#2{%
12584     \def\Fld@width{\DefaultWidthofReset}%
12585     \def\Fld@height{\DefaultHeightofReset}%
12586     \begingroup
12587     \expandafter\HyField@SetKeys\expandafter{%
12588         \DefaultOptionsofReset,#1%
12589     }%
12590     \leavevmode
12591     \ifHy@pdfa
12592         \Hy@Error{%
12593             PDF/A: Reset action is prohibited%
12594         }\@ehc
12595         \MakeButtonField{#2}%
12596     \else
12597         \HyField@FlagsPushButton
12598         \ifFld@hidden\def\Fld@width{1sp}\fi
12599         \Hy@escapeform\PDFForm@Reset
12600         \pdfmark[\MakeButtonField{#2}]{%
12601             pdfmark=/ANN,Raw={\PDFForm@Reset}%
12602         }%
12603     \fi
12604 \endgroup
12605 }%
12606 \def\@CheckBox[#1]#2{% parameters, label
12607     \def\Fld@name{#2}%
12608     \def\Fld@default{0}%
12609     \begingroup
12610     \def\Fld@width{\DefaultWidthofCheckBox}%
12611     \def\Fld@height{\DefaultHeightofCheckBox}%
12612     \expandafter\HyField@SetKeys\expandafter{%
12613         \DefaultOptionsofCheckBox,#1%

```



```

12614 }%
12615 \HyField@FlagsCheckBox
12616 \ifFld@hidden\def\Fld@width{1sp}\fi
12617 \LayoutCheckField{#2}{%
12618 \Hy@escapeform\PDFForm@Check
12619 \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
12620 pdfmark=/ANN,Raw={\PDFForm@Check}%
12621 }%
12622 }%
12623 \endgroup
12624 }
12625 \pdfmark

```

47.2 HyperTeX

```

12626 \*hypertex
12627 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12628 \let\@endForm\ltx@empty
12629 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12630 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12631 }
12632 \def\@TextField[#1]#2{% parameters, label
12633 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12634 }
12635 \def\@CheckBox[#1]#2{% parameters, label
12636 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12637 }
12638 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12639 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12640 }
12641 \def\@PushButton[#1]#2{% parameters, label
12642 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12643 }
12644 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12645 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12646 \hypertex

```

47.3 TeX4ht

```

12647 \*tex4ht
12648 \def\@Form[#1]{%
12649 \kvsetkeys{Form}{#1}%
12650 \HCode{<form action="\Form@action" method="\Form@method">}%
12651 }
12652 \def\@endForm{\HCode{</form>}}
12653 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12654 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12655 }
12656 \def\@TextField[#1]#2{% parameters, label
12657 \let\Hy@reserved@a\@empty
12658 \def\Fld@name{#2}%
12659 \let\Fld@default\ltx@empty
12660 \bgroup
12661 \Field@toks={ }%
12662 \kvsetkeys{Field}{#1}%
12663 \HCode{<label for="\Fld@name">#2</label>}%
12664 \ifFld@password
12665 \@@PasswordField
12666 \else

```

```

12667 \@@TextField
12668 \fi
12669 \egroup
12670 }
12671 \def\@@PasswordField{%
12672 \HCode{%
12673 <input type="password" %
12674 id="\Fld@name" %
12675 name="\Fld@name" %
12676 \ifFld@hidden type="hidden" \fi
12677 value="\Fld@default" %
12678 \the\Field@toks
12679 >%
12680 }%
12681 }
12682 \def\@@TextField{%
12683 \ifFld@multiline
12684 \HCode{<textarea %
12685 \ifFld@readonly readonly \fi
12686 id="\Fld@name" %
12687 name="\Fld@name" %
12688 \ifFld@hidden type="hidden" \fi
12689 \the\Field@toks>%
12690 }%
12691 \Fld@default
12692 \HCode{</textarea>}%
12693 \else
12694 \HCode{<input type="text" %
12695 \ifFld@readonly readonly \fi
12696 id="\Fld@name" %
12697 name="\Fld@name" %
12698 \ifFld@hidden type="hidden" \fi
12699 value="\Fld@default" %
12700 \the\Field@toks>%
12701 }%
12702 \fi
12703 }
12704 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12705 \def\Fld@name{#2}%
12706 \let\Fld@default\ltx@empty
12707 \let\Hy@reserved@a\relax
12708 \begingroup
12709 \expandafter\Fld@findlength#3\\%
12710 \Field@toks={ }%
12711 \kvsetkeys{Field}{#1}%
12712 #2%
12713 \ifFld@radio
12714 \expandafter\@@Radio#3\\%
12715 \else
12716 \expandafter\@@Menu#3\\%
12717 \fi
12718 \endgroup
12719 }
12720 \def\Fld@findlength#1\\{%
12721 \Fld@menulength=0 %
12722 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12723 }

```

```

12724 \def\@@Menu#1\{\%
12725 \HCode{<select size="\the\Fld@menulength" %
12726   name="\Fld@name" %
12727   \the\Field@toks>%
12728 }%
12729 \@for\@curropt:=#1\do{%
12730   \expandafter\Fld@checkequals\@curropt==\%
12731   \HCode{<option %
12732     \ifx\@curropt\Fld@default selected \fi
12733     value="\@currValue">\@currDisplay</option>%
12734   }%
12735 }%
12736 \HCode{</select>}%
12737 }
12738 \def\@@Radio#1\{\%
12739 \@for\@curropt:=#1\do{%
12740   \expandafter\Fld@checkequals\@curropt==\%
12741   \HCode{<input type="radio" %
12742     \ifx\@curropt\Fld@default checked \fi
12743     name="\Fld@name" %
12744     value="\@currValue" %
12745     \the\Field@toks>%
12746   }%
12747   \@currDisplay
12748 }%
12749 }
12750 \def\@PushButton[#1]#2{% parameters, label
12751 \def\Fld@name{#2}%
12752 \bgroup
12753 \Field@toks={ }%
12754 \kvsetkeys{Field}{#1}%
12755 \HCode{<input type="button" %
12756   name="\Fld@name" %
12757   value="#2" %
12758   \the\Field@toks>%
12759 }%
12760 \HCode{</button>}%
12761 \egroup
12762 }
12763 \def\@Submit[#1]#2{%
12764 \HCode{<button type="submit">#2</button>}%
12765 }
12766 \def\@Reset[#1]#2{%
12767 \HCode{<button type="reset">#2</button>}%
12768 }
12769 \def\@CheckBox[#1]#2{% parameters, label
12770 \let\Hy@reserved@a\@empty
12771 \def\Fld@name{#2}%
12772 \def\Fld@default{0}%
12773 \bgroup
12774 \Field@toks={ }%
12775 \kvsetkeys{Field}{#1}%
12776 \HCode{<input type="checkbox" %
12777   \ifFld@checked checked \fi
12778   \ifFld@disabled disabled \fi
12779   \ifFld@readonly readonly \fi
12780   name="\Fld@name" %

```

```

12781 \ifFld@hidden type="hidden" \fi
12782 value="\Fld@default" %
12783 \the\Field@toks>%
12784 #2%
12785 }%
12786 \egroup
12787 }
12788 </tex4ht>

```

47.4 pdfTeX

```

12789 <*pdfTeX>
12790 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12791 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12792 }
12793 \def\MakeFieldObject#1#2{\sbox0{#1}%
12794 \immediate\pdfxform0 %
12795 \expandafter\edef\csname #2Object\endcsname{%
12796 \the\pdfastxform\space 0 R%
12797 }%
12798 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
12799 }%
12800 \let\HyField@afields\ltx@empty
12801 \begingroup\expandafter\expandafter\expandafter\endgroup
12802 \expandafter\ifx\csname pdfastlink\endcsname\relax
12803 \let\HyField@AddToFields\relax
12804 \PackageInfo{hyperref}{%
12805 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12806 \MessageBreak
12807 Adobe Reader/Acrobat accepts an empty /Field array,%
12808 \MessageBreak
12809 but other PDF viewers might complain%
12810 }%
12811 \else
12812 \let\HyField@AuxAddToFields\ltx@gobble
12813 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12814 \Hy@AtBeginDocument{%
12815 \if@filesw
12816 \immediate\write\@mainaux{%
12817 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12818 }%
12819 \fi
12820 \let\HyField@AfterAuxOpen\@firstofone
12821 \def\HyField@AuxAddToFields#1{%
12822 \xdef\HyField@afields{%
12823 \ifx\HyField@afields\@empty
12824 \else
12825 \HyField@afields
12826 \space
12827 \fi
12828 #1 0 R%
12829 }%
12830 }%
12831 }%
12832 \def\HyField@AddToFields{%
12833 \expandafter\HyField@@AddToFields\expandafter{%
12834 \the\pdfastlink
12835 }%

```

```

12836 }%
12837 \def\HyField@@AddToFields#1{%
12838   \HyField@AfterAuxOpen{%
12839     \if@filesw
12840       \write\@mainaux{%
12841         \string\HyField@AuxAddToFields{#1}%
12842       }%
12843     \fi
12844   }%
12845 }%
12846 \fi
12847 \def\@Form[#1]{%
12848   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12849   \kvsetkeys{Form}{#1}%
12850   \pdf@ifdraftmode{}{%
12851     \Hy@FormObjects
12852     \ifnum\pdfTeXversion>13 %
12853       \pdfrefobj\OBJ\pdfdocencoding
12854       \pdfrefobj\OBJ@ZaDb
12855       \pdfrefobj\OBJ@Helv
12856     \fi
12857     \AtVeryEndDocument{%
12858       \immediate\pdfobj{%
12859         <<%
12860           /Fields[\HyField@afields]%
12861           /DR<<%
12862             /Font<<%
12863               /ZaDb \OBJ@ZaDb\space 0 R%
12864               /Helv \OBJ@Helv\space 0 R%
12865             >>%
12866           >>%
12867           /DA(/Helv 10 Tf 0 g)%
12868           \ifHy@pdfa
12869           \else
12870             \ifHyField@NeedAppearances
12871               /NeedAppearances true%
12872             \fi
12873           \fi
12874           >>%
12875         }%
12876         \edef\OBJ@acroform{\the\pdflastobj}%
12877         \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12878       }%
12879     }%
12880     \MakeFieldObject{%
Same as \ding{123} of package pifont.
12881     \begingroup
12882       \fontfamily{pzd}%
12883       \fontencoding{U}%
12884       \fontseries{m}%
12885       \fontshape{n}%
12886       \selectfont
12887       \char123 %
12888     \endgroup
12889   }{Ding}%
12890   \MakeFieldObject{%
12891     \fbox{\textcolor{yellow}{\textsf{Submit}}}%

```

```

12892 }{Submit}%
12893 \MakeFieldObject{%
12894   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12895 }{SubmitP}%
12896 }
12897 \let\@endForm\ltx@empty
12898 \def\@TextField[#1]#2{% parameters, label
12899   \def\Fld@name{#2}%
12900   \let\Fld@default\ltx@empty
12901   \let\Fld@value\@empty
12902   \def\Fld@width{\DefaultWidthofText}%
12903   \def\Fld@height{%
12904     \ifFld@multiline
12905       \DefaultHeightofTextMultiline
12906     \else
12907       \DefaultHeightofText
12908     \fi
12909   }%
12910   \begingroup
12911     \expandafter\HyField@SetKeys\expandafter{%
12912       \DefaultOptionsofText,#1%
12913     }%
12914     \PDFForm@Name
12915     \HyField@FlagsText
12916     \ifFld@hidden\def\Fld@width{1sp}\fi
12917     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12918     \LayoutTextField{#2}{%
12919       \Hy@escapeform\PDFForm@Text
12920       \pdfstartlink user {\PDFForm@Text}\relax
12921       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12922       \HyField@AddToFields
12923     }%
12924   \endgroup
12925 }
12926 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12927   \def\Fld@name{#2}%
12928   \let\Fld@default\relax
12929   \let\Fld@value\relax
12930   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12931   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12932   \begingroup
12933     \Fld@menulength=0 %
12934     \@tempdima\z@
12935     \@for\@curropt:=#3\do{%
12936       \expandafter\Fld@checkequals\@curropt==\%
12937       \Hy@StepCount\Fld@menulength
12938       \settowidth{\@tempdimb}{\@currDisplay}%
12939       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12940     }%
12941     \advance\@tempdima by 15\p@
12942     \begingroup
12943       \HyField@SetKeys{#1}%
12944     \edef\x{\endgroup
12945       \noexpand\expandafter
12946       \noexpand\HyField@SetKeys
12947       \noexpand\expandafter{%
12948         \expandafter\noexpand\curname DefaultOptionsof%

```

```

12949      \ifFld@radio
12950      Radio%
12951      \else
12952      \ifFld@combo
12953      \ifFld@popdown
12954      PopdownBox%
12955      \else
12956      ComboBox%
12957      \fi
12958      \else
12959      ListBox%
12960      \fi
12961      \fi
12962      \endcsname
12963      }%
12964  }\x
12965  \HyField@SetKeys{#1}%
12966  \PDFForm@Name
12967  \ifFld@hidden\def\Fld@width{1sp}\fi
12968  \ifx\Fld@value\relax
12969      \let\Fld@value\Fld@default
12970  \fi
12971  \LayoutChoiceField{#2}{%
12972      \ifFld@radio
12973      \HyField@FlagsRadioButton
12974      \@@Radio{#3}%
12975      \else
12976      \begingroup
12977      \HyField@FlagsChoice
12978      \ifdim\Fld@width<\@tempdima
12979      \ifdim\@tempdima<1cm\@tempdima1cm\fi
12980      \edef\Fld@width{\the\@tempdima}%
12981      \fi
12982      \ifFld@combo
12983      \else
12984      \@tempdima=\the\Fld@menulength\Fld@charsize
12985      \advance\@tempdima by \Fld@borderwidth bp %
12986      \advance\@tempdima by \Fld@borderwidth bp %
12987      \edef\Fld@height{\the\@tempdima}%
12988      \fi
12989      \@@ListBox{#3}%
12990      \endgroup
12991      \fi
12992      }%
12993  \endgroup
12994  }
12995  \def\@@Radio#1{%
12996      \Fld@listcount=0 %
12997      \EdefEscapeName\Fld@default{\Fld@default}%
12998      \@for\@curropt:=#1\do{%
12999          \expandafter\Fld@checkequals\@curropt==\%
13000          \EdefEscapeName\@currValue{\@currValue}%
13001          \Hy@StepCount\Fld@listcount
13002          \@currDisplay\space
13003          \leavevmode
13004          \Hy@escapeform\PDFForm@Radio
13005          \pdfstartlink user {%

```

