

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 L^AT_EX 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 L^AT_EX'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@stoppeearly
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 (TeX):

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

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

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

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

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

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

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

6.2.3 Postprocessing

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

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

Protecting spaces and removing grouping characters. In order to check the tokens we must separate them. This will be done with \TeX 's argument parsing. With this method we must take the following 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@}{@sel}{}{}%
997 \def\HyPsd@babel@danish{%
998 \declare@shorthand{danish}{"}|{}{}%
999 \declare@shorthand{danish}{"}~{}{}%
1000 }%
1001 }
1002 \ltx@ifundefined{dutch@sh@}{@sel}{}{}%
1003 \def\HyPsd@babel@dutch{%
1004 \declare@shorthand{dutch}{"}|{}{}%
1005 \declare@shorthand{dutch}{"}~{}{}%
1006 }%
1007 }
1008 \ltx@ifundefined{finnish@sh@}{@sel}{}{}%
1009 \def\HyPsd@babel@finnish{%
1010 \declare@shorthand{finnish}{"}|{}{}%
1011 }%
1012 }
1013 \ltx@ifundefined{french@sh@}{@sel}{}{}%
1014 \def\HyPsd@babel@frenchb{%
1015 \def\guill@spacing{ }%
1016 }%
1017 }
1018 \ltx@ifundefined{german@sh@}{@sel}{}{}%
1019 \def\HyPsd@babel@german{%
1020 \declare@shorthand{german}{"}f{}f{}%
1021 \declare@shorthand{german}{"}|{}{}%
1022 \declare@shorthand{german}{"}~{}{}%
1023 }%
1024 }
1025 \ltx@ifundefined{macedonian@sh@}{@sel}{}{}%
1026 \def\HyPsd@babel@macedonian{%
1027 \declare@shorthand{macedonian}{"}|{}{}%
1028 \declare@shorthand{macedonian}{"}~{}{}%
1029 }%
1030 }{}
1031 \ltx@ifundefined{ngerman@sh@}{@sel}{}{}%
1032 \def\HyPsd@babel@ngerman{%
1033 \declare@shorthand{ngerman}{"}|{}{}%
1034 \declare@shorthand{ngerman}{"}~{}{}%
1035 }%
1036 }
1037 \ltx@ifundefined{portuges@sh@}{@sel}{}{}%
1038 \def\HyPsd@babel@portuges{%
1039 \declare@shorthand{portuges}{"}|{}{}%

```

```

1040 }%
1041 }
1042 \ltx@ifundefined{russian@sh@}{}{}%
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\Greeknnumeral\HyPsd@Greeknnumeral
1087 }%
1088 }
1089 \def\HyPsd@greeknumeral#1{%
1090   \HyPsd@GreekNum\@firstoftwo{#1}%
1091 }
1092 \def\HyPsd@Greeknnumeral#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\endcsname\expandafter\endcsname
        \csname?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
    \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

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@
2415 }
2416 \def\Hy@RestoreSpaceFactor{%
2417   \relax
2418   \ifhmode
2419     \ifnum\Hy@SavedSpaceFactor>\z@
2420       \spacefactor=\Hy@SavedSpaceFactor
2421     \fi
2422   \fi
```

```

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

```

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

```

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

```

```

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

```

9 Options

```

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

```

9.1 Help macros

`\IfHyperBooleanExists`

```

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

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

```

`\IfHyperBoolean`

```

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

```

`\Hy@boolkey`

```

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

```

```

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

```

\Hy@WarnOptionValue

```

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

```

\Hy@DisableOption

```

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

```

\Hy@WarnOptionDisabled

```

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

```

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

`\Hy@UseNameKey`

```

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

```

9.2 Defining the options

```

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

```



```

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

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

```

```

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

```

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

```

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

```

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

```

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

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

```

```

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

```

```

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

```

Determines whether an automatic anchor is put on each page

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

2709 \Hy@boolkey{nesting}{#1}%
2710 }
2711 \define@key{Hyp}{unicode}[true]{%
2712 \Hy@boolkey{unicode}{#1}%
2713 \ifHy@unicode
2714 \def\HyPsd@pdfencoding{unicode}%
2715 \HyPsd@LoadUnicode
2716 \else
2717 \def\HyPsd@pdfencoding{pdfdoc}%
2718 \fi
2719 }
2720 \def\HyPsd@LoadUnicode{%
2721 \@ifundefined{T@PU}{%
2722 \input{puenc.def}%
2723 \HyLinguex@Restore
2724 }{}%
2725 \DeclareFontFamily{PU}{pdf}{}%
2726 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2727 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2728 \global\let\HyPsd@LoadUnicode\relax
2729 }
2730 \Hy@AtBeginDocument{%
2731 \ifx\HyPsd@LoadUnicode\relax
2732 \else
2733 \def\HyPsd@LoadUnicode{%
2734 \Hy@Error{%
2735 Unicode support for bookmarks is not available.\MessageBreak
2736 Activate unicode support by using one of the options\MessageBreak
2737 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2738 in the preamble%
2739 } \@ehc
2740 \global\let\HyPsd@LoadUnicode\relax
2741 \global\Hy@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\cyrm.%
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\cyrm\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 \ifxetex
3735 \Hy@Warning{%
3736 pdfproducer: %
3737 xdvipdfmx will use its own setting\MessageBreak
3738 instead of the value given%
3739 }%
3740 \else
3741 \def\Hy@temp{hdvipdfm}%
3742 \ifx\Hy@driver\Hy@temp
3743 \Hy@Warning{%
3744 pdfproducer: %
3745 dvipdfm(x) will use its own setting\MessageBreak
3746 instead of the value given%
3747 }%
3748 \fi
3749 \fi
3750 }
3751 \define@key{Hyp}{pdfcreator}{%
3752 \HyXeTeX@CheckUnicode
3753 \HyPsd@XeTeXBigCharstrue
3754 \HyPsd@PrerenderUnicode{#1}%
3755 \pdfstringdef\@pdfcreator{#1}%
3756 }
3757 \define@key{Hyp}{pdfcreationdate}{%
3758 \begingroup

```

```

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

```



```

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

```

```

3873 \else
3874 \kv@parse@normalized{%
3875 \HyInfo@Key={#2}%
3876 }{%
3877 \kv@processor@default{pdfinfo}%
3878 }%
3879 \fi
3880 \fi
3881 }
3882 \def\HyInfo@GenerateAddons{%
3883 \ifHyInfo@AddonUnsupported
3884 \def\HyInfo@Addons{%
3885 \else
3886 \begingroup
3887 \toks@{%
3888 \def\HyInfo@do##1{%
3889 \EdefEscapeName\HyInfo@Key{##1}%
3890 \edef\x{%
3891 \toks@{%
3892 \the\toks@
3893 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3894 }%
3895 }%
3896 \x
3897 }%
3898 \HyInfo@AddonList
3899 \edef\x{\endgroup
3900 \def\noexpand\HyInfo@Addons{\the\toks@}%
3901 }%
3902 \x
3903 \fi
3904 }
3905 \let\HyInfo@AddonList\ltx@empty
3906 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3907 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3908 \let\setpdfinkmargin\gobble
3909 \def\calculate@pdfview#1 #2\{\%
3910 \def\@pdfview{#1}%
3911 \ifx\#2\%
3912 \def\@pdfviewparams{-32768}%
3913 \else
3914 \def\@pdfviewparams{#2}%
3915 \fi
3916 }
3917 \begingroup\expandafter\expandafter\expandafter\endgroup
3918 \expandafter\ifx\csname numexpr\endcsname\relax
3919 \def\Hy@number#1{%
3920 \expandafter\@firstofone\expandafter{\number#1}%
3921 }%
3922 \else
3923 \def\Hy@number#1{%
3924 \the\numexpr#1\relax
3925 }%
3926 \fi
3927 \define@key{Hyp}{pdfstartpage}{\%
3928 \ifx\#1\%
3929 \let\@pdfstartpage\ltx@empty

```

```

3930 \else
3931 \edef\@pdfstartpage{\Hy@number{#1}}%
3932 \fi
3933 }%
3934 \define@key{Hyp}{pdfstartview}{%
3935 \ifx\#1\%
3936 \let\@pdfstartview\ltx@empty
3937 \else
3938 \hypercalcbpdef\@pdfstartview{/#1}%
3939 \fi
3940 }
3941 \def\HyPat@NonNegativeReal/{%
3942 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3943 }
3944 \define@key{Hyp}{pdfremotestartview}{%
3945 \ifx\#1\%
3946 \def\@pdfremotestartview{/Fit}%
3947 \else
3948 \hypercalcbpdef\@pdfremotestartview{#1}%
3949 \edef\@pdfremotestartview{\@pdfremotestartview}%
3950 \Hy@Match\@pdfremotestartview{%
3951 ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
3952 -?(null|\HyPat@NonNegativeReal/) %
3953 (null|\HyPat@NonNegativeReal/)|%
3954 Fit(|B| %
3955 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3956 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3957 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3958 )}$%
3959 }{ }{%
3960 \Hy@Warning{%
3961 Invalid value '\@pdfremotestartview'\MessageBreak
3962 of 'pdfremotestartview'\MessageBreak
3963 is replaced by 'Fit'%
3964 }%
3965 \let\@pdfremotestartview\@empty
3966 }%
3967 \ifx\@pdfremotestartview\@empty
3968 \def\@pdfremotestartview{/Fit}%
3969 \else
3970 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3971 \fi
3972 \fi
3973 }
3974 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3975 \define@key{Hyp}{pdftoolbar}[true]{%
3976 \Hy@boolkey{pdftoolbar}{#1}%
3977 }
3978 \define@key{Hyp}{pdfmenubar}[true]{%
3979 \Hy@boolkey{pdfmenubar}{#1}%
3980 }
3981 \define@key{Hyp}{pdfwindowui}[true]{%
3982 \Hy@boolkey{pdfwindowui}{#1}%
3983 }
3984 \define@key{Hyp}{pdffitwindow}[true]{%
3985 \Hy@boolkey{pdffitwindow}{#1}%
3986 }

```

```

3987 \define@key{Hyp}{pdfcenterwindow}[true]{%
3988   \Hy@boolkey{pdfcenterwindow}{#1}%
3989 }
3990 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3991   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3992 }
3993 \define@key{Hyp}{pdfa}[true]{%
3994   \Hy@boolkey{pdfa}{#1}%
3995 }
3996 \define@key{Hyp}{pdfnewwindow}[true]{%
3997   \def\Hy@temp{#1}%
3998   \ifx\Hy@temp\@empty
3999     \Hy@pdfnewwindowsetfalse
4000   \else
4001     \Hy@pdfnewwindowsettrue
4002     \Hy@boolkey{pdfnewwindow}{#1}%
4003   \fi
4004 }
4005 \def\Hy@SetNewWindow{%
4006   \ifHy@pdfnewwindowset
4007     /NewWindow %
4008   \ifHy@pdfnewwindow true\else false\fi
4009 }
4010 }
4011 \Hy@DefNameKey{pdfpagelayout}{%
4012   \do{SinglePage}{}%
4013   \do{OneColumn}{}%
4014   \do{TwoColumnLeft}{}%
4015   \do{TwoColumnRight}{}%
4016   \do{TwoPageLeft}{PDF 1.5}%
4017   \do{TwoPageRight}{PDF 1.5}%
4018 }
4019 \define@key{Hyp}{pdflang}{%
4020   \def\@pdflang{#1}%
4021 }
4022 \define@key{Hyp}{pdfpagelabels}[true]{%
4023   \Hy@boolkey{pdfpagelabels}{#1}%
4024 }
4025 \define@key{Hyp}{pdfescapeform}[true]{%
4026   \Hy@boolkey{pdfescapeform}{#1}%
4027 }

```

Default values:

```

4028 \def\@linkbordercolor{1 0 0}
4029 \def\@urlbordercolor{0 1 1}
4030 \def\@menubordercolor{1 0 0}
4031 \def\@filebordercolor{0 .5 .5}
4032 \def\@runbordercolor{0 .7 .7}
4033 \def\@citebordercolor{0 1 0}
4034 \def\@pdfhighlight{/I}
4035 \let\@pdftitle\ltx@empty
4036 \let\@pdfauthor\ltx@empty
4037 \let\@pdfproducer\relax
4038 \def\@pdfcreator{LaTeX with hyperref package}
4039 \let\@pdfcreationdate\ltx@empty
4040 \let\@pdfmoddate\ltx@empty
4041 \let\@pdfsubject\ltx@empty
4042 \let\@pdfkeywords\ltx@empty

```

```

4043 \let\@pdftrapped\ltx@empty
4044 \let\@pdfpagescrop\ltx@empty
4045 \def\@pdfstartview{/Fit}
4046 \def\@pdfremotestartview{/Fit}
4047 \def\@pdfstartpage{1}
4048 \let\@pdfprintpagerange\ltx@empty
4049 \let\@pdflang\ltx@empty
4050 \let\PDF@SetupDoc\@empty
4051 \let\PDF@FinishDoc\@empty
4052 \let\phantomsection\@empty
4053 \let\special@paper\@empty
4054 \def\HyperDestNameFilter#1{#1}
4055 \Hy@AtBeginDocument{%
4056   \begingroup
4057     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4058     \dimen@=\x\relax
4059     \ifdim\dimen@>\z@
4060       \else
4061         \dimen@=11in\relax
4062         \Hy@WarningNoLine{%
4063           Height of page (\expandafter\string\x) %
4064           is invalid (\the\x),\MessageBreak
4065           using 11in%
4066         }%
4067       \fi
4068       \dimen@=0.99626401\dimen@
4069       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4070   \endgroup
4071 }
4072 \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.

```

4073 \let\hyper@normalise\ExecuteOptions
4074 \let\ExecuteOptions\hypersetup
4075 \Hy@RestoreCatcodes
4076 \InputIfFileExists{hyperref.cfg}{-}{-}
4077 \Hy@SetCatcodes
4078 \let\ExecuteOptions\hyper@normalise
4079 \ifx\Hy@MaybeStopNow\relax
4080 \else
4081   \Hy@stoppedearlytrue
4082   \expandafter\Hy@MaybeStopNow
4083 \fi
4084 \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.

```

4085 \SetupKeyvalOptions{family=Hyp}
4086 \DeclareLocalOptions{%
4087   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4088 }

```

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

```

4089 \@ifpackageloaded{tex4ht}{%
4090   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4091   \PassOptionsToPackage{tex4ht}{hyperref}%

```

```

4092 }%
4093 }{}

4094 \let\ReadBookmarks\relax
4095 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4096 \def\Hy@xspace@end{}
4097 \ltx@ifundefined{xspaceaddexceptions}{%
4098   \Hy@AtBeginDocument{%
4099     \ltx@ifundefined{xspaceaddexceptions}{%
4100       }{%
4101         \def\Hy@xspace@end{%
4102           \ltx@gobble{end for xspace}%
4103         }%
4104         \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4105       }%
4106     }%
4107   }{%
4108     \def\Hy@xspace@end{%
4109       \ltx@gobble{end for xspace}%
4110     }%
4111     \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4112   }

```

15.2 Option draft

```

4113 \Hy@AtBeginDocument{%
4114   \ifHy@draft
4115     \let\hyper@@anchor\@gobble
4116     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4117     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4118     \def\hyper@anchorend{\Hy@xspace@end}%
4119     \let\hyper@linkstart\@gobbletwo
4120     \def\hyper@linkend{\Hy@xspace@end}%
4121     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4122     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4123     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4124     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4125     \let\PDF@SetupDoc\@empty
4126     \let\PDF@FinishDoc\@empty
4127     \let\@fifthoffive\@secondoftwo
4128     \let\@secondoffive\@secondoftwo
4129     \let\ReadBookmarks\relax
4130     \let\WriteBookmarks\relax
4131     \Hy@WarningNoLine{Draft mode on}%
4132   \fi
4133   \Hy@DisableOption{draft}%
4134   \Hy@DisableOption{nolinks}%
4135   \Hy@DisableOption{final}%
4136 }

```

15.3 PDF/A

```

4137 \Hy@DisableOption{pdfa}
4138 \ifHy@pdfa

```

```

4139 \kvsetkeys{Hyp}{pdfversion=1.4}%
4140 \def\Hy@Acrobatmenu#1#2{%
4141   \leavevmode
4142   \begingroup
4143   \edef\x{#1}%
4144   \@onelevel@sanitize\x
4145   \ifx\x\Hy@NextPage
4146     \let\y=Y%
4147   \else
4148     \ifx\x\Hy@PrevPage
4149       \let\y=Y%
4150     \else
4151       \ifx\x\Hy@FirstPage
4152         \let\y=Y%
4153       \else
4154         \ifx\x\Hy@LastPage
4155           \let\y=Y%
4156         \else
4157           \let\y=N%
4158         \fi
4159       \fi
4160     \fi
4161   \fi
4162   \expandafter\endgroup
4163   \ifx\y Y%
4164     \else
4165       \Hy@Error{%
4166         PDF/A: Named action ‘#1’ is not permitted%
4167       }\@ehc
4168       {#2}%
4169     \expandafter\@gobble
4170   \fi
4171 }%
4172 \def\Hy@temp#1{%
4173   \expandafter\def\csname Hy@#1\endcsname{#1}%
4174   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4175 }%
4176 \Hy@temp{NextPage}%
4177 \Hy@temp{PrevPage}%
4178 \Hy@temp{FirstPage}%
4179 \Hy@temp{LastPage}%
4180 \else
4181 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4182 \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.

```

4183 \Hy@nextfalse
4184 \ltx@ifundefined{spanish@sh@”@sel}{\Hy@nexttrue}
4185 \ltx@ifundefined{galician@sh@”@sel}{\Hy@nexttrue}
4186 \ltx@ifundefined{estonian@sh@”@sel}{\Hy@nexttrue}
4187 \ifHy@next
4188   \let\texttilde\~%
4189 \fi

```

```

4190 \def\Hy@wrapper@babel#1#2{%
4191   \begingroup
4192   \Hy@safe@activetrue
4193   \set@display@protect
4194   \edef\x{#2}%
4195   \@onelevel@sanitize\x
4196   \toks@{#1}%
4197   \edef\x{\endgroup\the\toks@\x}}%
4198   \x
4199 }
4200 \def\Hy@WrapperDef#1{%
4201   \begingroup
4202   \escapechar=\m@ne
4203   \xdef\Hy@gtemp{%
4204     \expandafter\noexpand\csname HyWrap@string#1\endcsname
4205   }%
4206   \endgroup
4207   \edef#1{%
4208     \noexpand\Hy@wrapper@babel
4209     \expandafter\noexpand\Hy@gtemp
4210   }%
4211   \expandafter\def\Hy@gtemp
4212 }
4213 \ifHy@hyperfigures
4214   \Hy@Info{Hyper figures ON}%
4215 \else
4216   \Hy@Info{Hyper figures OFF}%
4217 \fi
4218 \ifHy@nesting
4219   \Hy@Info{Link nesting ON}%
4220 \else
4221   \Hy@Info{Link nesting OFF}%
4222 \fi
4223 \ifHy@hyperindex
4224   \Hy@Info{Hyper index ON}%
4225 \else
4226   \Hy@Info{Hyper index OFF}%
4227 \fi
4228 \ifHy@plainpages
4229   \Hy@Info{Plain pages ON}%
4230 \else
4231   \Hy@Info{Plain pages OFF}%
4232 \fi
4233 \ifHy@backref
4234   \Hy@Info{Backreferencing ON}%
4235 \else
4236   \Hy@Info{Backreferencing OFF}%
4237 \fi
4238 \ifHy@typexml
4239   \Hy@AtEndOfPackage{%
4240     \RequirePackage{color}%
4241     \RequirePackage{nameref}%
4242   }%
4243 \fi
4244 \Hy@DisableOption{typexml}
4245 \ifHy@implicit
4246   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%

```



```

4247 \else
4248 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4249 \def\MaybeStopEarly{%
4250 \Hy@Message{Stopped early}%
4251 \Hy@AtBeginDocument{%
4252 \PDF@FinishDoc
4253 \gdef\PDF@FinishDoc{}}%
4254 }%
4255 \endinput
4256 }%
4257 \Hy@AtBeginDocument{%
4258 \let\autoref\ref
4259 \let\autopageref\pageref
4260 \ifx\@pdfpagemode\@empty
4261 \gdef\@pdfpagemode{UseNone}%
4262 \fi
4263 \global\Hy@backreffalse
4264 }%
4265 \Hy@AtEndOfPackage{%
4266 \global\let\ReadBookmarks\relax
4267 \global\let\WriteBookmarks\relax
4268 }%
4269 \fi
4270 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4271 \Hy@AtEndOfPackage{%
4272 \@ifpackageloaded{tex4ht}{%
4273 \def\Hy@driver{htex4ht}%
4274 \Hy@texhttrue
4275 }{}%

```

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.

```

4276 \ifx\Hy@driver\@empty
4277 \else
4278 \def\Hy@temp{hpdftex}%
4279 \ifpdf
4280 \ifx\Hy@driver\Hy@temp
4281 \else
4282 \Hy@WarningNoLine{%
4283 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4284 pdfTeX is running in PDF mode.\MessageBreak
4285 Forcing driver ‘\Hy@temp.def’%
4286 }%
4287 \let\Hy@driver\Hy@temp
4288 \fi
4289 \else
4290 \ifx\Hy@driver\Hy@temp
4291 \Hy@WarningNoLine{%
4292 Wrong driver ‘\Hy@driver.def’;\MessageBreak
4293 pdfTeX is not running in PDF mode.\MessageBreak
4294 Using default driver%
4295 }%
4296 \let\Hy@driver\@empty
4297 \fi
4298 \fi

```

```

4299 \fi
4300 \ifHy@texht
4301 \else
4302 \ifx\Hy@driver\@empty
4303 \else
4304 \def\Hy@temp{hxtex}%
4305 \ifxetex
4306 \ifx\Hy@driver\Hy@temp
4307 \else
4308 \Hy@WarningNoLine{%
4309 Wrong driver '\Hy@driver.def';\MessageBreak
4310 XeTeX is running.\MessageBreak
4311 Forcing driver '\Hy@temp.def' for XeTeX%
4312 }%
4313 \let\Hy@driver\Hy@temp
4314 \fi
4315 \fi
4316 \fi
4317 \fi
4318 \ifx\Hy@driver\@empty
4319 \else
4320 \def\Hy@temp{hvtexhtm}%
4321 \ifvtexhtml
4322 \ifx\Hy@driver\Hy@temp
4323 \else
4324 \Hy@WarningNoLine{%
4325 Wrong driver '\Hy@driver.def';\MessageBreak
4326 VTeX is running in HTML mode.\MessageBreak
4327 Forcing driver '\Hy@temp.def'%
4328 }%
4329 \let\Hy@driver\Hy@temp
4330 \fi
4331 \else
4332 \ifx\Hy@driver\Hy@temp
4333 \Hy@WarningNoLine{%
4334 Wrong driver '\Hy@driver.def';\MessageBreak
4335 VTeX is not running in HTML mode.\MessageBreak
4336 Using default driver%
4337 }%
4338 \let\Hy@driver\@empty
4339 \fi
4340 \fi
4341 \fi

```

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

```

4342 \def\HyOpt@DriverType{%
4343 \ifx\Hy@driver\@empty
4344 \def\HyOpt@DriverType{ (autodetected)}%
4345 \providecommand*\Hy@defaultdriver{hypertex}%
4346 \ifpdf
4347 \def\Hy@driver{hpdfTEX}%
4348 \else
4349 \ifxetex
4350 \def\Hy@driver{hxtex}%
4351 \else
4352 \ifvtexhtml
4353 \def\Hy@driver{hvtexhtm}%
4354 \def\MaybeStopEarly{%

```

```

4355     \Hy@Message{Stopped early}%
4356     \Hy@AtBeginDocument{%
4357         \PDF@FinishDoc
4358         \gdef\PDF@FinishDoc{}%
4359     }%
4360     \endinput
4361 }%
4362 \else
4363     \ifvtexpdf
4364         \def\Hy@driver{hvtex}%
4365     \else
4366         \ifvtexps
4367             \def\Hy@driver{hvtex}%
4368         \else
4369             \ifx\HyOpt@DriverFallback\ltx@empty
4370                 \let\Hy@driver\Hy@defaultdriver
4371                 \def\HyOpt@DriverType{ (default)}%
4372             \else
4373                 \begingroup
4374                 \toks@{\expandafter{\HyOpt@DriverFallback}%
4375                 \edef\x{\endgroup
4376                     \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4377                 }%
4378                 \x
4379                 \ifx\Hy@driver\ltx@empty
4380                     \let\Hy@driver\Hy@defaultdriver
4381                     \def\HyOpt@DriverType{ (default)}%
4382                 \else
4383                     \def\HyOpt@DriverType{ (fallback)}%
4384                 \fi
4385             \fi
4386         \fi
4387     \fi
4388 \fi
4389 \fi
4390 \fi
4391 \ifx\Hy@driver\Hy@defaultdriver
4392     \def\Hy@temp{hdwind}%
4393     \ifx\Hy@temp\Hy@driver
4394         \kvsetkeys{Hyp}{colorlinks}%
4395         \PassOptionsToPackage{dviwindo}{color}%
4396     \fi
4397 \fi
4398 \fi
4399 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4400 \chardef\Hy@VersionChecked=0 %
4401 \input{\Hy@driver.def}%
4402 \ifcase\Hy@VersionChecked
4403     \Hy@VersionCheck{\Hy@driver.def}%
4404 \fi
4405 \let\@unprocessedoptions\relax
4406 \Hy@RestoreCatcodes
4407 \Hy@DisableOption{tex4ht}%
4408 \Hy@DisableOption{pdftex}%
4409 \Hy@DisableOption{nativepdf}%
4410 \Hy@DisableOption{dvipdfm}%
4411 \Hy@DisableOption{dvipdfmx}%

```

```

4412 \Hy@DisableOption{dvi pdfmx-outline-open}%
4413 \Hy@DisableOption{pdfmark}%
4414 \Hy@DisableOption{dvips}%
4415 \Hy@DisableOption{hypertex}%
4416 \Hy@DisableOption{vtex}%
4417 \Hy@DisableOption{vtex pdfmark}%
4418 \Hy@DisableOption{dvi window}%
4419 \Hy@DisableOption{dvipsone}%
4420 \Hy@DisableOption{textures}%
4421 \Hy@DisableOption{latex2html}%
4422 \Hy@DisableOption{ps2pdf}%
4423 \Hy@DisableOption{xetex}%
4424 \Hy@DisableOption{pdfversion}%
4425 }

```

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.

```

4426 \newif\ifHy@DvipdfmxOutlineOpen
4427 \ifxetex
4428   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4429   \else
4430     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4431     \Hy@DvipdfmxOutlineOpenttrue
4432   \fi
4433 \fi
4434 \begingroup\expandafter\expandafter\expandafter\endgroup
4435 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4436 \else
4437   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4438     \Hy@DvipdfmxOutlineOpenttrue
4439   \fi
4440 \fi

```

15.4.2 Bookmarks

```

4441 \def\WriteBookmarks{0}
4442 \def\@bookmarkopenstatus#1{%
4443   \ifHy@bookmarksopen

```

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

```

4444   \ifnum#1<\expandafter\@firstofone\expandafter
4445     {\number\@bookmarksopenlevel} % explicit space
4446   \else
4447     -%
4448   \fi
4449 \else
4450   -%
4451 \fi
4452 }
4453 \ifHy@bookmarks
4454   \Hy@Info{Bookmarks ON}%
4455   \ifx\@pdfpagemode\@empty
4456     \def\@pdfpagemode{UseOutlines}%
4457   \fi
4458 \else
4459   \let\@bookmarkopenstatus\ltx@gobble
4460   \Hy@Info{Bookmarks OFF}%

```

```

4461 \Hy@AtEndOfPackage{%
4462   \global\let\ReadBookmarks\relax
4463   \global\let\WriteBookmarks\relax
4464 }%
4465 \ifx\@pdfpagemode\@empty
4466   \def\@pdfpagemode{UseNone}%
4467 \fi
4468 \fi
4469 \Hy@DisableOption{bookmarks}

  Add wrapper for setting standard catcodes (babel's shorthands).
4470 \def\Hy@CatcodeWrapper#1{%
4471   \let\Hy@endWrap\ltx@empty
4472   \def\TMP@EnsureCode##1##2{%
4473     \edef\Hy@endWrap{%
4474       \Hy@endWrap
4475       \catcode##1 \the\catcode##1\relax
4476     }%
4477     \catcode##1 ##2\relax
4478   }%
4479   \TMP@EnsureCode{10}{12}% ^^J
4480   \TMP@EnsureCode{33}{12}% !
4481   \TMP@EnsureCode{34}{12}% "
4482   \TMP@EnsureCode{36}{3}% $ (math)
4483   \TMP@EnsureCode{38}{4}% & (alignment)
4484   \TMP@EnsureCode{39}{12}% '
4485   \TMP@EnsureCode{40}{12}% (
4486   \TMP@EnsureCode{41}{12}% )
4487   \TMP@EnsureCode{42}{12}% *
4488   \TMP@EnsureCode{43}{12}% +
4489   \TMP@EnsureCode{44}{12}% ,
4490   \TMP@EnsureCode{45}{12}% -
4491   \TMP@EnsureCode{46}{12}% .
4492   \TMP@EnsureCode{47}{12}% /
4493   \TMP@EnsureCode{58}{12}% :
4494   \TMP@EnsureCode{59}{12}% ;
4495   \TMP@EnsureCode{60}{12}% <
4496   \TMP@EnsureCode{61}{12}% =
4497   \TMP@EnsureCode{62}{12}% >
4498   \TMP@EnsureCode{63}{12}% ?
4499   \TMP@EnsureCode{91}{12}% [
4500   \TMP@EnsureCode{93}{12}% ]
4501   \TMP@EnsureCode{94}{7}% ^ (superscript)
4502   \TMP@EnsureCode{95}{8}% _ (subscript)
4503   \TMP@EnsureCode{96}{12}% '
4504   \TMP@EnsureCode{124}{12}% |
4505   \TMP@EnsureCode{126}{13}% ~ (active)
4506   ##1\relax
4507   \Hy@endWrap
4508 }

```

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

```

4509 \Hy@AtBeginDocument{%
4510   \ifHy@ocgcolorlinks
4511     \kvsetkeys{Hyp}{colorlinks}%
4512   \ifHy@pdfa
4513     \Hy@Warning{%
4514       PDF/A: Optional Content Groups are prohibited,\MessageBreak

```

```

4515     using 'colorlinks' instead of 'ocgcolorlinks'%
4516 }%
4517 \Hy@ocgcolorlinksfalse
4518 \fi
4519 \fi
4520 \ifHy@ocgcolorlinks
4521 \else
4522 \Hy@DisableOption{ocgcolorlinks}%
4523 \fi
4524 \ifHy@colorlinks
4525 \def\@pdfborder{0 0 0}%
4526 \let\@pdfborderstyle\@empty
4527 \ifHy@typexml
4528 \else
4529 \Hy@CatcodeWrapper{%
4530 \RequirePackage{color}%
4531 }%
4532 \fi
4533 \def\Hy@colorlink#1{%
4534 \begingroup
4535 \HyColor@UseColor#1%
4536 }%
4537 \def\Hy@endcolorlink{\endgroup}%
4538 \Hy@Info{Link coloring ON}%
4539 \else
4540 \ifHy@frenchlinks
4541 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4542 \def\Hy@endcolorlink{\endgroup}%
4543 \Hy@Info{French linking ON}%
4544 \else
for grouping consistency:
4545 \def\Hy@colorlink#1{\begingroup}%
4546 \def\Hy@endcolorlink{\endgroup}%
4547 \Hy@Info{Link coloring OFF}%
4548 \fi
4549 \fi
4550 \Hy@DisableOption{colorlinks}%
4551 \Hy@DisableOption{frenchlinks}%
4552 \ifHy@texht
4553 \long\def\@firstoffive#1#2#3#4#5{#1}%
4554 \long\def\@secondoffive#1#2#3#4#5{#2}%
4555 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4556 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4557 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4558 \providecommand*\@safe@activetrue{}%
4559 \providecommand*\@safe@activesfalse{}%
4560 \def\T@ref#1{%
4561 \Hy@safe@activetrue
4562 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4563 \Hy@safe@activesfalse
4564 }%
4565 \def\T@pageref#1{%
4566 \Hy@safe@activetrue
4567 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4568 \Hy@safe@activesfalse
4569 }%
4570 \else

```

```

4571 \ifHy@typexml
4572 \else
4573 \Hy@CatcodeWrapper{%
4574 \RequirePackage{nameref}%
4575 }%
4576 \fi
4577 \fi
4578 \DeclareRobustCommand\ref{%
4579 \@ifstar\@refstar\T@ref
4580 }%
4581 \DeclareRobustCommand\pageref{%
4582 \@ifstar\@pagerefstar\T@pageref
4583 }%
4584 % \@ifclassloaded{memoir}{%
4585 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4586 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4587 % }%
4588 % }\ltx@secondoftwo
4589 % {%
4590 % \DeclareRobustCommand*{\nameref}{%
4591 % \@ifstar\@mem@titlerefno link\@mem@titleref
4592 % }%
4593 % }{%
4594 \DeclareRobustCommand*{\nameref}{%
4595 \@ifstar\@namerefstar\T@nameref
4596 }%
4597 % }%
4598 }
4599 \Hy@AtBeginDocument{%
4600 \ifHy@texht
4601 \else
4602 \Hy@CatcodeWrapper\ReadBookmarks
4603 \fi
4604 }
4605 \ifHy@backref
4606 \RequirePackage{backref}%
4607 \else
4608 \let\Hy@backout\@gobble
4609 \fi
4610 \Hy@DisableOption{backref}
4611 \Hy@DisableOption{pagebackref}
4612 \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`.

```

4613 \begingroup
4614 \endlinechar=-1 %
4615 \catcode'\^^A=14 %
4616 \catcode'\^^M\active

```

```

4617 \catcode'\%\active
4618 \catcode'\#\active
4619 \catcode'\_\active
4620 \catcode'\$\active
4621 \catcode'\&\active
4622 \gdef\hyper@normalise{^^A
4623   \begingroup
4624   \catcode'\^^M\active
4625   \def^^M{ }^^A
4626   \catcode'\%\active
4627   \let%\@percentchar
4628   \let%\@percentchar
4629   \catcode'\#\active
4630   \def#{\hyper@hash}^^A
4631   \def\#{\hyper@hash}^^A
4632   \@makeother\&^^A
4633   \edef&{\string&}^^A
4634   \edef\&{\string&}^^A
4635   \edef\textunderscore{\string_}^^A
4636   \let\_ \textunderscore
4637   \catcode'\_\active
4638   \let\_ \textunderscore
4639   \let~\hyper@tilde
4640   \let\~\hyper@tilde
4641   \let\textasciitilde\hyper@tilde
4642   \let\\\@backslashchar
4643   \edef$\string$}^^A
4644   \Hy@safe@activetrue
4645   \hyper@n@rmalise
4646 }^^A
4647 \catcode'\#=6 ^^A
4648 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4649 \gdef\hyper@n@rmalise#1#2{^^A
4650   \def\Hy@tempa{#2}^^A
4651   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4652     \ltx@ReturnAfterElseFi{^^A
4653       \hyper@@normalise{#1}^^A
4654     }^^A
4655   \else
4656     \ltx@ReturnAfterFi{^^A
4657       \hyper@@normalise{#1}{#2}^^A
4658     }^^A
4659   \fi
4660 }^^A
4661 \gdef\hyper@@normalise#1#2{^^A
4662   \edef\Hy@tempa{^^A
4663     \endgroup
4664     \noexpand#1{\Hy@RemovePercentCr#2%\@nil}^^A
4665   }^^A
4666   \Hy@tempa
4667 }^^A
4668 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4669   #1^^A
4670   \ifx\limits#2\limits
4671   \else
4672     \ltx@ReturnAfterFi{^^A
4673       \Hy@RemovePercentCr #2\@nil

```



```

4674 }^^A
4675 \fi
4676 }^^A
4677 \endgroup
4678 \providecommand*\hyper@chars{%
4679 \let\#\hyper@hash
4680 \let\%\@percentchar
4681 \Hy@safe@activetrue
4682 }

4683 \def\hyperlink#1#2{%
4684 \hyper@@link{}\{#1\}\{#2\}%
4685 }

4686 \def\Hy@VerboseLinkStart#1#2{%
4687 \ifHy@verbose
4688 \begingroup
4689 \Hy@safe@activetrue
4690 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4691 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4692 \xdef\Hy@VerboseGlobalTemp{%
4693 \Hy@VerboseGlobalTemp, %
4694 line \the\inputlineno
4695 }%
4696 \endgroup
4697 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4698 \@onelevel@sanitize\Hy@VerboseLinkInfo
4699 \fi
4700 }

4701 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4702 \def\Hy@VerboseLinkStop{%
4703 \ifHy@verbose
4704 \begingroup
4705 \edef\x{\endgroup
4706 \write\m@ne{%
4707 Package 'hyperref' Info: %
4708 End of reference \Hy@VerboseLinkInfo.%
4709 }%
4710 }%
4711 \x
4712 \fi
4713 }

4714 \def\Hy@VerboseAnchor#1{%
4715 \ifHy@verbose
4716 \begingroup
4717 \Hy@safe@activetrue
4718 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4719 \endgroup
4720 \fi
4721 }

4722 \def\Hy@AllowHyphens{%
4723 \relax
4724 \ifhmode
4725 \penalty\@M
4726 \hskip\z@skip
4727 \fi
4728 }

```

```

4729 \DeclareRobustCommand*{\href}[1][]{%
4730   \begingroup
4731   \setkeys{href}{#1}%
4732   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4733 }
4734 \def\Hy@href#{%
4735   \hyper@normalise\href@
4736 }
4737 \begingroup
4738   \catcode'\$=6 %
4739   \catcode'\#=12 %
4740   \gdef\href@#1{\expandafter\href@split$1##\}%
4741   \gdef\href@split$1##$2##$3\\$4{%
4742     \hyper@@link{$1}{$2}{$3}{$4}%
4743   }
4744 }%
4745 \endgroup

```

Option ‘page’.

```

4746 \define@key{href}{page}{%
4747   \def\Hy@href@page{#1}%
4748 }
4749 \let\Hy@href@page\@empty
4750 \newcount\c@Hy@tempcnt
4751 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4752 \def\Hy@MakeRemoteAction{%
4753   \ifx\Hy@href@page\@empty
4754     \def\Hy@href@page{0}%
4755   \else
4756     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4757     \ifnum\c@Hy@tempcnt<\@ne
4758       \Hy@Warning{%
4759         Invalid page number (\theHy@tempcnt)\MessageBreak
4760         for remote PDF file.\MessageBreak
4761         Using page 1%
4762       }%
4763     \def\Hy@href@page{0}%
4764   \else
4765     \global\advance\c@Hy@tempcnt\m@ne
4766     \edef\Hy@href@page{\theHy@tempcnt}%
4767   \fi
4768 }

```

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.

```

4769 \ifx\Hy@href@nextactionraw\@empty
4770 \else
4771   \Hy@pdfnewwindowsettrue
4772   \Hy@pdfnewwindowtrue
4773 \fi
4774 }

```

Option ‘pdfremotestartview’.

```

4775 \define@key{href}{pdfremotestartview}{%
4776   \setkeys{Hyp}{pdfremotestartview={#1}}%
4777 }

```

Option ‘pdfnewwindow’.

```

4778 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow

```

4779 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
Option ‘ismap’.

```
4780 \newif\ifHy@href@ismap
4781 \define@key{href}{ismap}[true]{%
4782   \ltx@ifundefined{Hy@href@ismap#1}{%
4783     \Hy@Error{%
4784       Invalid value (#1) for key ‘ismap’.\MessageBreak
4785       Permitted values are ‘true’ or ‘false’.\MessageBreak
4786       Ignoring ‘ismap’%
4787     }\@ehc
4788   }{%
4789     \csname Hy@href@ismap#1\endcsname
4790   }%
4791 }
```

Option ‘nextactionraw’.

```
4792 \let\Hy@href@nextactionraw\@empty
4793 \define@key{href}{nextactionraw}{%
4794   \edef\Hy@href@nextactionraw{#1}%
4795   \ifx\Hy@href@nextactionraw\@empty
4796     \else
4797       \Hy@Match\Hy@href@nextactionraw{%
4798         ~(\HyPat@ObjRef/|<<./S[ /.+>>|%
4799         \[( ?\HyPat@ObjRef/|<<./S[ /.+>>)+ ?)]$%
4800       }{%
4801         \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
4802           \Hy@href@nextactionraw\MessageBreak
4803           The action is discarded%
4804         }%
4805       }%
4806       \ifx\Hy@href@nextactionraw\@empty
4807         \else
4808           \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4809         \fi
4810       \fi
4811     }
4812   \def\HyPat@ObjRef/{.+}
```

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

```
4813 \RequirePackage{url}
4814 \let\HyOrg@url\url
4815 \def\Hurl{\begingroup \Url}
4816 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4817 \def\nolinkurl@#1{\Hurl{#1}}
4818 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4819 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4820 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4821 \providecommand\hyper@image[2]{#2}
4822 \def\hypertarget#1#2{%
4823   \ifHy@nesting
4824     \hyper@@anchor{#1}{#2}%
4825   \else
4826     \hyper@@anchor{#1}{\relax}#2%
4827   \fi
4828 }
```

`\hyperref` is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. `\hyperdef` sets

up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a L^AT_EX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4829 \DeclareRobustCommand*{\hyperref}{%
4830   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4831 }
4832 \def\Hy@babelnormalise#1[#2]{%
4833   \begingroup
4834     \Hy@safe@activetrue
4835     \edef\Hy@tempa{%
4836       \endgroup
4837       \noexpand#1[#2]}%
4838   }%
4839   \Hy@tempa
4840 }
4841 \def\@hyperref{\hyper@normalise\@hyperref}
4842 \def\@hyperref#1#2#3{%
4843   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
4844   \expandafter\tryhyper@link\ref@one\{#1}%
4845 }
4846 \def\tryhyper@link#1\#2{%
4847   \hyper@@link{#2}{#1}%
4848 }

4849 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef]}
4850 \def\@hyperdef#1#2#3{%, category, name, text
4851   \ifx\#1\%
4852     \def\Hy@AnchorName{#2}%
4853   \else
4854     \def\Hy@AnchorName{#1.#2}%
4855   \fi
4856   \ifHy@nesting
4857     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4858   \else
4859     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4860   \fi
4861 }

```

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.