```

13006 \PDFForm@Radio
13007 /AP<<%
13008 /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.

```

13009 /\@currValue\space \DingObject
13010 >>%
13011 >>%
13012 }%
13013 \relax
13014 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13015 \ifnum\Fld@listcount=1 %
13016 \HyField@AddToFields
13017 \fi
13018 \space % deliberate space between radio buttons
13019 }%
13020 }
13021 \newcount\Fld@listcount
13022 \def\@@ListBox#1{%
13023 \HyField@PDFChoices{#1}%
13024 \leavevmode
13025 \Hy@escapeform\PDFForm@List
13026 \pdfstartlink user {\PDFForm@List}\relax
13027 \MakeChoiceField{\Fld@width}{\Fld@height}%
13028 \pdfendlink
13029 \HyField@AddToFields
13030 }
13031 \def\@PushButton[#1]#2{% parameters, label
13032 \def\Fld@name{#2}%
13033 \begingroup
13034 \expandafter\HyField@SetKeys\expandafter{%
13035 \DefaultOptionsofPushButton,#1%
13036 }%
13037 \PDFForm@Name
13038 \ifHy@pdfa
13039 \Hy@Error{%
13040 PDF/A: Push button with JavaScript is prohibited%
13041 }\@ehc
13042 \LayoutPushButtonField{%
13043 \leavevmode
13044 \MakeButtonField{#2}%
13045 }%
13046 \else
13047 \HyField@FlagsPushButton
13048 \ifFld@hidden\def\Fld@width{1sp}\fi
13049 \LayoutPushButtonField{%
13050 \leavevmode
13051 \Hy@escapeform\PDFForm@Push
13052 \pdfstartlink user {\PDFForm@Push}\relax
13053 \MakeButtonField{#2}%
13054 \pdfendlink
13055 \HyField@AddToFields
13056 }%
13057 \fi
13058 \endgroup
13059 }

```



```

13060 \def\@Submit[#1]#2{%
13061   \def\Fld@width{\DefaultWidthofSubmit}%
13062   \def\Fld@height{\DefaultHeightofSubmit}%
13063   \begingroup
13064     \expandafter\HyField@SetKeys\expandafter{%
13065       \DefaultOptionsofSubmit,#1%
13066     }%
13067     \HyField@FlagsPushButton
13068     \HyField@FlagsSubmit
13069     \ifFld@hidden\def\Fld@width{1sp}\fi
13070     \leavevmode
13071     \Hy@escapeform\PDFForm@Submit
13072     \pdfstartlink user {%
13073       \PDFForm@Submit
13074       /AP<</N \SubmitObject/D \SubmitPObject>>%
13075     }%
13076     \relax
13077     \MakeButtonField{#2}%
13078     \pdfendlink
13079     \HyField@AddToFields
13080   \endgroup
13081 }
13082 \def\@Reset[#1]#2{%
13083   \def\Fld@width{\DefaultWidthofReset}%
13084   \def\Fld@height{\DefaultHeightofReset}%
13085   \begingroup
13086     \expandafter\HyField@SetKeys\expandafter{%
13087       \DefaultOptionsofReset,#1%
13088     }%
13089     \leavevmode
13090     \ifHy@pdfa
13091       \Hy@Error{%
13092         PDF/A: Reset action is prohibited%
13093       }\@ehc
13094       \MakeButtonField{#2}%
13095     \else
13096       \HyField@FlagsPushButton
13097       \ifFld@hidden\def\Fld@width{1sp}\fi
13098       \Hy@escapeform\PDFForm@Reset
13099       \pdfstartlink user {\PDFForm@Reset}\relax
13100       \MakeButtonField{#2}%
13101       \pdfendlink
13102       \HyField@AddToFields
13103     \fi
13104   \endgroup
13105 }
13106 \def\@CheckBox[#1]#2{% parameters, label
13107   \def\Fld@name{#2}%
13108   \def\Fld@default{0}%
13109   \begingroup
13110     \def\Fld@width{\DefaultWidthofCheckBox}%
13111     \def\Fld@height{\DefaultHeightofCheckBox}%
13112     \expandafter\HyField@SetKeys\expandafter{%
13113       \DefaultOptionsofCheckBox,#1%
13114     }%
13115     \PDFForm@Name
13116     \HyField@FlagsCheckBox

```

```

13117 \ifFld@hidden\def\Fld@width{1sp}\fi
13118 \LayoutCheckField{#2}{%
13119 \Hy@escapeform\PDFForm@Check
13120 \pdfstartlink user {\PDFForm@Check}\relax
13121 \MakeCheckField{\Fld@width}{\Fld@height}%
13122 \pdfendlink
13123 \HyField@AddToFields
13124 }%
13125 \endgroup
13126 }
13127 \def\Hy@FormObjects{%
13128 \pdfobj {%
13129 <<%
13130 /Type/Encoding%
13131 /Differences[
13132 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13133 /ring/tilde %
13134 39/quotesingle %
13135 96/grave %
13136 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13137 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13138 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13139 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13140 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13141 164/currency %
13142 166/brokenbar %
13143 168/dieresis/copyright/ordfeminine %
13144 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13145 /twosuperior/threesuperior/acute/mu %
13146 183/periodcentered/cedilla/onesuperior/ordmasculine %
13147 188/onequarter/onehalf/threequarters %
13148 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13149 /Cedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13150 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13151 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13152 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13153 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13154 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13155 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13156 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13157 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13158 ]%
13159 >>%
13160 }%
13161 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13162 \pdfobj{%
13163 <<%
13164 /Type/Font%
13165 /Subtype/Type1%
13166 /Name/ZaDb%
13167 /BaseFont/ZapfDingbats%
13168 >>%
13169 }%
13170 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13171 \pdfobj{%
13172 <<%
13173 /Type/Font%

```

```

13174 /Subtype/Type1%
13175 /Name/Helv%
13176 /BaseFont/Helvetica%
13177 /Encoding \OBJ@pdfdocencoding\space 0 R%
13178 >>%
13179 }%
13180 \xdef\OBJ@Helv{\the\pdfastobj}%
13181 \global\let\Hy@FormObjects\relax
13182 }
13183 \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.

```

13184 \*dvipdfm|xetex

```

\@Gauge

```

13185 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13186 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13187 }

```

\@Form

```

13188 \def\@Form[#1]{%
13189 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13190 \kvsetkeys{Form}{#1}%
13191 \Hy@FormObjects
13192 \@pdfm@mark{obj @afields []}%
13193 \@pdfm@mark{obj @corder []}%
13194 \@pdfm@mark{%
13195 obj @aform <<%
13196 /Fields @afields%
13197 /DR<<%
13198 /Font<<%
13199 /ZaDb @OBJZaDb%
13200 /Helv @OBJHelv%
13201 >>%
13202 >>%
13203 /DA(/Helv 10 Tf 0 g)%
13204 /CO @corder%
13205 \ifHy@pdfa
13206 \else
13207 \ifHyField@NeedAppearances
13208 /NeedAppearances true%
13209 \fi
13210 \fi
13211 >>%
13212 }%
13213 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13214 }

```

\@endForm

```

13215 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13216 \def\dvipdfm@setdim{%
13217 height \the\ht\pdfm@box\space

```

```

13218 width \the\wd\pdfm@box\space
13219 depth \the\dp\pdfm@box\space
13220 }

```

\HyField@AnnotCount

```

13221 \newcount\HyField@AnnotCount
13222 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

13223 \def\HyField@AdvanceAnnotCount{%
13224   \global\advance\HyField@AnnotCount\@ne
13225 }

```

\HyField@TheAnnotCount

```

13226 \def\HyField@TheAnnotCount{%
13227   \the\HyField@AnnotCount
13228 }

```

\@TextField

```

13229 \def\@TextField[#1]#2{% parameters, label
13230   \def\Fld@name{#2}%
13231   \let\Fld@default\ltx@empty
13232   \let\Fld@value\@empty
13233   \def\Fld@width{\DefaultWidthofText}%
13234   \def\Fld@height{%
13235     \ifFld@multiline
13236       \DefaultHeightofTextMultiline
13237     \else
13238       \DefaultHeightofText
13239     \fi
13240   }%
13241   \begingroup
13242     \expandafter\HyField@SetKeys\expandafter{%
13243       \DefaultOptionsofText,#1%
13244     }%
13245     \PDFForm@Name
13246     \HyField@FlagsText
13247     \ifFld@hidden\def\Fld@width{1sp}\fi
13248     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13249     \setbox\pdfm@box=\hbox{%
13250       \MakeTextField{\Fld@width}{\Fld@height}%
13251     }%
13252     \HyField@AdvanceAnnotCount
13253     \LayoutTextField{#2}{%
13254       \Hy@escapeform\PDFForm@Text
13255       \@pdfm@mark{%
13256         ann @text\HyField@TheAnnotCount\space
13257         \dvipdfm@setdim << \PDFForm@Text >>%
13258       }%
13259     }%
13260     \unhbox\pdfm@box
13261     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13262     % record in @afields array
13263   \endgroup
13264 }

```

\@ChoiceMenu

```

13265 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13266 \def\Fld@name{#2}%
13267 \let\Fld@default\relax
13268 \let\Fld@value\relax
13269 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13270 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13271 \begingroup
13272 \Fld@menulength=0 %
13273 \@tempdima\z@
13274 \@for\@curropt:=#3\do{%
13275 \expandafter\Fld@checkequals\@curropt==\%
13276 \Hy@StepCount\Fld@menulength
13277 \settowidth{\@tempdimb}{\@currDisplay}%
13278 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13279 }%
13280 \advance\@tempdima by 15\p@
13281 \begingroup
13282 \HyField@SetKeys{#1}%
13283 \edef\x{\endgroup
13284 \noexpand\expandafter
13285 \noexpand\HyField@SetKeys
13286 \noexpand\expandafter{%
13287 \expandafter\noexpand\csname DefaultOptionsof%
13288 \ifFld@radio
13289 Radio%
13290 \else
13291 \ifFld@combo
13292 \ifFld@popdown
13293 PopdownBox%
13294 \else
13295 ComboBox%
13296 \fi
13297 \else
13298 ListBox%
13299 \fi
13300 \fi
13301 \endcsname
13302 }%
13303 }\x
13304 \HyField@SetKeys{#1}%
13305 \PDFForm@Name
13306 \ifFld@hidden\def\Fld@width{1sp}\fi
13307 \ifx\Fld@value\relax
13308 \let\Fld@value\Fld@default
13309 \fi
13310 \LayoutChoiceField{#2}{%
13311 \ifFld@radio
13312 \HyField@FlagsRadioButton
13313 \@@Radio{#3}%
13314 \else
13315 \begingroup
13316 \HyField@FlagsChoice
13317 \ifdim\Fld@width<\@tempdima
13318 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13319 \edef\Fld@width{\the\@tempdima}%
13320 \fi
13321 \ifFld@combo

```

```

13322      \else
13323      \@tempdima=\the\Fld@menulength\Fld@charsize
13324      \advance\@tempdima by \Fld@borderwidth bp %
13325      \advance\@tempdima by \Fld@borderwidth bp %
13326      \edef\Fld@height{\the\@tempdima}%
13327      \fi
13328      \@@ListBox{#3}%
13329      \endgroup
13330      \fi
13331      }%
13332      \endgroup
13333      }

```

\@@Radio

```

13334 \def\@@Radio#1{%
13335   \Fld@listcount=0 %
13336   \EdefEscapeName\Fld@default{\Fld@default}%
13337   \setbox\pdfm@box=\hbox{%
13338     \MakeRadioField{\Fld@width}{\Fld@height}%
13339   }%
13340   \@for\@curropt:=#1\do{%
13341     \expandafter\Fld@checkequals\@curropt==\%
13342     \EdefEscapeName\@currValue{\@currValue}%
13343     \Hy@StepCount\Fld@listcount
13344     \@currDisplay\space
13345     \leavevmode
13346     \Hy@escapeform\PDFForm@Radio
13347     \ifnum\Fld@listcount=1 %
13348       \HyField@AdvanceAnnotCount
13349     \fi
13350     \@pdfm@mark{%
13351       ann %
13352       \ifnum\Fld@listcount=1 %
13353         @radio\HyField@TheAnnotCount%
13354       \space
13355     \fi
13356     \dvipdfm@setdim
13357     <<%
13358     \PDFForm@Radio
13359     /AP<</N<</\@currValue /null>>>>%
13360     >>%
13361   }%
13362   \unhcopy\pdfm@box\space% deliberate space between radio buttons
13363   \ifnum\Fld@listcount=1 %
13364     \@pdfm@mark{%
13365       put @afields @radio\HyField@TheAnnotCount
13366     }%
13367   \fi
13368   }%
13369 }

```

\Fld@listcount