```

4862 \def\label@hyperref[#1]{%
4863   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
4864 }%
4865 \def\label@\@hyperref#1#2#3{%
4866   \ifx#1\relax
4867     \protect\G@refundefinedtrue
4868     \@latex@warning{%
4869       Hyper reference ‘#2’ on page \thepage \space undefined%
4870     }%
4871     \begingroup
4872       #3%
4873     \endgroup
4874   \else
4875     \hyper@@link{\expandafter\@fifthoffive#1}%
4876     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4877   \fi

```

```

4878 }
4879 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4880 % anchor text
4881 \@bsphack
4882 \ifx\\#2\\%
4883 \def\Hy@AnchorName{#3}%
4884 \else
4885 \def\Hy@AnchorName{#2.#3}%
4886 \fi
4887 \if@filesw
4888 \protected@write\@auxout{}{%
4889 \string\newlabel{#1}{\{#\}\}\}\{\Hy@AnchorName\}\}%
4890 }%
4891 \fi
4892 \@esphack
4893 \ifHy@nesting
4894 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4895 \else
4896 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4897 \fi
4898 }

```

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.

```

4899 \def\hyper@link@{\let\Hy@reserved@a\relax
4900 \c@fnextchar{\hyper@link@}{\hyper@link@[link]}}%
4901 }
4902 \def\hyper@link@[#1]#2#3#4{%
4903 \begingroup
4904 \protected@edef\Hy@tempa{#2}%
4905 \Hy@safe@activestrue
4906 \edef\x{#3}%
4907 \ifx\Hy@tempa\@empty
4908 \toks0{\hyper@link{#1}}%
4909 \else
4910 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4911 \fi
4912 \toks2{%
4913 \Hy@safe@activesfalse
4914 #4%
4915 }%
4916 \edef\Hy@tempa{\the\toks2}%
4917 \edef\x{\endgroup
4918 \ifx\Hy@tempa\@empty
4919 \noexpand\Hy@Warning{Suppressing empty link}%
4920 \else
4921 \the\toks0 \x}{\the\toks2}}%
4922 \fi
4923 }%
4924 \x
4925 }

```

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.

```

4926 \def\hyper@readexternallink#1\\#2#3#4{%
4927   \begingroup
4928     \let\\\relax
4929   \expandafter\endgroup
4930   \expandafter\@hyper@@readexternallink#1\\#{#2}{#3}{#4}%
4931 }
4932 \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.

```

4933   \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
4934 }

```

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

```

4935 \def\@pdftempwordfile{file}%
4936 \def\@pdftempwordrun{run}%
4937 \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:**

```

4938   \ifx\\#6\\%
4939     \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
4940   \else
4941     \ifx\\#4\\%
4942       \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
4943     \else

```

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

```

4944       \def\@pdftempa{#4}%
4945       \ifx\@pdftempa\@pdftempwordfile
4946         \@hyper@linkfile#7\\#{#3}{#2}{#7}%
4947       \else

```

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

```

4948       \ifx\@pdftempa\@pdftempwordrun
4949         \ifHy@pdfa
4950           \Hy@Error{%
4951             PDF/A: Launch action is prohibited%
4952           }\@ehc
4953       \begingroup

```

```

4954         \leavevmode
4955         #2%
4956     \endgroup
4957 \else
4958     \@hyper@launch#7\{\#3}\#2}%
4959 \fi
4960 \else

```

otherwise its a URL

```

4961     \hyper@linkurl{\#3}\#7\ifx\#2\else\hyper@hash#2\fi}%
4962 \fi
4963 \fi
4964 \fi
4965 \fi
4966 }

```

By default, turn run: into file:

```

4967 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4968 \hyper@linkurl{\#2}%
4969 \Hy@linkfileprefix
4970 #1%
4971 \ifx\#3\%
4972 \else
4973     \hyper@hash
4974     #3%
4975 \fi
4976 }%
4977 }

```

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

```

4978 \def\@hyper@linkfile file:#1\#2#3#4{%
4979     %file url,link string, name, original uri
4980     \filename@parse{\#1}%
4981     \ifx\filename@ext\relax
4982     \edef\filename@ext{\XR@ext}%
4983 \fi
4984 \def\use@file{\filename@area\filename@base.\filename@ext}%
4985 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
4986     \hyper@linkfile{\#2}\use@file{\#3}%
4987 }{%
4988     \ifx\@baseurl\@empty
4989     \hyper@linkurl{\#2}%
4990     #4\ifx\#3\else\hyper@hash#3\fi
4991     }%
4992 \else
4993     \hyper@linkurl{\#2}\use@file\ifx\#3\else\hyper@hash#3\fi}%
4994 \fi
4995 }%
4996 }

4997 \def\Hy@ifStringEndsWith#1#2{%
4998 \begingroup
4999     \edef\x{\#1}%
5000     \@onelevel@sanitize\x
5001     \edef\x{.\x}%
5002     \edef\y{\#2}%
5003     \@onelevel@sanitize\y
5004     \edef\y{.\y}%

```

```

5005 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5006 \endgroup
5007 \ifx\relax##2\relax
5008 \expandafter\ltx@secondoftwo
5009 \else
5010 \expandafter\ltx@firstoftwo
5011 \fi
5012 }%
5013 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5014 }

5015 \def\Hy@StringLocalhost{localhost}
5016 \@onelevel@sanitize\Hy@StringLocalhost
5017 \def\Hy@CleanupFile#1{%
5018 \edef#1{#1}%
5019 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5020 }
5021 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5022 \begingroup
5023 \toks@{\endgroup}%
5024 \def\x{#1}%
5025 \ifx\x\@empty
5026 \def\x{#2}%
5027 \ifx\x\@empty
5028 \toks@{\endgroup\def#5{/#3}}%
5029 \else
5030 \@onelevel@sanitize\x
5031 \ifx\x\Hy@StringLocalhost
5032 \toks@{\endgroup\def#5{/#3}}%
5033 \fi
5034 \fi
5035 \fi
5036 \the\toks@
5037 }

```

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.

```

5038 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5039 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5040 \ifx\#1\%
5041 #2\Hy@Warning{Ignoring empty anchor}%
5042 \else
5043 \def\anchor@spot{#2#3}%
5044 \let\put@me@back\@empty
5045 \ifx\relax#2\relax
5046 \else
5047 \ifHy@nesting
5048 \else
5049 \ifcat a\noexpand#2\relax
5050 \else
5051 \ifcat 0\noexpand#2 \relax
5052 \else
5053 % \typeout{Anchor start is not alphanumeric %

```



```

5054 %           on input line\the\inputlineno%
5055 %           }%
5056 \let\anchor@spot\@empty
5057 \def\put@me@back{#2#3}%
5058 \fi
5059 \fi
5060 \fi
5061 \fi
5062 \ifHy@activeanchor
5063 \anchor@spot
5064 \else
5065 \hyper@anchor{#1}%
5066 \fi
5067 \expandafter\put@me@back
5068 \fi
5069 \let\anchor@spot\@empty
5070 }
5071 \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.

```

5072 \let\htmladding\hyperimage
5073 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5074 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5075 \def\htmlref#1#2{% anchor text, label
5076 \label@hyperref{#2}{#1}%
5077 }

```

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.

```

5078 \def\@@latextohtmlX{%
5079 \let\hhyperref\hyperref
5080 \def\hyperref##1##2##3##4{% anchor text for HTML
5081 % text to print before label in print
5082 % label
5083 % post-label text in print
5084 ##2\ref{##4}##3%
5085 }%
5086 }

```

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.

```
5087 \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

```
5088 \def\HyField@NewFlag#1#2{%
5089   \lowercase{\HyField@NewOption{#2}}%
5090   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5091 }
```

\HyField@NewFlagOnly

```
5092 \def\HyField@NewFlagOnly#1#2{%
5093   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5094 }
```

\HyField@NewOption #1: option name

```
5095 \def\HyField@NewOption#1{%
5096   \expandafter\newif\csname ifFld@#1\endcsname
5097   \define@key{Field}{#1}[true]{%
5098     \lowercase{\Field@boolkey{##1}}{#1}%
5099   }%
5100 }
```

\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

```
5101 \def\HyField@NewBitsetFlag#1#2#3#4{%
5102   \begingroup
5103     \count@=#4\relax
5104     \advance\count@\m@ne
5105     \def\x##1{%
5106       \endgroup
5107       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5108       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5109         \expandafter\edef\csname HyField@#3@##1\endcsname{%
5110           (\number#4) #2%
5111         }%
5112       \else
5113         \expandafter\edef\csname HyField@#3@##1\endcsname{%
5114           \csname HyField@#3@##1\endcsname
5115           /#2%
5116         }%
5117       \fi
5118     }%
5119   \expandafter\x\expandafter{\the\count@}%
5120 }
```

```

\HyField@UseFlag The bit set is HyField@#1
5121 \def\HyField@UseFlag#1#2{%
5122 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5123 }

\HyField@@UseFlag
5124 \def\HyField@@UseFlag#1#2{%
5125 \bitsetSetValue{HyField@#2}{%
5126 \csname HyField@#2@#1\endcsname
5127 }{%
5128 \csname ifFld@#1\endcsname 1\else 0\fi
5129 }%
5130 }

\HyField@SetFlag The bit set is HyField@#1
5131 \def\HyField@SetFlag#1#2{%
5132 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5133 }

\HyField@@SetFlag
5134 \def\HyField@@SetFlag#1#2{%
5135 \bitsetSetValue{HyField@#2}{%
5136 \csname HyField@#2@#1\endcsname
5137 }{1}%
5138 }

\HyField@PrintFlags
5139 \def\HyField@PrintFlags#1#2{%
5140 \ifHy@verbose
5141 \begingroup
5142 \let\Hy@temp\@empty
5143 \let\MessageBreak\relax
5144 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5145 \bitsetGetSetBitList{HyField@#1}\do{%
5146 \edef\Hy@temp{%
5147 \Hy@temp
5148 \csname HyField@#1@\x\endcsname\MessageBreak
5149 }%
5150 }%
5151 \edef\x{\endgroup
5152 \noexpand\Hy@Info{%
5153 Field flags: %
5154 \expandafter\ifx\@car#1\@nil S\else/\fi
5155 #1 %
5156 \bitsetGetDec{HyField@#1} %
5157 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5158 \Hy@temp
5159 for #2%
5160 }%
5161 }\x
5162 \fi
5163 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5164 \HyField@NewFlag{Ff}{ReadOnly}{1}
5165 \HyField@NewFlag{Ff}{Required}{2}
5166 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5167 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5168 \HyField@NewFlag{Ff}{Radio}{16}
5169 \HyField@NewFlag{Ff}{Pushbutton}{17}
5170 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5171 \HyField@NewFlag{Ff}{Multiline}{13}
5172 \HyField@NewFlag{Ff}{Password}{14}
5173 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5174 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5175 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5176 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5177 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5178 \HyField@NewFlag{Ff}{Combo}{18}
5179 \HyField@NewFlag{Ff}{Edit}{19}
5180 \HyField@NewFlag{Ff}{Sort}{20}
5181 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5182 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5183 \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.

```

5184 \newif\ifFld@popdown
5185 \define@key{Field}{popdown}[true]{%
5186   \lowercase{\Field@boolkey{#1}}{popdown}%
5187 }

```

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.

```

5188 \HyField@NewFlag{F}{Invisible}{1}
5189 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5190 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5191 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5192 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5193 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5194 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5195 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5196 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5197 \ifHy@pdfa
5198   \def\HyField@PDFAFldWarning#1#2{%
5199     \Hy@Warning{%
5200       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5201       be set to ‘#2’%
5202     }%
5203   }%
5204   \Fld@invisiblefalse
5205   \def\Fld@invisibletrue{%

```

```

5206 \HyField@PDFAFFlagWarning{invisible}{false}%
5207 }%
5208 \Fld@hiddenfalse
5209 \def\Fld@hiddentrue{%
5210 \HyField@PDFAFFlagWarning{hidden}{false}%
5211 }%
5212 \Fld@printtrue
5213 \def\Fld@printfalse{%
5214 \HyField@PDFAFFlagWarning{print}{true}%
5215 }%
5216 \Fld@nozoomtrue
5217 \def\Fld@nozoomfalse{%
5218 \HyField@PDFAFFlagWarning{nozoom}{true}%
5219 }%
5220 \Fld@norotatetrue
5221 \def\Fld@norotatefalse{%
5222 \HyField@PDFAFFlagWarning{norotate}{true}%
5223 }%
5224 \Fld@noviewfalse
5225 \def\Fld@noviewtrue{%
5226 \HyField@PDFAFFlagWarning{noview}{false}%
5227 }%
5228 \fi

```

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

```

5229 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5230 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5231 \HyField@NewFlag{Submit}{GetMethod}{4}
5232 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5233 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5234 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5235 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5236 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5237 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5238 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5239 \HyField@NewFlag{Submit}{ExclFKey}{12}
5240 \HyField@NewFlag{Submit}{EmbedForm}{14}

5241 \define@key{Field}{export}{%
5242 \lowercase{\def\Hy@temp{#1}}%
5243 \@ifundefined{Fld@export@\Hy@temp}{%
5244 \@onelevel@sanitize\Hy@temp
5245 \Hy@Error{%
5246 Unknown export format '\Hy@temp'.\MessageBreak
5247 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5248 }\@ehc
5249 }{%
5250 \let\Fld@export\Hy@temp
5251 }%
5252 }
5253 \def\Fld@export{fdf}
5254 \@namedef{Fld@export@fdf}{0}%
5255 \@namedef{Fld@export@html}{1}%
5256 \@namedef{Fld@export@xfdf}{2}%
5257 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```
5258 \def\HyField@FlagsSubmit{%
5259   \bitsetReset{HyField@Submit}%
5260   \ifcase\@nameuse{Fld@export@\Fld@export} %
5261     % FDF
5262     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5263     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5264     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5265     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5266     \HyField@UseFlag{Submit}{CanonicalFormat}%
5267     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5268     \HyField@UseFlag{Submit}{ExclFKey}%
5269     \HyField@UseFlag{Submit}{EmbedForm}%
5270   \or % HTML
5271     \HyField@SetFlag{Submit}{ExportFormat}%
5272     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5273     \HyField@UseFlag{Submit}{GetMethod}%
5274     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5275     \HyField@UseFlag{Submit}{CanonicalFormat}%
5276   \or % XFDF
5277     \HyField@SetFlag{Submit}{XFDF}%
5278     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5279     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5280     \HyField@UseFlag{Submit}{CanonicalFormat}%
5281   \or % PDF
5282     \HyField@SetFlag{Submit}{SubmitPDF}%
5283     \HyField@UseFlag{Submit}{GetMethod}%
5284   \fi
5285   \HyField@PrintFlags{Submit}{submit button field}%
5286   \bitsetIsEmpty{HyField@Submit}{%
5287     \let\Fld@submitflags\ltx@empty
5288   }{%
5289     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5290   }%
5291 }
```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
5292 \def\HyField@FlagsAnnot#1{%
5293   \bitsetReset{HyField@F}%
5294   \HyField@UseFlag{F}{Invisible}%
5295   \HyField@UseFlag{F}{Hidden}%
5296   \HyField@UseFlag{F}{Print}%
5297   \HyField@UseFlag{F}{NoZoom}%
5298   \HyField@UseFlag{F}{NoRotate}%
5299   \HyField@UseFlag{F}{NoView}%
5300   \HyField@UseFlag{F}{Locked}%
5301   \HyField@UseFlag{F}{ToggleNoView}%
5302   \HyField@UseFlag{F}{LockedContents}%
5303   \HyField@PrintFlags{F}{#1}%
5304   \bitsetIsEmpty{HyField@F}{%
5305     \let\Fld@annotflags\ltx@empty
5306   }{%
5307     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5308   }%
5309 }
```

```

5308 }%
5309 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5310 \def\HyField@FlagsPushButton{%
5311   \HyField@FlagsAnnot{push button field}%
5312   \bitsetReset{HyField@Ff}%
5313   \HyField@UseFlag{Ff}{ReadOnly}%
5314   \HyField@UseFlag{Ff}{Required}%
5315   \HyField@UseFlag{Ff}{NoExport}%
5316   \HyField@SetFlag{Ff}{PushButton}%
5317   \HyField@PrintFlags{Ff}{push button field}%
5318   \bitsetIsEmpty{HyField@Ff}%
5319   \let\Fld@flags\ltx@empty
5320 }{%
5321   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5322 }%
5323 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5324 \def\HyField@FlagsCheckBox{%
5325   \HyField@FlagsAnnot{check box field}%
5326   \bitsetReset{HyField@Ff}%
5327   \HyField@UseFlag{Ff}{ReadOnly}%
5328   \HyField@UseFlag{Ff}{Required}%
5329   \HyField@UseFlag{Ff}{NoExport}%
5330   \HyField@PrintFlags{Ff}{check box field}%
5331   \bitsetIsEmpty{HyField@Ff}%
5332   \let\Fld@flags\ltx@empty
5333 }{%
5334   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5335 }%
5336 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5337 \def\HyField@FlagsRadioButton{%
5338   \HyField@FlagsAnnot{radio button field}%
5339   \bitsetReset{HyField@Ff}%
5340   \HyField@UseFlag{Ff}{ReadOnly}%
5341   \HyField@UseFlag{Ff}{Required}%
5342   \HyField@UseFlag{Ff}{NoExport}%
5343   \HyField@UseFlag{Ff}{NoToggleToOff}%
5344   \HyField@SetFlag{Ff}{Radio}%
5345   \HyField@UseFlag{Ff}{RadiosInUnison}%
5346   \HyField@PrintFlags{Ff}{radio button field}%
5347   \bitsetIsEmpty{HyField@Ff}%
5348   \let\Fld@flags\ltx@empty
5349 }{%
5350   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5351 }%
5352 }

```

19.1.7 Text fields

\HyField@FlagsText

```
5353 \def\HyField@FlagsText{%
5354   \HyField@FlagsAnnot{text field}%
5355   \bitsetReset{HyField@Ff}%
5356   \HyField@UseFlag{Ff}{ReadOnly}%
5357   \HyField@UseFlag{Ff}{Required}%
5358   \HyField@UseFlag{Ff}{NoExport}%
5359   \HyField@UseFlag{Ff}{Multiline}%
5360   \HyField@UseFlag{Ff}{Password}%
5361   \HyField@UseFlag{Ff}{FileSelect}%
5362   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5363   \HyField@UseFlag{Ff}{DoNotScroll}%
5364   \ifFld@comb
5365     \ifcase0\ifFld@multiline
5366       \else\ifFld@password
5367       \else\ifFld@fileselect
5368       \else 1\fi\fi\fi\relax
5369     \Hy@Error{%
5370       Field option ‘comb’ cannot used together with\MessageBreak
5371       ‘multiline’, ‘password’, or ‘fileselect’%
5372     }\@ehc
5373   \else
5374     \HyField@UseFlag{Ff}{Comb}%
5375   \fi
5376 \fi
5377 \HyField@UseFlag{Ff}{RichText}%
5378 \HyField@PrintFlags{Ff}{text field}%
5379 \bitsetIsEmpty{HyField@Ff}{%
5380   \let\Fld@flags\ltx@empty
5381 }{%
5382   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5383 }%
5384 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
5385 \def\HyField@FlagsChoice{%
5386   \HyField@FlagsAnnot{choice field}%
5387   \bitsetReset{HyField@Ff}%
5388   \HyField@UseFlag{Ff}{ReadOnly}%
5389   \HyField@UseFlag{Ff}{Required}%
5390   \HyField@UseFlag{Ff}{NoExport}%
5391   \HyField@UseFlag{Ff}{Combo}%
5392   \ifFld@combo
5393     \HyField@UseFlag{Ff}{Edit}%
5394   \fi
5395   \HyField@UseFlag{Ff}{Sort}%
5396   \HyField@UseFlag{Ff}{MultiSelect}%
5397   \ifFld@combo
5398     \ifFld@edit
5399       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5400     \fi
5401   \fi
5402   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```



```

5403 \HyField@PrintFlags{Ff}{choice field}%
5404 \bitsetIsEmpty{HyField@Ff}{%
5405   \let\Fld@flags\ltx@empty
5406 }{%
5407   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5408 }%
5409 }

```

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`.

```

5410 \def\HyField@PDFChoices#1{%
5411   \begingroup
5412   \global\let\Fld@choices\ltx@empty
5413   \let\HyTmp@optlist\ltx@empty
5414   \let\HyTmp@optitem\relax
5415   \count@=0 %
5416   \kv@parse{#1}{%
5417     \Hy@pdfstringdef\kv@key\kv@key
5418     \ifx\kv@value\relax
5419       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5420         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5421       \else
5422         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5423       \fi
5424     \else
5425       \Hy@pdfstringdef\kv@value\kv@value
5426       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5427     \fi
5428     \edef\HyTmp@optlist{%
5429       \HyTmp@optlist
5430       \HyTmp@optitem{\the\count@}{\kv@key}0%
5431     }%
5432     \advance\count@ by 1 %
5433     \@gobbletwo
5434   }%
5435   \xdef\Fld@choices{/Opt[\Fld@choices]}%
5436   \ifFld@multiselect
5437     \HyField@@PDFChoices{DV}\Fld@default
5438     \HyField@@PDFChoices{V}\Fld@value
5439   \else
5440     \ifx\Fld@default\relax
5441     \else
5442       \pdfstringdef\Hy@gtemp\Fld@default
5443       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5444     \fi
5445     \ifx\Fld@value\relax
5446     \else
5447       \pdfstringdef\Hy@gtemp\Fld@value
5448       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5449     \fi
5450   \fi
5451 \endgroup
5452 }

```

\HyField@@PDFChoices

```
5453 \def\HyField@@PDFChoices#1#2{%
5454   \ifx#2\relax
5455   \else
5456     \count@=0 %
5457     \def\HyTmp@optitem##1##2##3{%
5458       \def\HyTmp@key{##2}%
5459       \ifx\HyTmp@key\Hy@gtemp
5460         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5461           \HyTmp@optlist
5462           \HyTmp@optitem{##1}{##2}1%
5463         }%
5464         \let\HyTmp@found=Y%
5465       \else
5466         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5467           \HyTmp@optlist
5468           \HyTmp@optitem{##1}{##2}##3%
5469         }%
5470       \fi
5471     }%
5472     \expandafter\comma@parse\expandafter{#2}{%
5473       \pdfstringdef\Hy@gtemp\comma@entry
5474       \let\HyTmp@found=N %
5475       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5476       \HyTmp@optlist
5477       \ifx\HyTmp@found Y%
5478         \advance\count@ by 1 %
5479       \else
5480         \@onelevel@sanitize\comma@entry
5481         \PackageWarning{hyperref}{%
5482           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
5483           \MessageBreak
5484           it cannot be found in the choices%
5485         }%
5486       \fi
5487       \@gobble
5488     }%
5489     \def\HyTmp@optitem##1##2##3{%
5490       \ifnum##3=1 %
5491         (##2)%
5492       \fi
5493     }%
5494     \ifcase\count@
5495     \or
5496       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5497     \else
5498       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5499     \ifx#1V%
5500       \def\HyTmp@optitem##1##2##3{%
5501         \ifnum##3=1 %
5502           \@firstofone{ ##1}%
5503         \fi
5504       }%
5505       \edef\HyTmp@optlist{\HyTmp@optlist}%
5506       \xdef\Fld@choices{%
5507         \Fld@choices
5508         /I[\expandafter\@firstofone\HyTmp@optlist]%

```

```

5509     }%
5510     \fi
5511     \fi
5512     \fi
5513 }

```

19.3 Forms

\HyField@SetKeys

```

5514 \def\HyField@SetKeys{%
5515   \kvsetkeys{Field}%
5516 }

5517 \newif\ifFld@checked
5518 \newif\ifFld@disabled
5519 \Fld@checkedfalse
5520 \Fld@disabledfalse
5521 \newcount\Fld@menulength
5522 \newdimen\Fld@Width
5523 \newdimen\Fld@charsize
5524 \Fld@charsize=10\p@
5525 \def\Fld@maxlen{0}
5526 \def\Fld@align{0}
5527 \def\Fld@color{0 0 0 rg}
5528 \def\Fld@bcolor{1 1 1}
5529 \def\Fld@bordercolor{1 0 0}
5530 \def\Fld@bordersep{1\p@}
5531 \def\Fld@borderwidth{1}
5532 \def\Fld@borderstyle{S}
5533 \def\Fld@cbsymbol{4}
5534 \def\Fld@radiosymbol{H}
5535 \def\Fld@rotation{0}
5536 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5537 \def\endForm{\@endForm}
5538 \newif\ifForm@html
5539 \Form@htmlfalse
5540 \def\Form@boolkey#1#2{%
5541   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5542 }
5543 \define@key{Form}{action}{%
5544   \hyper@normalise\Hy@DefFormAction{#1}%
5545 }
5546 \def\Hy@DefFormAction{\def\Form@action}
5547 \def\enc@html{html}
5548 \define@key{Form}{encoding}{%
5549   \def\Hy@tempa{#1}%
5550   \ifx\Hy@tempa\enc@html
5551     \Form@htmltrue
5552     \def\Fld@export{html}%
5553   \else
5554     \Hy@Warning{%
5555       Form 'encoding' key with \MessageBreak
5556       unknown value '#1'%
5557     }%
5558     \Form@htmlfalse
5559   \fi
5560 }

```

```

5561 \define@key{Form}{method}{%
5562   \lowercase{\def\Hy@temp{#1}}%
5563   \@ifundefined{Form@method@\Hy@temp}{%
5564     \@onelevel@sanitize\Hy@temp
5565     \Hy@Error{%
5566       Unknown method '\Hy@temp'.\MessageBreak
5567       Known values are 'post' and 'get'%
5568     }\@ehc
5569   }{%
5570     \let\Form@method\Hy@temp
5571     \ifcase\@nameuse{Form@method@\Hy@temp} %
5572       \Fld@getmethodfalse
5573     \else
5574       \Fld@getmethodtrue
5575     \fi
5576   }%
5577 }
5578 \def\Form@method{}
5579 \@namedef{Form@method@post}{0}
5580 \@namedef{Form@method@get}{1}

5581 \newif\ifHyField@NeedAppearances
5582 \def\HyField@NeedAppearancesfalse{%
5583   \global\let\ifHyField@NeedAppearances\iffalse
5584 }
5585 \def\HyField@NeedAppearancetrue{%
5586   \global\let\ifHyField@NeedAppearances\iftrue
5587 }
5588 \HyField@NeedAppearancetrue
5589 \define@key{Form}{NeedAppearances}[true]{%
5590   \edef\Hy@tempa{#1}%
5591   \ifx\Hy@tempa\Hy@true
5592     \HyField@NeedAppearancetrue
5593   \else
5594     \ifx\Hy@tempa\Hy@false
5595       \HyField@NeedAppearancesfalse
5596     \else
5597       \Hy@Error{%
5598         Unexpected value '\Hy@tempa'.\MessageBreak
5599         of option 'NeedAppearances' instead of\MessageBreak
5600         'true' or 'false'%
5601       }\@ehc
5602     \fi
5603   \fi
5604 }
5605 \def\Field@boolkey#1#2{%
5606   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5607 }
5608 \ifHy@texht
5609   \newtoks\Field@toks
5610   \Field@toks={ }%
5611   \def\Field@addtoks#1#2{%
5612     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5613     \@processme
5614   }%
5615 \else
5616   \def\Hy@WarnHTMLFieldOption#1{%
5617     \Hy@Warning{%

```

```

5618     HTML field option '#1'\MessageBreak
5619     is ignored%
5620 }%
5621 }%
5622 \fi
5623 \def\Fld@checkequals#1=#2=#3\{%
5624 \def\@currDisplay{#1}%
5625 \ifx\#2\%
5626 \def\@currValue{#1}%
5627 \else
5628 \def\@currValue{#2}%
5629 \fi
5630 }
5631 \define@key{Field}{loc}{%
5632 \def\Fld@loc{#1}%
5633 }
5634 \define@key{Field}{checked}[true]{%
5635 \lowercase{\Field@boolkey{#1}}{checked}%
5636 }
5637 \define@key{Field}{disabled}[true]{%
5638 \lowercase{\Field@boolkey{#1}}{disabled}%
5639 }
5640 \ifHy@texht
5641 \define@key{Field}{accesskey}{%
5642 \Field@addtoks{accesskey}{#1}%
5643 }%
5644 \define@key{Field}{tabkey}{%
5645 \Field@addtoks{tabkey}{#1}%
5646 }%
5647 \else
5648 \define@key{Field}{accesskey}{%
5649 \Hy@WarnHTMLFieldOption{accesskey}%
5650 }%
5651 \define@key{Field}{tabkey}{%
5652 \Hy@WarnHTMLFieldOption{tabkey}%
5653 }%
5654 \fi
5655 \define@key{Field}{name}{%
5656 \def\Fld@name{#1}%
5657 }
5658 \let\Fld@altname\relax
5659 \define@key{Field}{altname}{%
5660 \def\Fld@altname{#1}%
5661 }
5662 \let\Fld@mappingname\relax
5663 \define@key{Field}{mappingname}{%
5664 \def\Fld@mappingname{#1}%
5665 }
5666 \define@key{Field}{width}{%
5667 \def\Fld@width{#1}%
5668 \Field@Width#1\setbox0=\hbox{m}%
5669 }
5670 \define@key{Field}{maxlen}{%
5671 \def\Fld@maxlen{#1}%
5672 }
5673 \define@key{Field}{menulength}{%
5674 \Fld@menulength=#1\relax

```

```

5675 }
5676 \define@key{Field}{height}{%
5677   \def\Fld@height{#1}%
5678 }
5679 \define@key{Field}{charsize}{%
5680   \setlength{\Fld@charsize}{#1}%
5681 }
5682 \define@key{Field}{borderwidth}{%
5683   \Hy@defaultbp\Fld@borderwidth{#1}%
5684 }
5685 \def\Hy@defaultbp#1#2{%
5686   \begingroup
5687     \afterassignment\Hy@defaultbpAux
5688     \dimen@=#2bp\relax{#1}{#2}%
5689 }
5690 \begingroup\expandafter\expandafter\expandafter\endgroup
5691 \expandafter\ifx\csname dimexpr\endcsname\relax
5692   \def\Hy@defaultbpAux#1\relax#2#3{%
5693     \ifx!#1!%
5694       \endgroup
5695       \def#2{#3}%
5696     \else
5697       \dimen@=.99626\dimen@
5698       \edef\x{\endgroup
5699         \def\noexpand#2{%
5700           \strip@pt\dimen@
5701         }%
5702       }\x
5703     \fi
5704   }%
5705 \else
5706   \def\Hy@defaultbpAux#1\relax#2#3{%
5707     \ifx!#1!%
5708       \endgroup
5709       \def#2{#3}%
5710     \else
5711       \edef\x{\endgroup
5712         \def\noexpand#2{%
5713           \strip@pt\dimexpr\dimen@*800/803\relax
5714         }%
5715       }\x
5716     \fi
5717   }%
5718 \fi
5719 \define@key{Field}{borderstyle}{%
5720   \let\Hy@temp\Fld@borderstyle
5721   \def\Fld@borderstyle{#1}%
5722   \Hy@Match\Fld@borderstyle{%
5723     ~[SDBIU]$%
5724   }{}{%
5725     \Hy@Warning{%
5726       Invalid value '@pdfborderstyle'\MessageBreak
5727       for option 'pdfborderstyle'. Valid values:\MessageBreak
5728       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5729       \space\space I (Inset), U (Underline)\MessageBreak
5730       Option setting is ignored%
5731     }%

```

```

5732 \let\Fld@borderstyle\Hy@temp
5733 }%
5734 }
5735 \define@key{Field}{bordersep}{%
5736 \def\Fld@bordersep{#1}%
5737 }
5738 \define@key{Field}{default}{%
5739 \def\Fld@default{#1}%
5740 }
5741 \define@key{Field}{align}{%
5742 \def\Fld@align{#1}%
5743 }
5744 \define@key{Field}{value}{%
5745 \def\Fld@value{#1}%
5746 }
5747 \define@key{Field}{checkboxsymbol}{%
5748 \Fld@DingDef\Fld@cbsymbol{#1}%
5749 }
5750 \define@key{Field}{radiosymbol}{%
5751 \Fld@DingDef\Fld@radiosymbol{#1}%
5752 }
5753 \def\Fld@DingDef#1#2{%
5754 \let\Fld@temp\ltx@empty
5755 \Fld@@@DingDef#2\ding{ }\@nil
5756 \let#1\Fld@temp
5757 }
5758 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
5759 \expandafter\def\expandafter\Fld@temp\expandafter{%
5760 \Fld@temp
5761 #1%
5762 }%
5763 \ifx\\#3\\%
5764 \expandafter\@gobble
5765 \else
5766 \begingroup
5767 \lccode'0=#2\relax
5768 \lowercase{\endgroup
5769 \expandafter\def\expandafter\Fld@temp\expandafter{%
5770 \Fld@temp
5771 0%
5772 }%
5773 }%
5774 \expandafter\@firstofone
5775 \fi
5776 {%
5777 \Fld@@@DingDef#3\@nil
5778 }%
5779 }

5780 \define@key{Field}{rotation}{%
5781 \def\Fld@rotation{#1}%
5782 }

5783 \define@key{Field}{backgroundcolor}{%
5784 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5785 }
5786 \define@key{Field}{bordercolor}{%
5787 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5788 }

```

```

5789 \define@key{Field}{color}{%
5790   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5791 }

5792 \let\Fld@onclick@code\ltx@empty
5793 \let\Fld@format@code\ltx@empty
5794 \let\Fld@validate@code\ltx@empty
5795 \let\Fld@calculate@code\ltx@empty
5796 \let\Fld@keystroke@code\ltx@empty
5797 \let\Fld@onfocus@code\ltx@empty
5798 \let\Fld@onblur@code\ltx@empty
5799 \let\Fld@onmousedown@code\ltx@empty
5800 \let\Fld@onmouseup@code\ltx@empty
5801 \let\Fld@onenter@code\ltx@empty
5802 \let\Fld@onexit@code\ltx@empty
5803 \def\Hy@temp#1{%
5804   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5805 }
5806 \def\Hy@@temp#1#2{%
5807   \ifHy@pdfa
5808     \define@key{Field}{#2}{%
5809       \Hy@Error{%
5810         PDF/A: Additional action ‘#2’ is prohibited%
5811       }\@ehc
5812     }%
5813   \else
5814     \define@key{Field}{#2}{%
5815       \def#1{##1}%
5816     }%
5817   \fi
5818 }
5819 \Hy@temp{keystroke}
5820 \Hy@temp{format}
5821 \Hy@temp{validate}
5822 \Hy@temp{calculate}
5823 \Hy@temp{onfocus}
5824 \Hy@temp{onblur}
5825 \Hy@temp{onenter}
5826 \Hy@temp{onexit}
5827 \ifHy@texht
5828   \def\Hy@temp#1{%
5829     \define@key{Field}{#1}{%
5830       \Fld@addtoks{#1}{##1}%
5831     }%
5832   }%
5833 \else
5834   \def\Hy@temp#1{%
5835     \define@key{Field}{#1}{%
5836       \Hy@WarnHTMLFieldOption{#1}%
5837     }%
5838   }%
5839 \fi
5840 \Hy@temp{ondblclick}
5841 \Hy@temp{onmousedown}
5842 \Hy@temp{onmouseup}
5843 \Hy@temp{onmouseover}
5844 \Hy@temp{onmousemove}
5845 \Hy@temp{onmouseout}

```



```

5846 \Hy@temp{onkeydown}
5847 \Hy@temp{onkeyup}
5848 \Hy@temp{onselect}
5849 \Hy@temp{onchange}
5850 \Hy@temp{onkeypress}
5851 \ifHy@texht
5852   \define@key{Field}{onclick}{%
5853     \Field@addtoks{onclick}{#1}%
5854   }%
5855 \else
5856   \ifHy@pdfa
5857     \define@key{Field}{onclick}{%
5858       \Hy@Error{%
5859         PDF/A: Action 'onclick' is prohibited%
5860       }\@ehc
5861     }%
5862   \else
5863     \define@key{Field}{onclick}{%
5864       \def\Fld@onclick@code{#1}%
5865     }%
5866   \fi
5867 \fi

5868 \DeclareRobustCommand\TextField{%
5869   \@ifnextchar[{\@TextField}{\@TextField[]}%
5870 }
5871 \DeclareRobustCommand\ChoiceMenu{%
5872   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5873 }
5874 \DeclareRobustCommand\CheckBox{%
5875   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5876 }
5877 \DeclareRobustCommand\PushButton{%
5878   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5879 }
5880 \DeclareRobustCommand\Gauge{%
5881   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5882 }
5883 \DeclareRobustCommand\Submit{%
5884   \@ifnextchar[{\@Submit}{\@Submit[]}%
5885 }
5886 \DeclareRobustCommand\Reset{%
5887   \@ifnextchar[{\@Reset}{\@Reset[]}%
5888 }
5889 \def\LayoutTextField#1#2{% label, field
5890   #1 #2%
5891 }
5892 \def\LayoutChoiceField#1#2{% label, field
5893   #1 #2%
5894 }
5895 \def\LayoutCheckField#1#2{% label, field
5896   #1 #2%
5897 }
5898 \def\LayoutPushButtonField#1{% button
5899   #1%
5900 }
5901 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5902 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```