```

13370 \newcount\Fld@listcount

```

\@@ListBox

```

13371 \def\@@ListBox#1{%
13372   \HyField@PDFChoices{#1}%

```

```

13373 \setbox\pdfm@box=\hbox{%
13374   \MakeChoiceField{\Fld@width}{\Fld@height}%
13375 }%
13376 \leavevmode
13377 \Hy@escapeform\PDFForm@List
13378 \HyField@AdvanceAnnotCount
13379 \@pdfm@mark{%
13380   ann @list\HyField@TheAnnotCount\space
13381   \dvipdfm@setdim
13382   <<\PDFForm@List>>%
13383 }%
13384 \unhbox\pdfm@box
13385 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13386 }

```

\@PushButton

```

13387 \def\@PushButton[#1]#2{% parameters, label
13388   \def\Fld@name{#2}%
13389   \begingroup
13390     \expandafter\HyField@SetKeys\expandafter{%
13391       \DefaultOptionsofPushButton,#1%
13392     }%
13393     \PDFForm@Name
13394     \ifHy@pdfa
13395       \Hy@Error{%
13396         PDF/A: Push button with JavaScript is prohibited%
13397       }\@ehc
13398       \LayoutPushButtonField{%
13399         \leavevmode
13400         \MakeButtonField{#2}%
13401       }%
13402     \else
13403       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13404       \HyField@FlagsPushButton
13405       \ifFld@hidden\def\Fld@width{1sp}\fi
13406       \HyField@AdvanceAnnotCount
13407       \LayoutPushButtonField{%
13408         \leavevmode
13409         \Hy@escapeform\PDFForm@Push
13410         \@pdfm@mark{%
13411           ann @push\HyField@TheAnnotCount\space
13412           \dvipdfm@setdim
13413           <<\PDFForm@Push>>%
13414         }%
13415       }%
13416       \unhbox\pdfm@box
13417       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13418     \fi
13419   \endgroup
13420 }

```

\@Submit

```

13421 \def\@Submit[#1]#2{%
13422   \def\Fld@width{\DefaultWidthofSubmit}%
13423   \def\Fld@height{\DefaultHeightofSubmit}%
13424   \begingroup
13425     \expandafter\HyField@SetKeys\expandafter{%

```

```

13426     \DefaultOptionsofSubmit,#1%
13427 }%
13428 \HyField@FlagsPushButton
13429 \HyField@FlagsSubmit
13430 \ifFld@hidden\def\Fld@width{1sp}\fi
13431 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13432 \leavevmode
13433 \Hy@escapeform\PDFForm@Submit
13434 \HyField@AdvanceAnnotCount
13435 \@pdfm@mark{%
13436     ann @submit\HyField@TheAnnotCount\space
13437     \dvi pdfm@setdim
13438     <<\PDFForm@Submit>>%
13439 }%
13440 \unhbox\pdfm@box%
13441 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13442 \endgroup
13443 }

```

\@Reset

```

13444 \def\@Reset[#1]#2{%
13445     \def\Fld@width{\DefaultWidthofReset}%
13446     \def\Fld@height{\DefaultHeightofReset}%
13447     \begingroup
13448     \expandafter\HyField@SetKeys\expandafter{%
13449         \DefaultOptionsofReset,#1%
13450     }%
13451     \leavevmode
13452     \ifHy@pdfa
13453         \Hy@Error{%
13454             PDF/A: Reset action is prohibited%
13455         }\@ehc
13456         \MakeButtonField{#2}%
13457     \else
13458         \HyField@FlagsPushButton
13459         \ifFld@hidden\def\Fld@width{1sp}\fi
13460         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13461         \Hy@escapeform\PDFForm@Reset
13462         \HyField@AdvanceAnnotCount
13463         \@pdfm@mark{%
13464             ann @reset\HyField@TheAnnotCount\space
13465             \dvi pdfm@setdim
13466             <<\PDFForm@Reset>>%
13467         }%
13468         \unhbox\pdfm@box
13469         \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13470     \fi
13471 \endgroup
13472 }

```

\@CheckBox

```

13473 \def\@CheckBox[#1]#2{% parameters, label
13474     \def\Fld@name{#2}%
13475     \def\Fld@default{0}%
13476     \begingroup
13477     \def\Fld@width{\DefaultWidthofCheckBox}%
13478     \def\Fld@height{\DefaultHeightofCheckBox}%

```



```

13479 \expandafter\HyField@SetKeys\expandafter{%
13480 \DefaultOptionsofCheckBox,#1%
13481 }%
13482 \PDFForm@Name
13483 \HyField@FlagsCheckBox
13484 \ifFld@hidden\def\Fld@width{1sp}\fi
13485 \setbox\pdfm@box=\hbox{%
13486 \MakeCheckField{\Fld@width}{\Fld@height}%
13487 }%
13488 \HyField@AdvanceAnnotCount
13489 \LayoutCheckField{#2}{%
13490 \Hy@escapeform\PDFForm@Check
13491 \@pdfm@mark{%
13492 ann @check\HyField@TheAnnotCount\space
13493 \dvipdfm@setdim
13494 <<\PDFForm@Check>>%
13495 }%
13496 \unhbox\pdfm@box
13497 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13498 }%
13499 \endgroup
13500 }

13501 \def\Hy@FormObjects{%
13502 \@pdfm@mark{obj @OBJpdfdocencoding%
13503 <<%
13504 /Type/Encoding%
13505 /Differences[
13506 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13507 39/quotesingle %
13508 96/grave %
13509 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13510 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13511 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13512 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13513 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13514 164/currency %
13515 166/brokenbar %
13516 168/dieresis/copyright/ordfeminine %
13517 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13518 /twosuperior/threesuperior/acute/mu %
13519 183/periodcentered/cedilla/onesuperior/ordmasculine %
13520 188/onequarter/onehalf/threequarters %
13521 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13522 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13523 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13524 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13525 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13526 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13527 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13528 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13529 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13530 /thorn/ydieresis%
13531 ]%
13532 >>%
13533 }%
13534 \@pdfm@mark{obj @OBJZaDb%
13535 <<%

```

```

13536 /Type/Font%
13537 /Subtype/Type1%
13538 /Name/ZaDb%
13539 /BaseFont/ZapfDingbats%
13540 >>%
13541 }%
13542 \@pdfmark{obj @OBJHelv%
13543 <<%
13544 /Type/Font%
13545 /Subtype/Type1%
13546 /Name/Helv%
13547 /BaseFont/Helvetica%
13548 /Encoding @OBJpdfdocencoding%
13549 >>%
13550 }%
13551 \global\let\Hy@FormObjects\relax
13552 }
13553 </dvipdfm | xetex>

```

47.6 Common forms part

```

13554 (*pdfform)

\Hy@escapestring
13555 \begingroup\expandafter\expandafter\expandafter\endgroup
13556 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13557 \let\Hy@escapestring\@firstofone
13558 \def\Hy@escapeform#1{%
13559 \ifHy@pdfescapeform
13560 \def\Hy@escapestring##1{%
13561 \noexpand\Hy@escapestring{\noexpand##1}%
13562 }%
13563 \edef\Hy@temp{#1}%
13564 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13565 \def\Hy@escapestring##1{%
13566 \@ifundefined{Hy@esc@\string##1}{%
13567 ##1%
13568 \ThisShouldNotHappen
13569 }{%
13570 \csname Hy@esc@\string##1\endcsname
13571 }%
13572 }%
13573 \else
13574 \let\Hy@escapestring\@firstofone
13575 \fi
13576 }%
13577 \def\Hy@@@escapeform#1\Hy@escapestring##2##3\@nil{%
13578 \ifx\##3\%
13579 \else
13580 \expandafter
13581 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13582 \ltx@ReturnAfterFi{%
13583 \Hy@@@escapeform#3\@nil
13584 }%
13585 \fi
13586 }%
13587 \else
13588 \def\Hy@escapeform#1{%

```

```

13589 \ifHy@pdfescapeform
13590 \let\Hy@escapestring\pdfescapestring
13591 \else
13592 \let\Hy@escapestring\@firstofone
13593 \fi
13594 }%
13595 \Hy@escapeform{}%
13596 \fi

```

\PDFForm@Name

```

13597 \def\PDFForm@Name{%
13598 \PDFForm@@Name\Fld@name
13599 \ifx\Fld@altname\relax
13600 \else
13601 \PDFForm@@Name\Fld@altname
13602 \fi
13603 \ifx\Fld@mappingname\relax
13604 \else
13605 \PDFForm@@Name\Fld@mappingname
13606 \fi
13607 }

```

\PDFForm@@Name

```

13608 \def\PDFForm@@Name#1{%
13609 \begingroup
13610 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13611 \ifHy@unicode
13612 \Hy@unicodedefalse
13613 \fi
13614 \fi
13615 \HyPsd@XeTeXBigCharstrue
13616 \pdfstringdef\Hy@gtemp#1%
13617 \endgroup
13618 \let#1\Hy@gtemp
13619 }

```

\Fld@additionalactions

```

13620 \def\Fld@@additionalactions{%
K input (keystroke) format
13621 \ifx\Fld@keystroke@code\@empty
13622 \else
13623 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13624 \fi
F display format
13625 \ifx\Fld@format@code\@empty
13626 \else
13627 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13628 \fi
V validation
13629 \ifx\Fld@validate@code\@empty
13630 \else
13631 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13632 \fi
C calculation
13633 \ifx\Fld@calculate@code\@empty

```

```

13634 \else
13635 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13636 \fi

Fo receiving the input focus
13637 \ifx\Fld@onfocus@code\@empty
13638 \else
13639 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13640 \fi

Bl loosing the input focus (blurred)
13641 \ifx\Fld@onblur@code\@empty
13642 \else
13643 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13644 \fi

D pressing the mouse button (down)
13645 \ifx\Fld@onmousedown@code\@empty
13646 \else
13647 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13648 \fi

U releasing the mouse button (up)
13649 \ifx\Fld@onmouseup@code\@empty
13650 \else
13651 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13652 \fi

E cursor enters the annotation's active area.
13653 \ifx\Fld@onenter@code\@empty
13654 \else
13655 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13656 \fi

X cursor exits the annotation's active area.
13657 \ifx\Fld@onexit@code\@empty
13658 \else
13659 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13660 \fi
13661 }
13662 \def\Fld@additionalactions{%
13663 \if\Fld@@additionalactions-%
13664 \else
13665 \ifHy@pdfa
13666 \else
13667 /AA<<\Fld@@additionalactions>>%
13668 \fi
13669 \fi
13670 }

```

\Fld@annotnames

```

13671 \def\Fld@annotnames{%
13672 /T(\Fld@name)%
13673 \ifx\Fld@altname\relax
13674 \else
13675 /TU(\Fld@altname)%
13676 \fi
13677 \ifx\Fld@mappingname\relax
13678 \else
13679 /TM(\Fld@mappingname)%

```

```
13680 \fi
13681 }
```

\PDFForm@Check

```
13682 \def\PDFForm@Check{%
13683   /Subtype/Widget%
13684   \Fld@annotflags
13685   \Fld@annotnames
13686   /FT/Btn%
13687   \Fld@flags
13688   /Q \Fld@align
13689   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13690   /MK<<%
13691     \ifnum\Fld@rotation=\z@
13692     \else
13693       /R \Fld@rotation
13694     \fi
13695     \ifx\Fld@bordercolor\relax
13696     \else
13697       /BC[\Fld@bordercolor]%
13698     \fi
13699     \ifx\Fld@bcolor\relax
13700     \else
13701       /BG[\Fld@bcolor]%
13702     \fi
13703     /CA(\Hy@escapestring{\Fld@cbsymbol})%
13704   >>%
13705   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13706     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13707   /H/P%
13708   \ifFld@checked /V/Yes\else /V/Off\fi
13709   \Fld@additionalactions
13710 }
```

\PDFForm@Push

```
13711 \ifHy@pdfa
13712 \else
13713   \def\PDFForm@Push{%
13714     /Subtype/Widget%
13715     \Fld@annotflags
13716     \Fld@annotnames
13717     /FT/Btn%
13718     \Fld@flags
13719     /H/P%
13720     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13721     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13722       \ifx\Fld@bordercolor\relax\else 1\fi
13723       \space
13724     \else
13725       /MK<<%
13726         \ifnum\Fld@rotation=\z@
13727         \else
13728           /R \Fld@rotation
13729         \fi
13730         \ifx\Fld@bordercolor\relax
13731         \else
13732           /BC[\Fld@bordercolor]%

```

```

13733     \fi
13734     >>%
13735     \fi
13736     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13737     \Fld@additionalactions
13738     }%
13739     \fi

```

\PDFForm@List

```

13740 \def\PDFForm@List{%
13741   /Subtype/Widget%
13742   \Fld@annotflags
13743   \Fld@annotnames
13744   /FT/Ch%
13745   \Fld@flags
13746   /Q \Fld@align
13747   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13748   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13749     \ifx\Fld@bordercolor\relax\else 1\fi
13750     \ifx\Fld@bcolor\relax \else 1\fi
13751     \space
13752   \else
13753     /MK<<%
13754     \ifnum\Fld@rotation=\z@
13755     \else
13756       /R \Fld@rotation
13757     \fi
13758     \ifx\Fld@bordercolor\relax
13759     \else
13760       /BC[\Fld@bordercolor]%
13761     \fi
13762     \ifx\Fld@bcolor\relax
13763     \else
13764       /BG[\Fld@bcolor]%
13765     \fi
13766     >>%
13767   \fi
13768   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13769     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13770   \Fld@choices
13771   \Fld@additionalactions
13772 }

```

\PDFForm@Radio