```

5903 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5904 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5905 \def\MakeButtonField#1{%
5906   \sbox0{%
5907     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5908   }%
5909   \@tempdima\ht0 %
5910   \advance\@tempdima by \Fld@borderwidth bp %
5911   \advance\@tempdima by \Fld@borderwidth bp %
5912   \ht0\@tempdima
5913   \@tempdima\dp0 %
5914   \advance\@tempdima by \Fld@borderwidth bp %
5915   \advance\@tempdima by \Fld@borderwidth bp %
5916   \dp0\@tempdima
5917   \box0\relax
5918 }
5919 \def\DefaultHeightofSubmit{14pt}
5920 \def\DefaultWidthofSubmit{2cm}
5921 \def\DefaultHeightofReset{14pt}
5922 \def\DefaultWidthofReset{2cm}
5923 \def\DefaultHeightofCheckBox{\baselineskip}
5924 \def\DefaultWidthofCheckBox{\baselineskip}
5925 \def\DefaultHeightofChoiceMenu{\baselineskip}
5926 \def\DefaultWidthofChoiceMenu{\baselineskip}
5927 \def\DefaultHeightofText{\baselineskip}
5928 \def\DefaultHeightofTextMultiline{4\baselineskip}
5929 \def\DefaultWidthofText{3cm}
5930 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5931 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5932 \def\DefaultOptionsofPushButton{print}
5933 \def\DefaultOptionsofCheckBox{print}
5934 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5935 \def\DefaultOptionsofListBox{print}
5936 \def\DefaultOptionsofComboBox{print,edit,sort}
5937 \def\DefaultOptionsofPopdownBox{print}
5938 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5939 \ifHy@hyperfigures
5940   \Hy@Info{Hyper figures ON}%
5941 \else
5942   \Hy@Info{Hyper figures OFF}%
5943 \fi
5944 \ifHy@nesting
5945   \Hy@Info{Link nesting ON}%
5946 \else
5947   \Hy@Info{Link nesting OFF}%
5948 \fi
5949 \ifHy@hyperindex
5950   \Hy@Info{Hyper index ON}%
5951 \else
5952   \Hy@Info{Hyper index OFF}%
5953 \fi
5954 \ifHy@backref

```

```

5955 \Hy@Info{backreferencing ON}%
5956 \else
5957 \Hy@Info{backreferencing OFF}%
5958 \fi
5959 \ifHy@colorlinks
5960 \Hy@Info{Link coloring ON}%
5961 \else
5962 \Hy@Info{Link coloring OFF}%
5963 \fi
5964 \ifHy@ocgcolorlinks
5965 \Hy@Info{Link coloring with OCG ON}%
5966 \else
5967 \Hy@Info{Link coloring with OCG OFF}%
5968 \fi
5969 \ifHy@pdfa
5970 \Hy@Info{PDF/A mode ON}%
5971 \else
5972 \Hy@Info{PDF/A mode OFF}%
5973 \fi

```

21 Low-level utility macros

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

```

5974 \edef\hyper@hash{\string#}
5975 \edef\hyper@tilde{\string~}
5976 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5977 \def\@currentHref{Doc-Start}
5978 \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.

```

5979 \Hy@AtBeginDocument{%
5980 \Hy@pdfstringtrue
5981 \PDF@SetupDoc
5982 \let\PDF@SetupDoc\@empty
5983 \Hy@DisableOption{pdfpagescrop}%
5984 \Hy@DisableOption{pdfpagemode}%
5985 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5986 \Hy@DisableOption{pdfdirection}%
5987 \Hy@DisableOption{pdfviewarea}%
5988 \Hy@DisableOption{pdfviewclip}%
5989 \Hy@DisableOption{pdfprintarea}%
5990 \Hy@DisableOption{pdfprintclip}%
5991 \Hy@DisableOption{pdfprintscaling}%
5992 \Hy@DisableOption{pdfduplex}%
5993 \Hy@DisableOption{pdfpicktraybypdfsize}%
5994 \Hy@DisableOption{pdfprintpagerange}%
5995 \Hy@DisableOption{pdfnumcopies}%
5996 \Hy@DisableOption{pdfstartview}%
5997 \Hy@DisableOption{pdfstartpage}%
5998 \Hy@DisableOption{pdftoolbar}%
5999 \Hy@DisableOption{pdfmenubar}%
6000 \Hy@DisableOption{pdfwindowui}%
6001 \Hy@DisableOption{pdffitwindow}%
6002 \Hy@DisableOption{pdfcenterwindow}%

```

```

6003 \Hy@DisableOption{pdfdisplaydoctitle}%
6004 \Hy@DisableOption{pdfpagelayout}%
6005 \Hy@DisableOption{pdflang}%
6006 \Hy@DisableOption{baseurl}%
6007 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6008 \Hy@pdfstringfalse
6009 }

Ignore star from referencing macros:
6010 \LetLtxMacro\NoHy@OrgRef\ref
6011 \DeclareRobustCommand*{\ref}{%
6012 \ifstar\NoHy@OrgRef\NoHy@OrgRef
6013 }
6014 \LetLtxMacro\NoHy@OrgPageRef\pageref
6015 \DeclareRobustCommand*{\pageref}{%
6016 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6017 }

```

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.

```

6018 \def\NoHyper{%
6019 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6020 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6021 \global\let\hyper@livelink\hyper@link
6022 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6023 \let\hyper@anchor\ltx@gobble
6024 \let\hyper@anchorstart\ltx@gobble
6025 \def\hyper@anchorend{\Hy@xspace@end}%
6026 \let\hyper@linkstart\ltx@gobbletwo
6027 \def\hyper@linkend{\Hy@xspace@end}%
6028 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6029 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6030 \let\Hy@backout\@gobble
6031 }
6032 \def\stop@hyper{%
6033 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6034 \let\Hy@backout\@gobble
6035 \let\hyper@@anchor\ltx@gobble
6036 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6037 \let\hyper@anchor\ltx@gobble
6038 \let\hyper@anchorstart\ltx@gobble
6039 \def\hyper@anchorend{\Hy@xspace@end}%
6040 \let\hyper@linkstart\ltx@gobbletwo
6041 \def\hyper@linkend{\Hy@xspace@end}%
6042 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6043 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6044 }
6045 \def\endNoHyper{%
6046 \global\let\hyper@link\hyper@livelink
6047 }
6048 \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:

```
6049 \*nohyperref
6050 \RequirePackage{letltxmacro}[2008/06/13]
6051 \let\hyper@@anchor\@gobble
6052 \def\hyper@link#1#2#3{#3}%
6053 \let\hyper@anchorstart\@gobble
6054 \let\hyper@anchorend\@empty
6055 \let\hyper@linkstart\@gobbletwo
6056 \let\hyper@linkend\@empty
6057 \def\hyper@linkurl#1#2{#1}%
6058 \def\hyper@linkfile#1#2#3{#1}%
6059 \def\hyper@link@{#1}#2#3{#1}%
6060 \let\PDF@SetupDoc\@empty
6061 \let\PDF@FinishDoc\@empty
6062 \def\nohyperpage#1{#1}
```

Some top-level commands:

```
6063 \def\Acrobatmenu#1#2{\leavevmode#2}
6064 \let\pdfstringdefDisableCommands\@gobbletwo
6065 \let\texorpdfstring\@firstoftwo
6066 \let\pdfbookmark\@undefined
6067 \newcommand\pdfbookmark[3]{}
6068 \let\phantomsection\@empty
6069 \let\hypersetup\@gobble
6070 \let\hyperbaseurl\@gobble
6071 \newcommand*{\href}[3]{}
6072 \let\hyperdef\@gobbletwo
6073 \let\hyperlink\@gobble
6074 \let\hypertarget\@gobble
6075 \def\hyperref{%
6076   \@ifnextchar{\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6077 }
6078 \long\def\@gobbleopt[#1]{}
6079 \let\hyperpage\@empty
```

Ignore star from referencing macros:

```
6080 \LetLtxMacro\NoHy@OrgRef\ref
6081 \DeclareRobustCommand*\ref{%
6082   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6083 }
6084 \LetLtxMacro\NoHy@OrgPageRef\pageref
6085 \DeclareRobustCommand*\pageref{%
6086   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6087 }
6088 \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}`

```
6089 \*package}
6090 \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.

```
6091 \if@filesw
6092 \ifHy@typexml
6093 \immediate\closeout\@mainaux
6094 \immediate\openout\@mainaux\jobname.aux\relax
6095 \immediate\write\@auxout{<relaxxml>\relax}%
6096 \fi
6097 \immediate\write\@auxout{%
6098 \string\providecommand\string\HyperFirstAtBeginDocument{%
6099 \string\AtBeginDocument}^^J%
6100 \string\HyperFirstAtBeginDocument{%
6101 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6102 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6103 \string\gdef\string\contentsline%
6104 \string#1\string#2\string#3\string#4{%
6105 \string\oldcontentsline%
6106 {\string#1}{\string#2}{\string#3}}^^J%
6107 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6108 \string\gdef\string\newlabel\string#1\string#2{%
6109 \string\newlabelxx{\string#1}\string#2}^^J%
6110 \string\gdef\string\newlabelxx%
6111 \string#1\string#2\string#3\string#4\string#5\string#6{%
6112 \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.

```
6113 \string\AtEndDocument{%
6114 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6115 \string\let\string\contentsline\string\oldcontentsline^^J%
6116 \string\let\string\newlabel\string\oldnewlabel^^J%
6117 \string\fi%
6118 }^^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.

```
6119 \string\fi%
6120 }^^J%
6121 \string\global\string\let\string\hyper@last\relax^^J%
6122 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6123 }%
6124 \fi
6125 \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.

```
6126 \ifx\hyper@last\@undefined
6127 \def\@starttoc#1{%
6128 \begingroup
6129 \makeatletter
```

```

6130 \IfFileExists{\jobname.#1}{%
6131 \Hy@WarningNoLine{%
6132 old #1 file detected, not used; run LaTeX again%
6133 }%
6134 }{}%
6135 \if@filesw
6136 \expandafter\newwrite\csname tf@#1\endcsname
6137 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6138 \fi
6139 \@nobreakfalse
6140 \endgroup
6141 }%
6142 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}}%
6143 \fi
6144 }

```

25 Title strings

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

```

6145 \ifHy@pdfusetitle
6146 \let\HyOrg@title\title
6147 \let\HyOrg@author\author
6148 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6149 \def\Hy@scanopttitle[#1]{%
6150 \gdef\Hy@title{#1}%
6151 \HyOrg@title{#1}%
6152 }%
6153 \def\Hy@scantitle#1{%
6154 \gdef\Hy@title{#1}%
6155 \HyOrg@title{#1}%
6156 }%
6157 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6158 \def\Hy@scanoptauthor[#1]{%
6159 \gdef\Hy@author{#1}%
6160 \HyOrg@author{#1}%
6161 }%
6162 \def\Hy@scanauthor#1{%
6163 \gdef\Hy@author{#1}%
6164 \HyOrg@author{#1}%
6165 }%

```

The case, that `or` 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.

```

6166 \begingroup
6167 \def\process@me#1\@nil#2{%
6168 \expandafter\let\expandafter\x\csname @#2\endcsname
6169 \edef\y{\expandafter\strip@prefix\meaning\x}%
6170 \def\c##1##2\@nil{%
6171 \ifx\\##1\\%
6172 \else
6173 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6174 \expandafter{\x}%
6175 \fi
6176 }%

```

```

6177 \expandafter\c\y\relax#1\@nil
6178 }%
6179 \expandafter\process@me\string\@latex@\@nil{title}%
6180 \expandafter\process@me\string\@latex@\@nil{author}%
6181 \endgroup
6182 \fi
6183 \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.

```

6184 \def\Hy@UseMaketitleString#1{%
6185 \ltx@ifundefined{Hy@#1}{}%
6186 \begingroup
6187 \let\Hy@saved@hook\pdfstringdefPreHook
6188 \pdfstringdefDisableCommands{%
6189 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6190 \let\newline\\%
6191 }%
6192 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6193 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6194 \csname Hy@#1\endcsname\@empty
6195 }%
6196 \fi
6197 \global\let\pdfstringdefPreHook\Hy@saved@hook
6198 \endgroup
6199 }%
6200 }
6201 \def\Hy@newline@title#1{ #1}
6202 \def\Hy@newline@author#1{, #1}
6203 \def\Hy@UseMaketitleInfos{%
6204 \Hy@UseMaketitleString{title}%
6205 \Hy@UseMaketitleString{author}%
6206 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6207 \RequirePackage{atbegshi}[2007/09/09]
6208 \let\Hy@EveryPageHook\ltx@empty
6209 \let\Hy@EveryPageBoxHook\ltx@empty
6210 \let\Hy@FirstPageHook\ltx@empty
6211 \AtBeginShipout{%
6212 \Hy@EveryPageHook
6213 \ifx\Hy@EveryPageBoxHook\ltx@empty
6214 \else

```



```

6215 \setbox\AtBeginShipoutBox=\vbox{%
6216 \offinterlineskip
6217 \Hy@EveryPageBoxHook
6218 \box\AtBeginShipoutBox
6219 }%
6220 \fi
6221 }
6222 \AtBeginShipoutFirst{%
6223 \Hy@FirstPageHook
6224 }
6225 \g@addto@macro\Hy@FirstPageHook{%
6226 \PDF@FinishDoc
6227 \global\let\PDF@FinishDoc\ltx@empty
6228 }

```

27.1 PDF /PageLabels

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

```

6229 \ifHy@pdfpagelabels
6230 \begingroup\expandafter\expandafter\expandafter\endgroup
6231 \expandafter\ifx\csname thepage\endcsname\relax
6232 \Hy@pdfpagelabelsfalse
6233 \Hy@WarningNoLine{%
6234 Option 'pdfpagelabels' is turned off\MessageBreak
6235 because \string\thepage\space is undefined%
6236 }%
6237 \csname fi\endcsname
6238 \csname iffalse\expandafter\endcsname
6239 \fi

```

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

```

6240 \def\thispdfpagelabel#1{%
6241 \gdef\HyPL@thisLabel{#1}%
6242 }%
6243 \global\let\HyPL@thisLabel\relax

```

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

```

6244 \let\HyPL@Labels\ltx@empty

```

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

```

6245 \newcount\Hy@abspage
6246 \Hy@abspage=0 %

```

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

```

6247 \def\HyPL@LastType{init}%
6248 \def\HyPL@LastNumber{0}%
6249 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6250 \def\HyPL@arabic{D}%
6251 \def\HyPL@Roman{R}%
6252 \def\HyPL@roman{r}%
6253 \def\HyPL@Alph{A}%
6254 \def\HyPL@alph{a}%

```

```

6255 \let\HyPL@SlidesSetPage\ltx@empty
6256 \ltx@ifclassloaded{slides}{%
6257   \def\HyPL@SlidesSetPage{%
6258     \advance\c@page\ltx@one
6259     \ifnum\value{page}>\ltx@one
6260       \protected@edef\HyPL@SlidesOptionalPage{%
6261         \Hy@SlidesFormatOptionalPage{thepage}%
6262       }%
6263     \else
6264       \let\HyPL@SlidesOptionalPage\ltx@empty
6265     \fi
6266     \advance\c@page-\ltx@one
6267   \def\HyPL@page{%
6268     \csname the\Hy@SlidesPage\endcsname
6269     \HyPL@SlidesOptionalPage
6270   }%
6271 }%
6272 }{}%

```

`\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.

```

6273 \def\HyPL@EveryPage{%
6274   \begingroup
6275   \ifx\HyPL@thisLabel\relax
6276     \let\HyPL@page\thepage
6277     \HyPL@SlidesSetPage
6278   \else
6279     \let\HyPL@page\HyPL@thisLabel
6280     \global\let\HyPL@thisLabel\relax
6281   \fi
6282   \let\HyPL@Type\relax
6283   \ifnum\c@page>0 %
6284     \ifx\HyPL@SlidesSetPage\ltx@empty
6285       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6286     \fi
6287   \fi
6288   \let\Hy@temp Y%
6289   \ifx\HyPL@Type\HyPL@LastType
6290   \else
6291     \let\Hy@temp N%
6292   \fi
6293   \ifx\HyPL@Type\relax
6294     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6295   \else
6296     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6297   \fi
6298   \ifx\HyPL@Prefix\HyPL@LastPrefix
6299   \else
6300     \let\Hy@temp N%
6301   \fi
6302   \if Y\Hy@temp
6303     \advance\c@page by -1 %
6304     \ifnum\HyPL@LastNumber=\the\c@page\relax
6305     \else
6306       \let\Hy@temp N%
6307     \fi
6308     \Hy@StepCount\c@page

```

```

6309 \fi
6310 \if N\Hy@temp
6311 \ifx\HyPL@Type\relax
6312 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6313 \else
6314 \HyPL@StorePageLabel{%
6315 \ifx\HyPL@Prefix\@empty
6316 \else
6317 /P(\HyPL@Prefix)%
6318 \fi
6319 /S/\csname HyPL\HyPL@Type\endcsname
6320 \ifnum\the\c@page=1 %
6321 \else
6322 \space/St \the\c@page
6323 \fi
6324 }%
6325 \fi
6326 \fi
6327 \xdef\HyPL@LastNumber{\the\c@page}%
6328 \global\let\HyPL@LastType\HyPL@Type
6329 \global\let\HyPL@LastPrefix\HyPL@Prefix
6330 \endgroup
6331 \Hy@GlobalStepCount\Hy@abspage
6332 }%

```

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

```

6333 \def\HyPL@CheckThePage#1\@nil{%
6334 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6335 }%

```

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

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

```

6336 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6337 \def\Hy@tempa{#4}%
6338 \def\Hy@tempb{\csname\endcsname\c@page}%
6339 \ifx\Hy@tempa\Hy@tempb
6340 \expandafter\ifx\csname HyPL#3\endcsname\relax
6341 \else
6342 \def\HyPL@Type{#3}%
6343 \def\HyPL@Prefix{#2}%
6344 \fi
6345 \else
6346 \begingroup
6347 \let\Hy@next\endgroup
6348 \let\HyPL@found\@undefined
6349 \def\arabic{\HyPL@Format{arabic}}%
6350 \def\Roman{\HyPL@Format{Roman}}%
6351 \def\roman{\HyPL@Format{roman}}%
6352 \def\Alph{\HyPL@Format{Alph}}%
6353 \def\alph{\HyPL@Format{alph}}%
6354 \protected@edef\Hy@temp{#1}%
6355 \ifx\HyPL@found\relax
6356 \toks@{\expandafter\Hy@temp}%
6357 \edef\Hy@next{\endgroup

```

```

6358         \noexpand\HyPL@@@CheckThePage\the\toks@
6359         \noexpand\HyPL@found\relax\noexpand\@nil
6360     }%
6361     \fi
6362     \Hy@next
6363     \fi
6364 }%

```

\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**.

```

6365 \def\HyPL@Format#1#2{%
6366     \ifx\HyPL@found\@undefined
6367         \expandafter\ifx\csname c@#2\endcsname\c@page
6368             \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6369         \else
6370             \expandafter\noexpand\csname#1\endcsname{#2}%
6371         \fi
6372     \else
6373         \expandafter\noexpand\csname#1\endcsname{#2}%
6374     \fi
6375 }%

```

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

```

6376 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6377     \def\Hy@tempa{#3}%
6378     \def\Hy@tempb{\HyPL@found\relax}%
6379     \ifx\Hy@tempa\Hy@tempb
6380         \def\HyPL@Type{#2}%
6381         \def\HyPL@Prefix{#1}%
6382     \fi
6383 }%

```

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

```

6384 \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**.

```

6385 \def\HyPL@Useless{0<</S/D>>}%
6386 \@onelevel@sanitize\HyPL@Useless

```

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

```

6387 \def\HyPL@SetPageLabels{%
6388     \@onelevel@sanitize\HyPL@Labels
6389     \ifx\HyPL@Labels\@empty
6390     \else
6391         \ifx\HyPL@Labels\HyPL@Useless
6392         \else
6393             \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6394         \fi
6395     \fi
6396 }%

```

```

6397 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6398 \fi

```

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

```

6399 \Hy@DisableOption{pdfpagelabels}
6400 \</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`

```

6401 \<{*pdfTeX}>
6402 \pdf@ifdraftmode{%
6403   \let\Hy@PutCatalog\ltx@gobble
6404 }{%
6405   \let\Hy@PutCatalog\pdfcatalog
6406 }
6407 \</pdfTeX>

```

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

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

```

6408 \<{*vTeX}>
6409 \providecommand*\XR@ext}{pdf}
6410 \edef\Hy@VTeXversion{%
6411   \ifx\VTeXversion\@undefined
6412     \z@
6413   \else
6414     \ifx\VTeXversion\relax
6415       \z@
6416     \else
6417       \VTeXversion
6418     \fi
6419   \fi
6420 }
6421 \begingroup
6422   \ifnum\Hy@VTeXversion<660 %
6423     \gdef\Hy@PutCatalog#1{%
6424       \Hy@WarningNoLine{%
6425         VTeX 6.59g or above required for pdfpagelabels%
6426       }%
6427     }%
6428   \else
6429     \gdef\Hy@PutCatalog#1{%
6430       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6431     }%
6432     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6433       \ifx\#2\%
6434         \else
6435           \immediate\special{!pdfpagelabels #2}%
6436         \fi
6437       }%
6438     \fi

```

```

6439 \endgroup
6440 </vtex>

6441 <*pdftex | vtex>

```

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

```

6442 \ifHy@pdfpagelabels
6443   \def\HyPL@StorePageLabel#1{%
6444     \toks@{\expandafter{\HyPL@Labels}}%
6445     \xdef\HyPL@Labels{%
6446       \the\toks@
6447       \the\Hy@abspage<<#1>>%
6448     }%
6449   }%

```

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.

```

6450 \RequirePackage{atveryend}[2009/12/07]%
6451 \AtVeryEndDocument{%
6452   \HyPL@SetPageLabels
6453 }%

6454 \fi
6455 </pdftex | vtex>

```

27.1.2 xetex

```

6456 <*xetex>
6457 \HyPsd@LoadUnicode
6458 \Hy@unicodetrue
6459 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6460 \else
6461   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6462 \fi
6463 \HyPsd@LoadStringEnc
6464 \define@key{Hyp}{unicode}[true]{%
6465   \Hy@boolkey{unicode}{#1}%
6466   \ifHy@unicode
6467   \else
6468     \Hy@Warning{%
6469       XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6470       option setting 'unicode=false'%
6471     }%
6472   \Hy@unicodetrue
6473 \fi
6474 }
6475 \define@key{Hyp}{pdfencoding}{%
6476   \edef\HyPsd@temp{#1}%
6477   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6478     \let\HyPsd@pdfencoding\HyPsd@temp
6479   \else
6480     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6481       \let\HyPsd@pdfencoding\HyPsd@temp
6482     \else
6483       \Hy@Warning{%
6484         XeTeX driver only supports\MessageBreak
6485         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak

```

```

6486      setting 'pdfencoding=\HyPsd@temp'%
6487    }%
6488  \fi
6489 \fi
6490 }
6491 \let\HyXeTeX@CheckUnicode\relax
6492 </xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6493 <*pdfmarkbase>
6494 \begingroup
6495 \@ifundefined{headerps@out}{-}{%
6496   \toks@\expandafter{\Hy@FirstPageHook}%
6497   \xdef\Hy@FirstPageHook{%
6498     \noexpand\headerps@out{%
6499       systemdict /pdfmark known%
6500       {%
6501         userdict /?pdfmark systemdict /exec get put%
6502       }{%
6503         userdict /?pdfmark systemdict /pop get put %
6504         userdict /pdfmark systemdict /cleartomark get put%
6505       }%
6506     }%
6507   }%
6508   \the\toks@
6509 }%
6510 }%
6511 \endgroup
6512 </pdfmarkbase>

```

\Hy@PutCatalog

```

6513 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6514 <*pdfmarkbase>
6515 \def\Hy@PutCatalog#1{%
6516   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6517 }
6518 </pdfmarkbase>

6519 <*pdfmarkbase | dvipdfm | xetex>
6520 \ifHy@pdfpagelabels

```

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

```

6521 \def\HyPL@StorePageLabel#1{%
6522   \if@filesw
6523     \begingroup
6524     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6525     \immediate\write\@mainaux{%
6526       \string\HyPL@Entry{\Hy@tempa}%
6527     }%
6528     \endgroup
6529   \fi
6530 }%

```

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.

```

6531 \Hy@AtBeginDocument{%

```

```

6532 \if@filesw
6533 \immediate\write\@mainaux{%
6534 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6535 }%
6536 \fi
6537 \ifx\HyPL@Labels\@empty
6538 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6539 \else
6540 \HyPL@SetPageLabels
6541 \fi
6542 \let\HyPL@Entry\@gobble
6543 }%

\HyPL@Entry

6544 \def\HyPL@Entry#1{%
6545 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6546 \HyPL@Labels
6547 #1%
6548 }%
6549 }%

6550 \fi
6551 </pdfmarkbase | dvipdfm | xetex>
6552 <*package>

6553 \ifx\MaybeStopEarly\relax
6554 \else
6555 \Hy@stoppedearlytrue
6556 \expandafter\MaybeStopEarly
6557 \fi
6558 \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

```

6559 \def\Hy@CounterExists#1{%
6560 \begingroup\expandafter\expandafter\expandafter\endgroup
6561 \expandafter\ifx\csname c@#1\endcsname\relax

```



```

6562 \expandafter\@gobble
6563 \else
6564 \begingroup\expandafter\expandafter\expandafter\endgroup
6565 \expandafter\ifx\csname the#1\endcsname\relax
6566 \expandafter\expandafter\expandafter\@gobble
6567 \else
6568 \expandafter\expandafter\expandafter\@firstofone
6569 \fi
6570 \fi
6571 }
6572 \Hy@CounterExists{section}{%
6573 \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6574 }
6575 \Hy@CounterExists{part}{%
6576 \providecommand\theHpart{\arabic{part}}}%
6577 }
6578 \ltx@ifundefined{thechapter}{%
6579 \providecommand\theHsection {\arabic{section}}%
6580 \providecommand\theHfigure {\arabic{figure}}%
6581 \providecommand\theHtable {\arabic{table}}%
6582 }{%
6583 \providecommand\theHchapter {\arabic{chapter}}%
6584 \providecommand\theHfigure {\theHchapter.\arabic{figure}}%
6585 \providecommand\theHtable {\theHchapter.\arabic{table}}%
6586 \providecommand\theHsection {\theHchapter.\arabic{section}}%
6587 }
6588 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6589 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6590 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6591 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6592 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6593 \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.

```

6594 \let\H@item\item
6595 \newcounter{Item}
6596 \def\theHItem{\arabic{Item}}
6597 \def\item{%
6598 \@hyper@itemfalse
6599 \if@nmbbrlist\@hyper@itemtrue\fi
6600 \H@item
6601 }
6602 \providecommand\theHenumi {\theHItem}
6603 \providecommand\theHenumii {\theHItem}
6604 \providecommand\theHenumiii {\theHItem}
6605 \providecommand\theHenumiv {\theHItem}
6606 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6607 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6608 \@ifundefined{theHHmpfootnote}{%
6609 \let\theHHmpfootnote\theHHfootnote
6610 }{}

```

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.

```
6611 \let\H@refstepcounter\refstepcounter
6612 \edef\name@of@eq{equation}%
6613 \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.

```
6614 \newif\if@hyper@item
6615 \newif\if@skiphyperref
6616 \@hyper@itemfalse
6617 \@skiphyperreffalse
6618 \def\refstepcounter#1{%
6619   \ifHy@pdfstring
6620   \else
6621     \H@refstepcounter{#1}%
6622     \edef\This@name{#1}%
6623     \ifx\This@name\name@of@slide
6624     \else
6625       \if@skiphyperref
6626       \else
6627         \if@hyper@item
6628         \stepcounter{Item}%
6629         \hyper@refstepcounter{Item}%
6630         \@hyper@itemfalse
6631       \else
6632         \hyper@refstepcounter{#1}%
6633       \fi
6634     \fi
6635   \fi
6636 \fi
6637 }
6638 \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.

```
6639 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6640 \def\hyper@refstepcounter#1{%
6641   \edef\This@name{#1}%
6642   \ifx\This@name\name@of@eq
6643   \@ifundefined{theHequation}{%
6644     \make@stripped@name{\theequation}%
6645     \let\theHequation\newname
6646   }{}%
6647   \fi
6648   \@ifundefined{theH#1}{%
6649     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6650   }{}%
6651   \hyper@makecurrent{#1}%
6652   \ifmeasuring@
6653   \else
6654     \Hy@raisedlink{%
6655       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6656     }%
6657   \fi
6658 }
```

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`.

```

6659 \begingroup\expandafter\expandafter\expandafter\endgroup
6660 \expandafter\ifx\csname chapter\endcsname\relax
6661   \def\Hy@chapterstring{section}%
6662 \else
6663   \def\Hy@chapterstring{chapter}%
6664 \fi
6665 \def\Hy@appendixstring{appendix}
6666 \def\Hy@chapapp{\Hy@chapterstring}
6667 \ltx@ifundefined{appendix}{%
6668 }{%
6669   \let\HyOrg@appendix\appendix
6670   \def\Hy@AlphNoErr#1{%
6671     \ifnum\value{#1}>26 %
6672       Alph\number\value{#1}%
6673     \else
6674       \ifnum\value{#1}<1 %
6675         Alph\number\value{#1}%
6676       \else
6677         \Alph{#1}%
6678       \fi
6679     \fi
6680   }%
6681   \def\appendix{%
6682     \ltx@ifundefined{chapter}{%
6683       \gdef\theHsection{\Hy@AlphNoErr{section}}%
6684     }{%
6685       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
6686     }%
6687     \xdef\Hy@chapapp{\Hy@appendixstring}%
6688     \HyOrg@appendix
6689   }%
6690 }
```

`\Hy@Test@alph`

```

6691 \def\Hy@Test@alph#1{%
6692   \ifcase#1\or
6693     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6694     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6695     u\or v\or w\or x\or y\or z%
6696   \else
6697     \@ctrerr
6698   \fi
6699 }
```

`\Hy@Test@Alph`

```

6700 \def\Hy@Test@Alph#1{%
6701   \ifcase#1\or
6702     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6703     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6704     U\or V\or W\or X\or Y\or Z%
6705   \else
```

```

6706 \ctrerr
6707 \fi
6708 }

```

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

```

6709 \def\hyper@makecurrent#1{%
6710 \begingroup
6711 \edef\Hy@param{#1}%
6712 \ifx\Hy@param\Hy@chapterstring
6713 \let\Hy@param\Hy@chapapp
6714 \fi
6715 \ifHy@hypertextnames
6716 \let\@number\@firstofone
6717 \def\@fnsymbol##1{\fnsymbol\number##1}%
6718 \def\@arabic##1{\number##1}%
6719 \ifx\@alph\Hy@Test@alph
6720 \else
6721 \def\@alph{alph\number}%
6722 \fi
6723 \ifx\@Alph\Hy@Test@Alph
6724 \else
6725 \def\@Alph{Alph\number}%
6726 \fi
6727 \ifHy@naturalnames
6728 \let\textlatin\@firstofone
6729 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6730 \else
6731 \xdef\HyperGlobalCurrentHref{%
6732 \csname
6733 the%
6734 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6735 #1%
6736 \endcsname
6737 }%
6738 \fi
6739 \xdef\HyperGlobalCurrentHref{%
6740 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6741 }%
6742 \else
6743 \Hy@GlobalStepCount\Hy@linkcounter
6744 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6745 \fi
6746 \endgroup
6747 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6748 \ifHy@localanchorname
6749 \let\@currentHref\HyperLocalCurrentHref
6750 \else
6751 \global\let\@currentHref\HyperGlobalCurrentHref
6752 \fi
6753 }

```

\Hy@MakeCurrentHref

```

6754 \def\Hy@MakeCurrentHref#1{%
6755 \edef\HyperLocalCurrentHref{#1}%
6756 \@onelevel@sanitize\HyperLocalCurrentHref
6757 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref

```

```

6758 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6759 \ifHy@localanchorname
6760 \let\@currentHref\HyperLocalCurrentHref
6761 \else
6762 \global\let\@currentHref\HyperGlobalCurrentHref
6763 \fi
6764 }

```

\Hy@MakeCurrentHrefAuto

```

6765 \def\Hy@MakeCurrentHrefAuto#1{%
6766 \Hy@GlobalStepCount\Hy@linkcounter
6767 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6768 }

```

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

```

6769 \def\@currentHlabel{\@currentHref}

6770 \@ifpackageloaded{fancyvrb}{%
6771 \@ifpackagelater{fancyvrb}{1998/05/20}{%
6772 \def\FV@StepLineNo{%
6773 \FV@SetLineNo
6774 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6775 \FV@StepLineNo
6776 }%
6777 }%
6778 }{}

```

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

```

6779 \Hy@AtBeginDocument{%
6780 \ifclassloaded{revtex4}{%
6781 \namedef{ver@lastpage.sty}{1994/06/25}%
6782 }{}%
6783 \@ifpackageloaded{lastpage}{%
6784 \ifHy@pageanchor
6785 \else
6786 \Hy@WarningNoLine{%
6787 The \string\pageref{LastPage} link doesn't work\MessageBreak
6788 with disabled option 'pageanchor'%
6789 }%
6790 \fi
6791 \def\lastpage@putlabel{%
6792 \addtocounter{page}{-1}%
6793 \if@filesw
6794 \begingroup
6795 \let\@number\@firstofone
6796 \ifHy@pageanchor

```

```

6797     \ifHy@hypertextnames
6798     \ifHy@plainpages
6799         \def\Hy@temp{\arabic{page}}%
6800     \else
6801         \Hy@unicodedefalse
6802         \pdfstringdef\Hy@temp{\thepage}%
6803     \fi
6804     \else
6805         \def\Hy@temp{\the\Hy@pagecounter}%
6806     \fi
6807     \fi
6808     \immediate\write\@auxout{%
6809         \string\newlabel
6810         {LastPage}{\the\Hy@temp}{\thepage}{\thepage}%
6811         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
6812     }%
6813 \endgroup
6814 \fi
6815 \addtocounter{page}{1}%
6816 }%
6817 \@ifclassloaded{revtex4}{%
6818     \begingroup
6819     \toks@\expandafter{\lastpage@putlabel}%
6820     \edef\x{\endgroup
6821         \def\noexpand\lastpage@putlabel{%
6822             \noexpand\stepcounter{page}%
6823             \the\toks@
6824             \noexpand\addtocounter{page}\noexpand\m@ne
6825         }%
6826     }%
6827     \x
6828     }{}%
6829 }{}%
6830 }
6831 \</package>
6832 \< *check>
6833 \checkpackage{lastpage}[1994/06/25]
6834 \checkcommand\def\lastpage@putlabel{%
6835     \addtocounter{page}{-1}%
6836     \immediate\write\@auxout{%
6837         \string\newlabel{LastPage}{\thepage}{\thepage}}%
6838     }%
6839     \addtocounter{page}{1}%
6840 }
6841 \</check>
6842 \< *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.

```

6843 \def\hypergetref#1{\getrefbykeydefault{#1}{}}
6844 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```
6845 \@ifpackageloaded{titlesec}{%
6846   \def\ttl@Hy@steplink#1{%
6847     \Hy@MakeCurrentHrefAuto{#1*}%
6848     \edef\ttl@Hy@saveanchor{%
6849       \noexpand\Hy@raisedlink{%
6850         \noexpand\hyper@anchorstart{\@currentHref}%
6851         \noexpand\hyper@anchorend
6852       \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6853       \noexpand\ttl@Hy@PatchSaveWrite
6854     }%
6855   }%
6856 }%
6857 \def\ttl@Hy@PatchSaveWrite{%
6858   \begingroup
6859   \toks@{\expandafter{\ttl@savewrite}}%
6860   \edef\x{\endgroup
6861     \def\noexpand\ttl@savewrite{%
6862       \let\noexpand\@currentHref
6863       \noexpand\ttl@Hy@SavedCurrentHref
6864       \the\toks@
6865     }%
6866   }%
6867   \x
6868 }%
6869 \def\ttl@Hy@refstepcounter#1{%
6870   \let\ttl@b\Hy@raisedlink
6871   \def\Hy@raisedlink##1{%
6872     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6873   }%
6874   \refstepcounter{#1}%
6875   \let\Hy@raisedlink\ttl@b
6876 }%
6877 }
```

Package titletoc support:

```
6878 \@ifpackageloaded{titletoc}{%
6879   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6880 }
```

32 Package varioref support

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

```
6881 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
6882 \@ifpackageloaded{varioref}{%
6883   \def\vref@pagenum#1#2{%
6884     \@ifundefined{r@#2}{%
6885       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6886     }{}%
6887     \edef#1{\getpagerefnumber{#2}}%
6888   }%
6889 }
```

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

```

6890 \def\Hy@varioref@refstepcounter#1{%
6891   \stepcounter{#1}%
6892   \protected@edef\@currentlabel{%
6893     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6894   }%
6895 }
6896 \AtBeginDocument{%
6897   \ifx\refstepcounter\Hy@varioref@refstepcounter
6898     \let\H@refstepcounter\refstepcounter
6899     \let\refstepcounter\Hy@saved@refstepcounter
6900   \fi
6901 }
```

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

```

6902 \@ifpackageloaded{longtable}{%
6903   \begingroup
6904   \def\y{\LT@array}%
6905   \@ifundefined{scr@LT@array}{%
6906     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6907   }{\def\y{\scr@LT@array}}%
6908   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6909     \expandafter\endgroup
6910     \expandafter\def\y[##1]##2{%
6911       \H@refstepcounter{#1}%
6912       \hyper@makecurrent{table}%
6913       \let\Hy@LT@currentHref\@currentHref
6914       #2\@sharp###4%
6915     }%
6916   }%
6917   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
```

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

```

6918 \begingroup
6919 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6920   \endgroup
6921   \def\LT@start{%
6922     #1%
6923     \ifvoid\LT@foot#2\fi
6924     \let\@currentHref\Hy@LT@currentHref
6925     \Hy@raisedlink{%
6926       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6927     }%
6928     #3%
6929   }%
6930 }%
6931 \expandafter\x\LT@start\@nil
6932 }
```


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.

```

6933 \let\new@refstepcounter\refstepcounter
6934 \let\H@equation\equation
6935 \let\H@endequation\endequation

6936 \@ifpackageloaded{amsmath}{%
6937   \long\def\Hy@temp{%
6938     \incr@eqnum
6939     \mathdisplay@push
6940     \st@rredfalse \global\@eqnswtrue
6941     \mathdisplay{equation}%
6942   }%
6943   \ifx\Hy@temp\equation
6944     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6945       \csname iftrue\endcsname
6946   \else
6947     \long\def\equation{%
6948       \mathdisplay@push
6949       \st@rredfalse \global\@eqnswtrue
6950       \mathdisplay{equation}%
6951       \incr@eqnum
6952     }%
6953   \fi
6954 \fi
6955 }{%
6956 \def\equation{%
6957   \let\refstepcounter\H@refstepcounter
6958   \H@equation
6959   \@ifundefined{theHequation}{%
6960     \make@stripped@name{\theequation}%
6961     \let\theHequation\newname
6962   }{%
6963     \hyper@makecurrent{equation}%

```

`\mathopen` is needed in case the equation starts with an unary minus, for example.

```

6964   \mathopen{%
6965     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6966   }%
6967   \let\refstepcounter\new@refstepcounter
6968 }%
6969 \def\endequation{%
6970   \ifx\Hy@raisedlink\ltx@empty
6971     \hyper@anchorend
6972   \else
6973     \mathclose{\Hy@raisedlink{\hyper@anchorend}}%
6974   \fi
6975   \H@endequation
6976 }%
6977 }

```

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.

```

6978 \newif\if@eqnstar
6979 \@eqnstarfalse
6980 \let\H@eqnarray\eqnarray
6981 \let\H@endeqnarray\endeqnarray
6982 \def\eqnarray{%
6983   \let\Hy@reserved@a\relax
6984   \def\@currentHref{%
6985     \H@eqnarray
6986     \if@eqnstar
6987     \else
6988       \ifx\@currentHref\%
6989       \else
6990         \ifundefined{theHequation}{%
6991           \make@stripped@name{\theequation}%
6992           \let\theHequation\newname
6993         }{%
6994           \hyper@makecurrent{equation}%
6995           \mathopen{%
6996             \Hy@raisedlink{%
6997               \hyper@anchorstart{\@currentHref}\hyper@anchorend
6998             }%
6999           }%
7000         \fi
7001       \fi
7002     }
7003   \def\endeqnarray{%
7004     \H@endeqnarray
7005   }

```

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.

```

7006 \@namedef{eqnarray*}{%
7007   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7008 }
7009 \@namedef{endeqnarray*}{%
7010   \nonumber\endeqnarray\@eqnstarfalse
7011 }

```

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

```

7012 \ltx@ifundefined{subeqnarray}{-}{%
7013   \let\H@subeqnarray\subeqnarray
7014   \let\H@endsubeqnarray\endsubeqnarray
7015   \def\subeqnarray{%
7016     \let\Hy@reserved@a\relax
7017     \H@subeqnarray
7018     \@ifundefined{theHequation}{%
7019       \make@stripped@name{\theequation}%
7020       \let\theHequation\newname
7021     }{%
7022       \hyper@makecurrent{equation}%
7023       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7024     }%
7025   \def\endsubeqnarray{%