```

13773 \def\PDFForm@Radio{%
13774   /Subtype/Widget%
13775   \Fld@annotflags
13776   \Fld@annotnames
13777   /FT/Btn%
13778   \Fld@flags
13779   /H/P%
13780   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13781   /MK<<%
13782   \ifnum\Fld@rotation=\z@
13783   \else
13784     /R \Fld@rotation
13785   \fi

```

```

13786 \ifx\Fld@bordercolor\relax
13787 \else
13788 /BC[\Fld@bordercolor]%
13789 \fi
13790 \ifx\Fld@bcolor\relax
13791 \else
13792 /BG[\Fld@bcolor]%
13793 \fi
13794 /CA(\Fld@radiosymbol)%
13795 >>%
13796 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13797 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13798 \ifx\@currValue\Fld@default
13799 /V/\Fld@default
13800 /DV/\Fld@default
13801 \else
13802 /V/Off%
13803 /DV/Off%
13804 \fi
13805 \Fld@additionalactions
13806 }

```

\PDFForm@Text

```

13807 \def\PDFForm@Text{%
13808 /Subtype/Widget%
13809 \Fld@annotflags
13810 \Fld@annotnames
13811 /FT/Tx%
13812 \Fld@flags
13813 /Q \Fld@align
13814 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13815 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13816 \ifx\Fld@bordercolor\relax\else 1\fi
13817 \ifx\Fld@bcolor\relax \else 1\fi
13818 \space
13819 \else
13820 /MK<<%
13821 \ifnum\Fld@rotation=\z@
13822 \else
13823 /R \Fld@rotation
13824 \fi
13825 \ifx\Fld@bordercolor\relax
13826 \else
13827 /BC[\Fld@bordercolor]%
13828 \fi
13829 \ifx\Fld@bcolor\relax
13830 \else
13831 /BG[\Fld@bcolor]%
13832 \fi
13833 >>%
13834 \fi
13835 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13836 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13837 /DV(\Hy@escapestring{\Fld@default})%
13838 /V(\Hy@escapestring{\Fld@value})%
13839 \Fld@additionalactions
13840 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13841 }

```

\PDFForm@Submit

```
13842 \def\PDFForm@Submit{%
13843 /Subtype/Widget%
13844 \Fld@annotflags
13845 \Fld@annotnames
13846 /FT/Btn%
13847 \Fld@flags
13848 /H/P%
13849 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13850 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13851 \ifx\Fld@bordercolor\relax\else 1\fi
13852 \space
13853 \else
13854 /MK<<%
13855 \ifnum\Fld@rotation=\z@
13856 \else
13857 /R \Fld@rotation
13858 \fi
13859 \ifx\Fld@bordercolor\relax
13860 \else
13861 /BC[\Fld@bordercolor]%
13862 \fi
13863 >>%
13864 \fi
13865 /A<<%
13866 /S/SubmitForm%
13867 /F<<%
13868 /FS/URL%
13869 /F(\Hy@escapestring{\Form@action})%
13870 >>%
13871 \Fld@submitflags
13872 >>%
13873 \Fld@additionalactions
13874 }
```

\PDFForm@Reset

```
13875 \ifHy@pdfa
13876 \else
13877 \def\PDFForm@Reset{%
13878 /Subtype/Widget%
13879 \Fld@annotflags
13880 \Fld@annotnames
13881 /FT/Btn%
13882 \Fld@flags
13883 /H/P%
13884 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13885 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13886 \ifx\Fld@bordercolor\relax\else 1\fi
13887 \space
13888 \else
13889 /MK<<%
13890 \ifnum\Fld@rotation=\z@
13891 \else
13892 /R \Fld@rotation
13893 \fi
13894 \ifx\Fld@bordercolor\relax
13895 \else
```



```

13896      /BC[\Fld@bordercolor]%
13897      \fi
13898 %      /CA (Clear)
13899 %      /AC (Done)
13900      >>%
13901      \fi
13902      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13903      /A<</S/ResetForm>>%
13904      \Fld@additionalactions
13905      }%
13906 \fi

13907 </pdfform>
13908 <*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 L^AT_EX 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`

```

13909 \def\phantomsection{%
13910   \Hy@MakeCurrentHrefAuto{section*}%
13911   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13912 }
13913 </package>

```

48.1 Bookmarks

```
13914 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on ε -T_EX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of ε -T_EX'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.

```

13915 \def\Hy@writebookmark#1#2#3#4#5{%
13916   % section number, text, label, level, file
13917   \ifx\WriteBookmarks\relax%
13918   \else

```

```

13919 \ifnum#4>\Hy@bookmarksdepth\relax
13920 \else
13921 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13922 \fi
13923 \fi
13924 }
13925 \def\Hy@currentbookmarklevel{0}
13926 \def\Hy@numberline#1{#1 }
13927 \def\@@writetorep#1#2#3#4#5{%
13928 \begingroup
13929 \edef\Hy@tempa{#5}%
13930 \ifx\Hy@tempa\Hy@bookmarkstype
13931 \edef\Hy@level{#4}%
13932 \ifx\Hy@levelcheck Y%
13933 \@tempcnta\Hy@level\relax
13934 \advance\@tempcnta by -1 %
13935 \ifnum\Hy@currentbookmarklevel<\@tempcnta
13936 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13937 \advance\@tempcnta by 1 %
13938 \Hy@Warning{%
13939 Difference (\the\@tempcnta) between bookmark levels is %
13940 greater \MessageBreak than one, level fixed%
13941 }%
13942 \@tempcnta\Hy@currentbookmarklevel
13943 \advance\@tempcnta by 1 %
13944 \edef\Hy@level{\the\@tempcnta}%
13945 \fi
13946 \else
13947 \global\let\Hy@levelcheck Y%
13948 \fi
13949 \global\let\Hy@currentbookmarklevel\Hy@level
13950 \@tempcnta\Hy@level\relax
13951 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13952 \advance\@tempcnta by -1 %
13953 \edef\Hy@tempa{#3}%
13954 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13955 \ifx\Hy@tempa\Hy@tempb
13956 \Hy@Warning{%
13957 The anchor of a bookmark and its parent's must not%
13958 \MessageBreak be the same. Added a new anchor%
13959 }%
13960 \phantomsection
13961 \fi
13962 \ifHy@bookmarksnumbered
13963 \let\numberline\Hy@numberline
13964 \let\booknumberline\Hy@numberline
13965 \let\partnumberline\Hy@numberline
13966 \let\chapternumberline\Hy@numberline
13967 \else
13968 \let\numberline\@gobble
13969 \let\booknumberline\@gobble
13970 \let\partnumberline\@gobble
13971 \let\chapternumberline\@gobble
13972 \fi
13973 \HyPsd@XeTeXBigCharstrue
13974 \pdfstringdef\Hy@tempa{#2}%
13975 \HyPsd@SanitizeForOutFile\Hy@tempa

```

```

13976 \if@filesw
13977 \stepcounter{bookmark@seq@number}%
13978 \@ifundefined{@outlinefile}{%
13979 }{%
13980 \protected@write\@outlinefile{}{%
13981 \protect\BOOKMARK
13982 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13983 {\Hy@tempa}{\Hy@tempb}%
13984 \@percentchar\space\thebookmark@seq@number
13985 }%
13986 }%
13987 \fi
13988 \fi
13989 \endgroup
13990 }
13991 \newcounter{bookmark@seq@number}

13992 \begingroup
13993 \lccode'('= '{%
13994 \lccode')='}%
13995 \lccode'1=\z@
13996 \lccode'2=\z@
13997 \lccode'3=\z@
13998 \lccode'5=\z@
13999 \lccode'7=\z@
14000 \lccode'\#=\z@
14001 \lccode'\='=\z@
14002 \lccode'\{=\z@
14003 \lccode'\}=\z@
14004 \lowercase{%
14005 \endgroup
14006 \def\HyPsd@SanitizeForOutFile#1{%
14007 \@onelevel@sanitize\Hy@tempa
14008 \escapechar'\%
14009 \edef\Hy@tempa{%
14010 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14011 }%
14012 \edef\Hy@tempa{%
14013 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14014 }%
14015 }%
14016 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14017 #1%
14018 \ifx\#2\%
14019 \expandafter\ltx@gobble
14020 \else
14021 \expandafter\ltx@firstofone
14022 \fi
14023 {%
14024 \string\173%
14025 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14026 }%
14027 }%
14028 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14029 #1%
14030 \ifx\#2\%
14031 \expandafter\ltx@gobble
14032 \else

```

```

14033 \expandafter\ltx@firstofone
14034 \fi
14035 {%
14036 \string\175%
14037 \HyPsd@SanitizeOut@BraceRight#2\@nil
14038 }%
14039 }%
14040 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14041 \newcommand{\currentpdfbookmark}{%
14042 \pdfbookmark[\Hy@currentbookmarklevel]%
14043 }
14044 \newcommand{\subpdfbookmark}{%
14045 \@tempcnta\Hy@currentbookmarklevel
14046 \Hy@StepCount\@tempcnta
14047 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14048 }
14049 \newcommand{\belowpdfbookmark}[2]{%
14050 \@tempcnta\Hy@currentbookmarklevel
14051 \Hy@StepCount\@tempcnta
14052 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14053 \advance\@tempcnta by -1 %
14054 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14055 }

```

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.

```

14056 \renewcommand\pdfbookmark[3][0]{%
14057 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14058 \hyper@anchorstart{#3.#1}\hyper@anchorend
14059 }
14060 \def\BOOKMARK{%
14061 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14062 }
14063 \def\@BOOKMARK[#1]{%
14064 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14065 }

```

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`

```

14066 \RequirePackage{rerunfilecheck}[2009/12/10]
14067 \def\Hy@OutlineRerunCheck{%
14068 \RerunFileCheck{\jobname.out}{%
14069 \immediate\closeout\@outlinefile
14070 }{%
14071 Rerun to get outlines right\MessageBreak
14072 or use package ‘bookmark’%
14073 }%
14074 }

```

48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

14075 `*vtex`

14076 `\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.

```

14077 \begingroup
14078   \catcode'\ '=12 %
14079   \ifnum\Hy@VTeXversion<650 %
14080     \catcode'\ '=12 %
14081     \gdef\hv@pdf@char#1#2#3{%
14082       \char
14083       \ifcase'#1#2#3 %
14084         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14085         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14086         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14087         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14088         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14089         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14090         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14091         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14092         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14093         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14094         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14095         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14096         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14097         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14098         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14099         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14100         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14101         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14102         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14103         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14104         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14105         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14106         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14107         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14108         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14109         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14110         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14111         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14112         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14113         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14114         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14115         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14116       \fi
14117     }%
14118   \else
14119     \gdef\hv@pdf@char{\char'}%
14120   \fi
14121 \endgroup

```

\@@BOOKMARK

```
14122 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14123   \expandafter\edef\csname @count@#3\endcsname{%
14124     \the\@serial@counter
14125   }%
14126   \edef\@mycount{\the\@serial@counter}%
14127   \Hy@StepCount\@serial@counter
14128   \edef\@parcount{%
14129     \expandafter\ifx\csname @count@#5\endcsname\relax
14130       0%
14131     \else
14132       \csname @count@#5\endcsname
14133     \fi
14134   }%
14135   \immediate\special{%
14136     !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14137     s=\ifx#2-c\else o\fi,t=#4%
14138   }%
14139 }
```

\ReadBookmarks

```
14140 \def\ReadBookmarks{%
14141   \begingroup
14142   \def\0{\hv@pdf@char 0}%
14143   \def\1{\hv@pdf@char 1}%
14144   \def\2{\hv@pdf@char 2}%
14145   \def\3{\hv@pdf@char 3}%
14146   \def\({}%
14147   \def\)}%
14148   \def\do##1{%
14149     \ifnum\catcode'##1=\active
14150       \@makeother##1%
14151     \else
14152       \ifnum\catcode'##1=6 %
14153         \@makeother##1%
14154       \fi
14155     \fi
14156   }%
14157   \dospecials
14158   \Hy@safe@activestrue
14159   \InputIfFileExists{\jobname.out}{\}{}%
14160 \endgroup
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 </vtex>
14174 (*!vtex>
```

```

14175 \def\ReadBookmarks{%
14176   \pdf@ifdraftmode{}{%
14177     \begingroup
14178     \def\do##1{%
14179       \ifnum\catcode'##1=\active
14180         \@makeother##1%
14181       \else
14182         \ifnum\catcode'##1=6 %
14183           \@makeother##1%
14184         \fi
14185       \fi
14186     }%
14187     \dospecials
14188     \Hy@safe@activetrue
14189     \escapechar='\%
14190     \def\@@BOOKMARK[##1][##2]##3##4##5{%
14191       \calc@bm@number{##5}%
14192     }%
14193     \InputIfFileExists{jobname.out}{-}{-}%
14194     \ifx\WriteBookmarks\relax
14195       \global\let\WriteBookmarks\relax
14196     \fi
14197     \def\@@BOOKMARK[##1][##2]##3##4##5{%
14198       \def\Hy@temp{##4}%
14199     }(*pdfTeX)
14200     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14201     \Hy@OutlineName{}\Hy@pstringName{%
14202       ##2\check@bm@number{##3}%
14203     }{%
14204       \expandafter\strip@prefix\meaning\Hy@temp
14205     }%
14206   }(/pdfTeX)
14207 }(*pdfmark)
14208   \pdfmark{%
14209     pdfmark=/OUT,%
14210     Count={##2\check@bm@number{##3}},%
14211     Dest={##3},%
14212     Title=\expandafter\strip@prefix\meaning\Hy@temp
14213   }%
14214 }(/pdfmark)
14215 }(*dvipdfm|xetex)
14216   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14217   \@pdfm@mark{%
14218     outline \ifHy@DvipdfmxOutlineOpen
14219       [%
14220       \ifnum##21>\z@
14221       \else
14222         -%
14223       \fi
14224       ] %
14225     \fi
14226     ##1<<%
14227     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14228     /A<<%
14229     /S/GoTo%
14230     /D(\Hy@pstringName)%
14231     >>%

```

```

14232     >>%
14233 }%
14234 </dvipdfm | xetex>
14235 }%
14236 \begingroup
14237 \def\WriteBookmarks{0}%
14238 \InputIfFileExists{jobname.out}{-}{-}%
14239 \endgroup
14240 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14241 \endgroup
14242 }%
14243 \ifx\WriteBookmarks\relax
14244 \else
14245 \if@filesw
14246 \newwrite\@outlinefile
14247 \Hy@OutlineRerunCheck
14248 \immediate\openout\@outlinefile=jobname.out\relax
14249 \ifHy@typexml
14250 \immediate\write\@outlinefile{<relaxxml>\relax}%
14251 \fi
14252 \fi
14253 \fi
14254 }
14255 <*\pdfTeX>
14256 \def\Hy@OutlineName#1#2#3#4{%
14257 \pdfoutline goto name{#2}count#3{#4}%
14258 }
14259 </pdfTeX>
14260 \def\check@bm@number#1{%
14261 \expandafter\ifx\csname B_#1\endcsname\relax
14262 0%
14263 \else
14264 \csname B_#1\endcsname
14265 \fi
14266 }
14267 \def\calc@bm@number#1{%
14268 \@tempcnta=\check@bm@number{#1}\relax
14269 \advance\@tempcnta by 1 %
14270 \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
14271 }
14272 </!vTeX>

14273 \ifHy@implicit
14274 \else
14275 \expandafter\endinput
14276 \fi

14277 </outlines>
14278 <*\outlines | hypertex>

14279 \newlength\Hy@SectionHShift
14280 \def\Hy@SectionAnchorHref#1{%
14281 \ifx\protect\@typeset@protect
14282 \Hy@@@SectionAnchor{#1}%
14283 \fi
14284 }
14285 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14286 \leavevmode
14287 \hbox to 0pt{%

```



```

14288 \kern-\Hy@SectionHShift
14289 \Hy@raisedlink{%
14290 \hyper@anchorstart{#1}\hyper@anchorend
14291 }%
14292 \hss
14293 }%
14294 }
14295 \let\H@old@ssect\@ssect
14296 \def\@ssect#1#2#3#4#5{%
14297 \Hy@MakeCurrentHrefAuto{section*}%
14298 \setlength{\Hy@SectionHShift}{#1}%
14299 \begingroup
14300 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14301 \toks\tw@\expandafter{%
14302 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14303 #5%
14304 }%
14305 \edef\x{\endgroup
14306 \the\toks@\the\toks\tw@}%
14307 }\x
14308 }
14309 \let\H@old@schapter\@schapter
14310 \def\@schapter#1{%
14311 \begingroup
14312 \let\@mkboth\@gobbletwo
14313 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14314 \Hy@raisedlink{%
14315 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14316 }%
14317 \endgroup
14318 \H@old@schapter{#1}%
14319 }

```

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:

```

14320 \ltx@ifundefined{@chapter}{}{%
14321 \let\Hy@org@chapter\@chapter
14322 \def\@chapter{%
14323 \def\Hy@next{%
14324 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14325 \Hy@raisedlink{%
14326 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14327 }%
14328 }%
14329 \ifnum\c@secnumdepth>\m@ne
14330 \ltx@ifundefined{if@mainmatter}%
14331 \iftrue{\csname if@mainmatter\endcsname}%
14332 \let\Hy@next\relax
14333 \fi
14334 \fi
14335 \Hy@next
14336 \Hy@org@chapter
14337 }%
14338 }
14339 \let\H@old@part\@part
14340 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

14341 \expandafter\ifx\csname chapter\endcsname\relax
14342 \let\Hy@secnum@part\z@
14343 \else
14344 \let\Hy@secnum@part\m@ne
14345 \fi
14346 \def\@part{%
14347 \ifnum\Hy@secnum@part>\c@secnumdepth
14348 \phantomsection
14349 \fi
14350 \H@old@part
14351 }

14352 \let\H@old@spart\@spart
14353 \def\@spart#1{%
14354 \Hy@MakeCurrentHrefAuto{part*}%
14355 \Hy@raisedlink{%
14356 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14357 }%
14358 \H@old@spart{#1}%
14359 }

14360 \let\H@old@sect\@sect
14361 \def\@sect#1#2#3#4#5#6[#7]#8{%
14362 \ifnum #2>\c@secnumdepth
14363 \expandafter\@firstoftwo
14364 \else
14365 \expandafter\@secondoftwo
14366 \fi
14367 {%
14368 \Hy@MakeCurrentHrefAuto{section*}%
14369 \setlength{\Hy@SectionHShift}{#3}%
14370 \begingroup
14371 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]]}%
14372 \toks\tw@\expandafter{%
14373 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14374 #8%
14375 }%
14376 \edef\x{\endgroup
14377 \the\toks@\the\toks\tw@}%
14378 }\x
14379 }{%
14380 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7][#8}%
14381 }%
14382 }

14383 </outlines | hypertex>
14384 <*outlines>

14385 \expandafter\def\csname Parent-4\endcsname{}
14386 \expandafter\def\csname Parent-3\endcsname{}
14387 \expandafter\def\csname Parent-2\endcsname{}
14388 \expandafter\def\csname Parent-1\endcsname{}
14389 \expandafter\def\csname Parent0\endcsname{}
14390 \expandafter\def\csname Parent1\endcsname{}
14391 \expandafter\def\csname Parent2\endcsname{}
14392 \expandafter\def\csname Parent3\endcsname{}
14393 \expandafter\def\csname Parent4\endcsname{}

14394 </outlines>

```

49 Compatibility with koma-script classes

14395 \langle *outlines | hypertex \rangle

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.

```
14396 \def\Hy@tempa{%
14397   \def\@addchap{##1}##2{%
14398     \typeout{##2}%
14399     \if@twoside
14400       \@mkboth{##1}{}%
14401     \else
14402       \@mkboth{}{##1}%
14403     \fi
14404     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14405     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14406     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14407     \Hy@raisedlink{%
14408       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14409     }%
14410     \if@twocolumn
14411       \@topnewpage[\@makeschapterhead{##2}]%
14412     \else
14413       \@makeschapterhead{##2}%
14414       \@afterheading
14415     \fi
14416     \addcontentsline{toc}{chapter}{##1}%
14417   }%
14418 }
14419 \@ifclassloaded{scrbook}{%
14420   \@ifclasslater{scrbook}{2001/01/01}{%
14421     \let\Hy@tempa\@empty
14422   }{}%
14423 }{%
14424   \@ifclassloaded{scrreprt}{%
14425     \@ifclasslater{scrreprt}{2001/01/01}{%
14426       \let\Hy@tempa\@empty
14427     }{}%
14428   }{%
14429     \let\Hy@tempa\@empty
14430   }%
14431 }%
14432 \Hy@tempa
14433  $\rangle$ /outlines | hypertex
```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
14434  $\langle$ *pd1enc $\rangle$ 
14435 \DeclareFontEncoding{PD1}{}{}
```

Accents

```

14436 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14437 \DeclareTextAccent{\'}{PD1}{\textacute}
14438 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
14439 \DeclareTextAccent{\~}{PD1}{\texttilde}
14440 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14441 \DeclareTextAccent{\r}{PD1}{\textring}
14442 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14443 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14444 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14445 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14446 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14447 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14448 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14449 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14450 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
14451 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14452 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14453 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14454 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14455 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14456 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14457 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14458 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14459 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14460 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14461 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14462 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
14463 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14464 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14465 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14466 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14467 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14468 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14469 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14470 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14471 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14472 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14473 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14474 \DeclareTextCommand{\newtie}{PD1}[1]{%
14475   \TextSymbolUnavailable{\newtie{#1}}#1%
14476 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14477 % U+0009 (CHARACTER TABULATION)
14478 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14479 % U+000A (LINE FEED)
14480 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14481 % U+000D (CARRIAGE RETURN)
14482 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14483 % U+02D8 BREVE; breve
14484 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14485 % U+02C7 CARON; caron
14486 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14487 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14488 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6

```

14489 % U+02D9 DOT ABOVE; dotaccent
 14490 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
 14491 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 14492 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
 14493 % U+02DB OGONEK; ogonek
 14494 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
 14495 % U+02DA RING ABOVE; ring
 14496 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
 14497 % U+02DC SMALL TILDE; ilde, *tilde
 14498 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC
 \040: U+0020 SPACE; *space, spacehackarabic
 \041: U+0021 EXCLAMATION MARK; exclam
 14499 % U+0022 QUOTATION MARK; quotedbl
 14500 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
 14501 % U+0023 NUMBER SIGN; numbersign
 14502 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 14503 % U+0024 DOLLAR SIGN; dollar
 14504 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 14505 % U+0025 PERCENT SIGN; percent
 14506 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 14507 % U+0026 AMPERSAND; ampersand
 14508 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 14509 % U+0028 LEFT PARENTHESIS; parenleft
 14510 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
 14511 % U+0029 RIGHT PARENTHESIS; parenright
 14512 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
 14513 % U+002E FULL STOP; period
 14514 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E
 \057: U+002F SOLIDUS; slash
 \060: U+0030 DIGIT ZERO; zero
 ...
 \071: U+0039 DIGIT NINE; nine
 \072: U+003A COLON; colon
 \073: U+003B SEMICOLON; semicolon
 14515 % U+003C LESS-THAN SIGN; less
 14516 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14517 % U+003E GREATER-THAN SIGN; greater
 14518 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E
 \077: U+003F QUESTION MARK; question
 \100: U+0040 COMMERCIAL AT; at
 \101: U+0041 LATIN CAPITAL LETTER A; A
 ...
 \132: U+005A LATIN CAPITAL LETTER Z; Z
 \133: U+005B LEFT SQUARE BRACKET; bracketleft
 14519 % U+005C REVERSE SOLIDUS; backslash
 14520 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C

\135: U+005D RIGHT SQUARE BRACKET; bracketright
 14521 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14522 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14523 % U+005F LOW LINE; underscore
 14524 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14525 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14526 % U+0060 GRAVE ACCENT; grave
 14527 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14528 % U+0069 LATIN SMALL LETTER I; i
 14529 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14530 % U+007B LEFT CURLY BRACKET; braceleft
 14531 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14532 % U+007C VERTICAL LINE; *bar, verticalbar
 14533 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14534 % U+007D RIGHT CURLY BRACKET; braceright
 14535 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14536 % U+007E TILDE; asciitilde
 14537 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14538 % U+2022 BULLET; bullet
 14539 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14540 % U+2020 DAGGER; dagger
 14541 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14542 % U+2021 DOUBLE DAGGER; daggerdbl
 14543 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14544 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14545 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14546 % U+2014 EM DASH; emdash
 14547 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14548 % U+2013 EN DASH; endash
 14549 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14550 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14551 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14552 % U+2044 FRACTION SLASH; fraction
 14553 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14554 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 14555 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14556 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 lingright
 14557 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14558 % U+2212 MINUS SIGN; minus
 14559 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14560 % U+2030 PER MILLE SIGN; perthousand
 14561 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14562 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14563 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14564 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14565 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14566 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright

14567 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14568 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14569 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14570 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14571 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14572 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14573 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14574 % U+2122 TRADE MARK SIGN; trademark
14575 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14576 % U+FB01 LATIN SMALL LIGATURE FI; fi
14577 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14578 % U+FB02 LATIN SMALL LIGATURE FL; fl
14579 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14580 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14581 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14582 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14583 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14584 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14585 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14586 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14587 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
14588 \DeclareTextCommand{\IJ}{PD1}{\230}
14589 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14590 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14591 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14592 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14593 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14594 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14595 % U+0153 LATIN SMALL LIGATURE OE; oe
14596 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14597 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14598 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14599 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14600 \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.
14601 % U+20AC EURO SIGN; *Euro, euro
14602 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14603 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14604 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14605 % U+00A2 CENT SIGN; cent
14606 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14607 % U+00A3 POUND SIGN; sterling
14608 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14609 % U+00A4 CURRENCY SIGN; currency
14610 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14611 % U+00A5 YEN SIGN; yen
14612 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14613 % U+00A6 BROKEN BAR; brokenbar
14614 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14615 % U+00A7 SECTION SIGN; section
14616 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14617 % U+00A8 DIAERESIS; dieresis
14618 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14619 % U+00A9 COPYRIGHT SIGN; copyright
14620 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14621 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine

14622 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14623 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14624 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14625 % U+00AC NOT SIGN; logicalnot
14626 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14627 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.
14628 % U+00AE REGISTERED SIGN; registered
14629 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14630 % U+00AF MACRON; *macron, overscore
14631 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14632 % U+00B0 DEGREE SIGN; degree
14633 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14634 % U+00B1 PLUS-MINUS SIGN; plusminus
14635 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14636 % U+00B2 SUPERSCRIPT TWO; twosuperior
14637 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14638 % U+00B3 SUPERSCRIPT THREE; threesuperior
14639 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14640 % U+00B4 ACUTE ACCENT; acute
14641 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14642 % U+00B5 MICRO SIGN; mu, mul
14643 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14644 % U+00B6 PILCROW SIGN; paragraph
14645 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14646 % U+00B7 MIDDLE DOT; middot, *periodcentered
14647 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14648 % U+00B8 CEDILLA; cedilla
14649 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14650 % U+00B9 SUPERSCRIPT ONE; onesuperior
14651 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14652 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14653 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14654 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
14655 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14656 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14657 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14658 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14659 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14660 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14661 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14662 % U+00BF INVERTED QUESTION MARK; questiondown
14663 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14664 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14665 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14666 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14667 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14668 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14669 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14670 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14671 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14672 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14673 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14674 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14675 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5