```

```

7026 \H@endsubeqnarray
7027 }%
7028 \providecommand\theHsubequation{\theHequation\alph{subequation}}}%
7029 }

```

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

```

7030 \def\make@stripped@name#1{%
7031 \begingroup
7032 \escapechar\m@ne
7033 \global\let\newname\@empty
7034 \protected@edef\Hy@tempa{#1}%
7035 \edef\@tempb{%
7036 \noexpand\@tfor\noexpand\Hy@tempa:=%
7037 \expandafter\strip@prefix\meaning\Hy@tempa
7038 }%
7039 \@tempb\do{%
7040 \if{\Hy@tempa\else
7041 \if}\Hy@tempa\else
7042 \xdef\newname{\newname\Hy@tempa}%
7043 \fi
7044 \fi
7045 }%
7046 \endgroup
7047 }

```

Support for amsmath's subequations:

```

7048 \begingroup\expandafter\expandafter\expandafter\endgroup
7049 \expandafter\ifx\csname subequations\endcsname\relax
7050 \else
7051 \let\HyOrg@subequations\subequations
7052 \def\subequations{%
7053 \stepcounter{equation}%
7054 \protected@edef\theHparentequation{%
7055 \ifundefined{theHequation}\theequation\theHequation
7056 }%
7057 \addtocounter{equation}{-1}%
7058 \HyOrg@subequations
7059 \def\theHequation{\theHparentequation\alph{equation}}}%
7060 \ignorespaces
7061 }%
7062 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7063 \@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

7064 \def\Hy@temp#1#2#3{%
7065 \ifhmode\unskip\unskip\par\fi
7066 \normalfont
7067 \trivlist
7068 \let\thmheadnl\relax
7069 \let\thm@swap\@gobble
7070 \let\thm@indent\indent % indent
7071 \thm@headfont{\scshape}% heading font small caps

```

```

7072 \thm@notefont{\fontseries\mddefault\upshape}%
7073 \thm@headpunct{.}% add period after heading
7074 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7075 \thm@space@setup
7076 #1% style overrides
7077 \@topsep \thm@preskip % used by thm head
7078 \@topsepadd \thm@postskip % used by \@endparenv
7079 \def\@tempa{#2}\ifx\@empty\@tempa
7080 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}}%
7081 \else
7082 \refstepcounter{#2}%
7083 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}}%
7084 \fi
7085 \@tempa
7086 }%
7087 \ifx\Hy@temp\@thm
7088 \def\@thm#1#2#3{%
7089 \ifhmode
7090 \unskip\unskip\par
7091 \fi
7092 \normalfont
7093 \trivlist
7094 \let\thmheadnl\relax
7095 \let\thm@swap\@gobble
7096 \let\thm@indent\indent % indent
7097 \thm@headfont{\scshape}% heading font small caps
7098 \thm@notefont{\fontseries\mddefault\upshape}%
7099 \thm@headpunct{.}% add period after heading
7100 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7101 \thm@space@setup
7102 #1% style overrides
7103 \@topsep \thm@preskip % used by thm head
7104 \@topsepadd \thm@postskip % used by \@endparenv
7105 \def\@dth@counter{#2}%
7106 \ifx\@empty\@dth@counter
7107 \def\@tempa{%
7108 \@oparg{\@begintheorem{#3}{}}{}}}%
7109 }%
7110 \else
7111 \H@refstepcounter{#2}%
7112 \hyper@makecurrent{#2}%
7113 \let\Hy@dth@currentHref\@currentHref
7114 \def\@tempa{%
7115 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}}%
7116 }%
7117 \fi
7118 \@tempa
7119 }%
7120 \else
7121 \def\@thm#1#2#3{%
7122 \ifhmode
7123 \unskip\unskip\par
7124 \fi
7125 \normalfont
7126 \trivlist
7127 \let\thmheadnl\relax
7128 \let\thm@swap\@gobble

```

```

7129 \thm@notefont{\fontseries\mddefault\upshape}%
7130 \thm@headpunct{.}% add period after heading
7131 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7132 \thm@space@setup
7133 #1% style overrides
7134 \@topsep \thm@preskip % used by thm head
7135 \@topsepadd \thm@postskip % used by \@endparenv
7136 \def\dth@counter{#2}%
7137 \ifx\@empty\dth@counter
7138 \def\@tempa{%
7139 \oparg{\@begintheorem{#3}{}}}%
7140 }%
7141 \else
7142 \H@refstepcounter{#2}%
7143 \hyper@makecurrent{#2}%
7144 \let\Hy@dth@currentHref\@currentHref
7145 \def\@tempa{%
7146 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7147 }%
7148 \fi
7149 \@tempa
7150 }%
7151 \fi
7152 \dth@everypar={%
7153 \@minipagefalse
7154 \global\@newlistfalse
7155 \@noparitemfalse
7156 \if@inlabel
7157 \global\@inlabelfalse
7158 \begingroup
7159 \setbox\z@\lastbox
7160 \ifvoid\z@
7161 \kern-\itemindent
7162 \fi
7163 \endgroup
7164 \ifx\@empty\dth@counter
7165 \else
7166 \Hy@raisedlink{%
7167 \hyper@anchorstart{%
7168 \ltx@ifundefined{Hy@dth@currentHref}%
7169 \@currentHref\Hy@dth@currentHref
7170 }\hyper@anchorend
7171 }%
7172 \fi
7173 \unhbox\@labels
7174 \fi
7175 \if@nobreak
7176 \@nobreakfalse \clubpenalty\@M
7177 \else
7178 \clubpenalty\@clubpenalty \everypar{}%
7179 \fi
7180 }%
7181 }-{}

```

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.

```

7182 \ifHy@hyperfootnotes
7183   \newcounter{Hfootnote}%
7184   \let\H@@@footnotetext\@footnotetext
7185   \let\H@@@footnotemark\@footnotemark
7186   \def\@xfootnotenext[#1]{%
7187     \begingroup
7188       \csname c@\@mpfn\endcsname #1\relax
7189       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7190     \endgroup
7191     \ifx\@footnotetext\@mpfootnotetext
7192       \expandafter\H@@@mpfootnotetext
7193     \else
7194       \expandafter\H@@@footnotetext
7195     \fi
7196   }%
7197   \def\@xfootnotemark[#1]{%
7198     \begingroup
7199       \c@footnote #1\relax
7200       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7201     \endgroup
7202     \H@@@footnotemark
7203   }%
7204   \let\H@@@mpfootnotetext\@mpfootnotetext
7205   \long\def\@mpfootnotetext#1{%
7206     \H@@@mpfootnotetext{%
7207       \ifHy@nesting
7208         \expandafter\ltx@firstoftwo
7209       \else
7210         \expandafter\ltx@secondoftwo
7211       \fi
7212     }%
7213     \expandafter\hyper@@@anchor\expandafter{%
7214       \Hy@footnote@currentHref
7215     }{#1}%
7216   }{%
7217     \Hy@raisedlink{%
7218       \expandafter\hyper@@@anchor\expandafter{%
7219         \Hy@footnote@currentHref
7220       }{\relax}%
7221     }#1%
7222   }%
7223 }%
7224 }%
7225 \long\def\@footnotetext#1{%
7226   \H@@@footnotetext{%
7227     \ifHy@nesting
7228       \expandafter\ltx@firstoftwo
7229     \else
7230       \expandafter\ltx@secondoftwo
7231     \fi

```

```

7232 {%
7233   \expandafter\hyper@@anchor\expandafter{%
7234     \Hy@footnote@currentHref
7235   }{#1}%
7236 }{%
7237   \Hy@raisedlink{%
7238     \expandafter\hyper@@anchor\expandafter{%
7239       \Hy@footnote@currentHref
7240     }\relax}%
7241 }%
7242 \let\@currentHref\Hy@footnote@currentHref
7243 \let\@currentlabelname\@empty
7244 #1%
7245 }%
7246 }%
7247 }%

```

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.

```

7248 \def\@footnotemark{%
7249   \leavevmode
7250   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7251   \stepcounter{Hfootnote}%
7252   \global\let\Hy@saved@currentHref\@currentHref
7253   \hyper@makecurrent{Hfootnote}%
7254   \global\let\Hy@footnote@currentHref\@currentHref
7255   \global\let\@currentHref\Hy@saved@currentHref
7256   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7257   \@makefnmark
7258   \hyper@linkend
7259   \ifhmode\spacefactor\@x@sf\fi
7260   \relax
7261 }%

```

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

```

7262 \@ifpackageloaded{tabularx}{%
7263   \let\HyOrg@TX@endtabularx\TX@endtabularx
7264   \def\Hy@tabularx@hook{%
7265     \let\@footnotetext\H@@footnotetext
7266     \let\@footnotemark\H@@footnotemark
7267     \let\@mpfootnotetext\H@@mpfootnotetext
7268   }%
7269   \begingroup
7270     \toks@\expandafter{\TX@endtabularx}%
7271     \xdef\Hy@gtemp{%
7272       \noexpand\Hy@tabularx@hook
7273       \the\toks@
7274     }%
7275   \endgroup
7276   \let\TX@endtabularx\Hy@gtemp
7277 }{}%

```

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

```

7278 \ifpackageloaded{longtable}{%
7279   \CheckCommand*{\LT@p@ftntext}[1]{%
7280     \edef\@tempa{%
7281       \the\LT@p@ftn
7282       \noexpand\footnotetext[\the\c@footnote]%
7283     }%
7284     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7285   }%
7286   \long\def\LT@p@ftntext#1{%
7287     \edef\@tempa{%
7288       \the\LT@p@ftn
7289       \begingroup
7290         \noexpand\c@footnote=\the\c@footnote\relax
7291         \noexpand\protected@xdef\noexpand\@thefnmark{%
7292           \noexpand\thempfn
7293         }%
7294         \noexpand\Hy@LT@footnotetext{%
7295           \Hy@footnote@currentHref
7296         }%
7297       }%
7298       \global\LT@p@ftn\expandafter{%
7299         \@tempa{#1}%
7300       }%
7301     }%
7302   }%
7303   \long\def\Hy@LT@footnotetext#1#2{%
7304     \H@@@footnotetext{%
7305       \ifHy@nesting
7306         \hyper@@@anchor{#1}{#2}%
7307       \else
7308         \Hy@raisedlink{%
7309           \hyper@@@anchor{#1}{\relax}%
7310         }%
7311         \def\@currentHref{#1}%
7312         \let\@currentlabelname\@empty
7313         #2%
7314       \fi
7315     }%
7316   }%
7317 }{}%
```

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

```

7318 \ifpackageloaded{fancyvrb}{%
7319   \def\V@@@footnotetext{%
7320     \insert\footins\bgroup
7321     \csname reset@font\endcsname
7322     \footnotesize
7323     \interlinepenalty\interfootnotelinepenalty
7324     \splittopskip\footnotesep
7325     \splitmaxdepth\dp\strutbox
7326     \floatingpenalty \@MM
7327     \hsize\columnwidth
7328     \@parboxrestore
7329     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7330     \@makefnmark{}%
7331     \rule{\z@}{\footnotesep}%

```



```

7332 \bgroup
7333 \aftergroup\V@@@footnotetext
7334 \Hy@raisedlink{%
7335   \expandafter\hyper@@anchor\expandafter{%
7336     \Hy@footnote@currentHref
7337   }\relax}%
7338 }%
7339 \let\@currentHref\Hy@footnote@currentHref
7340 \let\@currentlabelname\@empty
7341 \ignorespaces
7342 }%
7343 }{}%

```

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

```

7344 \def\Hy@temp#1{%
7345   \begingroup
7346     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7347   \endgroup
7348   \@footnotemark
7349 }%
7350 \ifx\Hy@temp\footref
7351   \def\footref#1{%
7352     \begingroup
7353       \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7354     \endgroup
7355     \H@@@footnotemark
7356   }%
7357 \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.

```

7358 \let\HyOrg@maketitle\maketitle
7359 \def\maketitle{%
7360   \let\Hy@saved@footnotemark\@footnotemark
7361   \let\Hy@saved@footnotetext\@footnotetext
7362   \let\@footnotemark\H@@@footnotemark
7363   \let\@footnotetext\H@@@footnotetext
7364   \@ifnextchar[\Hy@maketitle@optarg{% ]
7365     \HyOrg@maketitle
7366     \Hy@maketitle@end
7367   }%
7368 }%
7369 \def\Hy@maketitle@optarg[#1]{%
7370   \HyOrg@maketitle[{#1}]%
7371   \Hy@maketitle@end
7372 }%
7373 \def\Hy@maketitle@end{%
7374   \ifx\@footnotemark\H@@@footnotemark
7375     \let\@footnotemark\Hy@saved@footnotemark
7376   \fi
7377   \ifx\@footnotetext\H@@@footnotetext
7378     \let\@footnotetext\Hy@saved@footnotetext
7379   \fi
7380 }%

```

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

```

7381 \def\realfootnote{%
7382   \ifnextchar[\@xfootnote{%
7383     \stepcounter{\@mpfn}%
7384     \protected@xdef\@thefnmark{\thempfn}%
7385     \H@@footnotemark\H@@footnotetext
7386   }%
7387 }%

7388 \fi
7389 \Hy@DisableOption{hyperfootnotes}

7390 </package>
7391 <*check>
7392 \checklatex
7393 \checkcommand\def\@xfootnotenext[#1]{%
7394   \begingroup
7395     \csname c@\@mpfn\endcsname #1\relax
7396     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7397   \endgroup
7398   \@footnotetext
7399 }
7400 \checkcommand\def\@xfootnotemark[#1]{%
7401   \begingroup
7402     \c@footnote #1\relax
7403     \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7404   \endgroup
7405   \@footnotemark
7406 }
7407 \checkcommand\def\@footnotemark{%
7408   \leavevmode
7409   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7410   \@makefnmark
7411   \ifhmode\spacefactor\@x@sf\fi
7412   \relax
7413 }
7414 </check>
7415 <*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.

```

7416 \def\caption{%
7417   \ifx\@cuptype\@undefined
7418     \@latex@error{\noexpand\caption outside float}\@ehd
7419     \expandafter\@gobble
7420   \else
7421     \H@refstepcounter\@cuptype
7422     \let\Hy@tempa\@caption
7423     \@ifundefined{float@caption}{%
7424       }{%
7425         \expandafter\ifx\csname @float@c@\@cuptype\endcsname
7426           \float@caption
7427         \let\Hy@tempa\Hy@float@caption
7428       }
7429     }%
7430     \expandafter\@firstofone

```

```

7431 \fi
7432 {\@dblarg{\Hy@tempa\@captype}}%
7433 }
7434 \long\def\@caption#1[#2]#3{%
7435 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7436 \csname iftrue\endcsname
7437 \global\let\@currentHref\hc@currentHref
7438 \else
7439 \hyper@makecurrent{\@captype}%
7440 \fi
7441 \@ifundefined{NR@gettitle}{%
7442 \def\@currentlabelname{#2}%
7443 }{%
7444 \NR@gettitle{#2}%
7445 }%
7446 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7447 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7448 }%
7449 \begingroup
7450 \@parboxrestore
7451 \if@minipage
7452 \setminipage
7453 \fi
7454 \normalsize
7455 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7456 \csname iftrue\endcsname
7457 \global\@capstartfalse
7458 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7459 \else
7460 \@makecaption{\csname fnum@#1\endcsname}{%
7461 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7462 \ifHy@nesting
7463 \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
7464 \else
7465 \Hy@raisedlink{%
7466 \expandafter\hyper@@@anchor\expandafter{%
7467 \@currentHref
7468 }{\relax}%
7469 }%
7470 #3%
7471 \fi
7472 }%
7473 \fi
7474 \par
7475 \endgroup
7476 }

```

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.

`\HyNew@float@makebox` is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

```

7477 \let\Hy@float@caption\@caption
7478 \newcommand{\HyNew@float@makebox}[1]{%
7479 \HyOrg@float@makebox{%
7480 #1\relax

```

```

7481 \ifx\Hy@float@currentHref\@undefined
7482 \else
7483 \expandafter\hyper@@anchor\expandafter{%
7484 \Hy@float@currentHref
7485 }{\relax}%
7486 \global\let\Hy@float@currentHref\@undefined
7487 \fi
7488 }%
7489 }%
7490 \@ifpackageloaded{float}{%
7491 \def\Hy@float@caption{%
7492 \ifx\Hy@float@currentHref\@undefined
7493 \hyper@makecurrent{\@capttype}%
7494 \global\let\Hy@float@currentHref\@currentHref
7495 \else
7496 \let\@currentHref\Hy@float@currentHref
7497 \fi
7498 \float@caption
7499 }%
7500 \let\HyOrg@float@makebox\float@makebox
7501 \let\float@makebox\HyNew@float@makebox
7502 }{}

7503 \</package>
7504 \<*check>
7505 \checklatex[1999/06/01 - 2000/06/01]
7506 \checkcommand\def\caption{%
7507 \ifx\@capttype\@undefined
7508 \@latex@error{\noexpand\caption outside float}\@ehd
7509 \expandafter\@gobble
7510 \else
7511 \refstepcounter\@capttype
7512 \expandafter\@firstofone
7513 \fi
7514 {\@dblarg{\@caption\@capttype}}}%
7515 }
7516 \checkcommand\long\def\@caption#1[#2]#3{%
7517 \par
7518 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7519 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7520 }%
7521 \begingroup
7522 \@parboxrestore
7523 \if@minipage
7524 \@setminipage
7525 \fi
7526 \normalsize
7527 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7528 \endgroup
7529 }
7530 \</check>
7531 \<*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 `\babcite`; 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.

```

7532 \def\hyper@natlinkstart#1{%
7533   \Hy@backout{#1}%
7534   \hyper@linkstart{cite}{cite.#1}%
7535   \def\hyper@nat@current{#1}%
7536 }
7537 \def\hyper@natlinkend{%
7538   \hyper@linkend
7539 }
7540 \def\hyper@natlinkbreak#1#2{%
7541   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7542 }
7543 \def\hyper@natanchorstart#1{%
7544   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7545 }
7546 \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.

```

7547 \ltx@ifundefined{NAT@parse}{%
7548   \providecommand*\@extra@binfo{}%
7549   \providecommand*\@extra@b@citeb{}%
7550   \def\babcite#1#2{%
7551     \@newl@bel{b}{#1\@extra@binfo}{%
7552       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7553     }%
7554   }%
7555   \gdef\@extra@binfo{}%

```

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

```

7556 \let\Hy@babcite\babcite
7557 \begingroup
7558   \@ifundefined{bbl@cite@choice}{}{%
7559     \g@addto@macro\bbl@cite@choice{%
7560       \let\babcite\Hy@babcite
7561     }%
7562   }%
7563 \endgroup

```

`\@BIBLABEL` is working around a ‘feature’ of Rev_{TeX}.

```

7564 \providecommand*\@BIBLABEL{\@biblabel}%
7565 \def\@bibitem[#1]#2{%
7566   \@skiphypreftrue
7567   \H@item[%
7568     \ifx\Hy@raisedlink\@empty
7569       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7570     \@BIBLABEL{#1}%
7571     \hyper@anchorend
7572   \else
7573     \Hy@raisedlink{%

```

```

7574     \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7575     }%
7576     \@BIBLABEL{#1}%
7577     \fi
7578     \hfill
7579     ]%
7580     \@skiphyperreffalse
7581     \if@filesw
7582     \begingroup
7583     \let\protect\noexpand
7584     \immediate\write\@auxout{%
7585     \string\bibcite{#2}{#1}%
7586     }%
7587     \endgroup
7588     \fi
7589     \ignorespaces
7590 }%

```

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

```

7591 \def\@bibitem#1{%
7592   \@skiphyperrefftrue\H@item\@skiphyperreffalse
7593   \Hy@raisedlink{%
7594     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7595   }%
7596   \if@filesw
7597   \begingroup
7598   \let\protect\noexpand
7599   \immediate\write\@auxout{%
7600     \string\bibcite{#1}{\the\value{\@listctr}}}%
7601   }%
7602   \endgroup
7603   \fi
7604   \ignorespaces
7605 }%
7606 }{}

7607 \</package>
7608 \<*check>
7609 \checklatex
7610 \checkcommand\def\@lbibitem[#1]#2{%
7611   \item[\@biblabel{#1}\hfill]%
7612   \if@filesw
7613   {%
7614     \let\protect\noexpand
7615     \immediate\write\@auxout{%
7616       \string\bibcite{#2}{#1}%
7617     }%
7618   }%
7619   \fi
7620   \ignorespaces
7621 }
7622 \checkcommand\def\@bibitem#1{%
7623   \item
7624   \if@filesw
7625   \immediate\write\@auxout{%
7626     \string\bibcite{#1}{\the\value{\@listctr}}}%
7627   }%

```

```

7628 \fi
7629 \ignorespaces
7630 }
7631 </check>
7632 <*package>

```

Revtext (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.

```

7633 \ifclassloaded{revtex}{%
7634 \Hy@Info{*** compatibility with revtex **** }%
7635 \def\revtex@checking#1#2{%
7636 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7637 \expandafter\def\csname b@#1\endcsname{#2}%
7638 \@SetMaxRnhefLabel{#1}%
7639 \expandafter\let\csname b@#1\endcsname\T@temp
7640 }%

```

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

```

7641 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
7642 \providecommand*\@extra@b@citeb{}%
7643 \def\CITEX[#1]#2{%
7644 \let\@citea\@empty
7645 \leavevmode
7646 \unskip
7647 $\{ %
7648 \scriptstyle
7649 \@CITE{%
7650 \@for\@citeb:=#2\do{%
7651 \@citea
7652 \def\@citea{,\penalty\@m\ }%
7653 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7654 \if@filesw
7655 \immediate\write\@auxout{\string\citation{\@citeb}}%
7656 \fi
7657 \@ifundefined{b@\@citeb\extra@b@citeb}{}%
7658 \mbox{\reset@font\bfseries ?}%
7659 \G@refundefinedtrue
7660 \@latex@warning{%
7661 Citation '\@citeb' on page \thepage \space undefined%
7662 }%
7663 }%
7664 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7665 }%
7666 }%
7667 }{#1}%
7668 }$%
7669 }%

```

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

```

7670 \def\@citex[#1]#2{%
7671 \let\@citea\@empty
7672 \@cite{%
7673 \@for\@citeb:=#2\do{%
7674 \@citea
7675 \def\@citea{,\penalty\@m\ }%

```

```

7676 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7677 \if@filesw
7678 \immediate\write\@auxout{\string\citation{\@citeb}}}%
7679 \fi
7680 \ifundefined{b@\@citeb\@extra@b@citeb}{%
7681 \mbox{\reset@font\bfseries ?}%
7682 \G@refundefinedtrue
7683 \@latex@warning{%
7684 Citation '\@citeb' on page \thepage \space undefined%
7685 }%
7686 }{%
7687 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7688 }%
7689 }%
7690 }{#1}%
7691 }%
7692 }{}

```

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.

```

7693 \ifpackageloaded{harvard}{%
7694 \Hy@AtBeginDocument{%
7695 \Hy@Info{*** compatibility with harvard **** }%
7696 \Hy@raiselinksfalse
7697 \def\harvardcite#1#2#3#4{%
7698 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite{#1}{#2}}}%
7699 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite{#1}{#3}}}%
7700 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite{#1}{#4}}}%
7701 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7702 }%
7703 \def\HAR@citetoaux#1{%
7704 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7705 \ifHy@backref
7706 \ifx\@empty\@currentlabel
7707 \else
7708 \@bsphack
7709 \if@filesw
7710 \protected@write\@auxout{}{%
7711 \string\@writefile{brf}{%
7712 \string\backcite{#1}{%
7713 {\thepage}{\@currentlabel}{\@currentHref}%
7714 }%
7715 }%
7716 }%
7717 \fi
7718 \@esphack
7719 \fi
7720 \fi
7721 }%

```



```

7722 \def\harvarditem{%
7723   \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
7724 }%
7725 \def\@harvarditem[#1]#2#3#4#5\par{%
7726   \item[]%
7727   \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7728   \if@filesw
7729     \begingroup
7730       \def\protect##1{\string ##1\space}%
7731       \ifthenelse{\equal{#1}{\null}}{%
7732         {\def\next{{#4}{#2}{#2}{#3}}}%
7733         {\def\next{{#4}{#2}{#1}{#3}}}%
7734       \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7735     \endgroup
7736   \fi
7737   \protect\hspace*{-\labelwidth}%
7738   \protect\hspace*{-\labelsep}%
7739   \ignorespaces
7740   #5%
7741   \ifHy@backref
7742     \newblock
7743     \backref{\csname br@#4\endcsname}%
7744   \fi
7745   \par
7746 }%

```

\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:

```

7747 \long\def\HAR@checkcitations#1#2#3#4{%
7748   \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7749   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7750     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7751     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7752       \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7753       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7754         \else
7755           \@tempswatrue
7756         \fi
7757       \else
7758         \@tempswatrue
7759       \fi
7760     \else
7761       \@tempswatrue
7762     \fi
7763   }%
7764 }%

7765 }{}

```

37.2 Package chicago

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

```

7766 \@ifpackageloaded{chicago}{%

```

\citeN

```

7767   \def\citeN{%

```

```

7768 \def\@citeseppen{-1000}%
7769 \def\@cite##1##2{##1}%
7770 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7771 \@citedata@opt
7772 }%

\shortciteN
7773 \def\shortciteN{%
7774 \def\@citeseppen{-1000}%
7775 \def\@cite##1##2{##1}%
7776 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7777 \@citedata@opt
7778 }%

\@citedata@opt
7779 \def\@citedata@opt{%
7780 \let\@cite@opt\@empty
7781 \@ifnextchar [{%
7782 \@tempswatrue
7783 \@citedatax@opt
7784 }{%
7785 \@tempswafalse
7786 \@citedatax[]%
7787 }%
7788 }%

\@citedatax@opt
7789 \def\@citedatax@opt[#1]{%
7790 \def\@cite@opt{, #1}%
7791 \@citedatax[{#1}]%
7792 }%

7793 }{}

```

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.

```

7794 \ltx@ifclassloaded{slides}{%
7795 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7796 \def\Hy@PageAnchorSlidesPlain{%
7797 \advance\c@page\ltx@one
7798 \edef\Hy@TempPageAnchor{%
7799 \noexpand\hyper@@@anchor{%
7800 page.\the\c@slide.\the\c@overlay.\the\c@note%
7801 \ifnum\c@page=\ltx@one
7802 \else
7803 .\the\c@page
7804 \fi
7805 }%
7806 }%
7807 \advance\c@page-\ltx@one

```

```

7808 }%
7809 \def\Hy@PageAnchorSlide{%
7810 \advance\c@page\ltx@one
7811 \ifnum\c@page>\ltx@one
7812 \ltx@ifundefined{theHpage}{%
7813 \protected@edef\Hy@TheSlideOptionalPage{%
7814 \Hy@SlidesFormatOptionalPage{thepage}%
7815 }%
7816 }{%
7817 \protected@edef\Hy@TheSlideOptionalPage{%
7818 \Hy@SlidesFormatOptionalPage{theHpage}%
7819 }%
7820 }%
7821 \else
7822 \def\Hy@TheSlideOptionalPage{}%
7823 \fi
7824 \advance\c@page-\ltx@one
7825 \pdfstringdef\@the@H@page{%
7826 \csname
7827 the%
7828 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7829 \Hy@SlidesPage
7830 \endcsname
7831 \Hy@TheSlideOptionalPage
7832 }%
7833 \ltx@gobblethree
7834 }%
7835 \def\Hy@SlidesPage{slide}%
7836 \g@addto@macro\slide{%
7837 \def\Hy@SlidesPage{slide}%
7838 }%
7839 \g@addto@macro\overlay{%
7840 \def\Hy@SlidesPage{overlay}%
7841 }%
7842 \g@addto@macro\note{%
7843 \def\Hy@SlidesPage{note}%
7844 }%
7845 }{%
7846 \def\Hy@PageAnchorSlidesPlain{}%
7847 \def\Hy@PageAnchorSlide{}%
7848 }
7849 \def\Hy@EveryPageAnchor{%
7850 \Hy@DistillerDestFix
7851 \ifHy@pageanchor
7852 \ifHy@hypertextnames
7853 \ifHy@plainpages
7854 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7855 \Hy@PageAnchorSlidesPlain
7856 \else
7857 \begingroup
7858 \let\@number\@firstofone
7859 \Hy@unicodedefalse
7860 \Hy@PageAnchorSlide
7861 \pdfstringdef\@the@H@page{\thepage}%
7862 \endgroup
7863 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7864 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%

```

```

7865 \fi
7866 \else
7867 \Hy@GlobalStepCount\Hy@pagecounter
7868 \def\Hy@TempPageAnchor{%
7869 \hyper@@anchor{page.\the\Hy@pagecounter}%
7870 }%
7871 \fi
7872 \vbox to 0pt{%
7873 \kern\voffset
7874 \kern\topmargin
7875 \kern-1bp\relax
7876 \hbox to 0pt{%
7877 \kern\hoffset
7878 \kern\ifodd\value{page}%
7879 \oddsidemargin
7880 \else
7881 \evensidemargin
7882 \fi
7883 \kern-1bp\relax
7884 \Hy@TempPageAnchor\relax
7885 \hss
7886 }%
7887 \vss
7888 }%
7889 \fi
7890 }
7891 \g@addto@macro\Hy@EveryPageBoxHook{%
7892 \Hy@EveryPageAnchor
7893 }

```

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.

```

7894 \def\addcontentsline#1#2#3{% toc extension, type, tag
7895 \begingroup
7896 \let\label\@gobble
7897 \ifx\@currentHref\@empty
7898 \Hy@Warning{%
7899 No destination for bookmark of \string\addcontentsline,%
7900 \MessageBreak destination is added%
7901 }%
7902 \phantomsection
7903 \fi
7904 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7905 \begingroup
7906 \def\Hy@tempa{#1}%
7907 \ifx\Hy@tempa\Hy@bookmarkstype
7908 \Hy@WarningNoLine{%
7909 bookmark level for unknown #2 defaults to 0%
7910 }%
7911 \else
7912 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7913 \fi
7914 \endgroup

```

```

7915 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7916 \fi
7917 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7918 \Hy@writebookmark{\csname the#2\endcsname}%
7919 {#3}%
7920 {\@currentHref}%
7921 {\Hy@toplevel}%
7922 {#1}%
7923 \ifHy@verbose
7924 \begingroup
7925 \def\Hy@tempa{#3}%
7926 \@onelevel@sanitize\Hy@tempa
7927 \let\temp@online\on@line
7928 \let\on@line\@empty
7929 \Hy@Info{%
7930 bookmark\temp@online:\MessageBreak
7931 thecounter {\csname the#2\endcsname}\MessageBreak
7932 text {\Hy@tempa}\MessageBreak
7933 reference {\@currentHref}\MessageBreak
7934 toplevel {\Hy@toplevel}\MessageBreak
7935 type {#1}%
7936 }%
7937 \endgroup
7938 \fi
7939 \addtocontents{#1}{%
7940 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7941 }%
7942 \endgroup
7943 }
7944 \def\contentsline#1#2#3#4{%
7945 \ifx\#4\%
7946 \csname l@#1\endcsname{#2}{#3}%
7947 \else
7948 \ifcase\Hy@linktoc % none
7949 \csname l@#1\endcsname{#2}{#3}%
7950 \or % section
7951 \csname l@#1\endcsname{%
7952 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7953 }{#3}%
7954 \or % page
7955 \csname l@#1\endcsname{#2}{%
7956 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7957 }%
7958 \else % all
7959 \csname l@#1\endcsname{%
7960 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7961 }{%
7962 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7963 }%
7964 \fi
7965 \fi
7966 }
7967 \</package>
7968 \*check>
7969 \checklatex
7970 \checkcommand\def\addcontentsline#1#2#3{%
7971 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%

```

```

7972 }
7973 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7974 \</check>
7975 \*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.

```

7976 \let\H@definecounter\@definecounter
7977 \def\@definecounter#1{%
7978   \H@definecounter{#1}%
7979   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7980 }

```

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.

```

7981 \let\H@newctr\@newctr
7982 \def\@newctr#1[#2]{%
7983   \H@newctr#1{#2}%
7984   \expandafter\def\csname theH#1\endcsname{%
7985     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7986   }%
7987 }

```

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.

```

7988 \@ifpackageloaded{amsmath}{%
7989   \def\Hy@make@anchor{%
7990     \Hy@MakeCurrentHrefAuto{AMS}%
7991     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7992   }%
7993   \def\Hy@make@df@tag@#1{%
7994     \gdef\df@tag{%
7995       \maketag@@@{\Hy@make@anchor#1}%
7996       \def\@currentlabel{#1}%
7997     }%
7998   }%
7999   \def\Hy@make@df@tag@@#1{%
8000     \gdef\df@tag{%
8001       \tagform@{\Hy@make@anchor#1}%
8002       \toks@{\xp{p@equation{#1}}}%
8003       \edef\@currentlabel{the\toks@}%
8004     }%
8005   }%
8006   \let\HyOrg@make@df@tag@@\make@df@tag@@
8007   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
8008   \let\make@df@tag@@\Hy@make@df@tag@@
8009   \let\make@df@tag@@@ \Hy@make@df@tag@@@

```

```
8010 }{}
```

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

```
8011 \@ifpackagewith{hyperref}{pdftex}{%
8012   \let\H@seteqlabel\@seteqlabel
8013   \def\@seteqlabel#1{%
8014     \H@seteqlabel{#1}%
8015     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8016     \Hy@raisedlink{%
8017       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8018     }%
8019   }%
8020 }{}
```

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.

```
8021 \let\HyOrg@addtoreset\@addtoreset
8022 \def\@addtoreset#1#2{%
8023   \HyOrg@addtoreset{#1}{#2}%
8024   \expandafter\xdef\csname theH#1\endcsname{%
8025     \expandafter\noexpand
8026     \csname the\@ifundefined{theH#2}{H#2\endcsname
8027     .\noexpand\the\noexpand\value{#1}}%
8028   }%
8029 }
```

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

```
8030 </package>
8031 < *check>
8032 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8033 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8034   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8035     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8036       \@addtoreset{#2}{#3}%
8037       \@xp\xdef\csname the#2\endcsname{%
8038         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8039       }%
8040     }%
8041   }%
8042 }%
8043 </check>
8044 < *package>
```

```

8045 \ifpackageloaded{amsmath}{%
8046   \ifpackagelater{amsmath}{1999/12/14}{%
8047     \renewcommand*{\numberwithin}{3}[\arabic]{%
8048       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8049         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8050           \HyOrg@addtoreset{#2}{#3}%
8051           \@xp\xdef\csname the#2\endcsname{%
8052             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8053           }%
8054           \@xp\xdef\csname theH#2\endcsname{%
8055             \@xp\@nx
8056             \csname the\@ifundefined{theH#3}{H#3\endcsname
8057               .\@nx#1{#2}%
8058             }%
8059           }%
8060         }%
8061       }%
8062     }{%
8063       \Hy@WarningNoLine{%
8064         \string\numberwithin\space of package 'amsmath' %
8065         only fixed\MessageBreak
8066         for version 2000/06/06 v2.12 or newer%
8067       }%
8068     }%
8069   }%

```

42 Included figures

Simply intercept the low level graphics package macro.

```

8070 \ifHy@hyperfigures
8071   \let\Hy@Gin@setfile\Gin@setfile
8072   \def\Gin@setfile#1#2#3{%
8073     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8074   }%
8075 \fi
8076 \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.

```

8077 \ifHy@hyperindex
8078   \def\HyInd@ParenLeft{({}%
8079   \def\HyInd@ParenRight{)}}%
8080   \def\hyperindexformat#1#2{%
8081     \let\HyOrg@hyperpage\hyperpage
8082     \let\hyperpage\@firstofone

```



```

8083   #1{\HyOrg@hyperpage{#2}}%
8084   \let\hyperpage\HyOrg@hyperpage
8085 }%
8086 \Hy@nextfalse
8087 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8088 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8089 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8090 \begingroup
8091   \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8092   \lccode'\|/='\|\\relax
8093 \lowercase{\endgroup
8094   \ifHy@next
8095     \let\HyInd@org@wrindex\@wrindex
8096     \def\@wrindex#1#2{\HyInd@C@wrindex{#1}#2||\\}%
8097     \def\HyInd@C@wrindex#1#2|#3|#4\{%
8098       \ifx\|#3\\%
8099         \HyInd@org@wrindex{#1}{#2|hyperpage}%
8100       \else
8101         \HyInd@C@wrindex{#1}{#2}#3\\%
8102       \fi
8103     }%
8104     \def\HyInd@C@wrindex#1#2#3#4\{%
8105       \def\Hy@temp@A{#3}%
8106       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8107         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8108       \relax
8109       \HyInd@org@wrindex{#1}{%
8110         #2|hyperindexformat{/#3#4}%
8111       }%
8112     \else
8113       \ifx\|#4\\%
8114         \ifx\Hy@temp@A\HyInd@ParenRight
8115           \HyInd@org@wrindex{#1}{#2|#3}%
8116         \else
8117           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8118         \fi
8119       \else
8120         \HyInd@org@wrindex{#1}{%
8121           #2|#3hyperindexformat{/#4}%
8122         }%
8123       \fi
8124     \fi
8125   }%
8126 \else
8127   \def\@wrindex#1{\@C@wrindex#1||\\}%
8128   \def\@C@wrindex#1|#2|#3\{%
8129     \if@filesw
8130       \ifx\|#2\\%
8131         \protected@write\@indexfile{}{%
8132           \string\indexentry{#1|hyperpage}{\thepage}%
8133         }%
8134       \else
8135         \HyInd@C@wrindex{#1}#2\\%
8136       \fi
8137     \fi
8138   \endgroup
8139 \@esphack

```

```

8140 }%
8141 \def\HyInd@@@wrindex#1#2#3\{%
8142 \def\Hy@temp@A{#2}%
8143 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8144 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8145 \relax
8146 \protected@write\@indexfile{}\{%
8147 \string\indexentry{%
8148 #1|hyperindexformat{/#2#3}%
8149 }\the page}%
8150 }%
8151 \else
8152 \ifx\#3\%
8153 \ifx\Hy@temp@A\HyInd@ParenRight
8154 \protected@write\@indexfile{}\{%
8155 \string\indexentry{#1|#2|\the page}%
8156 }%
8157 \else
8158 \protected@write\@indexfile{}\{%
8159 \string\indexentry{#1|#2hyperpage}\the page}%
8160 }%
8161 \fi
8162 \else
8163 \protected@write\@indexfile{}\{%
8164 \string\indexentry{%
8165 #1|#2hyperindexformat{/#3}%
8166 }\the page}%
8167 }%
8168 \fi
8169 \fi
8170 }%
8171 \fi
8172 }%
8173 \fi
8174 \Hy@DisableOption{hyperindex}
8175 \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.