14676 % U+00C6 LATIN CAPITAL LETTER AE; AE
14677 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14678 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14679 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14680 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14681 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14682 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14683 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14684 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14685 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14686 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14687 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14688 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14689 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14690 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14691 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14692 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14693 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14694 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14695 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14696 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14697 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14698 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14699 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14700 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14701 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14702 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14703 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14704 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14705 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14706 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14707 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14708 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14709 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14710 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14711 % U+00D7 MULTIPLICATION SIGN; multiply
14712 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14713 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14714 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14715 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14716 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14717 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14718 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14719 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14720 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14721 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14722 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14723 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14724 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14725 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14726 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14727 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14728 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14729 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14730 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14731 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14732 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1

14733 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14734 \DeclareTextCompositeCommand{\`}{PD1}{a}{\342}% U+00E2
14735 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14736 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14737 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14738 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14739 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14740 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14741 % U+00E6 LATIN SMALL LETTER AE; ae
14742 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14743 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14744 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14745 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14746 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14747 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14748 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14749 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14750 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14751 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14752 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14753 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14754 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14755 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14756 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14757 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14758 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14759 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14760 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14761 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14762 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14763 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14764 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14765 % U+00F0 LATIN SMALL LETTER ETH; eth
14766 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14767 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14768 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14769 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14770 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
14771 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14772 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14773 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14774 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
14775 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14776 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14777 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14778 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14779 % U+00F7 DIVISION SIGN; divide
14780 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14781 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14782 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14783 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14784 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
14785 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14786 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14787 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14788 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
14789 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis

```

14790 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
14791 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14792 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
14793 % U+00FE LATIN SMALL LETTER THORN; thorn
14794 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14795 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14796 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14797 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

14798 \DeclareTextCommand{\SS}{PD1}{SS}
14799 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

14800 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14801 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14802 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14803 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14804 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14805 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14806 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14807 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

14808 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14809 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14810 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14811 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14812 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14813 \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).

```

14814 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14815 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
14816 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14817 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
14818 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
14819 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
14820 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14821 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14822 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
14823 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14824 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
14825 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
14826 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
14827 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
14828 </pd1enc>

```

50.2 PU encoding

```

14829 <*puenc>
14830 \DeclareFontEncoding{PU}{}{}

```

50.2.1 NFSS2 accents

```

14831 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14832 \DeclareTextCommand{'}{PU}[1]{\#1\83\000}% U+0300
14833 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14834 \DeclareTextCommand{'}{PU}[1]{\#1\83\001}% U+0301

```

```

14835 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14836 \DeclareTextCommand{\`}{PU}[1]{#1\83\002}% U+0302
14837 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14838 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14839 % U+0304 COMBINING MACRON; macroncmb
14840 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14841 % U+0306 COMBINING BREVE; brevecmb
14842 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14843 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14844 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14845 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14846 % U+0308 COMBINING DIAERESIS; dieresiscmb
14847 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14848 % U+030A COMBINING RING ABOVE; ringcmb
14849 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14850 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14851 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14852 % U+030C COMBINING CARON; caroncmb
14853 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14854 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravescmb
14855 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14856 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14857 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14858 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14859 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
14860 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14861 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14862 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14863 % U+0327 COMBINING CEDILLA; cedillacmb
14864 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14865 % U+0328 COMBINING OGONEK; ogonekcmb
14866 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14867 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
14868 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14869 % U+20DD COMBINING ENCLOSING CIRCLE
14870 \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.

```

14871 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
14872 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14873 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciicircum}
14874 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
14875 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14876 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}
14877 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14878 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14879 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14880 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14881 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14882 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14883 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14884 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14885 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14886 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14887 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14888 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}

```

```

14889 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
14890 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14891 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14892 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
14893 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
14894 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14895 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textstring}
14896 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14897 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14898 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14899 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14900 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14901 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14902 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14903 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14904 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14905 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14906 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14907 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14908 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14909 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14910 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14911 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14912 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14913 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14914 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14915 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}
14916 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14917 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14918 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14919 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14920 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14921 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
14922 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14923 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

14924 % U+0009 (CHARACTER TABULATION)
14925 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14926 % U+000A (LINE FEED)
14927 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14928 % U+000D (CARRIAGE RETURN)
14929 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
14930 % U+0022 QUOTATION MARK; quotedbl
14931 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14932 % U+0023 NUMBER SIGN; numbersign
14933 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14934 % U+0024 DOLLAR SIGN; dollar
14935 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14936 % U+0025 PERCENT SIGN; percent
14937 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14938 % U+0026 AMPERSAND; ampersand

```

```

14939 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14940 % U+0027 APOSTROPHE; quotesingle
14941 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14942 % U+0028 LEFT PARENTHESIS; parenleft
14943 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14944 % U+0029 RIGHT PARENTHESIS; parenright
14945 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14946 % U+002A ASTERISK; asterisk
14947 \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
14948 % U+003C LESS-THAN SIGN; less
14949 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
14950 % U+003E GREATER-THAN SIGN; greater
14951 \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
14952 % U+005C REVERSE SOLIDUS; backslash
14953 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
14954 % U+005E CIRCUMFLEX ACCENT; asciicircum
14955 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
14956 % U+005F LOW LINE; underscore
14957 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
14958 % U+0060 GRAVE ACCENT; grave
14959 \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
14960 % U+0069 LATIN SMALL LETTER I; i
14961 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
14962 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
\80\152: U+006A LATIN SMALL LETTER J; j
...
\80\172: U+007A LATIN SMALL LETTER Z; z
14963 % U+007B LEFT CURLY BRACKET; braceleft
14964 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
14965 % U+007C VERTICAL LINE; *bar, verticalbar
14966 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C

```

14967 % U+007D RIGHT CURLY BRACKET; braceright
 14968 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14969 % U+007E TILDE; asciitilde
 14970 \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
 14971 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14972 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14973 % U+00A2 CENT SIGN; cent
 14974 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14975 % U+00A3 POUND SIGN; sterling
 14976 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14977 % U+00A4 CURRENCY SIGN; currency
 14978 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14979 % U+00A5 YEN SIGN; yen
 14980 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14981 % U+00A6 BROKEN BAR; brokenbar
 14982 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14983 % U+00A7 SECTION SIGN; section
 14984 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14985 % U+00A8 DIAERESIS; dieresis
 14986 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14987 % U+00A9 COPYRIGHT SIGN; copyright
 14988 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14989 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14990 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14991 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 14992 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14993 % U+00AC NOT SIGN; logicalnot
 14994 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14995 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14996 % U+00AE REGISTERED SIGN; registered
 14997 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 14998 % U+00AF MACRON; *macron, overscore
 14999 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 15000 % U+00B0 DEGREE SIGN; degree
 15001 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 15002 % U+00B1 PLUS-MINUS SIGN; plusminus
 15003 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 15004 % U+00B2 SUPERScript TWO; twosuperior
 15005 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 15006 % U+00B3 SUPERScript THREE; threesuperior
 15007 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 15008 % U+00B4 ACUTE ACCENT; acute
 15009 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 15010 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 15011 % U+00B5 MICRO SIGN; mu, mu1
 15012 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 15013 % U+00B6 PILCROW SIGN; paragraph
 15014 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 15015 % U+00B7 MIDDLE DOT; middot, *periodcentered
 15016 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 15017 % U+00B8 CEDILLA; cedilla

15018 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15019 % U+00B9 SUPERSCRIPT ONE; onesuperior
15020 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
15021 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15022 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15023 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
15024 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15025 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15026 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15027 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15028 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15029 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15030 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15031 % U+00BF INVERTED QUESTION MARK; questiondown
15032 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15033 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15034 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15035 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15036 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15037 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15038 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15039 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15040 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15041 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15042 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15043 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15044 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15045 % U+00C6 LATIN CAPITAL LETTER AE; AE
15046 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15047 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15048 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15049 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15050 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15051 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15052 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15053 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15054 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15055 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15056 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15057 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15058 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15059 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15060 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15061 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15062 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15063 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15064 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
15065 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15066 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15067 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15068 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15069 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15070 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15071 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15072 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15073 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex

15074 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\324}% U+00D4
15075 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15076 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15077 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15078 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
15079 % U+00D7 MULTIPLICATION SIGN; multiply
15080 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15081 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15082 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15083 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15084 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
15085 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15086 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15087 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15088 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15089 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15090 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15091 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15092 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15093 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
15094 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15095 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15096 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15097 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15098 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
15099 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15100 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15101 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15102 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15103 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15104 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15105 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15106 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
15107 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15108 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15109 % U+00E6 LATIN SMALL LETTER AE; ae
15110 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15111 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15112 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15113 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15114 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
15115 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15116 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15117 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15118 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15119 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15120 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15121 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15122 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15123 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15124 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15125 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15126 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15127 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15128 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15129 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15130 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis

15131 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
 15132 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
 15133 % U+00F0 LATIN SMALL LETTER ETH; eth
 15134 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 15135 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 15136 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
 15137 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 15138 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
 15139 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 15140 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 15141 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 15142 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
 15143 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 15144 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 15145 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15146 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 15147 % U+00F7 DIVISION SIGN; divide
 15148 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15149 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15150 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15151 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15152 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 15153 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15154 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 15155 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15156 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 15157 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15158 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 15159 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15160 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15161 % U+00FE LATIN SMALL LETTER THORN; thorn
 15162 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15163 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15164 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15165 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15166 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 15167 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15168 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 15169 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15170 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15171 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15172 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15173 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15174 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15175 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15176 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15177 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 15178 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 15179 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 15180 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 15181 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 15182 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 15183 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 15184 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109

15185 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 15186 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 15187 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 15188 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 15189 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 15190 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 15191 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 15192 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 15193 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 15194 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 15195 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 15196 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 15197 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 15198 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 15199 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
 15200 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 15201 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 15202 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
 15203 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 15204 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
 15205 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
 15206 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
 15207 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
 15208 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
 15209 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
 15210 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
 15211 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
 15212 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
 15213 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
 15214 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
 15215 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
 15216 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
 15217 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
 15218 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
 15219 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
 15220 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
 15221 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
 15222 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
 15223 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
 15224 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
 15225 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
 15226 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
 15227 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
 15228 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
 15229 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
 15230 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
 15231 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
 15232 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
 15233 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
 15234 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15235 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15236 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15237 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15238 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124

15239 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15240 \DeclareTextCompositeCommand{\~}{PU}{h}{\81\045}% U+0125
15241 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15242 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15243 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
15244 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
15245 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15246 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15247 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15248 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15249 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15250 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15251 \DeclareTextCompositeCommand{=} {PU}{I}{\81\052}% U+012A
15252 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15253 \DeclareTextCompositeCommand{=} {PU}{i}{\81\053}% U+012B
15254 \DeclareTextCompositeCommand{=} {PU}{i}{\81\053}% U+012B
15255 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15256 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15257 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15258 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15259 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15260 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15261 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15262 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15263 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15264 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15265 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15266 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15267 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15268 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15269 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15270 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15271 % U+0133 LATIN SMALL LIGATURE IJ; ij
15272 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15273 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15274 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15275 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15276 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15277 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15278 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15279 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15280 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15281 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has choosen `\textkra`.

15282 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15283 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15284 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15285 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15286 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15287 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15288 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15289 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15290 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent

15291 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15292 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15293 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15294 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15295 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E
There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable).
Therefore the \. accent is reused instead of making a separate accent macro
\textmiddledot.
15296 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
15297 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15298 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15299 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15300 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15301 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15302 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15303 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15304 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15305 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15306 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15307 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15308 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15309 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15310 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15311 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15312 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15313 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15314 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15315 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15316 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15317 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15318 % U+014A LATIN CAPITAL LETTER ENG; Eng
15319 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15320 % U+014B LATIN SMALL LETTER ENG; eng
15321 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15322 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15323 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15324 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15325 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15326 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15327 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15328 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15329 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15330 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-
cute, Ohungarumlaut
15331 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15332 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-
cute, ohungarumlaut
15333 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15334 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15335 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15336 % U+0153 LATIN SMALL LIGATURE OE; oe
15337 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15338 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15339 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154

15340 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 15341 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 15342 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
 cent
 15343 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 15344 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 15345 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 15346 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 15347 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 15348 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 15349 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 15350 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 15351 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 15352 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 15353 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
 15354 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
 15355 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
 15356 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
 15357 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
 15358 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
 15359 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
 15360 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
 15361 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
 15362 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 15363 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
 15364 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 15365 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
 15366 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
 cent
 15367 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
 15368 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
 15369 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
 15370 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
 15371 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
 15372 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
 15373 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
 15374 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
 15375 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
 15376 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
 15377 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
 15378 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 15379 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 15380 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 15381 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 15382 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 15383 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 15384 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 15385 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 15386 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 15387 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 15388 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 15389 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 15390 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15391 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15392 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15393 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F

15394 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 15395 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15396 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 15397 \DeclareTextCompositeCommand{\h}{PU}{u}{\81\161}% U+0171
 15398 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15399 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15400 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15401 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15402 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15403 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15404 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15405 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15406 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15407 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15408 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15409 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15410 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15411 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15412 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15413 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15414 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15415 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15416 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15417 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15418 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15419 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15420 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15421 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15422 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15423 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15424 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15425 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15426 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15427 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15428 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15429 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15430 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15431 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15432 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15433 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15434 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15435 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15436 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15437 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15438 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15439 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15440 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15441 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15442 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 15443 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15444 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15445 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15446 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4

15447 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15448 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 15449 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 15450 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 15451 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 15452 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 15453 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 15454 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
 15455 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 15456 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 15457 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 15458 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 15459 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 15460 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 15461 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 15462 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 15463 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 15464 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
 15465 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
 15466 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
 15467 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
 15468 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
 15469 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
 15470 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
 15471 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
 15472 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
 15473 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
 15474 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
 15475 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
 15476 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
 15477 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
 15478 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
 15479 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
 15480 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
 15481 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
 15482 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
 15483 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
 15484 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
 15485 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 15486 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 15487 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 15488 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 15489 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 15490 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 15491 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15492 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15493 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 15494 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 15495 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 15496 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 15497 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 15498 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15499 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15500 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15501 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave

15502 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15503 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15504 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15505 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15506 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15507 % U+021F LATIN SMALL LETTER H WITH CARON
 15508 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15509 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15510 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15511 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15512 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15513 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15514 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15515 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15516 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15517 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15518 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15519 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15520 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15521 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15522 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15523 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15524 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15525 % U+0237 LATIN SMALL LETTER DOTLESS J
 15526 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15527 % U+02C7 CARON; caron
 15528 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15529 % U+02D8 BREVE; breve
 15530 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15531 % U+02D9 DOT ABOVE; dotaccent
 15532 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15533 % U+02DA RING ABOVE; ring
 15534 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15535 % U+02DB OGONEK; ogonek
 15536 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15537 % U+02DC SMALL TILDE; ilde, *tilde
 15538 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15539 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15540 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15541 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15542 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15543 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15544 % U+02F7 MODIFIER LETTER LOW TILDE
 15545 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15546 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15547 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15548 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15549 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15550 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15551 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15552 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15553 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331

15554 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15555 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15556 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15557 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15558 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15559 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15560 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 15561 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15562 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15563 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15564 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15565 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15566 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15567 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 15568 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 15569 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 15570 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
 15571 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 15572 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15573 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 15574 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
 15575 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
 15576 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15577 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15578 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15579 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15580 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15581 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15582 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15583 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15584 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15585 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15586 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15587 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15588 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15589 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15590 % U+0398 GREEK CAPITAL LETTER THETA; Theta
 15591 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
 15592 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 15593 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 15594 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 15595 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 15596 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
 15597 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
 15598 % U+039C GREEK CAPITAL LETTER MU; Mu
 15599 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
 15600 % U+039D GREEK CAPITAL LETTER NU; Nu
 15601 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
 15602 % U+039E GREEK CAPITAL LETTER XI; Xi
 15603 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
 15604 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
 15605 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F

15606 % U+03A0 GREEK CAPITAL LETTER PI; Pi
 15607 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
 15608 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
 15609 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
 15610 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
 15611 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
 15612 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
 15613 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
 15614 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
 15615 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
 15616 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
 15617 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
 15618 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
 15619 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
 15620 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
 15621 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
 15622 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
 15623 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
 15624 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
 15625 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
 15626 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
 15627 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
 silondieresis
 15628 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
 15629 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
 15630 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
 15631 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
 15632 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
 15633 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
 15634 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
 15635 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
 15636 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
 15637 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
 silondieresis
 15638 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0
 15639 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
 15640 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
 15641 % U+03B2 GREEK SMALL LETTER BETA; beta
 15642 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
 15643 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
 15644 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
 15645 % U+03B4 GREEK SMALL LETTER DELTA; delta
 15646 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
 15647 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
 15648 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
 15649 % U+03B6 GREEK SMALL LETTER ZETA; zeta
 15650 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
 15651 % U+03B7 GREEK SMALL LETTER ETA; eta
 15652 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
 15653 % U+03B8 GREEK SMALL LETTER THETA; theta
 15654 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
 15655 % U+03B9 GREEK SMALL LETTER IOTA; iota
 15656 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
 15657 % U+03BA GREEK SMALL LETTER KAPPA; kappa
 15658 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
 15659 % U+03BB GREEK SMALL LETTER LAMDA; lambda
 15660 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB

15661 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
 15662 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
 15663 % U+03BD GREEK SMALL LETTER NU; nu
 15664 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
 15665 % U+03BE GREEK SMALL LETTER XI; xi
 15666 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
 15667 % U+03BF GREEK SMALL LETTER OMICRON; omicron
 15668 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 15669 % U+03C0 GREEK SMALL LETTER PI; pi
 15670 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
 15671 % U+03C1 GREEK SMALL LETTER RHO; rho
 15672 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 15673 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 15674 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 15675 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 15676 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 15677 % U+03C4 GREEK SMALL LETTER TAU; tau
 15678 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 15679 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 15680 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 15681 % U+03C6 GREEK SMALL LETTER PHI; phi
 15682 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 15683 % U+03C7 GREEK SMALL LETTER CHI; chi
 15684 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 15685 % U+03C8 GREEK SMALL LETTER PSI; psi
 15686 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 15687 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 15688 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 15689 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 15690 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\312}% U+03CA
 15691 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 15692 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}% U+03CB
 15693 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 15694 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
 15695 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 15696 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 15697 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
 15698 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 15699 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
 15700 % U+03DA GREEK LETTER STIGMA; Stigmatreek
 15701 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
 15702 % U+03DB GREEK SMALL LETTER STIGMA
 15703 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB
 15704 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15705 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15706 % U+03DD GREEK SMALL LETTER DIGAMMA
 15707 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15708 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15709 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15710 % U+03DF GREEK SMALL LETTER KOPPA
 15711 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15712 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15713 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15714 % U+03E1 GREEK SMALL LETTER SAMPI
 15715 \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.

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15716 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
15717 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
15718 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
15719 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
15720 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
15721 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15722 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15723 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15724 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
15725 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
15726 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15727 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15728 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
15729 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrilic, *afii10055
15730 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15731 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
15732 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15733 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
15734 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15735 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15736 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15737 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15738 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15739 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15740 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15741 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15742 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15743 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15744 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15745 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
15746 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
15747 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15748 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15749 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15750 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15751 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15752 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15753 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15754 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15755 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15756 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15757 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15758 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15759 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15760 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15761 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15762 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15763 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15764 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15765 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15766 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15767 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrrilic, *afii10026
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15768 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15769 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15770 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15771 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15772 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15773 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15774 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15775 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15776 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15777 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15778 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15779 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15780 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15781 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15782 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15783 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15784 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15785 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15786 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15787 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15788 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15789 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15790 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15791 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15792 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15793 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15794 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15795 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15796 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15797 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15798 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15799 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15800 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15801 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15802 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15803 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15804 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15805 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15806 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15807 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15808 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15809 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15810 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15811 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15812 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15813 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15814 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15815 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15816 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15817 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15818 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15819 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15820 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15821 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15822 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15823 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15824 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic

15825 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15826 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15827 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15828 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15829 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15830 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15831 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15832 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15833 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15834 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15835 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15836 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15837 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15838 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15839 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15840 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
15841 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15842 \DeclareTextCommand{\cyr}{PU}{\84\074}% U+043C
15843 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15844 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15845 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15846 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15847 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15848 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15849 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15850 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440
15851 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15852 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441
15853 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15854 \DeclareTextCommand{\cyr}{PU}{\84\102}% U+0442
15855 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15856 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443
15857 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15858 \DeclareTextCommand{\cyr}{PU}{\84\104}% U+0444
15859 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15860 \DeclareTextCommand{\cyr}{PU}{\84\105}% U+0445
15861 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15862 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446
15863 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15864 \DeclareTextCommand{\cyr}{PU}{\84\107}% U+0447
15865 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15866 \DeclareTextCommand{\cyr}{PU}{\84\110}% U+0448
15867 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15868 \DeclareTextCommand{\cyr}{PU}{\84\111}% U+0449
15869 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
lic
15870 \DeclareTextCommand{\cyr}{PU}{\84\112}% U+044A
15871 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15872 \DeclareTextCommand{\cyr}{PU}{\84\113}% U+044B
15873 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15874 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C
15875 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15876 \DeclareTextCommand{\cyr}{PU}{\84\115}% U+044D
15877 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15878 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E
15879 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15880 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F

15881 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 15882 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
 15883 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrrilic
 15884 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
 15885 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 15886 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 15887 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 15888 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 15889 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
 15890 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrrilic
 15891 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 15892 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 15893 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 15894 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
 lic
 15895 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 15896 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrrilic
 15897 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 15898 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
 15899 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 15900 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 15901 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 15902 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
 15903 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 15904 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 15905 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrrilic
 15906 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 15907 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 15908 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 15909 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 15910 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
 15911 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrrilic
 15912 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 15913 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 15914 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrrilic
 15915 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 15916 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrrilic
 15917 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 15918 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrrilic
 15919 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 15920 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrrilic, *afii10146
 15921 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 15922 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrrilic
 15923 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
 15924 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrrilic
 15925 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 15926 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrrilic
 15927 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 15928 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 15929 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 15930 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 15931 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 15932 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittlei-
 otifiedcyrrilic
 15933 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 15934 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittlei-
 otifiedcyrrilic

15935 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 15936 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 15937 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 15938 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 15939 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 15940 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic
 15941 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 15942 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic
 15943 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 15944 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 15945 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15946 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15947 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15948 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15949 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15950 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15951 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15952 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15953 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15954 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15955 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15956 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15957 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15958 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15959 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15960 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
 15961 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15962 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
 15963 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15964 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15965 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15966 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15967 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15968 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 15969 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15970 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15971 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15972 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 15973 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15974 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 15975 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15976 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15977 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15978 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15979 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15980 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15981 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15982 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15983 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15984 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic

15985 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-
 cyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneu-
 matacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-
 acyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 15986 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15987 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15988 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15989 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15990 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15991 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15992 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15993 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15994 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15995 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15996 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15997 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15998 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 15999 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16000 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 16001 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16002 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 16003 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16004 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16005 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16006 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 16007 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16008 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 16009 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16010 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 16011 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16012 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 16013 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16014 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 16015 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16016 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16017 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 16018 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 16019 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16020 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic

16021 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16022 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-
 dercyrillic
 16023 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 16024 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
 ticalstrokecyrillic
 16025 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16026 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
 ticalstrokecyrillic
 16027 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16028 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16029 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16030 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16031 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 16032 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16033 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16034 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16035 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16036 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
 dercyrillic
 16037 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16038 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
 cyrillic
 16039 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16040 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16041 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16042 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16043 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16044 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-
 dlehookcyrillic
 16045 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16046 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-
 hookcyrillic
 16047 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16048 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-
 lic
 16049 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16050 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16051 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16052 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-
 dercyrillic
 16053 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16054 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 16055 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-
 cyrillic
 16056 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16057 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 16058 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-
 dercyrillic
 16059 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16060 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-
 dercyrillic
 16061 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
 16062 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16063 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16064 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16065 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF

16066 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-
traightstrokecyrillic
16067 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
16068 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-
traightstrokecyrillic
16069 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
16070 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-
dercyrillic
16071 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
16072 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-
dercyrillic
16073 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
16074 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
16075 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
16076 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
16077 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
16078 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescen-
dercyrillic
16079 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
16080 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-
dercyrillic
16081 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
16082 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
erticalstrokecyrillic
16083 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
16084 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
erticalstrokecyrillic
16085 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
16086 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
16087 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
16088 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
16089 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
16090 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
16091 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
16092 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
lic
16093 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
16094 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
16095 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
16096 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
16097 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
16098 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
16099 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16100 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
16101 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16102 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
16103 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16104 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
16105 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
16106 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16107 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16108 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16109 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
16110 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL

16111 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16112 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16113 \DeclareTextCommand{\cyrljsc}{PU}{\84\306}% U+04C6
16114 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16115 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16116 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16117 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
16118 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
siancyrillic
16119 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16120 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
16121 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
16122 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16123 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16124 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16125 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
16126 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
16127 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16128 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
16129 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16130 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyri-
lic
16131 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
16132 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
16133 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
16134 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
16135 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16136 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
16137 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16138 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic
16139 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16140 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic
16141 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16142 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
16143 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16144 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
16145 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9
16146 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrillic
16147 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16148 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrillic
16149 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB
16150 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrillic
16151 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
16152 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieres-
cyrillic
16153 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
16154 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieres-
cyrillic
16155 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
16156 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyri-
lic
16157 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