```
8176 \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.

```

8177 \def\hyperpage#1{%
8178 \HyInd@hyperpage#1\nohyperpage{}\@nil
8179 }
8180 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8181 \HyInd@@hyperpage{#1}%
8182 #2%
8183 \def\Hy@temp{#3}%
8184 \ifx\Hy@temp\@empty
8185 \else
8186 \ltx@ReturnAfterFi{%
8187 \HyInd@hyperpage#3\@nil
8188 }%
8189 \fi
8190 }

```

```

8191 \def\HyInd@@hyperpage#1{\@hyperpage#1---\}
8192 \def\@hyperpage#1--#2--#3\{\%
8193   \ifx\#2\%
8194     \@commahyperpage{#1}%
8195   \else
8196     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8197   \fi
8198 }
8199 \def\@commahyperpage#1{\@commahyperpage#1, \}
8200 \def\@commahyperpage#1, #2,#3\{\%
8201   \ifx\#2\%
8202     \HyInd@pagelink{#1}%
8203   \else
8204     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8205   \fi
8206 }

```

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

```

8207 \def\HyInd@pagelink#1{%
8208   \begingroup
8209     \toks@={}%
8210     \HyInd@removespaces#1 \@nil
8211   \endgroup
8212 }
8213 \def\HyInd@removespaces#1 #2\@nil{%
8214   \toks@=\expandafter{\the\toks@#1}%
8215   \ifx\#2\%
8216     \edef\x{\the\toks@}%
8217     \ifx\x\@empty
8218     \else
8219       \hyperlink{page.\the\toks@}{\the\toks@}%
8220     \fi
8221   \else
8222     \ltx@ReturnAfterFi{%
8223       \HyInd@removespaces#2\@nil
8224     }%
8225   \fi
8226 }

```

44 Compatibility with foiltex

```

8227 \@ifclassloaded{foils}{%
8228   \providecommand*\ext@table{lot}%
8229   \providecommand*\ext@figure{lof}%
8230 }{}

```

45 Compatibility with seminar slide package

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

```

8231 \@ifclassloaded{seminar}{%
8232   \Hy@seminarslidestrue
8233   \providecommand\theHslide{\arabic{slide}}%
8234 }{}%
8235 \Hy@seminarslidesfalse

```

```

8236 }
8237 \@ifpackageloaded{slidesec}{%
8238   \providecommand\theHslidesection {\arabic{slidesection}}%
8239   \providecommand\theHslidesubsection{%
8240     \theHslidesection.\arabic{slidesubsection}}%
8241   }%
8242   \def\slide@heading[#1]#2{%
8243     \H@refstepcounter{slidesection}%
8244     \@addtoreset{slidesubsection}{slidesection}%
8245     \addtocontents{los}{%
8246       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8247       {\@SCTR}{slideheading.\theslidesection}}%
8248     }%
8249   \def\Hy@tempa{#2}%
8250   \ifx\Hy@tempa\@empty
8251   \else
8252     {%
8253       \edef\@currentlabel{%
8254         \csname p@slidesection\endcsname\theslidesection
8255       }%
8256       \makeslideheading{#2}%
8257     }%
8258   \fi
8259   \gdef\theslideheading{#1}%
8260   \gdef\theslidesubheading{}%
8261   \ifHy@bookmarksnumbered
8262     \def\Hy@slidetitle{\theslidesection\space #1}%
8263   \else
8264     \def\Hy@slidetitle{#1}%
8265   \fi
8266   \ifHy@hypertexnames
8267     \ifHy@naturalnames
8268       \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8269       \Hy@writebookmark
8270       {\theslidesection}%
8271       {\Hy@slidetitle}%
8272       {slideheading.\theslidesection}%
8273       {1}%
8274       {toc}%
8275     \else
8276       \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8277       \Hy@writebookmark
8278       {\theslidesection}%
8279       {\Hy@slidetitle}%
8280       {slideheading.\theHslidesection}%
8281       {1}%
8282       {toc}%
8283     \fi
8284   \else
8285     \Hy@GlobalStepCount\Hy@linkcounter
8286     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8287     \Hy@writebookmark
8288     {\theslidesection}%
8289     {\Hy@slidetitle}%
8290     {slideheading.\the\Hy@linkcounter}%
8291     {1}%
8292     {toc}%

```

```

8293 \fi
8294 }%
8295 \def\slide@subheading[#1]#2{%
8296 \H@refstepcounter{slidesubsection}%
8297 \addtocontents{los}{%
8298 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8299 {\@SCTR}{slideheading.\theslidesubsection}%
8300 }%
8301 \def\Hy@tempa{#2}%
8302 \ifx\Hy@tempa\@empty
8303 \else
8304 {%
8305 \edef\@currentlabel{%
8306 \csname p@slidesubsection\endcsname\theslidesubsection
8307 }%
8308 \makeslidesubheading{#2}%
8309 }%
8310 \fi
8311 \gdef\theslidesubheading{#1}%
8312 \ifHy@bookmarksnumbered
8313 \def\Hy@slidetitle{\theslidesubsection\space #1}%
8314 \else
8315 \def\Hy@slidetitle{#1}%
8316 \fi
8317 \ifHy@hypertextnames
8318 \ifHy@naturalnames
8319 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8320 \Hy@writebookmark
8321 {\theslidesubsection}%
8322 {\Hy@slidetitle}%
8323 {slideheading.\theslidesubsection}%
8324 {2}%
8325 {toc}%
8326 \else
8327 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8328 \Hy@writebookmark
8329 {\theslidesubsection}%
8330 {\Hy@slidetitle}%
8331 {slideheading.\theHslidesubsection}%
8332 {2}%
8333 {toc}%
8334 \fi
8335 \else
8336 \Hy@GlobalStepCount\Hy@linkcounter
8337 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8338 \Hy@writebookmark
8339 {\theslidesubsection}%
8340 {\Hy@slidetitle}%
8341 {slideheading.\the\Hy@linkcounter}%
8342 {1}%
8343 {toc}%
8344 \fi
8345 }%
8346 \providecommand*{\listslidenam}{List of Slides}%
8347 \def\listofslides{%
8348 \section*{%
8349 \listslidenam

```

```

8350 \mkboth{%
8351 \expandafter\MakeUppercase\listslide
8352 }{%
8353 \expandafter\MakeUppercase\listslide
8354 }%
8355 }%
8356 \def\l@slide##1##2##3##4{%
8357 \slide@undottedcline{%
8358 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8359 }{%}
8360 }%
8361 \let\l@subslide\l@slide
8362 \@startlos
8363 }%
8364 \def\slide@contents{%
8365 \def\l@slide##1##2##3##4{%
8366 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8367 }%
8368 \let\l@subslide\@gobblefour
8369 \@startlos
8370 }%
8371 \def\Slide@contents{%
8372 \def\l@slide##1##2##3##4{%
8373 \ifcase\lslide@flag
8374 \message{##1 ** \the\c@slidesection}%
8375 \ifnum##1>\c@slidesection
8376 \def\lslide@flag{1}%
8377 {%
8378 \large
8379 \slide@cline{%
8380 \slidenumberline{$\rightarrow\bullet$}%
8381 {\hyperlink{##4}{##2}}%
8382 }{##3}%
8383 }%
8384 \else
8385 {%
8386 \large
8387 \slide@cline{%
8388 \slidenumberline{$\surd\;\bullet$}%
8389 {\hyperlink{##4}{##2}}%
8390 }{##3}%
8391 }%
8392 \fi
8393 \or
8394 \def\lslide@flag{2}%
8395 {%
8396 \large
8397 \slide@cline{%
8398 \slidenumberline{$\bullet$}%
8399 {\hyperlink{##4}{##2}}%
8400 }{##3}%
8401 }%
8402 \or
8403 {%
8404 \large
8405 \slide@cline{%
8406 \slidenumberline{$\bullet$}%

```

```

8407         {\hyperlink{##4}{##2}}%
8408     }{##3}%
8409 }%
8410 \fi
8411 }%
8412 \def\l@subslide##1##2##3##4{%
8413     \ifnum\lslide@flag=1 %
8414         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8415     \fi
8416 }%
8417 \def\lslide@flag{0}%
8418 \@startlos
8419 }%
8420 }{}

```

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.)

```

8421 \ifHy@texht
8422     \expandafter\endinput
8423 \fi
8424 \let\real@setref\@setref
8425 \def\@setref#1#2#3{% csname, extract group, refname
8426     \ifx#1\relax
8427         \protect\G@refundefinedtrue
8428         \nfss@text{\reset@font\bfseries ??}%
8429         \@latex@warning{%
8430             Reference ‘#3’ on page \thepage \space undefined%
8431         }%
8432     \else
8433         \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8434     \fi
8435 }

```

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

```

8436 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8437     \begingroup
8438     \toks0={\hyper@@link{#5}{#4}}%
8439     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8440     \edef\x{\endgroup
8441         \the\toks0 {\the\toks1 }%
8442     }%
8443     \x
8444 }
8445 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8446     \ifx#1\relax
8447         \protect\G@refundefinedtrue
8448         \nfss@text{\reset@font\bfseries ??}%
8449         \@latex@warning{%
8450             Reference ‘#3’ on page \thepage \space undefined%
8451         }%
8452     \else
8453         \protect\hyper@@link
8454         {\expandafter\@fifthoffive#1}%
8455         {page.\expandafter\@secondoffive#1}%
8456         {\expandafter\@secondoffive#1}%
8457     \fi

```

```

8458 }
8459 </package>
8460 <*check>
8461 \checklatex
8462 \checkcommand\def\@setref#1#2#3{%
8463   \ifx#1\relax
8464     \protect\G@refundefinedtrue
8465     \nfss@text{\reset@font\bfseries ??}%
8466     \@latex@warning{%
8467       Reference ‘#3’ on page \thepage\space undefined%
8468     }%
8469   \else
8470     \expandafter#2#1\null
8471   \fi
8472 }
8473 </check>
8474 <*package>

```

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

```

8475 \def\HyRef@StarSetRef#1{%
8476   \begingroup
8477   \Hy@safe@activestrue
8478   \edef\x{#1}%
8479   \@onelevel@sanitize\x
8480   \edef\x{\endgroup
8481     \noexpand\HyRef@@StarSetRef
8482     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8483   }%
8484   \x
8485 }
8486 \def\HyRef@@StarSetRef#1#2#3{%
8487   \ifx#1\@undefined
8488     \let#1\relax
8489   \fi
8490   \real@setref#1#3{#2}%
8491 }
8492 \def\@refstar#1{%
8493   \HyRef@StarSetRef{#1}\@firstoffive
8494 }
8495 \def\@pagerefstar#1{%
8496   \HyRef@StarSetRef{#1}\@secondoffive
8497 }
8498 \def\@namerefstar#1{%
8499   \HyRef@StarSetRef{#1}\@thirdoffive
8500 }
8501 \Hy@AtBeginDocument{%
8502   \@ifpackageloaded{varioref}{%
8503     \def\@Refstar#1{%
8504       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8505     }%
8506     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8507       \MakeUppercase#1%
8508     }%
8509     \DeclareRobustCommand*\{Ref}{%
8510       \@ifstar\@Refstar\HyRef@Ref
8511     }%

```



```

8512 \def\HyRef@Ref#1{%
8513   \hyperref[{#1}]{\Ref*{#1}}%
8514 }%
8515 \def\VR@f#1{%
8516   \leavevmode\unskip\vref@space
8517   \hyperref[{#1}]{%
8518     \Ref*{#1}%
8519     \let\vref@space\nobreakspace
8520     \@vpageref[\unskip]{#1}%
8521   }%
8522 }%
8523 \def\vr@f#1{%
8524   \leavevmode\unskip\vref@space
8525   \begingroup
8526   \let\T@pageref\@pagerefstar
8527   \hyperref[{#1}]{%
8528     \ref*{#1}%
8529     \vpageref[\unskip]{#1}%
8530   }%
8531   \endgroup
8532 }%
8533 }{}%
8534 }
8535 \DeclareRobustCommand*\autopageref{%
8536   \@ifstar{%
8537     \HyRef@autopagerefname\pageref*%
8538   }\HyRef@autopageref
8539 }
8540 \def\HyRef@autopageref#1{%
8541   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8542 }
8543 \def\HyRef@autopagerefname{%
8544   \ltx@ifundefined{pageautorefname}{%
8545     \ltx@ifundefined{pagename}{%
8546       \Hy@Warning{No autoref name for 'page'}%
8547     }{%
8548       \pagename\nobreakspace
8549     }%
8550   }{%
8551     \pageautorefname\nobreakspace
8552   }%
8553 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8554 \DeclareRobustCommand*\autoref{%
8555   \leavevmode
8556   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8557 }
8558 \def\HyRef@autoref#1#2{%
8559   \begingroup
8560   \Hy@safe@activetrue
8561   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8562   \endgroup
8563 }
8564 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8565   \HyRef@ShowKeysRef{#2}%
8566   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax

```

```

8567 \edef\HyRef@thisref{%
8568 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8569 }%
8570 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8571 \Hy@safe@activesfalse
8572 #3{%
8573 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8574 }{%
8575 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8576 }{%
8577 \HyRef@currentHtag
8578 \expandafter\@firstoffive#1\@empty\@empty\@empty
8579 \null
8580 }%
8581 \else
8582 \protect\G@refundefinedtrue
8583 \nfss@text{\reset@font\bfseries ??}%
8584 \@latex@warning{%
8585 Reference ‘#2’ on page \thepage\space undefined%
8586 }%
8587 \fi
8588 }
8589 \def\HyRef@testreftype#1.#2\.{%
8590 \ltx@ifundefined{#1autorefname}{%
8591 \ltx@ifundefined{#1name}{%
8592 \HyRef@StripStar#1\*\\\@nil{#1}%
8593 \ltx@ifundefined{\HyRef@name autorefname}{%
8594 \ltx@ifundefined{\HyRef@name name}{%
8595 \def\HyRef@currentHtag{%
8596 \Hy@Warning{No autoref name for ‘#1’}%
8597 }{%
8598 \edef\HyRef@currentHtag{%
8599 \expandafter\noexpand\csname\HyRef@name name\endcsname
8600 \noexpand~%
8601 }%
8602 }%
8603 }{%
8604 \edef\HyRef@currentHtag{%
8605 \expandafter\noexpand
8606 \csname\HyRef@name autorefname\endcsname
8607 \noexpand~%
8608 }%
8609 }%
8610 }{%
8611 \edef\HyRef@currentHtag{%
8612 \expandafter\noexpand\csname#1name\endcsname
8613 \noexpand~%
8614 }%
8615 }%
8616 }{%
8617 \edef\HyRef@currentHtag{%
8618 \expandafter\noexpand\csname#1autorefname\endcsname
8619 \noexpand~%
8620 }%
8621 }%
8622 }
8623 \def\HyRef@StripStar#1*\#2\@nil#3{%

```

```

8624 \def\HyRef@name{#2}%
8625 \ifx\HyRef@name\HyRef@CaseStar
8626   \def\HyRef@name{#1}%
8627 \else
8628   \def\HyRef@name{#3}%
8629 \fi
8630 }
8631 \def\HyRef@CaseStar{*\\}
8632 \def\HyRef@currentHtag{}

```

Support for package `showkeys`.

`\HyRef@ShowKeysRef`

```

8633 \let\HyRef@ShowKeysRef@gobble
8634 \def\HyRef@ShowKeysInit{%
8635   \begingroup\expandafter\expandafter\expandafter\endgroup
8636   \expandafter\ifx\csname SK@@label\endcsname\relax
8637   \else
8638     \ifx\SK@ref\@empty
8639     \else
8640       \def\HyRef@ShowKeysRef{%
8641         \SK@\SK@@ref
8642       }%
8643     \fi
8644   \fi
8645 }
8646 \@ifpackageloaded{showkeys}{%
8647   \HyRef@ShowKeysInit
8648 }{%
8649   \Hy@AtBeginDocument{%
8650     \@ifpackageloaded{showkeys}{%
8651       \HyRef@ShowKeysInit
8652     }{}%
8653   }%
8654 }

```

Defaults for the names that `\autoref` uses.

```

8655 \providecommand*\AMSautorefname{\equationautorefname}
8656 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8657 \providecommand*\Itemautorefname{\itemautorefname}
8658 \providecommand*\itemautorefname{item}
8659 \providecommand*\equationautorefname{Equation}
8660 \providecommand*\footnoteautorefname{footnote}
8661 \providecommand*\itemautorefname{item}
8662 \providecommand*\figureautorefname{Figure}
8663 \providecommand*\tableautorefname{Table}
8664 \providecommand*\partautorefname{Part}
8665 \providecommand*\appendixautorefname{Appendix}
8666 \providecommand*\chapterautorefname{chapter}
8667 \providecommand*\sectionautorefname{section}
8668 \providecommand*\subsectionautorefname{subsection}
8669 \providecommand*\subsubsectionautorefname{subsubsection}
8670 \providecommand*\paragraphautorefname{paragraph}
8671 \providecommand*\subparagraphautorefname{subparagraph}
8672 \providecommand*\FancyVerbLineautorefname{line}
8673 \providecommand*\theoremautorefname{Theorem}
8674 \providecommand*\pageautorefname{page}
8675 \</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 pdfTeX offers `\pdfescapestring`.

```
8676 \def\pdfescapestring{\pdfescapestring}
8677 \begingroup\expandafter\expandafter\expandafter\endgroup
8678 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8679 \begingroup
8680 \catcode'\=0 %
8681 \@makeother\%
8682 |@firstofone{|endgroup
8683 |def|Hy@pstringdef#1#2{%
8684 |begingroup
8685 |edef~{|string~}%
8686 |xdef|Hy@gtemp{#2}%
8687 |endgroup
8688 |let#1|Hy@gtemp
8689 |@onelevel@sanitize#1%
8690 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
8691 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8692 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8693 }%
8694 |def|Hy@ExchangeBackslash#1|#2|@nil{%
8695 #1%
8696 |ifx|\#2|\%
8697 |else
8698 \\\%
8699 |ltx@ReturnAfterFi{%
8700 |Hy@ExchangeBackslash#2|@nil
8701 }%
8702 |fi
8703 }%
8704 }%
8705 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8706 #1%
8707 \ifx\#2\%
8708 \else
8709 \@backslashchar(%
8710 \ltx@ReturnAfterFi{%
8711 \Hy@ExchangeLeftParenthesis#2\@nil
8712 }%
8713 \fi
8714 }%
8715 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8716 #1%
8717 \ifx\#2\%
8718 \else
8719 \@backslashchar)%
8720 \ltx@ReturnAfterFi{%
8721 \Hy@ExchangeRightParenthesis#2\@nil
```

```

8722 }%
8723 \fi
8724 }%
8725 \else
8726 \def\Hy@pstringdef#1#2{%
8727 \begingroup
8728 \edef~{\string~}%
8729 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8730 \endgroup
8731 \let#1\Hy@gtemp
8732 }%
8733 \fi
8734 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8735 <*pdfTeX>
8736 \providecommand*\XR@ext}{pdf}
8737 \Hy@setbreaklinks{true}
8738 \def\HyPat@ObjRef{%
8739 [0-9]*[1-9][0-9]* 0 R%
8740 }

```

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

```

8741 \let\Hy@pdfminorversion\relax
8742 \begingroup\expandafter\expandafter\expandafter\endgroup
8743 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8744 \begingroup\expandafter\expandafter\expandafter\endgroup
8745 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8746 \else
8747 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8748 \fi
8749 \else
8750 \def\Hy@pdfminorversion{\pdfminorversion}%
8751 \fi
8752 \@ifundefined{Hy@pdfminorversion}{%
8753 \PackageInfo{hyperref}{%
8754 PDF version is not set, because pdfTeX is too old (<1.10a)%
8755 }%
8756 }{%
8757 \ifHy@ocgcolorlinks
8758 \ifnum\Hy@pdfminorversion<5 %
8759 \kvsetkeys{Hyp}{pdfversion=1.5}%
8760 \fi
8761 \fi
8762 \ifHy@setpdfversion
8763 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8764 \else
8765 \Hy@pdfminorversion=\Hy@pdfversion\relax
8766 \fi
8767 \PackageInfo{hyperref}{%

```

```

8768 \expandafter\string\Hy@pdfminorversion
8769 :=\number\Hy@pdfversion\space
8770 }%
8771 \fi
8772 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8773 }
8774 \Hy@DisableOption{pdfversion}%

8775 \ifHy@ocgcolorlinks
8776 \pdf@ifdraftmode{ }{%
8777 \immediate\pdfobj{%
8778 <<%
8779 /Type/OCG%
8780 /Name(View)%
8781 /Usage<<%
8782 /Print<<%
8783 /PrintState/OFF%
8784 >>%
8785 /View<<%
8786 /ViewState/ON%
8787 >>%
8788 >>%
8789 >>%
8790 }%
8791 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8792 \immediate\pdfobj{%
8793 <<%
8794 /Type/OCG%
8795 /Name(Print)%
8796 /Usage<<%
8797 /Print<<%
8798 /PrintState/ON%
8799 >>%
8800 /View<<%
8801 /ViewState/OFF%
8802 >>%
8803 >>%
8804 >>%
8805 }%
8806 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8807 \immediate\pdfobj{%
8808 [%
8809 \OBJ@OCG@view\space\OBJ@OCG@print
8810 ]%
8811 }%
8812 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8813 \pdfcatalog{%
8814 /OCProperties<<%
8815 /OCGs \OBJ@OCGs
8816 /D<<%
8817 /OFF[\OBJ@OCG@print]%
8818 /AS[%
8819 <<%
8820 /Event/View%
8821 /OCGs \OBJ@OCGs
8822 /Category[/View]%
8823 >>%
8824 <<%

```

```

8825         /Event/Print%
8826         /OCGs \OBJ@OCGs
8827         /Category[/Print]%
8828     >>%
8829     <<%
8830         /Event/Export%
8831         /OCGs \OBJ@OCGs
8832         /Category[/Print]%
8833     >>%
8834     ]%
8835     >>%
8836     >>%
8837     }%
8838     \begingroup
8839     \edef\x{\endgroup
8840     \pdfpageresources{%
8841     /Properties<<%
8842     /OCView \OBJ@OCG@view
8843     /OCPrint \OBJ@OCG@print
8844     >>%
8845     }%
8846     }%
8847     \x
8848     }%
8849     \Hy@AtBeginDocument{%
8850     \def\Hy@colorlink#1{%
8851     \begingroup
8852     \ifHy@ocgcolorlinks
8853     \def\Hy@ocgcolor{#1}%
8854     \setbox0=\hbox\bgroup\color@begingroup
8855     \else
8856     \HyColor@UseColor#1%
8857     \fi
8858     }%
8859     \def\Hy@endcolorlink{%
8860     \ifHy@ocgcolorlinks
8861     \color@endgroup\egroup
8862     \mbox{%
8863     \pdfliteral page{/OC/OCPrint BDC}%
8864     \rlap{\copy0}%
8865     \pdfliteral page{EMC/OC/OCView BDC}%
8866     \begingroup
8867     \expandafter\HyColor@UseColor\Hy@ocgcolor
8868     \box0 %
8869     \endgroup
8870     \pdfliteral page{EMC}%
8871     }%
8872     \fi
8873     \endgroup
8874     }%
8875     }%
8876     \else
8877     \Hy@DisableOption{ocgcolorlinks}%
8878     \fi

```

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

```

8879 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8880 \ifx\pdfstartlink\@undefined% less than version 14

```

```

8881 \let\pdfstartlink\pdfannotlink
8882 \let\pdfinkmargin\@tempdima
8883 \let\pdfxform\pdfform
8884 \let\pdfastxform\pdfastform
8885 \let\pdfrefxform\pdfrefform
8886 \else
8887 \pdfinkmargin1pt %
8888 \fi

```

First set up the default linking

```
8889 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8890 \Hy@WrapperDef\new@pdfink#1{%
8891   \ifhmode
8892     \@savsf\spacefactor
8893   \fi
8894   \Hy@SaveLastskip
8895   \Hy@VerboseAnchor{#1}%
8896   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8897   \Hy@DestName\Hy@pstringDest\@pdfview
8898   \Hy@RestoreLastskip
8899   \ifhmode
8900     \spacefactor\@savsf
8901   \fi
8902 }
8903 \let\pdf@endanchor\@empty

```

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

```

8904 \def\Hy@DestName#1#2{%
8905   \pdfdest name{#1}#2\relax
8906 }

```

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.

```

8907 \providecommand*\@pdfborder{0 0 1}
8908 \providecommand*\@pdfborderstyle{}
8909 \def\Hy@undefinedname{UNDEFINED}
8910 \def\find@pdfink#1#2{%
8911   \leavevmode
8912   \protected@edef\Hy@testname{#2}%
8913   \ifx\Hy@testname\@empty
8914     \Hy@Warning{%
8915       Empty destination name,\MessageBreak
8916       using ‘\Hy@undefinedname’%
8917     }%
8918     \let\Hy@testname\Hy@undefinedname
8919   \else
8920     \Hy@pstringdef\Hy@testname{%
8921       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8922     }%
8923   \fi
8924   \Hy@StartlinkName{%
8925     \ifHy@pdfa /F 4\fi
8926     \Hy@setpdfborder

```



```

8927 \ifx\@pdfhighlight\@empty
8928 \else
8929 /H\@pdfhighlight
8930 \fi
8931 \ifx\CurrentBorderColor\relax
8932 \else
8933 /C[\CurrentBorderColor]%
8934 \fi
8935 }\Hy@testname
8936 \expandafter\Hy@colorlink\csname @#1color\endcsname
8937 }
8938 \def\Hy@StartlinkName#1#2{%
8939 \pdfstartlink attr{#1}goto name{#2}\relax
8940 }
8941 \def\close@pdflink{%
8942 \Hy@endcolorlink
8943 \Hy@VerboseLinkStop
8944 \pdfendlink
8945 }
8946 \def\hyper@anchor#1{%
8947 \new@pdflink{#1}\anchor@spot\pdf@endanchor
8948 }
8949 \def\hyper@anchorstart#1{%
8950 \new@pdflink{#1}%
8951 \Hy@activeanchortrue
8952 }
8953 \def\hyper@anchorend{%
8954 \pdf@endanchor
8955 \Hy@activeanchorfalse
8956 }
8957 \def\hyper@linkstart#1#2{%
8958 \Hy@VerboseLinkStart{#1}{#2}%
8959 \ltx@ifundefined{@#1bordercolor}{%
8960 \let\CurrentBorderColor\relax
8961 }{%
8962 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8963 }%
8964 \find@pdflink{#1}{#2}%
8965 }
8966 \def\hyper@linkend{\close@pdflink}
8967 \def\hyper@link#1#2#3{%
8968 \Hy@VerboseLinkStart{#1}{#2}%
8969 \ltx@ifundefined{@#1bordercolor}{%
8970 \let\CurrentBorderColor\relax
8971 }{%
8972 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8973 }%
8974 \find@pdflink{#1}{#2}#3\Hy@xspace@end
8975 \close@pdflink
8976 }
8977 \let\CurrentBorderColor\@linkbordercolor
8978 \def\hyper@linkurl#1#2{%
8979 \begingroup
8980 \Hy@pstringdef\Hy@pstringURI{#2}%
8981 \hyper@chars
8982 \leavevmode
8983 \pdfstartlink

```

```

8984 attr{%
8985   \Hy@setpdfborder
8986   \ifx\@pdfhighlight\@empty
8987   \else
8988     /H\@pdfhighlight
8989   \fi
8990   \ifx\@urlbordercolor\relax
8991   \else
8992     /C[\@urlbordercolor]%
8993   \fi
8994 }%
8995 user{%
8996   /Subtype/Link%
8997   \ifHy@pdfa /F 4\fi
8998   /A<<%
8999   /Type/Action%
9000   /S/URI%
9001   /URI(\Hy@pstringURI)%
9002   \ifHy@href@ismap
9003     /IsMap true%
9004   \fi
9005   \Hy@href@nextactionraw
9006   >>%
9007 }%
9008 \relax
9009 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9010 \close@pdflink
9011 \endgroup
9012 }
9013 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9014 \begingroup
9015   \def\Hy@pstringF{#2}%
9016   \Hy@CleanupFile\Hy@pstringF
9017   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9018   \Hy@pstringdef\Hy@pstringD{#3}%
9019   \Hy@MakeRemoteAction
9020   \leavevmode
9021   \pdfstartlink
9022   attr{%
9023     \Hy@setpdfborder
9024     \ifx\@pdfhighlight\@empty
9025     \else
9026       /H\@pdfhighlight
9027     \fi
9028     \ifx\@filebordercolor\relax
9029     \else
9030       /C[\@filebordercolor]%
9031     \fi
9032   }%
9033   user {%
9034     /Subtype/Link%
9035     \ifHy@pdfa /F 4\fi
9036     /A<<%
9037     /F(\Hy@pstringF)%
9038     /S/GoToR%
9039     \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}

9040      \ifx\#3\%
9041        /D[\Hy@href@page\@pdfremotestartview]%
9042      \else
9043        /D(\Hy@pstringD)%
9044      \fi
9045      \Hy@href@nextactionraw
9046      >>%
9047    }%
9048    \relax
9049    \Hy@colorlink\@filecolor#1\Hy@xspace@end
9050    \close@pdflink
9051  \endgroup
9052 }
9053 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9054  \begingroup
9055  \Hy@pstringdef\Hy@pstringF{#1}%
9056  \Hy@pstringdef\Hy@pstringP{#3}%
9057  \leavevmode
9058  \pdfstartlink
9059  attr{%
9060    \Hy@setpdfborder
9061    \ifx\@pdfhighlight\@empty
9062    \else
9063      /H\@pdfhighlight
9064    \fi
9065    \ifx\@runbordercolor\relax
9066    \else
9067      /C[\@runbordercolor]%
9068    \fi
9069  }%
9070  user {%
9071    /Subtype/Link%
9072    \ifHy@pdfa /F 4\fi
9073    /A<<%
9074    /F(\Hy@pstringF)%
9075    /S/Launch%
9076    \Hy@SetNewWindow
9077    \ifx\#3\%
9078    \else
9079      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9080    \fi
9081    \Hy@href@nextactionraw
9082    >>%
9083  }%
9084  \relax

```

```

9085 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9086 \close@pdflink
9087 \endgroup
9088 }

```

\@pdfproducer

```

9089 \ifx\@pdfproducer\relax
9090 \begingroup\expandafter\expandafter\expandafter\endgroup
9091 \expandafter\ifx\csname luatexversion\endcsname\relax
9092 \def\@pdfproducer{pdfTeX}%
9093 \ifx\eTeXversion\@undefined
9094 \else
9095 \ifx\eTeXversion\relax
9096 \else
9097 \ifnum\eTeXversion>0 %
9098 \def\@pdfproducer{pdfTeX}%
9099 \fi
9100 \fi
9101 \fi
9102 \ifx\pdfTeXversion\@undefined
9103 \else
9104 \ifnum\pdfTeXversion<100 %
9105 \edef\@pdfproducer{%
9106 \@pdfproducer
9107 \the\pdfTeXversion.\pdfTeXrevision
9108 }%
9109 \else
9110 \ifnum\pdfTeXversion<130 %
9111 \edef\@pdfproducer{%
9112 \@pdfproducer-%
9113 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9114 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9115 \pdfTeXrevision
9116 }%
9117 \else
9118 \ifnum\pdfTeXversion<140 %
9119 \else
9120 \def\@pdfproducer{pdfTeX}%
9121 \fi
9122 \edef\@pdfproducer{%
9123 \@pdfproducer-%
9124 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9125 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9126 \pdfTeXrevision
9127 }%
9128 \fi
9129 \fi
9130 \fi
9131 \else
9132 \begingroup
9133 \count@=\luatexversion
9134 \divide\count@ by 100 %
9135 \edef\x{\the\count@}%
9136 \count@=-\x\relax
9137 \multiply\count@ by 100 %
9138 \advance\count@ by \luatexversion
9139 \edef\x{\endgroup

```

```

9140     \def\noexpand\@pdfproducer{%
9141       LuaTeX-\x.\the\count@.\luatexrevision
9142     }%
9143   }%
9144   \x
9145 \fi
9146 \fi

```

\PDF@SetupDox

```

9147 \def\PDF@SetupDoc{%
9148   \ifx\@pdfpagescrop\@empty
9149   \else
9150     \edef\process@me{%
9151       \pdfpagesattr={%
9152         /CropBox[\@pdfpagescrop]%
9153         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9154         \else
9155           ^^J\the\pdfpagesattr
9156         \fi
9157       }%
9158     }%
9159     \process@me
9160   \fi
9161   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9162   \pdfcatalog{%
9163     /PageMode/\@pdfpagemode
9164     \ifx\@baseurl\@empty
9165     \else
9166       /URI<</Base(\Hy@pstringB)>>%
9167     \fi
9168   }%
9169   \ifx\@pdfstartpage\@empty
9170   \else
9171     \ifx\@pdfstartview\@empty
9172     \else
9173       openaction goto page\@pdfstartpage{\@pdfstartview}%
9174     \fi
9175   \fi
9176   \edef\Hy@temp{%
9177     \ifHy@pdftoolbar\else /HideToolbar true\fi
9178     \ifHy@pdfmenubar\else /HideMenubar true\fi
9179     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9180     \ifHy@pdffitwindow /FitWindow true\fi
9181     \ifHy@pdfcenterwindow /CenterWindow true\fi
9182     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9183     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9184     \Hy@UseNameKey{Direction}\@pdfdirection
9185     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9186     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9187     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9188     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9189     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9190     \Hy@UseNameKey{Duplex}\@pdfduplex
9191     \ifx\@pdfpicktraybypdfsize\@empty
9192     \else
9193       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9194     \fi
9195     \ifx\@pdfprintpagerange\@empty

```

```

9196 \else
9197 /PrintPageRange[\@pdfprintpagerange]%
9198 \fi
9199 \ifx\@pdfnumcopies\@empty
9200 \else
9201 /NumCopies \@pdfnumcopies
9202 \fi
9203 }%
9204 \pdfcatalog{%
9205 \ifx\Hy@temp\@empty
9206 \else
9207 /ViewerPreferences<<\Hy@temp>>%
9208 \fi
9209 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9210 \ifx\@pdflang\@empty
9211 \else
9212 /Lang(\@pdflang)%
9213 \fi
9214 }%
9215 }

```

\PDF@FinishDoc

```

9216 \def\PDF@FinishDoc{%
9217 \pdf@ifdraftmode{}{%
9218 \Hy@UseMaketitleInfos
9219 \HyInfo@GenerateAddons
9220 \pdfinfo{%
9221 /Author(\@pdfauthor)%
9222 /Title(\@pdftitle)%
9223 /Subject(\@pdfsubject)%
9224 /Creator(\@pdfcreator)%
9225 \ifx\@pdfcreationdate\@empty
9226 \else
9227 /CreationDate(\@pdfcreationdate)%
9228 \fi
9229 \ifx\@pdfmoddate\@empty
9230 \else
9231 /ModDate(\@pdfmoddate)%
9232 \fi
9233 \ifx\@pdfproducer\relax
9234 \else
9235 /Producer(\@pdfproducer)%
9236 \fi
9237 /Keywords(\@pdfkeywords)%
9238 \ifx\@pdftrapped\@empty
9239 \else
9240 /Trapped/\@pdftrapped
9241 \fi
9242 \HyInfo@Addons
9243 }%
9244 }%
9245 \Hy@DisableOption{pdfauthor}%
9246 \Hy@DisableOption{pdftitle}%
9247 \Hy@DisableOption{pdfsubject}%
9248 \Hy@DisableOption{pdfcreator}%
9249 \Hy@DisableOption{pdfcreationdate}%
9250 \Hy@DisableOption{pdfmoddate}%
9251 \Hy@DisableOption{pdfproducer}%

```

```

9252 \Hy@DisableOption{pdfkeywords}%
9253 \Hy@DisableOption{pdftrapped}%
9254 \Hy@DisableOption{pdfinfo}%
9255 }

```

`\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`.

```

9256 \def\hyper@pagetransition{%
9257   \ifx\@pdfpagetransition\relax
9258   \else
9259     \expandafter\Hy@RemoveTransPageAttr
9260     \the\pdfpageattr^^J/Trans{}>>\END
9261     \ifx\@pdfpagetransition\@empty
9262     \else
9263       \edef\@processme{%
9264         \global\pdfpageattr{%
9265           \the\pdfpageattr
9266             ^^J/Trans << /S /\@pdfpagetransition\space >>%
9267         }%
9268       }%
9269       \@processme
9270     \fi
9271   \fi
9272 }

```

`\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.

```

9273 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9274   \ifx\#2\%
9275     \global\pdfpageattr{#1}%
9276   \else
9277     \Hy@RemoveTransPageAttr#1#4\END
9278   \fi
9279 }

```

`\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`.

```

9280 \def\hyper@pageduration{%
9281   \ifx\@pdfpageduration\relax
9282   \else
9283     \expandafter
9284     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9285     \ifx\@pdfpageduration\@empty
9286     \else
9287       \edef\@processme{%
9288         \global\pdfpageattr{%
9289           \the\pdfpageattr
9290             ^^J/Dur \@pdfpageduration\space
9291         }%
9292       }%
9293       \@processme

```

```

9294 \fi
9295 \fi
9296 }

```

`\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.

```

9297 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9298 \ifx\#2\%
9299 \global\pdfpageattr{#1}%
9300 \else
9301 \Hy@RemoveDurPageAttr#1#4\END
9302 \fi
9303 }

```

`\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).

```

9304 \def\hyper@pagehidden{%
9305 \ifHy@useHidKey
9306 \expandafter
9307 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9308 \ifHy@pdfpagehidden
9309 \edef\@processme{%
9310 \global\pdfpageattr{%
9311 \the\pdfpageattr
9312 ^^J/Hid true % SPACE
9313 }%
9314 }%
9315 \@processme
9316 \fi
9317 \fi
9318 }

```

`\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.

```

9319 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9320 \ifx\#2\%
9321 \global\pdfpageattr{#1}%
9322 \else
9323 \Hy@RemoveHidPageAttr#1#4\END
9324 \fi
9325 }

9326 \pdf@ifdraftmode{}{%
9327 \g@addto@macro\Hy@EveryPageHook{%
9328 \hyper@pagetransition
9329 \hyper@pageduration
9330 \hyper@pagehidden
9331 }%
9332 }

```

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


```

9333 </pdftex>
9334 <{*pdftex | xetex>
9335 \Hy@AtBeginDocument{%
9336 \ifHy@setpagesize
9337 \expandafter\@firstofone
9338 \else
9339 \expandafter\@gobble
9340 \fi
9341 {%
9342 \@ifclassloaded{seminar}{%
9343 <{*pdftex>
9344 \setlength{\pdfhorigin}{1truein}%
9345 \setlength{\pdfvorigin}{1truein}%
9346 </pdftex>
9347 \ifportrait
9348 \ifdim\paperwidth=\z@
9349 \else
9350 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9351 \fi
9352 \ifdim\paperheight=\z@
9353 \else
9354 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9355 \fi
9356 \else
9357 \ifdim\paperheight=\z@
9358 \else
9359 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9360 \fi
9361 \ifdim\paperwidth=\z@
9362 \else
9363 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9364 \fi
9365 \fi
9366 }{%
9367 \ltx@ifundefined{stockwidth}{%
9368 \ifdim\paperwidth>\z@
9369 \setlength{\pdfpagewidth}{\paperwidth}%
9370 \fi
9371 \ifdim\paperheight>\z@
9372 \setlength{\pdfpageheight}{\paperheight}%
9373 \fi
9374 }{%
9375 \ifdim\stockwidth>\z@
9376 \setlength{\pdfpagewidth}{\stockwidth}%
9377 \fi
9378 \ifdim\stockheight>\z@
9379 \setlength{\pdfpageheight}{\stockheight}%
9380 \fi
9381 }%
9382 }%
9383 }%
9384 \Hy@DisableOption{setpagesize}%
9385 }
9386 </pdftex | xetex>
9387 <{*pdftex>
9388 \def\Acrobatmenu#1#2{%
9389 \Hy@Acrobatmenu{#1}{#2}{%

```

```

9390 \leavevmode
9391 \EdefEscapeName\Hy@temp@menu{#1}%
9392 \pdfstartlink
9393   attr{%
9394     \Hy@setpdfborder
9395     \ifx\@pdfhighlight\@empty
9396     \else
9397       /H\@pdfhighlight
9398     \fi
9399     \ifx\@menubordercolor\relax
9400     \else
9401       /C[\@menubordercolor]%
9402     \fi
9403   }%
9404   user{%
9405     /Subtype/Link%
9406     \ifHy@pdfa /F 4\fi
9407     /A<<%
9408     /S/Named%
9409     /N/\Hy@temp@menu
9410     \Hy@href@nextactionraw
9411     >>%
9412   }%
9413   \relax
9414   \Hy@colorlink\@menucolor#2%
9415   \close@pdflink
9416 }%
9417 }

```

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`.

```

9418 \def\Hy@FixNotFirstPage{%
9419   \gdef\Hy@FixNotFirstPage{%
9420     \setbox\AtBeginShipoutBox=\hbox{%
9421       \copy\AtBeginShipoutBox
9422     }%
9423   }%
9424 }
9425 \AtBeginShipout{\Hy@FixNotFirstPage}
9426 \pdfTeX

```

46.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

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

```
9427 \*hypertext>
9428 \providecommand*\XR@ext{}\dvi
9429 \let\PDF@FinishDoc\ltx@empty
9430 \def\PDF@SetupDoc{%
9431   \ifx\@baseurl\@empty
9432   \else
9433     \special{html:<base href="\@baseurl">}%
9434   \fi
9435 }
9436 \Hy@WrapperDef\hyper@anchor#1{%
9437   \Hy@SaveLastskip
9438   \Hy@VerboseAnchor{#1}%
9439   \begingroup
9440     \let\protect=\string
9441     \hyper@chars
9442     \special{html:<a name=%
9443       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9444   \endgroup
9445   \Hy@activeanchortrue
9446   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9447   \special{html:</a>}%
9448   \Hy@activeanchorfalse
9449   \Hy@RestoreLastskip
9450 }
9451 \Hy@WrapperDef\hyper@anchorstart#1{%
9452   \Hy@SaveLastskip
9453   \Hy@VerboseAnchor{#1}%
9454   \begingroup
9455     \hyper@chars
9456     \special{html:<a name=%
9457       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9458   \endgroup
```

```

9459 \Hy@activeanchortrue
9460 }
9461 \def\hyper@anchorend{%
9462 \special{html:</a>}}%
9463 \Hy@activeanchorfalse
9464 \Hy@RestoreLastskip
9465 }
9466 \def\@urltype{url}
9467 \def\hyper@linkstart#1#2{%
9468 \Hy@VerboseLinkStart{#1}{#2}%
9469 \expandafter\Hy@colorlink\csname @#1color\endcsname
9470 \def\Hy@tempa{#1}%
9471 \ifx\Hy@tempa\@urltype
9472 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9473 \else
9474 \begingroup
9475 \hyper@chars
9476 \special{html:<a href=%
9477 \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}}%
9478 \endgroup
9479 \fi
9480 }
9481 \def\hyper@linkend{%
9482 \special{html:</a>}}%
9483 \Hy@endcolorlink
9484 }
9485 \def\hyper@linkfile#1#2#3{%
9486 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9487 }
9488 \def\hyper@linkurl#1#2{%

```

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

```

9489 \leavevmode
9490 \ifHy@raiselinks
9491 \Hy@SaveSpaceFactor
9492 \Hy@SaveSavedSpaceFactor
9493 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9494 \Hy@RestoreSavedSpaceFactor
9495 \@linkdim\dp\@tempboxa
9496 \lower\@linkdim\hbox{%
9497 \hyper@chars
9498 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9499 }%
9500 \Hy@colorlink\@urlcolor
9501 \Hy@RestoreSpaceFactor
9502 #1%
9503 \Hy@SaveSpaceFactor
9504 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

9505 \advance\@linkdim by -6.5\p@
9506 \raise\@linkdim\hbox{\special{html:</a>}}}%
9507 \Hy@endcolorlink
9508 \Hy@RestoreSpaceFactor

```

```

9509 \else
9510   \begingroup
9511     \hyper@chars
9512     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9513     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9514     \special{html:</a>}%
9515     \Hy@endcolorlink
9516   \endgroup
9517 \fi
9518 }

```

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

```

9519 \def\hyper@link#1#2#3{%
9520   \Hy@VerboseLinkStart{#1}{#2}%
9521   \hyper@linkurl{#3}{\#}\HyperDestNameFilter{#2}}%
9522 }

9523 \def\hyper@image#1#2{%
9524   \begingroup
9525     \hyper@chars
9526     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9527   \endgroup
9528 }
9529 </hypertex>
9530 < *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.

```

9531 \providecommand*\XR@ext}{dvi}
9532 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9533 \Hy@WrapperDef\hyper@anchor#1{%
9534   \Hy@SaveLastskip
9535   \Hy@VerboseAnchor{#1}%
9536   \begingroup
9537     \let\protect=\string
9538     \special{mark: #1}%
9539   \endgroup
9540   \Hy@activeanchortrue
9541   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9542   \Hy@activeanchorfalse
9543   \Hy@RestoreLastskip
9544 }
9545 \Hy@WrapperDef\hyper@anchorstart#1{%
9546   \Hy@SaveLastskip
9547   \Hy@VerboseAnchor{#1}%
9548   \special{mark: #1}%

```

```

9549 \Hy@activeanchortrue
9550 }
9551 \def\hyper@anchorend{%
9552 \Hy@activeanchorfalse
9553 \Hy@RestoreLastskip
9554 }
9555 \def\hyper@linkstart#1#2{%
9556 \Hy@VerboseLinkStart{#1}{#2}%
9557 \expandafter\Hy@colorlink\csname @#1color\endcsname
9558 \special{button: %
9559 10000000 %
9560 \number\baselineskip\space
9561 #2%
9562 }%
9563 }
9564 \def\hyper@linkend{%
9565 \Hy@endcolorlink
9566 }
9567 \def\hyper@link#1#2#3{%
9568 \Hy@VerboseLinkStart{#1}{#2}%
9569 \leavevmode
9570 \ifHy@raiselinks
9571 \Hy@SaveSpaceFactor
9572 \Hy@SaveSavedSpaceFactor
9573 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9574 \Hy@RestoreSavedSpaceFactor
9575 \@linkdim\dp\@tempboxa
9576 \lower\@linkdim\hbox{%
9577 \special{button: %
9578 \number\wd\@tempboxa\space
9579 \number\ht\@tempboxa\space
9580 #2%
9581 }%
9582 \expandafter\Hy@colorlink\csname @#1color\endcsname
9583 \Hy@RestoreSpaceFactor
9584 #3\Hy@xspace@end
9585 \Hy@SaveSpaceFactor
9586 \Hy@endcolorlink
9587 }%
9588 \@linkdim\ht\@tempboxa
9589 \advance\@linkdim by -6.5\p@
9590 \raise\@linkdim\hbox{}}%
9591 \Hy@RestoreSpaceFactor
9592 \else
9593 \special{button: %
9594 \number\wd\@tempboxa\space
9595 \number\ht\@tempboxa\space
9596 #2%
9597 }%
9598 \expandafter\Hy@colorlink\csname @#1color\endcsname
9599 #3\Hy@xspace@end
9600 \Hy@endcolorlink
9601 \fi
9602 }
9603 \def\hyper@linkurl#1#2{%
9604 \begingroup
9605 \hyper@chars

```

```

9606 \leavevmode
9607 \ifHy@raiselinks
9608 \Hy@SaveSpaceFactor
9609 \Hy@SaveSavedSpaceFactor
9610 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9611 \Hy@RestoreSavedSpaceFactor
9612 \@linkdim\dp\@tempboxa
9613 \lower\@linkdim\hbox{%
9614 \special{button: %
9615 \number\wd\@tempboxa\space
9616 \number\ht\@tempboxa\space
9617 launch: \wwwbrowser\space
9618 #2%
9619 }%
9620 \Hy@colorlink\@urlcolor
9621 \Hy@RestoreSpaceFactor
9622 #1\Hy@xspace@end
9623 \Hy@SaveSpaceFactor
9624 \Hy@endcolorlink
9625 }%
9626 \@linkdim\ht\@tempboxa
9627 \advance\@linkdim by -6.5\p@
9628 \raise\@linkdim\hbox{}}%
9629 \Hy@RestoreSpaceFactor
9630 \else
9631 \special{button: %
9632 \number\wd\@tempboxa\space
9633 \number\ht\@tempboxa\space
9634 launch: \wwwbrowser\space
9635 #2%
9636 }%
9637 \Hy@colorlink\@urlcolor
9638 #1\Hy@xspace@end
9639 \Hy@endcolorlink
9640 \fi
9641 \endgroup
9642 }
9643 \def\hyper@linkfile#1#2#3{%
9644 \begingroup
9645 \hyper@chars
9646 \leavevmode
9647 \ifHy@raiselinks
9648 \Hy@SaveSpaceFactor
9649 \Hy@SaveSavedSpaceFactor
9650 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9651 \Hy@RestoreSavedSpaceFactor
9652 \@linkdim\dp\@tempboxa
9653 \lower\@linkdim\hbox{%
9654 \special{button: %
9655 \number\wd\@tempboxa\space
9656 \number\ht\@tempboxa\space
9657 #3,%
9658 file: #2%
9659 }%
9660 \Hy@colorlink\@filecolor
9661 \Hy@RestoreSpaceFactor
9662 #1\Hy@xspace@end

```

```

9663      \Hy@SaveSpaceFactor
9664      \Hy@endcolorlink
9665    }%
9666    \@linkdim\ht\@tempboxa
9667    \advance\@linkdim by -6.5\p@
9668    \raise\@linkdim\hbox{}%
9669    \Hy@RestoreSpaceFactor
9670  \else
9671    \special{button: %
9672      \number\wd\@tempboxa\space
9673      \number\ht\@tempboxa\space
9674      #3,%
9675      file: #2%
9676    }%
9677    \Hy@colorlink\@filecolor
9678    #1\Hy@xspace@end
9679    \Hy@endcolorlink
9680  \fi
9681 \endgroup
9682 }
9683 \ifx\@pdfproducer\relax
9684 \def\@pdfproducer{dviwindo + Distiller}%
9685 \fi
9686 \HyInfo@AddonUnsupportedtrue
9687 \def\PDF@FinishDoc{%
9688   \Hy@UseMaketitleInfos
9689   \HyInfo@TrappedUnsupported
9690   \special{PDF: Keywords \@pdfkeywords}%
9691   \special{PDF: Title \@pdftitle}%
9692   \special{PDF: Creator \@pdfcreator}%
9693   \ifx\@pdfcreationdate\@empty
9694   \else
9695     \special{PDF: CreationDate \@pdfcreationdate}%
9696   \fi
9697   \ifx\@pdfmoddate\@empty
9698   \else
9699     \special{PDF: ModDate \@pdfmoddate}%
9700   \fi
9701   \special{PDF: Author \@pdfauthor}%
9702   \ifx\@pdfproducer\relax
9703   \else
9704     \special{PDF: Producer \@pdfproducer}%
9705   \fi
9706   \special{PDF: Subject \@pdfsubject}%
9707   \Hy@DisableOption{pdfauthor}%
9708   \Hy@DisableOption{pdftitle}%
9709   \Hy@DisableOption{pdfsubject}%
9710   \Hy@DisableOption{pdfcreator}%
9711   \Hy@DisableOption{pdfcreationdate}%
9712   \Hy@DisableOption{pdfmoddate}%
9713   \Hy@DisableOption{pdfproducer}%
9714   \Hy@DisableOption{pdfkeywords}%
9715   \Hy@DisableOption{pdftrapped}%
9716   \Hy@DisableOption{pdfinfo}%
9717 }
9718 \def\PDF@SetupDoc{%
9719   \ifx\@baseurl\@empty

```



```

9720 \else
9721 \special{PDF: Base \@baseurl}%
9722 \fi
9723 \ifx\@pdfpagescrop\@empty\else
9724 \special{PDF: BBox \@pdfpagescrop}%
9725 \fi
9726 \def\Hy@temp{}%
9727 \ifx\@pdfstartpage\@empty
9728 \else
9729 \ifx\@pdfstartview\@empty
9730 \else
9731 \edef\Hy@temp{%
9732 ,Page=\@pdfstartpage
9733 ,View=\@pdfstartview
9734 }%
9735 \fi
9736 \fi
9737 \edef\Hy@temp{%
9738 \noexpand\pdfmark{%
9739 pdfmark=/DOCVIEW,%
9740 PageMode=/\@pdfpagemode
9741 \Hy@temp
9742 }%
9743 }%
9744 \Hy@temp
9745 \ifx\@pdfpagescrop\@empty
9746 \else
9747 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9748 \fi
9749 \edef\Hy@temp{%
9750 \ifHy@pdftoolbar\else /HideToolbar true\fi
9751 \ifHy@pdfmenubar\else /HideMenubar true\fi
9752 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9753 \ifHy@pdffitwindow /FitWindow true\fi
9754 \ifHy@pdfcenterwindow /CenterWindow true\fi
9755 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9756 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9757 \Hy@UseNameKey{Direction}\@pdfdirection
9758 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9759 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9760 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9761 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9762 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9763 \Hy@UseNameKey{Duplex}\@pdfduplex
9764 \ifx\@pdfpicktraybypdfsize\@empty
9765 \else
9766 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9767 \fi
9768 \ifx\@pdfprintpagerange\@empty
9769 \else
9770 /PrintPageRange[\@pdfprintpagerange]%
9771 \fi
9772 \ifx\@pdfnumcopies\@empty
9773 \else
9774 /NumCopies \@pdfnumcopies
9775 \fi
9776 }%

```

```

9777 \pdfmark{pdfmark=/PUT,%
9778   Raw={%
9779     \string{Catalog\string}<<%
9780     \ifx\Hy@temp\@empty
9781     \else
9782     /ViewerPreferences<<\Hy@temp>>%
9783     \fi
9784     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9785     \ifx\@pdflang\@empty
9786     \else
9787     /Lang(\@pdflang)%
9788     \fi
9789     >>%
9790   }%
9791 }%
9792 }
9793 </dviwindo>
9794 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9795 \providecommand*{\XR@ext}{pdf}
9796 \Hy@setbreaklinks{true}
9797 \def\HyPat@ObjRef{%
9798   @[^ ]+%
9799 }
9800 \newsavebox{\pdfm@box}
9801 \def\@pdfm@mark#1{\special{pdf:#1}}
9802 \Hy@WrapperDef\@pdfm@dest#1{%
9803   \Hy@SaveLastskip
9804   \Hy@VerboseAnchor{#1}%
9805   \begingroup
9806     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9807     \def\x{XYZ}%
9808     \ifx\x\@pdfview
9809       \def\x{XYZ @xpos @ypos null}%
9810     \else
9811       \def\x{FitH}%
9812       \ifx\x\@pdfview
9813         \def\x{FitH @ypos}%
9814       \else
9815         \def\x{FitBH}%
9816         \ifx\x\@pdfview
9817           \def\x{FitBH @ypos}%
9818         \else
9819           \def\x{FitV}%
9820           \ifx\x\@pdfview
9821             \def\x{FitV @xpos}%
9822           \else
9823             \def\x{FitBV}%
9824             \ifx\x\@pdfview
9825               \def\x{FitBV @xpos}%
9826             \else
9827               \def\x{Fit}%
9828             \ifx\x\@pdfview
9829               \let\x\@pdfview

```

```

9830         \else
9831         \def\x{FitB}%
9832         \ifx\x\@pdfview
9833         \let\x\@pdfview
9834         \else
9835         \def\x{FitR}%
9836         \ifx\x\@pdfview
9837         \Hy@Warning{'pdfview=FitR' is not supported}%
9838         \def\x{XYZ @xpos @ypos null}%
9839         \else
9840         \@onelevel@sanitize\@pdfview
9841         \Hy@Warning{%
9842         Unknown value '\@pdfview' for pdfview%
9843         }%
9844         \def\x{XYZ @xpos @ypos null}%
9845         \fi
9846         \fi
9847         \fi
9848         \fi
9849         \fi
9850         \fi
9851         \fi
9852         \fi
9853         \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9854     \endgroup
9855     \Hy@RestoreLastskip
9856 }
9857 \providecommand*\@pdfview{XYZ}
9858 \providecommand*\@pdfborder{0 0 1}
9859 \providecommand*\@pdfborderstyle{}
9860 \def\hyper@anchor#1{%
9861     \@pdfm@dest{#1}%
9862 }
9863 \def\hyper@anchorstart#1{%
9864     \Hy@activeanchortrue
9865     \@pdfm@dest{#1}%
9866 }
9867 \def\hyper@anchorend{%
9868     \Hy@activeanchorfalse
9869 }
9870 \newcounter{Hy@AnnotLevel}
9871 \ifHy@ocgcolorlinks
9872     \def\OBJ@OCG@view{@OCG@view}%
9873     \@pdfm@mark{%
9874         obj \OBJ@OCG@view <<%
9875         /Type/OCG%
9876         /Name(View)%
9877         /Usage<<%
9878         /Print<<%
9879         /PrintState/OFF%
9880         >>%
9881         /View<<%
9882         /ViewState/ON%
9883         >>%
9884         >>%
9885         >>%
9886     }%

```

```

9887 \@pdfm@mark{close \OBJ@OCG@view}%
9888 \def\OBJ@OCG@print{@OCG@print}%
9889 \@pdfm@mark{%
9890   obj \OBJ@OCG@print <<%
9891     /Type/OCG%
9892     /Name(Print)%
9893     /Usage<<%
9894     /Print<<%
9895     /PrintState/ON%
9896   >>%
9897   /View<<%
9898   /ViewState/OFF%
9899   >>%
9900   >>%
9901   >>%
9902 }%
9903 \@pdfm@mark{close \OBJ@OCG@print}%
9904 \def\OBJ@OCGs{@OCGs}%
9905 \@pdfm@mark{%
9906   obj \OBJ@OCGs [%
9907     \OBJ@OCG@view\space\OBJ@OCG@print
9908   ]%
9909 }%
9910 \@pdfm@mark{close \OBJ@OCGs}%
9911 \@pdfm@mark{%
9912   put @catalog <<%
9913     /OCProperties<<%
9914     /OCGs \OBJ@OCGs
9915     /D<<%
9916     /OFF[\OBJ@OCG@print]%
9917     /AS[%
9918       <<%
9919         /Event/View%
9920         /OCGs \OBJ@OCGs
9921         /Category[/View]%
9922       >>%
9923       <<%
9924         /Event/Print%
9925         /OCGs \OBJ@OCGs
9926         /Category[/Print]%
9927       >>%
9928       <<%
9929         /Event/Export%
9930         /OCGs \OBJ@OCGs
9931         /Category[/Print]%
9932       >>%
9933     ]%
9934   >>%
9935   >>%
9936   >>%
9937 }%
9938 \AtBeginShipout{%
9939   \setbox\AtBeginShipoutBox=\hbox{%
9940     \copy\AtBeginShipoutBox
9941   \@pdfm@mark{%
9942     put @resources <<%
9943       /Properties<<%

```

```

9944      /OCView \OBJ@OCG@view
9945      /OCPrint \OBJ@OCG@print
9946      >>%
9947      >>%
9948      }%
9949      }%
9950      }%
9951      \Hy@AtBeginDocument{%
9952      \def\Hy@colorlink#1{%
9953      \begingroup
9954      \ifHy@ocgcolorlinks
9955      \def\Hy@ocgcolor{#1}%
9956      \setbox0=\hbox\bgroup\color@begingroup
9957      \else
9958      \HyColor@UseColor#1%
9959      \fi
9960      }%
9961      \def\Hy@endcolorlink{%
9962      \ifHy@ocgcolorlinks
9963      \color@endgroup\egroup
9964      \mbox{%
9965      \@pdfm@mark{content /OC/OCPrint BDC}%
9966      \rlap{\copy0}%
9967      \@pdfm@mark{content EMC/OC/OCView BDC}%
9968      \begingroup
9969      \expandafter\HyColor@UseColor\Hy@ocgcolor
9970      \box0 %
9971      \endgroup
9972      \@pdfm@mark{content EMC}%
9973      }%
9974      \fi
9975      \endgroup
9976      }%
9977      }%
9978      \else
9979      \Hy@DisableOption{ocgcolorlinks}%
9980      \fi

9981      \def\Hy@BeginAnnot#1{%
9982      \stepcounter{Hy@AnnotLevel}%
9983      \ifnum\value{Hy@AnnotLevel}=\@ne
9984      #1%
9985      \fi
9986      }
9987      \def\Hy@endAnnot{%
9988      \ifnum\value{Hy@AnnotLevel}=\@ne
9989      \Hy@endcolorlink
9990      \@pdfm@mark{eann}%
9991      \fi
9992      \addtocounter{Hy@AnnotLevel}\m@ne
9993      }

9994      \def\Hy@undefinedname{UNDEFINED}
9995      \def\hyper@linkstart#1#2{%
9996      \Hy@VerboseLinkStart{#1}{#2}%
9997      \leavevmode
9998      \Hy@BeginAnnot{%
9999      \protected@edef\Hy@testname{#2}%
10000      \ifx\Hy@testname\@empty

```

```

10001 \Hy@Warning{%
10002   Empty destination name,\MessageBreak
10003   using '\Hy@undefinedname'%
10004 }%
10005 \let\Hy@testname\Hy@undefinedname
10006 \else
10007 \Hy@pstringdef\Hy@testname{%
10008 \expandafter\HyperDestNameFilter\expandafter{%
10009 \Hy@testname
10010 }%
10011 }%
10012 \fi
10013 \@pdfm@mark{%
10014   bann<<%
10015   /Type/Annot%
10016   /Subtype/Link%
10017   \ifHy@pdfa /F 4\fi
10018   \Hy@setpdfborder
10019   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10020   \else
10021     /C[\csname @#1bordercolor\endcsname]%
10022   \fi
10023   /A<<%
10024   /S/GoTo%
10025   /D(\Hy@testname)%
10026   \Hy@href@nextactionraw
10027   >>%
10028   >>%
10029   }%
10030 \expandafter\Hy@colorlink\csname @#1color\endcsname
10031 }%
10032 }
10033 \def\hyper@linkend{\Hy@EndAnnot}%
10034 \def\hyper@link#1#2#3{%
10035 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10036 }
10037 \def\hyper@linkfile#1#2#3{%
10038 \leavevmode
10039 \Hy@BeginAnnot{%
10040 \def\Hy@pstringF{#2}%
10041 \Hy@CleanupFile\Hy@pstringF
10042 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10043 \Hy@pstringdef\Hy@pstringD{#3}%
10044 \Hy@MakeRemoteAction
10045 \@pdfm@mark{%
10046   bann<<%
10047   /Type/Annot%
10048   /Subtype/Link%
10049   \ifHy@pdfa /F 4\fi
10050   \Hy@setpdfborder
10051   \ifx\@filebordercolor\relax
10052   \else
10053     /C[\@filebordercolor]%
10054   \fi
10055   /A<<%
10056   /S/GoToR%
10057   /F(\Hy@pstringF)%

```

```

10058      /D%
10059      \ifx\\#3\\%
10060      [\Hy@href@page\@pdfremotestartview]%
10061      \else
10062      (\Hy@pstringD)%
10063      \fi
10064      \Hy@SetNewWindow
10065      \Hy@href@nextactionraw
10066      >>%
10067      >>%
10068      }%
10069      \Hy@colorlink\@filecolor
10070      }%
10071      #1\Hy@xspace@end
10072      \Hy@EndAnnot
10073  }
10074  \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
10075  \leavevmode
10076  \Hy@BeginAnnot{%
10077  \Hy@pstringdef\Hy@pstringF{#1}%
10078  \Hy@pstringdef\Hy@pstringP{#3}%
10079  \@pdfm@mark{%
10080  bann<<%
10081  /Type/Annot%
10082  /Subtype/Link%
10083  \ifHy@pdfa /F 4\fi
10084  \Hy@setpdfborder
10085  \ifx\@runbordercolor\relax
10086  \else
10087  /C[\@runbordercolor]%
10088  \fi
10089  /A<<%
10090  /F(\Hy@pstringF)%
10091  /S/Launch%
10092  \Hy@SetNewWindow
10093  \ifx\\#3\\%
10094  \else
10095  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10096  \fi
10097  \Hy@href@nextactionraw
10098  >>%
10099  >>%
10100  }%
10101  \Hy@colorlink\@runcolor
10102  }%
10103  #2\Hy@xspace@end
10104  \Hy@EndAnnot
10105  }
10106  \def\hyper@linkurl#1#2{%
10107  \leavevmode
10108  \Hy@BeginAnnot{%
10109  \Hy@pstringdef\Hy@pstringURI{#2}%
10110  \@pdfm@mark{%
10111  bann<<%
10112  /Type/Annot%
10113  /Subtype/Link%
10114  \ifHy@pdfa /F 4\fi

```

```

10115 \Hy@setpdfborder
10116 \ifx\@urlbordercolor\relax
10117 \else
10118 /C[\@urlbordercolor]%
10119 \fi
10120 /A<<%
10121 /S/URI%
10122 /URI(\Hy@pstringURI)%
10123 \ifHy@href@ismap
10124 /IsMap true%
10125 \fi
10126 \Hy@href@nextactionraw
10127 >>%
10128 >>%
10129 }%
10130 \Hy@colorlink\@urlcolor
10131 }%
10132 #1\Hy@xspace@end
10133 \Hy@EndAnnot
10134 }
10135 \def\Acrobatmenu#1#2{%
10136 \Hy@Acrobatmenu{#1}{#2}{%
10137 \Hy@BeginAnnot{%
10138 \EdefEscapeName\Hy@temp@menu{#1}%
10139 \@pdfm@mark{%
10140 bann<<%
10141 /Type/Annot%
10142 /Subtype/Link%
10143 \ifHy@pdfa /F 4\fi
10144 \Hy@setpdfborder
10145 \ifx\@menubordercolor\relax
10146 \else
10147 /C[\@menubordercolor]%
10148 \fi
10149 /A<<%
10150 /S/Named%
10151 /N/\Hy@temp@menu
10152 \Hy@href@nextactionraw
10153 >>%
10154 >>%
10155 }%
10156 \Hy@colorlink\@menucolor
10157 }%
10158 #2\Hy@xspace@end
10159 \Hy@EndAnnot
10160 }%
10161 }
10162 \ifx\@pdfproducer\relax
10163 \def\@pdfproducer{dvipdfm}%

```

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

```

10164 \begingroup\expandafter\expandafter\expandafter\endgroup
10165 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10166 \else
10167 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10168 \fi
10169 \fi
10170 \def\PDF@FinishDoc{%

```



```

10171 \Hy@UseMaketitleInfos
10172 \HyInfo@GenerateAddons
10173 \@pdfm@mark{%
10174   docinfo<<%
10175     /Title(\@pdftitle)%
10176     /Subject(\@pdfsubject)%
10177     /Creator(\@pdfcreator)%
10178     \ifx\@pdfcreationdate\@empty
10179     \else
10180       /CreationDate(\@pdfcreationdate)%
10181     \fi
10182     \ifx\@pdfmoddate\@empty
10183     \else
10184       /ModDate(\@pdfmoddate)%
10185     \fi
10186     /Author(\@pdfauthor)%
10187     \ifx\@pdfproducer\relax
10188     \else
10189       /Producer(\@pdfproducer)%
10190     \fi
10191     /Keywords(\@pdfkeywords)%
10192     \ifx\@pdftrapped\@empty
10193     \else
10194       /Trapped/\@pdftrapped
10195     \fi
10196     \HyInfo@Addons
10197   >>%
10198 }%
10199 \Hy@DisableOption{pdfauthor}%
10200 \Hy@DisableOption{pdftitle}%
10201 \Hy@DisableOption{pdfsubject}%
10202 \Hy@DisableOption{pdfcreator}%
10203 \Hy@DisableOption{pdfcreationdate}%
10204 \Hy@DisableOption{pdfmoddate}%
10205 \Hy@DisableOption{pdfproducer}%
10206 \Hy@DisableOption{pdfkeywords}%
10207 \Hy@DisableOption{pdftrapped}%
10208 \Hy@DisableOption{pdfinfo}%
10209 }

10210 \def\PDF@SetupDoc{%
10211   \edef\Hy@temp{%
10212     \ifHy@pdftoolbar\else /HideToolbar true\fi
10213     \ifHy@pdfmenubar\else /HideMenubar true\fi
10214     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10215     \ifHy@pdffitwindow /FitWindow true\fi
10216     \ifHy@pdfcenterwindow /CenterWindow true\fi
10217     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10218     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10219     \Hy@UseNameKey{Direction}\@pdfdirection
10220     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10221     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10222     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10223     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10224     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10225     \Hy@UseNameKey{Duplex}\@pdfduplex
10226     \ifx\@pdfpicktraybypdfsize\@empty
10227     \else

```

```

10228     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10229     \fi
10230     \ifx\@pdfprintpagerange\@empty
10231     \else
10232     /PrintPageRange[\@pdfprintpagerange]%
10233     \fi
10234     \ifx\@pdfnumcopies\@empty
10235     \else
10236     /NumCopies \@pdfnumcopies
10237     \fi
10238 }%
10239 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10240 \@pdfm@mark{%
10241     docview<<%
10242     \ifx\@pdfstartpage\@empty
10243     \else
10244     \ifx\@pdfstartview\@empty
10245     \else
10246     /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10247     \fi
10248     \fi
10249     \ifx\@baseurl\@empty
10250     \else
10251     /URI<</Base(\Hy@pstringB)>>%
10252     \fi
10253     /PageMode/\@pdfpagemode
10254     \ifx\Hy@temp\@empty
10255     \else
10256     /ViewerPreferences<<\Hy@temp>>%
10257     \fi
10258     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10259     \ifx\@pdflang\@empty
10260     \else
10261     /Lang(\@pdflang)%
10262     \fi
10263     >>%
10264 }%
10265 \ifx\@pdfpagescrop\@empty
10266 \else
10267     \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10268 \fi
10269 }
10270 </dvipdfm | xetex>
10271 <*dvipdfm | xetex>

```

\hyper@pagetransition

```

10272 \def\hyper@pagetransition{%
10273     \ifx\@pdfpagetransition\relax
10274     \else
10275     \ifx\@pdfpagetransition\@empty
10276     \else
10277     \special{pdf:put @thispage %
10278     <</Trans<</S/\@pdfpagetransition>>>>%
10279     }%
10280     \fi
10281     \fi
10282 }

```

`\hyper@pageduration`

```
10283 \def\hyper@pageduration{%
10284   \ifx\@pdfpageduration\relax
10285   \else
10286     \ifx\@pdfpageduration\@empty
10287     \else
10288       \special{pdf:put @thispage %
10289         <</Dur \@pdfpageduration>>%
10290       }%
10291     \fi
10292   \fi
10293 }
```

`\hyper@pagehidden`

```
10294 \def\hyper@pagehidden{%
10295   \ifHy@useHidKey
10296     \special{pdf:put @thispage %
10297       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10298     }%
10299   \fi
10300 }

10301 \g@addto@macro\Hy@EveryPageBoxHook{%
10302   \hyper@pagetransition
10303   \hyper@pageduration
10304   \hyper@pagehidden
10305 }

10306 </dvipdfm | xetex>
```

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

```
10307 < *dvipdfm>
10308 \AtBeginShipoutFirst{%
10309   \ifHy@setpagesize
10310     \begingroup
10311       \@ifundefined{stockwidth}{%
10312         \ifdim\paperwidth>\z@
10313         \ifdim\paperheight>\z@
10314           \special{papersize=\the\paperwidth,\the\paperheight}%
10315         \fi
10316       \fi
10317     }{%
10318       \ifdim\stockwidth>\z@
10319       \ifdim\stockheight>\z@
10320         \special{papersize=\the\stockwidth,\the\stockheight}%
10321       \fi
10322     \fi
10323   }%
10324   \endgroup
10325   \fi
10326   \Hy@DisableOption{setpagesize}%
10327 }
10328 </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.

```
10329 <*vtexhtml>
10330 \providecommand*{\XR@ext}{.htm}
10331 \RequirePackage{vtexhtml}
10332 \newif\if@Localurl
10333 \let\PDF@FinishDoc\ltx@empty
10334 \def\PDF@SetupDoc{%
10335   \ifx\@baseurl\@empty
10336   \else
10337     \special{!direct <base href="\@baseurl">}%
10338   \fi
10339 }
10340 \def\@urltype{url}
10341 \def\hyper@link#1#2#3{%
10342   \Hy@VerboseLinkStart{#1}{#2}%
10343   \leavevmode
10344   \special{!direct <a href=%
10345     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10346   #3\Hy@xspace@end
10347   \special{!direct </a>}%
10348 }
10349 \def\hyper@linkurl#1#2{%
10350   \begingroup
10351     \hyper@chars
10352     \leavevmode
10353     \MathBSuppress=1\relax
10354     \special{!direct <a href=%
10355       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10356     #1\Hy@xspace@end
10357     \MathBSuppress=0\relax
10358     \special{!direct </a>}%
10359   \endgroup
10360 }
10361 \def\hyper@linkfile#1#2#3{%
10362   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi}%
10363 }
10364 \def\hyper@linkstart#1#2{%
10365   \Hy@VerboseLinkStart{#1}{#2}%
10366   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10367     \@Localurltrue
10368     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10369   \else
10370     \@Localurlfalse
10371     \begingroup
10372       \hyper@chars
10373       \special{!aref \HyperDestNameFilter{#2}}%
10374     \endgroup
10375   \fi
10376 }
10377 \def\hyper@linkend{%
10378   \if@Localurl
10379     \special{!endaref}%
10380   \else
10381     \special{!direct </a>}%
```

```

10382 \fi
10383 }
10384 \Hy@WrapperDef\hyper@anchorstart#1{%
10385 \Hy@SaveLastskip
10386 \Hy@VerboseAnchor{#1}%
10387 \begingroup
10388 \hyper@chars
10389 \special{!aname #1}%
10390 \special{!direct <a name=%
10391 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10392 \endgroup
10393 \Hy@activeanchortrue
10394 }
10395 \def\hyper@anchorend{%
10396 \special{!direct </a>}}%
10397 \Hy@activeanchorfalse
10398 \Hy@RestoreLastskip
10399 }
10400 \Hy@WrapperDef\hyper@anchor#1{%
10401 \Hy@SaveLastskip
10402 \Hy@VerboseAnchor{#1}%
10403 \begingroup
10404 \let\protect=\string
10405 \hyper@chars
10406 \leavevmode
10407 \special{!aname #1}%
10408 \special{!direct <a name=%
10409 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10410 \endgroup
10411 \Hy@activeanchortrue
10412 \bgroup\anchor@spot\egroup
10413 \special{!direct </a>}}%
10414 \Hy@activeanchorfalse
10415 \Hy@RestoreLastskip
10416 }
10417 \def\@Form[#1]{%
10418 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10419 }
10420 \let\@endForm\ltx@empty
10421 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10422 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10423 }
10424 \def\@TextField[#1]#2{% parameters, label
10425 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10426 }
10427 \def\@CheckBox[#1]#2{% parameters, label
10428 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10429 }
10430 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10431 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10432 }
10433 \def\@PushButton[#1]#2{% parameters, label
10434 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10435 }
10436 \def\@Reset[#1]#2{%
10437 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10438 }

```

```

10439 \def\@Submit[#1]#2{%
10440   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10441 }
10442 </vtexhtml>
10443 <*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.

```

10444 \ifx\mediaheight\@undefined
10445 \else
10446   \ifx\mediaheight\relax
10447   \else
10448     \ifHy@setpagesize
10449       \providecommand*\VTeXInitMediaSize{%
10450         \ltx@ifundefined{stockwidth}{%
10451           \ifdim\paperheight>0pt %
10452             \setlength\mediaheight\paperheight
10453           \fi
10454           \ifdim\paperheight>0pt %
10455             \setlength\mediawidth\paperwidth
10456           \fi
10457         }{%
10458           \ifdim\stockheight>0pt %
10459             \setlength\mediaheight\stockheight
10460           \fi
10461           \ifdim\stockwidth>0pt %
10462             \setlength\mediawidth\stockwidth
10463           \fi
10464         }%
10465       }%
10466       \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10467     \fi
10468   \Hy@DisableOption{setpagesize}%
10469 \fi
10470 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10471 \providecommand*\@pdfview{xyz}
10472 \providecommand*\@pdfborder{0 0 1}
10473 \providecommand*\@pdfborderstyle{}
10474 \let\CurrentBorderColor\@linkbordercolor
10475 \Hy@WrapperDef\hyper@anchor#1{%
10476   \Hy@SaveLastskip
10477   \Hy@VerboseAnchor{#1}%
10478   \begingroup
10479     \let\protect=\string
10480     \hyper@chars
10481     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10482   \endgroup
10483   \Hy@activeanchortrue
10484   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10485   \Hy@activeanchorfalse
10486   \Hy@RestoreLastskip
10487 }
10488 \Hy@WrapperDef\hyper@anchorstart#1{%
10489   \Hy@SaveLastskip
10490   \Hy@VerboseAnchor{#1}%

```

```

10491 \begingroup
10492 \hyper@chars
10493 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10494 \endgroup
10495 \Hy@activeanchortrue
10496 }
10497 \def\hyper@anchorend{%
10498 \Hy@activeanchorfalse
10499 \Hy@RestoreLastskip
10500 }
10501 \def\@urltype{url}
10502 \def\Hy@undefinedname{UNDEFINED}
10503 \def\hyper@linkstart#1#2{%
10504 \Hy@VerboseLinkStart{#1}{#2}%
10505 \Hy@pstringdef\Hy@pstringURI{#2}%
10506 \expandafter\Hy@colorlink\csname @#1color\endcsname
10507 \ltx@ifundefined{@#1bordercolor}{%
10508 \let\CurrentBorderColor\relax
10509 }{%
10510 \edef\CurrentBorderColor{%
10511 \csname @#1bordercolor\endcsname
10512 }%
10513 }%
10514 \def\Hy@tempa{#1}%
10515 \ifx\Hy@tempa\@urltype
10516 \special{!%
10517 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10518 \ifHy@href@ismap
10519 /IsMap true%
10520 \fi
10521 \Hy@href@nextactionraw
10522 >;%
10523 a=<%
10524 \ifHy@pdfa /F 4\fi
10525 \Hy@setpdfborder
10526 \ifx\CurrentBorderColor\relax
10527 \else
10528 /C [\CurrentBorderColor]%
10529 \fi
10530 >%
10531 }%
10532 \else
10533 \protected@edef\Hy@testname{#2}%
10534 \ifx\Hy@testname\@empty
10535 \Hy@Warning{%
10536 Empty destination name,\MessageBreak
10537 using '\Hy@undefinedname'%
10538 }%
10539 \let\Hy@testname\Hy@undefinedname
10540 \fi
10541 \special{!%
10542 aref \expandafter\HyperDestNameFilter
10543 \expandafter{\Hy@testname};%
10544 a=<%
10545 \ifHy@pdfa /F 4\fi
10546 \Hy@setpdfborder
10547 \ifx\CurrentBorderColor\relax

```

```

10548     \else
10549         /C [\CurrentBorderColor]%
10550     \fi
10551     >%
10552 }%
10553 \fi
10554 }
10555 \def\hyper@linkend{%
10556     \special{!endaref}%
10557     \Hy@endcolorlink
10558 }
10559 \def\hyper@linkfile#1#2#3{%
10560     \leavevmode
10561     \def\Hy@pstringF{#2}%
10562     \Hy@CleanupFile\Hy@pstringF
10563     \special{!%
10564         aref <%
10565         \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10566         f=\Hy@pstringF>#3;%
10567         a=<%
10568         \ifHy@pdfa /F 4\fi
10569         \Hy@setpdfborder
10570         \ifx\@filebordercolor\relax
10571             \else
10572                 /C [\@filebordercolor]%
10573             \fi
10574         >%
10575     }%
10576     \Hy@colorlink\@filecolor
10577     #1\Hy@xspace@end
10578     \Hy@endcolorlink
10579     \special{!endaref}%
10580 }
10581 \def\hyper@linkurl#1#2{%
10582     \begingroup
10583     \Hy@pstringdef\Hy@pstringURI{#2}%
10584     \hyper@chars
10585     \leavevmode
10586     \special{!%
10587         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10588         \ifHy@href@ismap
10589             /IsMap true%
10590         \fi
10591         \Hy@href@nextactionraw
10592         >;%
10593         a=<%
10594         \ifHy@pdfa /F 4\fi
10595         \Hy@setpdfborder
10596         \ifx\@urlbordercolor\relax
10597             \else
10598                 /C [\@urlbordercolor]%
10599             \fi
10600         >%
10601     }%
10602     \Hy@colorlink\@urlcolor
10603     #1\Hy@xspace@end
10604     \Hy@endcolorlink

```



```

10605 \special{!endaref}%
10606 \endgroup
10607 }
10608 \def\hyper@link#1#2#3{%
10609 \Hy@VerboseLinkStart{#1}{#2}%
10610 \ltx@ifundefined{#1bordercolor}{%
10611 \let\CurrentBorderColor\relax
10612 }{%
10613 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10614 }%
10615 \leavevmode
10616 \protected@edef\Hy@testname{#2}%
10617 \ifx\Hy@testname\@empty
10618 \Hy@Warning{%
10619 Empty destination name,\MessageBreak
10620 using '\Hy@undefinedname'%
10621 }%
10622 \let\Hy@testname\Hy@undefinedname
10623 \fi
10624 \special{!%
10625 aref \expandafter\HyperDestNameFilter
10626 \expandafter{\Hy@testname};%
10627 a=<%
10628 \ifHy@pdfa /F 4\fi
10629 \Hy@setpdfborder
10630 \ifx\CurrentBorderColor\relax
10631 \else
10632 /C [\CurrentBorderColor]%
10633 \fi
10634 >%
10635 }%
10636 \expandafter
10637 \Hy@colorlink\csname @#1color\endcsname
10638 #3\Hy@xspace@end
10639 \Hy@endcolorlink
10640 \special{!endaref}%
10641 }
10642 \def\hyper@image#1#2{%
10643 \hyper@linkurl{#2}{#1}%
10644 }
10645 \def\@hyper@launch run:#1\#2#3{%
10646 \Hy@pstringdef\Hy@pstringF{#1}%
10647 \Hy@pstringdef\Hy@pstringP{#3}%
10648 \leavevmode
10649 \special{!aref %
10650 <u=%
10651 /Type/Action%
10652 /S/Launch%
10653 /F(\Hy@pstringF)%
10654 \Hy@SetNewWindow
10655 \ifx\#3\%
10656 \else
10657 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10658 \fi
10659 \Hy@href@nextactionraw
10660 >,%
10661 a=<%

```

```

10662 \ifHy@pdfa /F 4\fi
10663 \Hy@setpdfborder
10664 \ifx\@runbordercolor\relax
10665 \else
10666 /C[\@runbordercolor]%
10667 \fi
10668 >%
10669 }%
10670 \Hy@colorlink\@runcolor
10671 #2\Hy@xspace@end
10672 \Hy@endcolorlink
10673 \special{!endaref}%
10674 }
10675 \def\Acrobatmenu#1#2{%
10676 \EdefEscapeName\Hy@temp@menu{#1}%
10677 \Hy@Acrobatmenu{#1}{#2}{%
10678 \special{!%
10679 aref <u=/S /Named /N /\Hy@temp@menu>;%
10680 a=<%
10681 \ifHy@pdfa /F 4\fi
10682 \Hy@setpdfborder
10683 \ifx\@menubordercolor\relax
10684 \else
10685 /C[\@menubordercolor]%
10686 \fi
10687 >%
10688 }%
10689 \Hy@colorlink\@menucolor
10690 #2\Hy@xspace@end
10691 \Hy@endcolorlink
10692 \special{!endaref}%
10693 }%
10694 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for V_TE_X 7.02 or later.

Please never use \@ifundefined{V_TE_Xversion}{..}{..} *globally*.