16158 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
 16159 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 16160 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
 16161 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 16162 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 16163 \DeclareTextCompositeCommand{\=} {PU}{\CYRI}{\84\342}% U+04E2
 16164 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 16165 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3
 16166 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
 16167 \DeclareTextCompositeCommand{\"} {PU}{\CYRI}{\84\344}% U+04E4
 16168 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
 16169 \DeclareTextCompositeCommand{\"} {PU}{\cyri}{\84\345}% U+04E5
 16170 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
 16171 \DeclareTextCompositeCommand{\"} {PU}{\CYRO}{\84\346}% U+04E6
 16172 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 16173 \DeclareTextCompositeCommand{\"} {PU}{\cyro}{\84\347}% U+04E7
 16174 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 16175 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 16176 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 16177 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 16178 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
 16179 \DeclareTextCompositeCommand{\"} {PU}{\CYROTLD}{\84\352}% U+04EA
 16180 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
 16181 \DeclareTextCompositeCommand{\"} {PU}{\cyrotld}{\84\353}% U+04EB
 16182 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 16183 \DeclareTextCompositeCommand{\"} {PU}{\CYREREV}{\84\354}% U+04EC
 16184 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 16185 \DeclareTextCompositeCommand{\"} {PU}{\cyreref}{\84\355}% U+04ED
 16186 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 16187 \DeclareTextCompositeCommand{\=} {PU}{\CYRU}{\84\356}% U+04EE
 16188 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 16189 \DeclareTextCompositeCommand{\=} {PU}{\cyru}{\84\357}% U+04EF
 16190 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 16191 \DeclareTextCompositeCommand{\"} {PU}{\CYRU}{\84\360}% U+04F0
 16192 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 16193 \DeclareTextCompositeCommand{\"} {PU}{\cyru}{\84\361}% U+04F1
 16194 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 16195 \DeclareTextCompositeCommand{\H} {PU}{\CYRU}{\84\362}% U+04F2
 16196 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 16197 \DeclareTextCompositeCommand{\H} {PU}{\cyru}{\84\363}% U+04F3
 16198 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 16199 \DeclareTextCompositeCommand{\"} {PU}{\CYRCH}{\84\364}% U+04F4
 16200 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 16201 \DeclareTextCompositeCommand{\"} {PU}{\cyrch}{\84\365}% U+04F5
 16202 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16203 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16204 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER

16205 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16206 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 16207 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
 16208 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 16209 \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
 16210 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16211 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16212 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16213 \DeclareTextCommand{\cyrhk}{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

16214 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 16215 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16216 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16217 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 16218 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16219 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 16220 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 16221 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 16222 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 16223 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 16224 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 16225 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 16226 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 16227 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 16228 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 16229 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 16230 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 16231 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 16232 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 16233 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 16234 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 16235 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 16236 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 16237 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
 16238 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 16239 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
 16240 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 16241 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 16242 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 16243 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 16244 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 16245 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
 16246 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 16247 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23

16248 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16249 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
16250 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
16251 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
16252 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16253 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
16254 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16255 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
16256 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16257 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
16258 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16259 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
16260 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16261 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
16262 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16263 \DeclareTextCompositeCommand{b}{PU}{k}{\9036\065}% U+1E35
16264 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16265 \DeclareTextCompositeCommand{b}{PU}{L}{\9036\072}% U+1E3A
16266 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16267 \DeclareTextCompositeCommand{b}{PU}{l}{\9036\073}% U+1E3B
16268 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16269 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E
16270 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16271 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F
16272 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16273 \DeclareTextCompositeCommand{.}{PU}{M}{\9036\100}% U+1E40
16274 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16275 \DeclareTextCompositeCommand{.}{PU}{m}{\9036\101}% U+1E41
16276 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16277 \DeclareTextCompositeCommand{.}{PU}{N}{\9036\104}% U+1E44
16278 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16279 \DeclareTextCompositeCommand{.}{PU}{n}{\9036\105}% U+1E45
16280 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16281 \DeclareTextCompositeCommand{b}{PU}{N}{\9036\110}% U+1E48
16282 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16283 \DeclareTextCompositeCommand{b}{PU}{n}{\9036\111}% U+1E49
16284 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16285 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54
16286 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16287 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55
16288 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16289 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56
16290 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16291 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57
16292 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16293 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58
16294 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
16295 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59
16296 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16297 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E
16298 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16299 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F
16300 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16301 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60
16302 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16303 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61
16304 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow

16305 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16306 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16307 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
16308 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16309 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16310 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16311 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16312 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16313 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16314 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16315 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16316 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16317 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82
16318 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16319 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83
16320 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16321 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16322 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16323 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16324 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16325 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
16326 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16327 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
16328 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16329 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A
16330 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16331 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B
16332 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16333 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
16334 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16335 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
16336 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16337 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E
16338 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16339 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F
16340 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16341 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16342 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16343 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16344 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16345 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16346 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16347 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16348 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16349 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16350 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16351 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
16352 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
16353 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
16354 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
16355 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
16356 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
16357 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B
16358 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
16359 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
16360 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde

16361 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 16362 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 16363 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
 16364 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 16365 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
 16366 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 16367 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 16368 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 16369 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16370 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 16371 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 16372 % U+2013 EN DASH; endash
 16373 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 16374 % U+2014 EM DASH; emdash
 16375 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 16376 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 16377 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 16378 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 16379 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 16380 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 16381 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 16382 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 16383 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 16384 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 16385 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 16386 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 16387 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 16388 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 16389 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 16390 % U+2020 DAGGER; dagger
 16391 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 16392 % U+2021 DOUBLE DAGGER; daggerdbl
 16393 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 16394 % U+2022 BULLET; bullet
 16395 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 16396 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 16397 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 16398 % U+2030 PER MILLE SIGN; perthousand
 16399 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 16400 % U+2031 PER TEN THOUSAND SIGN
 16401 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 16402 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 16403 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039
 16404 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 ingright
 16405 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A
 16406 % U+203B REFERENCE MARK; referencemark
 16407 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 16408 % U+203D INTERROBANG
 16409 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 16410 % U+2044 FRACTION SLASH; fraction
 16411 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 16412 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 16413 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045

16414 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 16415 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 16416 % U+2052 COMMERCIAL MINUS SIGN
 16417 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16418 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 16419 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 16420 % U+2074 SUPERSCRIPT FOUR; foursuperior
 16421 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 16422 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 16423 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 16424 % U+2076 SUPERSCRIPT SIX; sixsuperior
 16425 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 16426 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 16427 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 16428 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 16429 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 16430 % U+2079 SUPERSCRIPT NINE; ninesuperior
 16431 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 16432 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 16433 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 16434 % U+207B SUPERSCRIPT MINUS
 16435 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 16436 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 16437 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 16438 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 16439 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 16440 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 16441 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 16442 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 16443 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 16444 % U+2080 SUBSCRIPT ZERO; zeroinferior
 16445 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 16446 % U+2081 SUBSCRIPT ONE; oneinferior
 16447 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 16448 % U+2082 SUBSCRIPT TWO; twoinferior
 16449 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 16450 % U+2083 SUBSCRIPT THREE; threeinferior
 16451 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 16452 % U+2084 SUBSCRIPT FOUR; fourinferior
 16453 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 16454 % U+2085 SUBSCRIPT FIVE; fiveinferior
 16455 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 16456 % U+2086 SUBSCRIPT SIX; sixinferior
 16457 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 16458 % U+2087 SUBSCRIPT SEVEN; seveninferior
 16459 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 16460 % U+2088 SUBSCRIPT EIGHT; eightinferior
 16461 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 16462 % U+2089 SUBSCRIPT NINE; nineinferior
 16463 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 16464 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 16465 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 16466 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 16467 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16468 % U+20A1 COLON SIGN; *colonmonetary, colonsign
16469 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
16470 % U+20A4 LIRA SIGN; afi08941, *lira
16471 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
16472 % U+20A6 NAIRA SIGN
16473 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
16474 % U+20A7 PESETA SIGN; peseta
16475 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
16476 % U+20A9 WON SIGN; won
16477 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
16478 % U+20AB DONG SIGN; dong
16479 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
16480 % U+20AC EURO SIGN; *Euro, euro
16481 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
16482 % U+20B1 PESO SIGN
16483 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
16484 % U+20B2 GUARANI SIGN
16485 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16486 % U+2103 DEGREE CELSIUS; centigrade
16487 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
16488 % U+2116 NUMERO SIGN; *afi61352, numero
16489 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
16490 % U+2117 SOUND RECORDING COPYRIGHT
16491 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
16492 % U+211E PRESCRIPTION TAKE; prescription
16493 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
16494 % U+2120 SERVICE MARK
16495 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
16496 % U+2122 TRADE MARK SIGN; trademark
16497 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
16498 % U+2126 OHM SIGN; Ohm, Omega
16499 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
16500 % U+2127 INVERTED OHM SIGN
16501 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
16502 % U+212B ANGSTROM SIGN; angstrom
16503 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
16504 % U+212E ESTIMATED SYMBOL; estimated
16505 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
16506 % U+2135 ALEF SYMBOL; aleph
16507 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16508 % U+2190 LEFTWARDS ARROW; arrowleft
16509 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
16510 % U+2191 UPWARDS ARROW; arrowup
16511 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
16512 % U+2192 RIGHTWARDS ARROW; arrowright
16513 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
16514 % U+2193 DOWNWARDS ARROW; arrowdown
16515 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16516 % U+2212 MINUS SIGN; minus
16517 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212

16518 % U+221A SQUARE ROOT; radical
 16519 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16520 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16521 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16522 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16523 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16524 % U+2422 BLANK SYMBOL
 16525 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16526 % U+2423 OPEN BOX; blank
 16527 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16528 % U+2460 CIRCLED DIGIT ONE; onecircle
 16529 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 16530 % U+2461 CIRCLED DIGIT TWO; twocircle
 16531 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 16532 % U+2462 CIRCLED DIGIT THREE; threecircle
 16533 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 16534 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16535 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 16536 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16537 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16538 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16539 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16540 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
 16541 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16542 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16543 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16544 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16545 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16546 % U+2469 CIRCLED NUMBER TEN; tencircle
 16547 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16548 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16549 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16550 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16551 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16552 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16553 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16554 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16555 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16556 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16557 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 16558 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16559 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16560 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16561 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16562 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16563 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16564 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16565 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16566 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16567 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16568 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle

16569 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
16570 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
16571 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
16572 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
16573 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
16574 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
16575 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
16576 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
16577 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
16578 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
16579 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
16580 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
16581 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
16582 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
16583 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
16584 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
16585 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
16586 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
16587 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
16588 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
16589 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
16590 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
16591 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
16592 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
16593 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
16594 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
16595 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
16596 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
16597 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
16598 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
16599 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
16600 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
16601 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
16602 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
16603 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
16604 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
16605 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
16606 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
16607 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
16608 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
16609 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
16610 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
16611 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
16612 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
16613 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
16614 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
16615 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16616 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16617 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16618 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16619 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16620 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16621 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16622 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16623 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16624 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16625 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2

16626 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 16627 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 16628 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 16629 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 16630 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 16631 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 16632 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 16633 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 16634 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 16635 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 16636 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 16637 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 16638 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 16639 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 16640 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 16641 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 16642 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 16643 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 16644 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 16645 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 16646 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 16647 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 16648 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 16649 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 16650 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 16651 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 16652 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 16653 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 16654 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 16655 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 16656 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 16657 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 16658 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 16659 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 16660 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 16661 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 16662 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 16663 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 16664 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 16665 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 16666 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 16667 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 16668 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 16669 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 16670 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 16671 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 16672 % U+24EA CIRCLED DIGIT ZERO
 16673 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

50.2.21 Box Drawing: U+2500 to U+257F

16674 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16675 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16676 % U+25EF LARGE CIRCLE; largecircle
 16677 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

16678 % U+266A EIGHTH NOTE; musicalnote

```

16679 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
16680 % U+26AD MARRIAGE SYMBOL
16681 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
16682 % U+26AE DIVORCE SYMBOL
16683 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

```

16684 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
16685 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
16686 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
16687 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```

16688 % U+FB01 LATIN SMALL LIGATURE FI; fi
16689 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
16690 % U+FB02 LATIN SMALL LIGATURE FL; fl
16691 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

16692 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

16693 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16694 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16695 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16696 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16697 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16698 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16699 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16700 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

16701 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16702 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16703 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16704 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16705 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16706 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

16707 <*puvnenc>
16708 \DeclareTextCommand{\abreve}{PU}{\81\003}
16709 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16710 \DeclareTextCommand{\dj}{PU}{\81\021}
16711 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16712 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16713 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16714 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16715 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16716 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16717 \DeclareTextCommand{\DJ}{PU}{\81\020}
16718 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16719 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}

```


16720 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16721 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16722 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16723 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16724 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16725 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16726 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16727 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16728 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16729 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16730 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16731 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16732 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16733 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16734 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16735 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16736 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16737 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16738 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16739 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16740 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16741 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16742 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16743 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16744 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16745 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16746 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16747 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16748 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16749 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16750 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16751 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16752 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16753 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16754 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16755 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16756 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16757 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16758 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16759 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16760 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16761 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16762 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16763 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16764 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
16765 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16766 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16767 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16768 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16769 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16770 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16771 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16772 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16773 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16774 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16775 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16776 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}

16777 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16778 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16779 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16780 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16781 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16782 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16783 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16784 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16785 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16786 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16787 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16788 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16789 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16790 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16791 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
16792 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16793 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16794 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16795 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16796 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
16797 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
16798 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16799 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
16800 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16801 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
16802 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
16803 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16804 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
16805 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16806 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
16807 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
16808 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16809 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
16810 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16811 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
16812 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
16813 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16814 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
16815 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16816 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
16817 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
16818 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16819 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
16820 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16821 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
16822 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
16823 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
16824 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
16825 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
16826 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
16827 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
16828 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
16829 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
16830 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
16831 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
16832 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
16833 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}

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16834 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
16835 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
16836 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
16837 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
16838 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16839 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
16840 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16841 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
16842 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

16843 <*puarenc>
16844 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16845 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16846 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16847 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16848 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARA-
BIC LETTER ALEF WITH HAMZA BELOW
16849 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16850 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16851 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16852 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16853 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16854 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16855 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16856 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LET-
TER HAH
16857 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LET-
TER KHAH
16858 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16859 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LET-
TER THAL
16860 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16861 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16862 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LET-
TER SEEN
16863 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
TER SHEEN
16864 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16865 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16866 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16867 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16868 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16869 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16870 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16871 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH

```

```

16872 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16873 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16874 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16875 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
16876 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON
16877 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16878 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LET-
TER WAW
16879 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
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