```

10695 \ifnum\Hy@VTeXversion<702 %
10696 \else
10697 \def\hyper@pagetransition{%
10698 \ifx\@pdfpagetransition\relax
10699 \else
10700 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10701 \else
10702 \hvtex@parse@trans\@pdfpagetransition
10703 \fi
10704 \fi
10705 }%

```

I have to write an “honest” parser to convert raw PDF code into V_TE_X \special. (AVK)

Syntax of V_TE_X \special{!trans <transition_effect>}:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
<Dissolve_effect> | <Glitter_effect> |

```

```

<Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

10706 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10707 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10708 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10709 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10710 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10711 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10712 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10713 \def\hvtex@par@dimension{/Dm}%
10714 \def\hvtex@par@direction{/Di}%
10715 \def\hvtex@par@duration{/D}%
10716 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10717 \def\hvtex@gettoken{%
10718   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10719 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10720 \def\hvtex@gettoken@#1 #2\@nil{%
10721   \edef\hvtex@token{#1}%
10722   \edef\hvtex@buffer{#2}%
10723 }%
10724 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10725 \let\hvtex@trans@code\@empty
10726 \let\hvtex@param@dimension\@empty
10727 \let\hvtex@param@direction\@empty
10728 \let\hvtex@param@duration\@empty
10729 \let\hvtex@param@motion\@empty
10730 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10731 \hvtex@gettoken
10732 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10733 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10734   \else
10735     \hvtex@gettoken
10736   \fi
10737 \fi
10738 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```
10739 \hvtex@trans@params
10740 }%
```

Reentrant macro to parse optional parameters.

```
10741 \def\hvtex@trans@params{%
10742   \ifx\hvtex@buffer\@empty
10743   \else
10744     \hvtex@gettoken
10745     \let\hvtex@trans@par\hvtex@token
10746     \ifx\hvtex@buffer\@empty
10747     \else
10748       \hvtex@gettoken
10749       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_{TEX} special takes it in milliseconds.

```
10750       \let\hvtex@param@duration\hvtex@token
10751     \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10752       \expandafter\edef\expandafter\hvtex@param@motion
10753       \expandafter{\expandafter\@gobble\hvtex@token}%
10754     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10755       \expandafter\edef\expandafter\hvtex@param@dimension
10756       \expandafter{\expandafter\@gobble\hvtex@token}%
10757     \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).

```
10758       \let\hvtex@param@direction\hvtex@token
10759       \fi\fi\fi
10760     \fi
10761   \fi
10762   \ifx\hvtex@buffer\@empty
10763   \let\next\hvtex@produce@trans
10764   \else
10765     \let\next\hvtex@trans@params
10766   \fi
10767   \next
10768 }%
```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
10769 \def\hvtex@produce@trans{%
10770   \let\vtex@trans@special\@empty
10771   \if S\hvtex@trans@code
10772     \edef\vtex@trans@special{\hvtex@trans@code
10773       \hvtex@param@dimension\hvtex@param@motion}%
10774   \else\if B\hvtex@trans@code
10775     \edef\vtex@trans@special{%
10776       \hvtex@trans@code\hvtex@param@dimension
10777     }%
10778   \else\if X\hvtex@trans@code
10779     \edef\vtex@trans@special{%
10780       \hvtex@trans@code\hvtex@param@motion
10781     }%
10782   \else\if W\hvtex@trans@code
```

```

10783 \edef\vtex@trans@special{%
10784   \hvtex@trans@code\hvtex@param@direction
10785 }%
10786 \else\if D\hvtex@trans@code
10787   \let\vtex@trans@special\hvtex@trans@code
10788 \else\if R\hvtex@trans@code
10789   \let\vtex@trans@special\hvtex@trans@code
10790 \else\if G\hvtex@trans@code
10791   \edef\vtex@trans@special{%
10792     \hvtex@trans@code\hvtex@param@direction
10793   }%
10794   \fi\fi\fi\fi\fi\fi
10795 \ifx\vtex@trans@special\@empty
10796   \else
10797     \ifx\hvtex@param@duration\@empty
10798     \else
10799       \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10800   \multiply\dimen@\@m
10801   \edef\vtex@trans@special{%
10802     \vtex@trans@special,\strip@pt\dimen@
10803   }%
10804   \fi

```

And all the mess is just for this.

```

10805   \special{!trans \vtex@trans@special}%
10806   \fi
10807 }%
10808 \def\hyper@pageduration{%
10809   \ifx\@pdfpageduration\relax
10810   \else
10811     \ifx\@pdfpageduration\@empty
10812       \special{!duration-}%
10813     \else
10814       \special{!duration \@pdfpageduration}%
10815     \fi
10816   \fi
10817 }%
10818 \def\hyper@pagehidden{%
10819   \ifHy@useHidKey
10820     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10821   \fi
10822 }%
10823 \g@addto@macro\Hy@EveryPageBoxHook{%
10824   \hyper@pagetransition
10825   \hyper@pageduration
10826   \hyper@pagehidden
10827 }%
10828 \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
10829 \ifx\@pdfproducer\relax
10830 \def\@pdfproducer{VTeX}%
10831 \ifnum\Hy@VTeXversion>\z@
10832 \count@\VTeXversion
10833 \divide\count@ 100 %
10834 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10835 \multiply\count@ -100 %
10836 \advance\count@\VTeXversion
10837 \edef\@pdfproducer{%
10838 \@pdfproducer
10839 .\ifnum\count@<10 0\fi\the\count@
10840 \ifx\VTeXOS\@undefined\else
10841 \ifnum\VTeXOS>0 %
10842 \ifnum\VTeXOS<6 %
10843 \space(
10844 \ifcase\VTeXOS
10845 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10846 \fi
10847 )%
10848 \fi
10849 \fi
10850 \fi
10851 ,\space
10852 \ifnum\OpMode=\@one PDF\else PS\fi
10853 \space backend%
10854 \ifx\gexmode\@undefined\else
10855 \ifnum\gexmode>\z@\space with GeX\fi
10856 \fi
10857 }%
10858 \fi
10859 \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).

```

10860 \def\PDF@SetupDoc{%
10861 \ifx\@pdfpagescrop\@empty
10862 \else
10863 \special{!pdfinfo b=<\@pdfpagescrop>}%
10864 \fi

```

```

10865 \ifx\@pdfstartpage\@empty
10866 \else
10867 \ifx\@pdfstartview\@empty
10868 \else
10869 \special{!onopen Page\@pdfstartpage}%
10870 \fi
10871 \fi
10872 \special{!pdfinfo p=</\@pdfpagemode>}%
10873 \ifx\@baseurl\@empty
10874 \else
10875 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10876 \fi
10877 \special{!pdfinfo v=<<<%
10878 \ifHy@pdftoolbar\else /HideToolbar true\fi
10879 \ifHy@pdfmenubar\else /HideMenubar true\fi
10880 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10881 \ifHy@pdfwindow /FitWindow true\fi
10882 \ifHy@pdfcenterwindow /CenterWindow true\fi
10883 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10884 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10885 \Hy@UseNameKey{Direction}\@pdfdirection
10886 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10887 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10888 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10889 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10890 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10891 \Hy@UseNameKey{Duplex}\@pdfduplex
10892 \ifx\@pdfpicktraybypdfsize\@empty
10893 \else
10894 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10895 \fi
10896 \ifx\@pdfprintpagerange\@empty
10897 \else
10898 /PrintPageRange[\@pdfprintpagerange]%
10899 \fi
10900 \ifx\@pdfnumcopies\@empty
10901 \else
10902 /NumCopies \@pdfnumcopies
10903 \fi
10904 >>>}%
10905 \ifx\@pdfpagelayout\@empty
10906 \else
10907 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10908 \fi
10909 }%
10910 \HyInfo@AddonUnsupportedtrue
10911 \define@key{Hyp}{pdfcreationdate}{%
10912 \Hy@Warning{%
10913 VTeX does not support pdfcreationdate.\MessageBreak
10914 Therefore its setting is ignored%
10915 }%
10916 }
10917 \define@key{Hyp}{pdfmoddate}{%
10918 \Hy@Warning{%
10919 VTeX does not support pdfmoddate.\MessageBreak
10920 Therefore its setting is ignored%
10921 }%

```

```

10922 }
10923 \def\PDF@FinishDoc{%
10924   \Hy@UseMaketitleInfos
10925   \HyInfo@TrappedUnsupported
10926   \special{!pdfinfo a=<\pdfauthor>}%
10927   \special{!pdfinfo t=<\pdftitle>}%
10928   \special{!pdfinfo s=<\pdfsubject>}%
10929   \special{!pdfinfo c=<\pdfcreator>}%
10930   \ifx\pdfproducer\relax
10931   \else
10932     \special{!pdfinfo r=<\pdfproducer>}%
10933   \fi
10934   \special{!pdfinfo k=<\pdfkeywords>}%
10935   \Hy@DisableOption{pdfauthor}%
10936   \Hy@DisableOption{pdftitle}%
10937   \Hy@DisableOption{pdfsubject}%
10938   \Hy@DisableOption{pdfcreator}%
10939   \Hy@DisableOption{pdfcreationdate}%
10940   \Hy@DisableOption{pdfmoddate}%
10941   \Hy@DisableOption{pdfproducer}%
10942   \Hy@DisableOption{pdfkeywords}%
10943   \Hy@DisableOption{pdftrapped}%
10944   \Hy@DisableOption{pdfinfo}%
10945 }
10946 </vtex>

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

10947 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10948 <package>\providecommand*{\Hy@DistillerDestFix}{}
10949 <*pdfmark | dviwindo>
10950 \def\Hy@DistillerDestFix{%
10951   \begingroup
10952     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10953   \ifnum \@ifundefined{OpMode}{0}{}%
10954     \@ifundefined{gexmode}{0}{%
10955       \ifnum\gexmode>0 \OpMode\else 0\fi
10956     }>1 %
10957   \def\x##1{%
10958     \immediate\special{!=##1}%
10959   }%
10960   \fi
10961   \x{%
10962     /product where{%
10963       pop %

```



```

10964     product(Distiller)search{%
10965         pop pop pop %
10966     version(.)search{%
10967         exch pop exch pop%
10968         (3011)eq{%
10969             gsave %
10970             newpath 0 0 moveto closepath clip%
10971             /Courier findfont 10 scalefont setfont %
10972             72 72 moveto(.)show %
10973             grestore%
10974         }if%
10975     }{pop}ifelse%
10976 }{pop}ifelse%
10977 }if%
10978 }%
10979 \endgroup
10980 }
10981 </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

```

```

10982 (*pdfmark)
10983 \Hy@breaklinks@unsupported
10984 \def\HyPat@ObjRef{%
10985   \[~{}]+\}%
10986 }
10987 \Hy@WrapperDef\hyper@anchor#1{%
10988   \Hy@SaveLastskip
10989   \Hy@VerboseAnchor{#1}%
10990   \begingroup
10991     \pdfmark[\anchor@spot]{%
10992       pdfmark=/DEST,%
10993       linktype=anchor,%
10994       View=/\@pdfview \@pdfviewparams,%
10995       DestAnchor={#1}%
10996     }%
10997   \endgroup
10998   \Hy@RestoreLastskip
10999 }
11000 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11001 \Hy@WrapperDef\hyper@anchorstart#1{%
11002   \Hy@SaveLastskip
11003   \Hy@VerboseAnchor{#1}%
11004   \literalps@out{H.S}%

```

```

11005 \Hy@AllowHyphens
11006 \xdef\hyper@currentanchor{#1}%
11007 \Hy@activeanchortrue
11008 }
11009 \def\hyper@anchorend{%
11010 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11011 \pdfmark{%
11012   pdfmark=/DEST,%
11013   linktype=anchor,%
11014   View=/\@pdfview \@pdfviewparams,%
11015   DestAnchor=\hyper@currentanchor,%
11016 }%
11017 \Hy@activeanchorfalse
11018 \Hy@RestoreLastskip
11019 }
11020 \def\hyper@linkstart#1#2{%
11021 \Hy@VerboseLinkStart{#1}{#2}%
11022 \ifHy@breaklinks
11023 \else
11024 \leavevmode
11025 \ifmmode
11026 \def\Hy@LinkMath{$}%
11027 \else
11028 \let\Hy@LinkMath\ltx@empty
11029 \fi
11030 \Hy@SaveSpaceFactor
11031 \hbox\bgroup
11032 \Hy@RestoreSpaceFactor
11033 \Hy@LinkMath
11034 \fi
11035 \expandafter\Hy@colorlink\csname @#1color\endcsname
11036 \literalps@out{H.S}%
11037 \Hy@AllowHyphens
11038 \xdef\hyper@currentanchor{#2}%
11039 \gdef\hyper@currentlinktype{#1}%
11040 }
11041 \def\hyper@linkend{%
11042 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11043 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11044 \let\Hy@tempcolor\relax
11045 }{%
11046 \edef\Hy@tempcolor{%
11047 \csname @\hyper@currentlinktype bordercolor\endcsname
11048 }%
11049 }%
11050 \pdfmark{%
11051   pdfmark=/ANN,%
11052   linktype=link,%
11053   Subtype=/Link,%
11054   PDFAFlags=4,%
11055   Dest=\hyper@currentanchor,%
11056   AcroHighlight=\@pdfhighlight,%
11057   Border=\@pdfborder,%
11058   BorderStyle=\@pdfborderstyle,%
11059   Color=\Hy@tempcolor,%
11060   Raw=H.B%
11061 }%

```

```

11062 \Hy@endcolorlink
11063 \ifHy@breaklinks
11064 \else
11065 \Hy@LinkMath
11066 \Hy@SaveSpaceFactor
11067 \egroup
11068 \Hy@RestoreSpaceFactor
11069 \fi
11070 }

```

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.

```

11071 \begingroup
11072 \catcode'P=12 %
11073 \catcode'T=12 %
11074 \lowercase{\endgroup
11075 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11076 }
11077 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11078 \def\hyper@pagetransition{%
11079 \ifx\@pdfpagetransition\relax
11080 \else
11081 \ifx\@pdfpagetransition\@empty
11082 % 1. Does an old entry have to be deleted?
11083 % 2. If 1=yes, how to delete?
11084 \else
11085 \pdfmark{%
11086 pdfmark=/PUT,%
11087 Raw={%
11088 \string{ThisPage\string}%
11089 <</Trans << /S /\@pdfpagetransition\space >> >>%
11090 }%
11091 }%
11092 \fi
11093 \fi
11094 }

```

`\hyper@pageduration`

```

11095 \def\hyper@pageduration{%
11096 \ifx\@pdfpageduration\relax
11097 \else
11098 \ifx\@pdfpageduration\@empty
11099 % 1. Does an old entry have to be deleted?
11100 % 2. If 1=yes, how to delete?
11101 \else
11102 \pdfmark{%
11103 pdfmark=/PUT,%
11104 Raw={%
11105 \string{ThisPage\string}%
11106 <</Dur \@pdfpageduration>>%
11107 }%
11108 }%
11109 \fi
11110 \fi
11111 }

```

\hyper@pagehidden

```
11112 \def\hyper@pagehidden{%
11113   \ifHy@useHidKey
11114     \pdfmark{%
11115       pdfmark=/PUT,%
11116       Raw={%
11117         \string{ThisPage\string}%
11118         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11119       }%
11120     }%
11121   \fi
11122 }

11123 \g@addto@macro\Hy@EveryPageBoxHook{%
11124   \hyper@pagetransition
11125   \hyper@pageduration
11126   \hyper@pagehidden
11127 }

11128 \def\hyper@image#1#2{%
11129   \hyper@linkurl{#2}{#1}%
11130 }
11131 \def\Hy@undefinedname{UNDEFINED}
11132 \def\hyper@link#1#2#3{%
11133   \Hy@VerboseLinkStart{#1}{#2}%
11134   \ltx@ifundefined{#1bordercolor}{%
11135     \let\Hy@tempcolor\relax
11136   }{%
11137     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11138   }%
11139   \begingroup
11140   \protected@edef\Hy@testname{#2}%
11141   \ifx\Hy@testname\@empty
11142     \Hy@Warning{%
11143       Empty destination name,\MessageBreak
11144       using '\Hy@undefinedname'%
11145     }%
11146     \let\Hy@testname\Hy@undefinedname
11147   \fi
11148   \pdfmark[{#3}]{%
11149     Color=\Hy@tempcolor,%
11150     linktype={#1},%
11151     AcroHighlight=\@pdfhighlight,%
11152     Border=\@pdfborder,%
11153     BorderStyle=\@pdfborderstyle,%
11154     pdfmark=/ANN,%
11155     Subtype=/Link,%
11156     PDFAFlags=4,%
11157     Dest=\Hy@testname
11158   }%
11159   \endgroup
11160 }
11161 \newtoks\pdf@docset
11162 \def\PDF@FinishDoc{%
11163   \Hy@UseMaketitleInfos
11164   \Hy@Info@GenerateAddons
11165   \let\Hy@temp\@empty
11166   \ifx\@pdfcreationdate\@empty
```

```

11167 \else
11168   \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11169 \fi
11170 \ifx\@pdfmoddate\@empty
11171 \else
11172   \expandafter\def\expandafter\Hy@temp\expandafter{%
11173     \Hy@temp
11174     ModDate=\@pdfmoddate,%
11175   }%
11176 \fi
11177 \ifx\@pdfproducer\relax
11178 \else
11179   \expandafter\def\expandafter\Hy@temp\expandafter{%
11180     \Hy@temp
11181     Producer=\@pdfproducer,%
11182   }%
11183 \fi
11184 \expandafter
11185 \pdfmark\expandafter{%
11186   \Hy@temp
11187   pdfmark=/DOCINFO,%
11188   Title=\@pdftitle,%
11189   Subject=\@pdfsubject,%
11190   Creator=\@pdfcreator,%
11191   Author=\@pdfauthor,%
11192   Keywords=\@pdfkeywords,%
11193   Trapped=\@pdftrapped
11194 }%
11195 \ifx\HyInfo@Addons\@empty
11196 \else
11197   \pdfmark{%
11198     pdfmark=/DOCINFO,%
11199     Raw={\HyInfo@Addons}%
11200   }%
11201 \fi
11202 \Hy@DisableOption{pdfauthor}%
11203 \Hy@DisableOption{pdftitle}%
11204 \Hy@DisableOption{pdfsubject}%
11205 \Hy@DisableOption{pdfcreator}%
11206 \Hy@DisableOption{pdfcreationdate}%
11207 \Hy@DisableOption{pdfmoddate}%
11208 \Hy@DisableOption{pdfproducer}%
11209 \Hy@DisableOption{pdfkeywords}%
11210 \Hy@DisableOption{pdftrapped}%
11211 \Hy@DisableOption{pdfinfo}%
11212 }
11213 \def\PDF@SetupDoc{%
11214   \def\Hy@temp{}%
11215   \ifx\@pdfstartpage\@empty
11216   \else
11217     \ifx\@pdfstartview\@empty
11218     \else
11219       \edef\Hy@temp{%
11220         ,Page=\@pdfstartpage
11221         ,View=\@pdfstartview
11222       }%
11223     \fi

```

```

11224 \fi
11225 \edef\Hy@temp{%
11226   \noexpand\pdfmark{%
11227     pdfmark=/DOCVIEW,%
11228     PageMode=/\@pdfpagemode
11229     \Hy@temp
11230   }%
11231 }%
11232 \Hy@temp
11233 \ifx\@pdfpagescrop\@empty
11234 \else
11235   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11236 \fi
11237 \edef\Hy@temp{%
11238   \ifHy@pdftoolbar\else /HideToolbar true\fi
11239   \ifHy@pdfmenubar\else /HideMenubar true\fi
11240   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11241   \ifHy@pdfwindow /FitWindow true\fi
11242   \ifHy@pdfcenterwindow /CenterWindow true\fi
11243   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11244   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11245   \Hy@UseNameKey{Direction}\@pdfdirection
11246   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11247   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11248   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11249   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11250   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11251   \Hy@UseNameKey{Duplex}\@pdfduplex
11252   \ifx\@pdfpicktraybypdfsize\@empty
11253   \else
11254     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11255   \fi
11256   \ifx\@pdfprintpagerange\@empty
11257   \else
11258     /PrintPageRange[\@pdfprintpagerange]%
11259   \fi
11260   \ifx\@pdfnumcopies\@empty
11261   \else
11262     /NumCopies \@pdfnumcopies
11263   \fi
11264 }%
11265 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11266 \pdfmark{%
11267   pdfmark=/PUT,%
11268   Raw={%
11269     \string{Catalog\string}<<%
11270     \ifx\Hy@temp\@empty
11271     \else
11272       /ViewerPreferences<<\Hy@temp>>%
11273     \fi
11274     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11275     \ifx\@pdflang\@empty
11276     \else
11277       /Lang(\@pdflang)%
11278     \fi
11279     \ifx\@baseurl\@empty
11280     \else

```

```

11281      /URI<</Base(\Hy@pstringB)>>%
11282      \fi
11283      >>%
11284      }%
11285      }%
11286      }
11287      </pdfmark>
11288      <*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.

```

11289 \newif\ifHy@pdfmarkerror
11290 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11291 \def\pdfmark@[#1]#2{%
11292   \Hy@pdfmarkerrorfalse
11293   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11294   \@processme
11295   \let\pdf@type\relax
11296   \kvsetkeys{PDF}{#2}%
11297   \ifHy@pdfmarkerror
11298   \else
11299     \ifx\pdf@type\relax
11300       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11301       \ifx\\#1\\%
11302         \else
11303           \pdf@rect{#1}%
11304           \fi
11305         \else
11306           \ifx\\#1\\%
11307             \literalps@out{%
11308               [\the\pdf@toks\space\pdf@type\space pdfmark%
11309             ]}%
11310           \else
11311             \ltx@ifundefined{@\pdf@linktype color}{%
11312               \Hy@colorlink\@linkcolor
11313             }{%
11314               \expandafter\Hy@colorlink
11315                 \csname @\pdf@linktype color\endcsname
11316             }%
11317             \pdf@rect{#1}%
11318             \literalps@out{%
11319               [\the\pdf@toks\space\pdf@type\space pdfmark%
11320             ]}%
11321             \Hy@endcolorlink
11322           \fi
11323         \fi
11324       \fi
11325     }

```

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}
```

```
11326 \newsavebox{\pdf@box}
11327 \providecommand*\Hy@setouterhbox{\sbox}
11328 \providecommand*\Hy@breaklinksunhbox{\unhbox}
11329 \def\Hy@DEST{/DEST}
11330 \def\pdf@rect#1{%
11331   \begingroup
11332   \chardef\x=1 %
11333   \def\Hy@temp{#1}%
11334   \ifx\Hy@temp\ltx@empty
11335     \chardef\x=0 %
11336   \else
11337     \def\y{\anchor@spot}%
11338     \ifx\Hy@temp\y
11339       \def\y{\relax}%
11340     \ifx\anchor@spot\y
11341       \chardef\x=0 %
11342     \fi
11343   \fi
11344   \fi
11345   \expandafter\endgroup
11346   \ifcase\x
11347     \literalps@out{H.S}%
11348     \literalps@out{H.R}%
11349   \else
11350     \leavevmode
11351     \Hy@SaveSpaceFactor
11352     \ifmmode
11353       \def\Hy@LinkMath{$}%
11354     \else
11355       \let\Hy@LinkMath\ltx@empty
11356     \fi
11357     \ifHy@breaklinks
11358       \Hy@setouterhbox\pdf@box{%
11359         \Hy@RestoreSpaceFactor
11360         \Hy@LinkMath
11361         \Hy@AllowHyphens#1\Hy@xspace@end
11362         \Hy@LinkMath
11363         \Hy@SaveSpaceFactor
11364       }%
11365     \else
11366       \sbox\pdf@box{%
11367         \Hy@RestoreSpaceFactor
11368         \Hy@LinkMath
11369         #1\Hy@xspace@end
11370         \Hy@LinkMath
11371         \Hy@SaveSpaceFactor
11372       }%
11373     \fi
11374     \dimen@ht\pdf@box
11375     \ifdim\dp\pdf@box=\z@
```



```

11376 \literalps@out{H.S}%
11377 \else
11378 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11379 \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...).

```

11380 \ifHy@breaklinks
11381 \ifhmode
11382 \Hy@breaklinksunhbox\pdf@box
11383 \else
11384 \box\pdf@box
11385 \fi
11386 \else
11387 \expandafter\box\pdf@box
11388 \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

```

```

11389 \ifdim\dimen@=\z@
11390 \literalps@out{H.R}%
11391 \else
11392 \raise\dimen@\hbox{\literalps@out{H.R}}%
11393 \fi
11394 \Hy@RestoreSpaceFactor
11395 \fi
11396 \ifx\pdf@type\Hy@DEST
11397 \else
11398 \pdf@addtoksx{H.B}%
11399 \fi
11400 }

```

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.

```

11401 \newtoks\pdf@toks
11402 \newtoks\pdf@defaulttoks
11403 \pdf@defaulttoks={}%
11404 \def\pdf@addtoks#1#2{%
11405 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11406 \@processme
11407 }
11408 \def\pdf@addtoksx#1{%
11409 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11410 \@processme
11411 }
11412 \def\PDFdefaults#1{%
11413 \pdf@defaulttoks={#1}%
11414 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11415 % what is the type of pdfmark?
11416 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11417 % what is the link type?
11418 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}

```

```

11419 \def\pdf@linktype{link}
11420 % parameter is a stream of PDF
11421 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11422 % parameter is a name
11423 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11424 % parameter is a array
11425 \define@key{PDF}{Border}{%
11426   \edef\Hy@temp{#1}%
11427   \ifx\Hy@temp\@empty
11428     \else
11429     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11430   \fi
11431 }
11432 \let\Hy@BorderArrayPatch\@empty
11433 % parameter is a dictionary
11434 \define@key{PDF}{BorderStyle}{%
11435   \edef\Hy@temp{#1}%
11436   \ifx\Hy@temp\@empty
11437     \else
11438     \pdf@addtoks{<<#1>>}{BS}%
11439   \fi
11440 }
11441 % parameter is a array
11442 \define@key{PDF}{Color}{%
11443   \ifx\relax#1\relax
11444     \else
11445     \pdf@addtoks{[#1]}{Color}% hash-ok
11446   \fi
11447 }
11448 % parameter is a string
11449 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11450 % parameter is a integer
11451 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11452 % parameter is a array
11453 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11454 % parameter is a string
11455 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11456 % parameter is a string or file
11457 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11458 % parameter is a destination
11459 \define@key{PDF}{Dest}{%
11460   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11461   \ifx\Hy@pstringDest\@empty
11462     \Hy@pdfmarkerrortrue
11463     \Hy@Warning{Destination with empty name ignored}%
11464   \else
11465     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11466   \fi
11467 }
11468 \define@key{PDF}{DestAnchor}{%
11469   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11470   \ifx\Hy@pstringDest\@empty
11471     \Hy@pdfmarkerrortrue
11472     \Hy@Warning{Destination with empty name ignored}%
11473   \else
11474     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11475   \fi

```

```

11476 }
11477 % parameter is a string
11478 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11479 % parameter is a string
11480 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11481 % parameter is a int
11482 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11483 \define@key{PDF}{PDFAFlags}{%
11484   \ifHy@pdfa
11485     \pdf@addtoks{#1}{F}%
11486   \fi
11487 }
11488 % parameter is a name
11489 \define@key{PDF}{AcroHighlight}{%
11490   \begingroup
11491     \edef\x{#1}%
11492     \expandafter\endgroup\ifx\x\@empty
11493     \else
11494       \pdf@addtoks{#1}{H}%
11495     \fi
11496 }
11497 % parameter is a string
11498 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11499 % parameter is a string
11500 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11501 % parameter is a string
11502 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11503 % parameter is a string
11504 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11505 % parameter is a Boolean
11506 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11507 % parameter is a integer or name
11508 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11509 % parameter is a name
11510 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11511 % parameter is a string
11512 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11513 % parameter is a array
11514 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11515 % parameter is a integer
11516 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11517 % parameter is a name
11518 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11519 % parameter is a string
11520 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11521 % parameter is a string
11522 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11523 % parameter is a string
11524 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11525 % parameter is an array
11526 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11527 % parameter is a string
11528 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

These are the keys used in the DOCINFO section.
11529 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11530 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11531 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}

```

```

11532 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11533 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11534 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11535 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11536 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11537 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11538 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11539 \define@key{PDF}{Trapped}{%
11540   \edef\Hy@temp{#1}%
11541   \ifx\Hy@temp\@empty
11542   \else
11543     \pdf@addtoks{/#1}{Trapped}%
11544   \fi
11545 }
11546
11547 </pdfmarkbase>
11548 <*pdfmark>
11549 \def\Acrobatmenu#1#2{%
11550   \EdefEscapeName\Hy@temp@menu{#1}%
11551   \Hy@Acrobatmenu{#1}{#2}{%
11552     \pdfmark[{#2}]{%
11553       linktype=menu,%
11554       pdfmark=/ANN,%
11555       AcroHighlight=\@pdfhighlight,%
11556       Border=\@pdfborder,%
11557       BorderStyle=\@pdfborderstyle,%
11558       Color=\@menubordercolor,%
11559       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11560       Subtype=/Link,%
11561       PDFAFlags=4%
11562     }%
11563   }%
11564 }

```

And now for some useful examples:

```

11565 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11566 \def\PDFNextPage@[#1]#2{%
11567   \pdfmark[{#2}]{%
11568     #1,%
11569     Border=\@pdfborder,%
11570     BorderStyle=\@pdfborderstyle,%
11571     Color=.2 .1 .5,%
11572     pdfmark=/ANN,%
11573     Subtype=/Link,%
11574     PDFAFlags=4,%
11575     Page=/Next%
11576   }%
11577 }
11578 \def\PDFPreviousPage{%
11579   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11580 }
11581 \def\PDFPreviousPage@[#1]#2{%
11582   \pdfmark[{#2}]{%
11583     #1,%
11584     Border=\@pdfborder,%
11585     BorderStyle=\@pdfborderstyle,%
11586     Color=.4 .4 .1,%
11587     pdfmark=/ANN,%

```

```

11588 Subtype=/Link,%
11589 PDFAFlags=4,%
11590 Page=/Prev%
11591 }%
11592 }
11593 \def\PDFOpen#1{%
11594 \pdfmark{#1,pdfmark=/DOCVIEW}%
11595 }

```

This will only work if you use Distiller 2.1 or higher.

```

11596 \def\hyper@linkurl#1#2{%
11597 \begingroup
11598 \Hy@pstringdef\Hy@pstringURI{#2}%
11599 \hyper@chars
11600 \leavevmode
11601 \pdfmark[{#1}]{%
11602 pdfmark=/ANN,%
11603 linktype=url,%
11604 AcroHighlight=\@pdfhighlight,%
11605 Border=\@pdfborder,%
11606 BorderStyle=\@pdfborderstyle,%
11607 Color=\@urlbordercolor,%
11608 Action={<<%
11609 /Subtype/URI%
11610 /URI(\Hy@pstringURI)%
11611 \ifHy@href@ismap
11612 /IsMap true%
11613 \fi
11614 >>},%
11615 Subtype=/Link,%
11616 PDFAFlags=4%
11617 }%
11618 \endgroup
11619 }
11620 \def\hyper@linkfile#1#2#3{%
11621 \begingroup
11622 \def\Hy@pstringF{#2}%
11623 \Hy@CleanupFile\Hy@pstringF
11624 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11625 \Hy@pstringdef\Hy@pstringD{#3}%
11626 \Hy@MakeRemoteAction
11627 \leavevmode
11628 \pdfmark[{#1}]{%
11629 pdfmark=/ANN,%
11630 Subtype=/Link,%
11631 PDFAFlags=4,%
11632 AcroHighlight=\@pdfhighlight,%
11633 Border=\@pdfborder,%
11634 BorderStyle=\@pdfborderstyle,%
11635 linktype=file,%
11636 Color=\@filebordercolor,%
11637 Action={%
11638 <<%
11639 /S/GoToR%
11640 \Hy@SetNewWindow
11641 /F(\Hy@pstringF)%
11642 /D%
11643 \ifx\#3\%

```

```

11644      [\Hy@href@page\@pdfremotestartview]%
11645      \else
11646      (\Hy@pstringD)cvn%
11647      \fi
11648      \Hy@href@nextactionraw
11649      >>%
11650    }%
11651  }%
11652 \endgroup
11653 }
11654 \def\@hyper@launch run:#1\|#2#3{%
11655 \begingroup
11656   \Hy@pstringdef\Hy@pstringF{#1}%
11657   \Hy@pstringdef\Hy@pstringP{#3}%
11658   \leavevmode
11659   \pdfmark[{#2}]{%
11660     pdfmark=/ANN,%
11661     Subtype=/Link,%
11662     PDFAMark=4,%
11663     AcroHighlight=\@pdfhighlight,%
11664     Border=\@pdfborder,%
11665     BorderStyle=\@pdfborderstyle,%
11666     linktype=run,%
11667     Color=\@runbordercolor,%
11668     Action={%
11669       <<%
11670       /S/Launch%
11671       \Hy@SetNewWindow
11672       /F(\Hy@pstringF)%
11673       \ifx\|#3\|
11674       \else
11675       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11676       \fi
11677       \Hy@href@nextactionraw
11678       >>%
11679     }%
11680   }%
11681 \endgroup
11682 }
11683 \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.

```

11684 (*dvips)
11685 \providecommand*\XR@ext\{pdf}
11686 \let\Hy@raisedlink\ltx@empty
11687 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11688 \def\headerps@out#1{\special{! #1}}%
11689 \input{pdfmark.def}%
11690 \ifx\@pdfproducer\relax

```

```

11691 \def\@pdfproducer{dvips + Distiller}%
11692 \fi
11693 \providecommand*\@pdfborder{0 0 1}
11694 \providecommand*\@pdfborderstyle{}
11695 \providecommand*\@pdfview{XYZ}
11696 \providecommand*\@pdfviewparams{ H.V}
11697 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11698 \g@addto@macro\Hy@FirstPageHook{%
11699 \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.

```

11700 /DvipsToPDF{72.27 mul Resolution div} def%
11701 /PDFToDvips{72.27 div Resolution mul} def%
11702 /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.

```

11703 /BorderArrayPatch{%
11704   [exch{%
11705     dup dup type/integertype eq exch type/realtype eq or%
11706     {BPToDvips}if%
11707   }forall]%
11708 }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.

```

11709 /HyperBorder {1 PDFToDvips} def%
11710 /H.V {pdf@hoff pdf@voff null} def%
11711 /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

```

11712 /H.S {%
11713   currentpoint %
11714   HyperBorder add /pdf@lly exch def %
11715   dup DvipsToPDF 72 add /pdf@hoff exch def %
11716   HyperBorder sub /pdf@llx exch def%
11717 } def%

```

The calculation of upper left *y* is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current *y*. This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The x and y coordinates of the current point, minus the `baselineskip`

```

11718 /H.L {%
11719 2 sub dup%
11720 /HyperBasePt exch def %
11721 PDFToDvips /HyperBaseDvips exch def %
11722 currentpoint %
11723 HyperBaseDvips sub /pdf@ury exch def%
11724 /pdf@urx exch def%
11725 } def%
11726 /H.A {%
11727 H.L %
11728 % |pdf@voff| = the distance from the top of the page to a point
11729 % |\baselineskip| above the current point in PDF coordinates
11730 currentpoint exch pop %
11731 vsize 72 sub exch DvipsToPDF %
11732 HyperBasePt sub % baseline skip
11733 sub /pdf@voff exch def%
11734 } def%
11735 /H.R {%
11736 currentpoint %
11737 HyperBorder sub /pdf@ury exch def %
11738 HyperBorder add /pdf@urx exch def %
11739 % |pdf@voff| = the distance from the top of the page to the current point, in
11740 % PDF coordinates
11741 currentpoint exch pop vsize 72 sub %
11742 exch DvipsToPDF sub /pdf@voff exch def%
11743 } def%
11744 }%
11745 }
11746 \AtBeginShipoutFirst{%
11747 \ifHy@setpagesize
11748 \begingroup
11749 \@ifundefined{stockwidth}{%
11750 \ifdim\paperwidth>\z@
11751 \ifdim\paperheight>\z@
11752 \special{papersize=\the\paperwidth,\the\paperheight}%
11753 \fi
11754 \fi
11755 }{%
11756 \ifdim\stockwidth>\z@
11757 \ifdim\stockheight>\z@
11758 \special{papersize=\the\stockwidth,\the\stockheight}%
11759 \fi
11760 \fi
11761 }%
11762 \endgroup
11763 \fi
11764 \Hy@DisableOption{setpagesize}%
11765 }
11766 </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.

```

11767 (*vtexpdfmark)
11768 \providecommand*\XR@ext}{pdf}
11769 \let\Hy@raisedlink\ltx@empty
11770 \def\literalps@out#1{\special{pS:#1}}%
11771 \def\headerps@out#1{\immediate\special{pS:#1}}%
11772 \input{pdfmark.def}%
11773 \ifx\@pdfproducer\relax
11774   \ifnum\OpMode=\@ne
11775     \def\@pdfproducer{VTeX}%
11776   \else
11777     \def\@pdfproducer{VTeX + Distiller}%
11778   \fi
11779 \fi
11780 \providecommand*\@pdfborder{0 0 1}
11781 \providecommand*\@pdfborderstyle{}
11782 \providecommand*\@pdfview{XYZ}
11783 \providecommand*\@pdfviewparams{ H.V}
11784 \g@addto@macro\Hy@FirstPageHook{%
11785   \headerps@out{%
11786     /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.

```

11787   /HyperBorder {1} def%
11788   /H.V {pdf@hoff pdf@voff null} def%
11789   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11790   /H.S {%
11791     currentpoint %
11792     HyperBorder sub%
11793     /pdf@lly exch def %
11794     dup 72 add /pdf@hoff exch def %
11795     HyperBorder sub%
11796     /pdf@llx exch def%
11797   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11798   /H.L {%
11799     2 sub%
11800     /HyperBasePt exch def %
11801     currentpoint %
11802     HyperBasePt add HyperBorder add%
11803     /pdf@ury exch def %
11804     HyperBorder add%
11805     /pdf@urx exch def%
11806   } def%
11807   /H.A {%
11808     H.L %
11809     currentpoint exch pop %
11810     vsize 72 sub exch %
11811     HyperBasePt add add%
11812     /pdf@voff exch def%
11813   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11814 /H.R {%
11815   currentpoint %
11816   HyperBorder add%
11817 /pdf@ury exch def %
11818   HyperBorder add%
11819 /pdf@urx exch def %
11820   currentpoint exch pop vsize 72 sub add%
11821 /pdf@voff exch def%
11822 } def%
11823 }%
11824 }
11825 </vtxpdfmark>

```

46.11 Textures

```

11826 <*textures>
11827 \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.

```

11828 \begingroup
11829 \obeylines %
11830 \gdef\Hy@ps@CR{\noexpand
11831 }%
11832 \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`.

```

11833 \def\literalps@out#1{%
11834   \special{postscript 0 0 transform}%
11835   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11836 }%
11837 %

```

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.

```

11838 \def\headerps@out#1{%
11839   \special{%
11840     prepostscript TeXdict begin\Hy@ps@CR

```

```

11841    #1\Hy@ps@CR
11842    end%
11843 }%
11844 }%
11845 %

```

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.

```

11846 \g@addto@macro\Hy@FirstPageHook{%
11847   \headerps@out{%
11848     /betterpdfmark {%
11849       systemdict begin %
11850         dup /BP eq%
11851         {cleartomark gsave nulldevice []%
11852          {dup /EP eq%
11853           {cleartomark cleartomark grestore}%
11854           {cleartomark}%
11855           ifelse%
11856         }ifelse %
11857       end%
11858     }def\Hy@ps@CR
11859     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11860   }% end of \headerps@out
11861 }% end of \AtBeginShipoutFirst
11862 %
11863 \input{pdfmark.def}%
11864 %
11865 \ifx\@pdfproducer\relax
11866   \def\@pdfproducer{Textures + Distiller}%
11867 \fi
11868 \providecommand*\@pdfborder{0 0 1}
11869 \providecommand*\@pdfborderstyle{}
11870 \providecommand*\@pdfview{XYZ}
11871 \providecommand*\@pdfviewparams{ H.V}
11872 %

```

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 .

```

11873 \Hy@AtBeginDocument{%
11874   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11875     /vsize {\Hy@pageheight} def%
11876     /DvipsToPDF {} def%
11877     /PDFToDvips {} def%
11878     /BPToDvips {} def%
11879     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11880     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11881     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11882     /H.S {%
11883       currentpoint %
11884       HyperBorder add /pdf@lly exch def %

```

```

11885     dup DvipsToPDF 72 add /pdf@hoff exch def %
11886     HyperBorder sub /pdf@llx exch def%
11887   } def\Hy@ps@CR
11888   /H.L {%
11889     2 sub %
11890     PDFToDvips /HyperBase exch def %
11891     currentpoint %
11892     HyperBase sub /pdf@ury exch def%
11893     /pdf@urx exch def%
11894   } def\Hy@ps@CR
11895   /H.A {%
11896     H.L %
11897     currentpoint exch pop %
11898     vsize 72 sub exch DvipsToPDF %
11899     HyperBase sub % baseline skip
11900     sub /pdf@voff exch def%
11901   } def\Hy@ps@CR
11902   /H.R {%
11903     currentpoint %
11904     HyperBorder sub /pdf@ury exch def %
11905     HyperBorder add /pdf@urx exch def %
11906     currentpoint exch pop vsize 72 sub %
11907     exch DvipsToPDF sub /pdf@voff exch def%
11908   } def\Hy@ps@CR
11909 }%
11910 }

11911 \Hy@AtBeginDocument{%
11912   \ifHy@colorlinks
11913     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11914   \fi
11915 }

```

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.

```

11916 \expandafter\let\expandafter\keepPDF@SetupDoc
11917   \csname PDF@SetupDoc\endcsname
11918 \def\PDF@SetupDoc{%
11919   \ifx\@baseurl\@empty
11920     \else
11921       \special{html:<base href="\@baseurl">}%
11922     \fi
11923   \keepPDF@SetupDoc
11924 }

11925 \Hy@WrapperDef\hyper@anchor#1{%
11926   \Hy@SaveLastskip
11927   \Hy@VerboseAnchor{#1}%
11928   \begingroup
11929     \let\protect=\string
11930     \special{html:<a name=%
11931       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11932   \endgroup
11933   \Hy@activeanchortrue
11934   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11935   \special{html:</a>}%
11936   \Hy@activeanchorfalse
11937   \Hy@RestoreLastskip

```

```

11938 }
11939 \Hy@WrapperDef\hyper@anchorstart#1{%
11940 \Hy@SaveLastskip
11941 \Hy@VerboseAnchor{#1}%
11942 \begingroup
11943 \hyper@chars
11944 \special{html:<a name=%
11945 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11946 \endgroup
11947 \Hy@activeanchortrue
11948 }
11949 \def\hyper@anchorend{%
11950 \special{html:</a>}%
11951 \Hy@activeanchorfals
11952 \Hy@RestoreLastskip
11953 }
11954 \def\@urltype{url}
11955 \def\hyper@linkstart#1#2{%
11956 \Hy@VerboseLinkStart{#1}{#2}%
11957 \expandafter\Hy@colorlink\csname @#1color\endcsname
11958 \def\Hy@tempa{#1}%
11959 \ifx\Hy@tempa\@urltype
11960 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11961 \else
11962 \begingroup
11963 \hyper@chars
11964 \special{%
11965 html:<a href=%
11966 \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>%
11967 }%
11968 \endgroup
11969 \fi
11970 }
11971 \def\hyper@linkend{%
11972 \special{html:</a>}%
11973 \Hy@endcolorlink
11974 }
11975 \def\hyper@linkfile#1#2#3{%
11976 \hyper@linkurl{#1}{%
11977 \Hy@linkfileprefix#2\ifx\#3\else\#3\fi
11978 }%
11979 }
11980 \def\hyper@linkurl#1#2{%
11981 \leavevmode
11982 \ifHy@raiselinks
11983 \Hy@SaveSpaceFactor
11984 \Hy@SaveSavedSpaceFactor
11985 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11986 \Hy@RestoreSavedSpaceFactor
11987 \@linkdim\dp\@tempboxa
11988 \lower\@linkdim\hbox{%
11989 \hyper@chars
11990 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11991 }%
11992 \Hy@colorlink\@urlcolor
11993 \Hy@RestoreSpaceFactor
11994 #1\Hy@xspace@end

```

```

11995 \Hy@SaveSpaceFactor
11996 \@linkdim\ht\@tempboxa
11997 \advance\@linkdim by -6.5\p@
11998 \raise\@linkdim\hbox{\special{html:</a>}}}%
11999 \Hy@endcolorlink
12000 \Hy@RestoreSpaceFactor
12001 \else
12002 \begingroup
12003 \hyper@chars
12004 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12005 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12006 \special{html:</a>}}}%
12007 \Hy@endcolorlink
12008 \endgroup
12009 \fi
12010 }

```

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

```

12011 \def\hyper@link#1#2#3{%
12012 \Hy@VerboseLinkStart{#1}{#2}%
12013 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
12014 }
12015 \def\hyper@image#1#2{%
12016 \begingroup
12017 \hyper@chars
12018 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12019 \endgroup
12020 }
12021 </textures>

```

46.12 dvipsone

```

12022 % \subsection{dvipsone driver}
12023 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12024 % |\special| commands.
12025 (*dvipsone)
12026 \providecommand*\XR@ext}{pdf}
12027 \let\Hy@raisedlink\ltx@empty
12028 \providecommand*\@pdfborder{0 0 1}
12029 \providecommand*\@pdfborderstyle{}
12030 \def\literalps@out#1{\special{ps:#1}}}%
12031 \def\headerps@out#1{\special{headertext=#1}}}%
12032 \input{pdfmark.def}%
12033 \ifx\@pdfproducer\relax
12034 \def\@pdfproducer{dvipsone + Distiller}%
12035 \fi
12036 \HyInfo@AddonUnsupportedtrue
12037 \def\PDF@FinishDoc{%
12038 \Hy@UseMaketitleInfos
12039 \HyInfo@TrappedUnsupported
12040 \special{PDF: Keywords \@pdfkeywords}%
12041 \special{PDF: Title \@pdftitle}%
12042 \special{PDF: Creator \@pdfcreator}%
12043 \ifx\@pdfcreationdate\@empty
12044 \else
12045 \special{PDF: CreationDate \@pdfcreationdate}%
12046 \fi
12047 \ifx\@pdfmoddate\@empty

```

```

12048 \else
12049   \special{PDF: ModDate \@pdfmoddate}%
12050 \fi
12051 \special{PDF: Author \@pdfauthor}%
12052 \ifx\@pdfproducer\relax
12053 \else
12054   \special{PDF: Producer \@pdfproducer}%
12055 \fi
12056 \special{PDF: Subject \@pdfsubject}%
12057 \Hy@DisableOption{pdfauthor}%
12058 \Hy@DisableOption{pdftitle}%
12059 \Hy@DisableOption{pdfsubject}%
12060 \Hy@DisableOption{pdfcreator}%
12061 \Hy@DisableOption{pdfcreationdate}%
12062 \Hy@DisableOption{pdfmoddate}%
12063 \Hy@DisableOption{pdfproducer}%
12064 \Hy@DisableOption{pdfkeywords}%
12065 \Hy@DisableOption{pdftrapped}%
12066 \Hy@DisableOption{pdfinfo}%
12067 }
12068 \def\PDF@SetupDoc{%
12069   \def\Hy@temp{}%
12070   \ifx\@pdfstartpage\@empty
12071   \else
12072     \ifx\@pdfstartview\@empty
12073     \else
12074       \edef\Hy@temp{%
12075         ,Page=\@pdfstartpage
12076         ,View=\@pdfstartview
12077       }%
12078     \fi
12079   \fi
12080   \edef\Hy@temp{%
12081     \noexpand\pdfmark{%
12082       pdfmark=/DOCVIEW,%
12083       PageMode=/\@pdfpagemode
12084     }\Hy@temp
12085   }%
12086 }%
12087 \Hy@temp
12088 \ifx\@pdfpagescrop\@empty
12089 \else
12090   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12091 \fi
12092 \edef\Hy@temp{%
12093   \ifHy@pdftoolbar\else /HideToolbar true\fi
12094   \ifHy@pdfmenubar\else /HideMenubar true\fi
12095   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12096   \ifHy@pdfwindow /FitWindow true\fi
12097   \ifHy@pdfcenterwindow /CenterWindow true\fi
12098   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12099   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12100   \Hy@UseNameKey{Direction}\@pdfdirection
12101   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12102   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12103   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12104   \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

12105 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12106 \Hy@UseNameKey{Duplex}\@pdfduplex
12107 \ifx\@pdfpicktraybypdfsize\@empty
12108 \else
12109 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12110 \fi
12111 \ifx\@pdfprintpagerange\@empty
12112 \else
12113 /PrintPageRange[\@pdfprintpagerange]%
12114 \fi
12115 \ifx\@pdfnumcopies\@empty
12116 \else
12117 /NumCopies \@pdfnumcopies
12118 \fi
12119 }%
12120 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12121 \pdfmark{%
12122 pdfmark=/PUT,%
12123 Raw={%
12124 \string{Catalog\string}<<%
12125 \ifx\Hy@temp\@empty
12126 \else
12127 /ViewerPreferences<<\Hy@temp>>%
12128 \fi
12129 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12130 \ifx\@pdflang\@empty
12131 \else
12132 /Lang(\@pdflang)%
12133 \fi
12134 \ifx\@baseurl\@empty
12135 \else
12136 /URI<</Base(\Hy@pstringB)>>%
12137 \fi
12138 >>%
12139 }%
12140 }%
12141 }
12142 \providecommand*\@pdfview{XYZ}
12143 \providecommand*\@pdfviewparams{ %
12144 gsave revscl currentpoint grestore %
12145 72 add exch pop null exch null%
12146 }
12147 \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 .

```

12148 \g@addto@macro\Hy@FirstPageHook{%
12149 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12150 /DvipsToPDF { 65781 div } def%
12151 /PDFToDvips { 65781 mul } def%
12152 /BPToDvips{65781 mul}def%
12153 /HyperBorder { 1 PDFToDvips } def%
12154 /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.

```

12155 /BorderArrayPatch{%
12156   [exch{%
12157     dup dup type/integertype eq exch type/realtype eq or%
12158     {BPToDvips}if%
12159   }forall]%
12160 }def%
12161 /H.S {%
12162   currentpoint %
12163   HyperBorder add /pdf@lly exch def %
12164   dup DvipsToPDF 72 add /pdf@hoff exch def %
12165   HyperBorder sub /pdf@llx exch def%
12166 } def%
12167 /H.L {%
12168   2 sub %
12169   PDFToDvips /HyperBase exch def %
12170   currentpoint %
12171   HyperBase sub /pdf@ury exch def%
12172   /pdf@urx exch def%
12173 } def%
12174 /H.A {%
12175   H.L %
12176   currentpoint exch pop %
12177   HyperBase sub % baseline skip
12178   DvipsToPDF /pdf@voff exch def%
12179 } def%
12180 /H.R {%
12181   currentpoint %
12182   HyperBorder sub /pdf@ury exch def %
12183   HyperBorder add /pdf@urx exch def %
12184   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12185 } def%
12186 }%
12187 }
12188 </dvipsone>

```

46.13 TeX4ht

```

12189 (*tex4ht)
12190 \providecommand*{\XR@ext}{html}
12191 \let\Hy@raisedlink\ltx@empty
12192 \@ifpackageloaded{tex4ht}{%
12193   \Hy@InfoNoLine{tex4ht is already loaded}%
12194 }{%
12195   \RequirePackage[hTeX4ht]{tex4ht}%
12196 }
12197 \hyperlinkfileprefix{}
12198 \let\PDF@FinishDoc\ltx@empty
12199 \def\PDF@SetupDoc{%
12200   \ifx\@baseurl\@empty
12201     \else
12202       \special{t4ht=<base href="\@baseurl">}%
12203     \fi
12204 }
12205 \Hy@WrapperDef\hyper@anchor#1{%
12206   \Hy@SaveLastskip

```

```

12207 \Hy@VerboseAnchor{#1}%
12208 \begingroup
12209 \let\protect=\string
12210 \special{t4ht=<a name=%
12211 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12212 \endgroup
12213 \Hy@activeanchortrue
12214 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12215 \special{t4ht=</a>}}%
12216 \Hy@activeanchorfalse
12217 \Hy@RestoreLastskip
12218 }
12219 \Hy@WrapperDef\hyper@anchorstart#1{%
12220 \Hy@SaveLastskip
12221 \Hy@VerboseAnchor{#1}%
12222 \begingroup
12223 \hyper@chars\special{t4ht=<a name=%
12224 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12225 \endgroup
12226 \Hy@activeanchortrue
12227 }
12228 \def\hyper@anchorend{%
12229 \special{t4ht=</a>}}%
12230 \Hy@activeanchorfalse
12231 \Hy@RestoreLastskip
12232 }
12233 \def\@urltype{url}
12234 \def\hyper@linkstart#1#2{%
12235 \Hy@VerboseLinkStart{#1}{#2}%
12236 \expandafter\Hy@colorlink\csname @#1color\endcsname
12237 \def\Hy@tempa{#1}%
12238 \ifx\Hy@tempa\@urltype
12239 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
12240 \else
12241 \begingroup
12242 \hyper@chars
12243 \special{t4ht=<a href=%
12244 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
12245 \endgroup
12246 \fi
12247 }
12248 \def\hyper@linkend{%
12249 \special{t4ht=</a>}}%
12250 \Hy@endcolorlink
12251 }
12252 \def\hyper@linkfile#1#2#3{%
12253 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12254 }
12255 \def\hyper@linkurl#1#2{%
12256 \leavevmode
12257 \ifHy@raiselinks
12258 \Hy@SaveSpaceFactor
12259 \Hy@SaveSavedSpaceFactor
12260 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12261 \Hy@RestoreSavedSpaceFactor
12262 \@linkdim\dp\@tempboxa
12263 \lower\@linkdim\hbox{%

```

```

12264 \begingroup
12265 \hyper@chars
12266 \special{%
12267   t4ht=<a href=\hyper@quote#2\hyper@quote>%
12268 }%
12269 \endgroup
12270 }%
12271 \Hy@colorlink\@urlcolor
12272 \Hy@RestoreSpaceFactor
12273 #1\Hy@xspace@end
12274 \Hy@SaveSpaceFactor
12275 \Hy@endcolorlink
12276 \@linkdim\ht\@tempboxa
12277 \advance\@linkdim by -6.5\p@
12278 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12279 \Hy@RestoreSpaceFactor
12280 \else
12281 \begingroup
12282 \hyper@chars
12283 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12284 \Hy@colorlink\@urlcolor
12285 #1\Hy@xspace@end
12286 \Hy@endcolorlink
12287 \special{t4ht=</a>}}%
12288 \endgroup
12289 \fi
12290 }

```

Poor implementation of \hyper@link without considering #1.

```

12291 \def\hyper@link#1#2#3{%
12292 \Hy@VerboseLinkStart{#1}{#2}%
12293 \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12294 }
12295 \def\hyper@image#1#2{%
12296 \begingroup
12297 \hyper@chars
12298 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12299 \endgroup
12300 }
12301 \let\autoref\ref
12302 \ifx \rEFLiNK \UnDef
12303 \def\rEFLiNK #1#2{#2}%
12304 \fi
12305 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12306 \AtBeginDocument{%
12307   \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endc-
12308     sname
12309   \expandafter\def\csname Make:Label\endcsname#1#2{%
12310     \ifhmode
12311       \Hy@SaveSpaceFactor
12312     \else
12313       \global\Hy@SavedSpaceFactor=1000 %
12314     \fi
12315     \Hy@OrgMakeLabel{#1}{%
12316       \Hy@RestoreSpaceFactor
12317       #2\Hy@xspace@end%
12318     }
12319   }

```

```

12318 }%
12319 \Hy@RestoreSpaceFactor
12320 }%
12321 }
12322 </tex4ht>
12323 <*tex4htcfg>
12324 \IfFileExists{\jobname.cfg}{\endinput}{}
12325 \Preamble{html}
12326 \begin{document}%
12327 \EndPreamble
12328 \def\TeX{TeX}
12329 \def\OMEGA{Omega}
12330 \def\LaTeX{LaTeX}
12331 \def\LaTeXe{\LaTeX2e}
12332 \def\eTeX{e-TeX}
12333 \def\MF{Metafont}
12334 \def\MP{MetaPost}
12335 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12336 <*pdfmark>
12337 \long\def\@Form[#1]{%
12338 \g@addto@macro\Hy@FirstPageHook{%
12339 \headerps@out{%
12340 [%
12341 /_objdef{pdfDocEncoding}%
12342 /type/dict%
12343 /OBJ pdfmark%
12344 [%
12345 {pdfDocEncoding}%
12346 <<%
12347 /Type/Encoding%
12348 /Differences[%
12349 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12350 /tilde %
12351 39/quotesingle %
12352 96/grave %
12353 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12354 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12355 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12356 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12357 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12358 164/currency %
12359 166/brokenbar %
12360 168/dieresis/copyright/ordfeminine %
12361 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12362 /twosuperior/threesuperior/acute/mu %
12363 183/periodcentered/cedilla/onesuperior/ordmasculine %
12364 188/onequarter/onehalf/threequarters %
12365 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12366 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12367 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12368 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12369 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12370 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%

```

```

12371      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12372      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
12373      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
12374      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12375  ]%
12376  >>%
12377 /PUT pdfmark%
12378 [%
12379   /_objdef{ZaDb}%
12380   /type/dict%
12381 /OBJ pdfmark%
12382 [%
12383   {ZaDb}%
12384   <<%
12385     /Type/Font%
12386     /Subtype/Type1%
12387     /Name/ZaDb%
12388     /BaseFont/ZapfDingbats%
12389   >>%
12390 /PUT pdfmark%
12391 [%
12392   /_objdef{Helv}%
12393   /type/dict%
12394 /OBJ pdfmark%
12395 [%
12396   {Helv}%
12397   <<%
12398     /Type/Font%
12399     /Subtype/Type1%
12400     /Name/Helv%
12401     /BaseFont/Helvetica%
12402     /Encoding{pdfDocEncoding}%
12403   >>%
12404 /PUT pdfmark%
12405 [%
12406   /_objdef{aform}%
12407   /type/dict%
12408 /OBJ pdfmark%
12409 [%
12410   /_objdef{afields}%
12411   /type/array%
12412 /OBJ pdfmark%
12413 {%
12414   [%
12415     /BBox[0 0 100 100]%
12416     /_objdef{Check}%
12417   /BP pdfmark %
12418   1 0 0 setrgbcolor%
12419   /ZapfDingbats 80 selectfont %
12420   20 20 moveto%
12421   (4)show%
12422 [/EP pdfmark%
12423 [%
12424   /BBox[0 0 100 100]%
12425   /_objdef{Cross}%
12426 /BP pdfmark %
12427   1 0 0 setrgbcolor%

```

```

12428 /ZapfDingbats 80 selectfont %
12429 20 20 moveto%
12430 (8)show%
12431 [/EP pdfmark%
12432 [%
12433 /BBox[0 0 250 100]%
12434 /_objdef{Submit}%
12435 /BP pdfmark %
12436 0.6 setgray %
12437 0 0 250 100 rectfill %
12438 1 setgray %
12439 2 2 moveto %
12440 2 98 lineto %
12441 248 98 lineto %
12442 246 96 lineto %
12443 4 96 lineto %
12444 4 4 lineto %
12445 fill %
12446 0.34 setgray %
12447 248 98 moveto %
12448 248 2 lineto %
12449 2 2 lineto %
12450 4 4 lineto %
12451 246 4 lineto %
12452 246 96 lineto %
12453 fill%
12454 /Helvetica 76 selectfont %
12455 0 setgray %
12456 8 22.5 moveto%
12457 (Submit)show%
12458 [/EP pdfmark%
12459 [%
12460 /BBox[0 0 250 100]%
12461 /_objdef{SubmitP}%
12462 /BP pdfmark %
12463 0.6 setgray %
12464 0 0 250 100 rectfill %
12465 0.34 setgray %
12466 2 2 moveto %
12467 2 98 lineto %
12468 248 98 lineto %
12469 246 96 lineto %
12470 4 96 lineto %
12471 4 4 lineto %
12472 fill %
12473 1 setgray %
12474 248 98 moveto %
12475 248 2 lineto %
12476 2 2 lineto %
12477 4 4 lineto %
12478 246 4 lineto %
12479 246 96 lineto %
12480 fill%
12481 /Helvetica 76 selectfont %
12482 0 setgray %
12483 10 20.5 moveto%
12484 (Submit)show%

```

```

12485 [/EP pdfmark%
12486 } ?pdfmark%
12487 [%
12488 {aform}%
12489 <<%
12490 /Fields{afields}%
12491 /DR<<%
12492 /Font<<%
12493 /ZaDb{ZaDb}%
12494 /Helv{Helv}%
12495 >>%
12496 >>%
12497 /DA(/Helv 10 Tf 0 g)%
12498 /CO{corder}%
12499 \ifHy@pdfa
12500 \else
12501 \ifHyField@NeedAppearances
12502 /NeedAppearances true%
12503 \fi
12504 \fi
12505 >>%
12506 /PUT pdfmark%
12507 [%
12508 {Catalog}%
12509 <<%
12510 /AcroForm{aform}%
12511 >>%
12512 /PUT pdfmark%
12513 [%
12514 /__objdef{corder}%
12515 /type/array%
12516 /OBJ pdfmark% dps
12517 }}%
12518 \kvsetkeys{Form}{#1}%
12519 }
12520 \let\@endForm\ltx@empty
12521 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12522 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12523 }
12524 \def\@TextField[#1]#2{% parameters, label
12525 \def\Fld@name{#2}%
12526 \let\Fld@default\ltx@empty
12527 \let\Fld@value\@empty
12528 \def\Fld@width{\DefaultWidthofText}%
12529 \def\Fld@height{%
12530 \ifFld@multiline
12531 \DefaultHeightofTextMultiline
12532 \else
12533 \DefaultHeightofText
12534 \fi
12535 }%
12536 \begingroup
12537 \expandafter\HyField@SetKeys\expandafter{%
12538 \DefaultOptionsofText,#1%
12539 }%
12540 \HyField@FlagsText
12541 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12542 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12543 \LayoutTextField{#2}{%
12544 \leavevmode
12545 \Hy@escapeform\PDFForm@Text
12546 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12547 pdfmark=/ANN,Raw={\PDFForm@Text}%
12548 }%
12549 }%
12550 \endgroup
12551 }
12552 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12553 \def\Fld@name{#2}%
12554 \let\Fld@default\relax
12555 \let\Fld@value\relax
12556 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12557 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12558 \begingroup
12559 \Fld@menulength=0 %
12560 \@tempdima\z@
12561 \@for\@curropt:=#3\do{%
12562 \expandafter\Fld@checkequals\@curropt==\%
12563 \Hy@StepCount\Fld@menulength
12564 \settowidth{\@tempdimb}{\@currDisplay}%
12565 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12566 }%
12567 \advance\@tempdima by 15\p@
12568 \begingroup
12569 \HyField@SetKeys{#1}%
12570 \edef\x{\endgroup
12571 \noexpand\expandafter
12572 \noexpand\HyField@SetKeys
12573 \noexpand\expandafter{%
12574 \expandafter\noexpand\csname DefaultOptionsof%
12575 \ifFld@radio
12576 Radio%
12577 \else
12578 \ifFld@combo
12579 \ifFld@popdown
12580 PopdownBox%
12581 \else
12582 ComboBox%
12583 \fi
12584 \else
12585 ListBox%
12586 \fi
12587 \fi
12588 \endcsname
12589 }%
12590 }\x
12591 \HyField@SetKeys{#1}%
12592 \ifFld@hidden\def\Fld@width{1sp}\fi
12593 \ifx\Fld@value\relax
12594 \let\Fld@value\Fld@default
12595 \fi
12596 \LayoutChoiceField{#2}{%
12597 \ifFld@radio
12598 \HyField@FlagsRadioButton

```



```

12599     \@@Radio{#3}%
12600 \else
12601   \begingroup
12602     \HyField@FlagsChoice
12603     \ifdim\Fld@width<\@tempdima
12604       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12605       \edef\Fld@width{\the\@tempdima}%
12606     \fi
12607     \ifFld@combo
12608     \else
12609       \@tempdima=\the\Fld@menulength\Fld@charsize
12610       \advance\@tempdima by \Fld@borderwidth bp %
12611       \advance\@tempdima by \Fld@borderwidth bp %
12612       \edef\Fld@height{\the\@tempdima}%
12613     \fi
12614     \@@ListBox{#3}%
12615   \endgroup
12616 \fi
12617 }%
12618 \endgroup
12619 }
12620 \def\@@Radio#1{%
12621   \Fld@listcount=0 %
12622   \EdefEscapeName\Fld@default{\Fld@default}%
12623   \@for\@curropt:=#1\do{%
12624     \expandafter\Fld@checkequals\@curropt==\%
12625     \EdefEscapeName\@currValue{\@currValue}%
12626     \Hy@StepCount\Fld@listcount
12627     \@currDisplay\space
12628     \Hy@escapeform\PDFForm@Radio
12629     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12630       pdfmark=/ANN,%
12631       Raw={%
12632         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12633       }%
12634     } % deliberate space between radio buttons
12635   }%
12636 }
12637 \newcount\Fld@listcount
12638 \def\@@ListBox#1{%
12639   \HyField@PDFChoices{#1}%
12640   \Hy@escapeform\PDFForm@List
12641   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12642     pdfmark=/ANN,Raw={\PDFForm@List}%
12643   }%
12644 }
12645 \def\@PushButton[#1]#2{% parameters, label
12646   \def\Fld@name{#2}%
12647   \begingroup
12648     \expandafter\HyField@SetKeys\expandafter{%
12649       \DefaultOptionsofPushButton,#1%
12650     }%
12651     \ifHy@pdfa
12652       \Hy@Error{%
12653         PDF/A: Push button with JavaScript is prohibited%
12654       }\@ehc
12655       \LayoutPushButtonField{%

```

```

12656     \leavevmode
12657     \MakeButtonField{#2}%
12658 }%
12659 \else
12660     \HyField@FlagsPushButton
12661     \ifFld@hidden\def\Fld@width{1sp}\fi
12662     \LayoutPushButtonField{%
12663         \leavevmode
12664         \Hy@escapeform\PDFForm@Push
12665         \pdfmark[\MakeButtonField{#2}]{%
12666             pdfmark=/ANN,Raw={\PDFForm@Push}%
12667         }%
12668     }%
12669 \fi
12670 \endgroup
12671 }
12672 \def\@Submit[#1]#2{%
12673     \def\Fld@width{\DefaultWidthofSubmit}%
12674     \def\Fld@height{\DefaultHeightofSubmit}%
12675     \begingroup
12676     \expandafter\HyField@SetKeys\expandafter{%
12677         \DefaultOptionsofSubmit,#1%
12678     }%
12679     \HyField@FlagsPushButton
12680     \HyField@FlagsSubmit
12681     \ifFld@hidden\def\Fld@width{1sp}\fi
12682     \Hy@escapeform\PDFForm@Submit
12683     \pdfmark[\MakeButtonField{#2}]{%
12684         pdfmark=/ANN,%
12685         Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12686     }%
12687 \endgroup
12688 }
12689 \def\@Reset[#1]#2{%
12690     \def\Fld@width{\DefaultWidthofReset}%
12691     \def\Fld@height{\DefaultHeightofReset}%
12692     \begingroup
12693     \expandafter\HyField@SetKeys\expandafter{%
12694         \DefaultOptionsofReset,#1%
12695     }%
12696     \leavevmode
12697     \ifHy@pdfa
12698         \Hy@Error{%
12699             PDF/A: Reset action is prohibited%
12700         }\@ehc
12701         \MakeButtonField{#2}%
12702     \else
12703         \HyField@FlagsPushButton
12704         \ifFld@hidden\def\Fld@width{1sp}\fi
12705         \Hy@escapeform\PDFForm@Reset
12706         \pdfmark[\MakeButtonField{#2}]{%
12707             pdfmark=/ANN,Raw={\PDFForm@Reset}%
12708         }%
12709     \fi
12710 \endgroup
12711 }%
12712 \def\@CheckBox[#1]#2{% parameters, label

```

```

12713 \def\Fld@name{#2}%
12714 \def\Fld@default{0}%
12715 \begingroup
12716 \def\Fld@width{\DefaultWidthofCheckBox}%
12717 \def\Fld@height{\DefaultHeightofCheckBox}%
12718 \expandafter\HyField@SetKeys\expandafter{%
12719 \DefaultOptionsofCheckBox,#1%
12720 }%
12721 \HyField@FlagsCheckBox
12722 \ifFld@hidden\def\Fld@width{1sp}\fi
12723 \LayoutCheckField{#2}{%
12724 \leavevmode
12725 \Hy@escapeform\PDFForm@Check
12726 \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
12727 pdfmark=/ANN,Raw={\PDFForm@Check}%
12728 }%
12729 }%
12730 \endgroup
12731 }
12732 \pdfmark>

```

47.2 HyperTeX

```

12733 \hypertex>
12734 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12735 \let\@endForm\ltx@empty
12736 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12737 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12738 }
12739 \def\@TextField[#1]#2{% parameters, label
12740 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12741 }
12742 \def\@CheckBox[#1]#2{% parameters, label
12743 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12744 }
12745 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12746 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12747 }
12748 \def\@PushButton[#1]#2{% parameters, label
12749 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12750 }
12751 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12752 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12753 \hypertex>

```

47.3 TeX4ht

```

12754 \tex4ht>
12755 \def\@Form[#1]{%
12756 \kvsetkeys{Form}{#1}%
12757 \HCode{<form action="\Form@action" method="\Form@method">}%
12758 }
12759 \def\@endForm{\HCode{</form>}}
12760 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12761 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12762 }
12763 \def\@TextField[#1]#2{% parameters, label
12764 \let\Hy@reserved@a\@empty
12765 \def\Fld@name{#2}%

```

```

12766 \let\Fld@default\ltx@empty
12767 \bgroup
12768 \Field@toks={ }%
12769 \kvsetkeys{Field}{#1}%
12770 \HCode{<label for="\Fld@name">#2</label>}%
12771 \ifFld@password
12772 \@@PasswordField
12773 \else
12774 \@@TextField
12775 \fi
12776 \egroup
12777 }
12778 \def\@@PasswordField{%
12779 \HCode{%
12780 <input type="password" %
12781 id="\Fld@name" %
12782 name="\Fld@name" %
12783 \ifFld@hidden type="hidden" \fi
12784 value="\Fld@default" %
12785 \the\Field@toks
12786 >%
12787 }%
12788 }
12789 \def\@@TextField{%
12790 \ifFld@multiline
12791 \HCode{<textarea %
12792 \ifFld@readonly readonly \fi
12793 id="\Fld@name" %
12794 name="\Fld@name" %
12795 \ifFld@hidden type="hidden" \fi
12796 \the\Field@toks>%
12797 }%
12798 \Fld@default
12799 \HCode{</textarea>}%
12800 \else
12801 \HCode{<input type="text" %
12802 \ifFld@readonly readonly \fi
12803 id="\Fld@name" %
12804 name="\Fld@name" %
12805 \ifFld@hidden type="hidden" \fi
12806 value="\Fld@default" %
12807 \the\Field@toks>%
12808 }%
12809 \fi
12810 }
12811 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12812 \def\Fld@name{#2}%
12813 \let\Fld@default\ltx@empty
12814 \let\Hy@reserved@a\relax
12815 \begingroup
12816 \expandafter\Fld@findlength#3\\%
12817 \Field@toks={ }%
12818 \kvsetkeys{Field}{#1}%
12819 #2%
12820 \ifFld@radio
12821 \expandafter\@@Radio#3\\%
12822 \else

```

```

12823 \expandafter\@@Menu#3\\%
12824 \fi
12825 \endgroup
12826 }
12827 \def\Fld@findlength#1\\{%
12828 \Fld@menulength=0 %
12829 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12830 }
12831 \def\@@Menu#1\\{%
12832 \HCode{<select size="\the\Fld@menulength" %
12833 name="\Fld@name" %
12834 \the\Field@toks>%
12835 }%
12836 \@for\@curropt:=#1\do{%
12837 \expandafter\Fld@checkequals\@curropt==\\%
12838 \HCode{<option %
12839 \ifx\@curropt\Fld@default selected \fi
12840 value="\@currValue">\@currDisplay</option>%
12841 }%
12842 }%
12843 \HCode{</select>}%
12844 }
12845 \def\@@Radio#1\\{%
12846 \@for\@curropt:=#1\do{%
12847 \expandafter\Fld@checkequals\@curropt==\\%
12848 \HCode{<input type="radio" %
12849 \ifx\@curropt\Fld@default checked \fi
12850 name="\Fld@name" %
12851 value="\@currValue" %
12852 \the\Field@toks>%
12853 }%
12854 \@currDisplay
12855 }%
12856 }
12857 \def\@PushButton[#1]#2{% parameters, label
12858 \def\Fld@name{#2}%
12859 \bgroup
12860 \Field@toks={ }%
12861 \kvsetkeys{Field}{#1}%
12862 \HCode{<input type="button" %
12863 name="\Fld@name" %
12864 value="#2" %
12865 \the\Field@toks>%
12866 }%
12867 \HCode{</button>}%
12868 \egroup
12869 }
12870 \def\@Submit[#1]#2{%
12871 \HCode{<button type="submit">#2</button>}%
12872 }
12873 \def\@Reset[#1]#2{%
12874 \HCode{<button type="reset">#2</button>}%
12875 }
12876 \def\@CheckBox[#1]#2{% parameters, label
12877 \let\Hy@reserved@a\@empty
12878 \def\Fld@name{#2}%
12879 \def\Fld@default{0}%

```

```

12880 \bgroup
12881 \Field@toks={ }%
12882 \kvsetkeys{Field}{#1}%
12883 \HCode{<input type="checkbox" %
12884 \ifFld@checked checked \fi
12885 \ifFld@disabled disabled \fi
12886 \ifFld@readonly readonly \fi
12887 name="\Fld@name" %
12888 \ifFld@hidden type="hidden" \fi
12889 value="\Fld@default" %
12890 \the\Field@toks>%
12891 #2%
12892 }%
12893 \egroup
12894 }
12895 </tex4ht>

```

47.4 pdfTeX

```

12896 <*pdfTeX>
12897 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12898 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12899 }
12900 \def\MakeFieldObject#1#2{\sbox0{#1}%
12901 \immediate\pdfxform0 %
12902 \expandafter\edef\csname #2Object\endcsname{%
12903 \the\pdflastxform\space 0 R%
12904 }%
12905 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12906 }%
12907 \let\HyField@afields\ltx@empty
12908 \begingroup\expandafter\expandafter\expandafter\endgroup
12909 \expandafter\ifx\csname pdflastlink\endcsname\relax
12910 \let\HyField@AddToFields\relax
12911 \PackageInfo{hyperref}{%
12912 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12913 \MessageBreak
12914 Adobe Reader/Acrobat accepts an empty /Field array,%
12915 \MessageBreak
12916 but other PDF viewers might complain%
12917 }%
12918 \else
12919 \let\HyField@AuxAddToFields\ltx@gobble
12920 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12921 \Hy@AtBeginDocument{%
12922 \if@filesw
12923 \immediate\write\@mainaux{%
12924 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12925 }%
12926 \fi
12927 \let\HyField@AfterAuxOpen\@firstofone
12928 \def\HyField@AuxAddToFields#1{%
12929 \xdef\HyField@afields{%
12930 \ifx\HyField@afields\@empty
12931 \else
12932 \HyField@afields
12933 \space
12934 \fi

```

```

12935      #1 0 R%
12936    }%
12937  }%
12938 }%
12939 \def\HyField@AddToFields{%
12940   \expandafter\HyField@@AddToFields\expandafter{%
12941     \the\pdfastlink
12942   }%
12943 }%
12944 \def\HyField@@AddToFields#1{%
12945   \HyField@AfterAuxOpen{%
12946     \if@filesw
12947       \write\@mainaux{%
12948         \string\HyField@AuxAddToFields{#1}%
12949       }%
12950     \fi
12951   }%
12952 }%
12953 \fi
12954 \def\@Form[#1]{%
12955   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12956   \kvsetkeys{Form}{#1}%
12957   \pdf@ifdraftmode{}{%
12958     \Hy@FormObjects
12959     \ifnum\pdfTeXversion>13 %
12960       \pdfrefobj\OBJ@pdfdocencoding
12961       \pdfrefobj\OBJ@ZaDb
12962       \pdfrefobj\OBJ@Helv
12963     \fi
12964     \AtVeryEndDocument{%
12965       \immediate\pdfobj{%
12966         <<%
12967           /Fields[\HyField@afields]%
12968           /DR<<%
12969           /Font<<%
12970             /ZaDb \OBJ@ZaDb\space 0 R%
12971             /Helv \OBJ@Helv\space 0 R%
12972           >>%
12973         >>%
12974         /DA(/Helv 10 Tf 0 g)%
12975         \ifHy@pdfa
12976         \else
12977           \ifHyField@NeedAppearances
12978             /NeedAppearances true%
12979           \fi
12980         \fi
12981       >>%
12982     }%
12983     \edef\OBJ@acroform{\the\pdfastobj}%
12984     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12985   }%
12986 }%
12987 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12988   \begingroup
12989   \fontfamily{pzd}%
12990   \fontencoding{U}%

```

```

12991 \fontseries{m}%
12992 \fontshape{n}%
12993 \selectfont
12994 \char123 %
12995 \endgroup
12996 }{Ding}%
12997 \MakeFieldObject{%
12998 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12999 }{Submit}%
13000 \MakeFieldObject{%
13001 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13002 }{SubmitP}%
13003 }
13004 \let\@endForm\ltx@empty
13005 \def\@TextField[#1]#2{% parameters, label
13006 \def\Fld@name{#2}%
13007 \let\Fld@default\ltx@empty
13008 \let\Fld@value\@empty
13009 \def\Fld@width{\DefaultWidthofText}%
13010 \def\Fld@height{%
13011 \ifFld@multiline
13012 \DefaultHeightofTextMultiline
13013 \else
13014 \DefaultHeightofText
13015 \fi
13016 }%
13017 \begingroup
13018 \expandafter\HyField@SetKeys\expandafter{%
13019 \DefaultOptionsofText,#1%
13020 }%
13021 \PDFForm@Name
13022 \HyField@FlagsText
13023 \ifFld@hidden\def\Fld@width{1sp}\fi
13024 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13025 \LayoutTextField{#2}{%
13026 \leavevmode
13027 \Hy@escapeform\PDFForm@Text
13028 \pdfstartlink user {\PDFForm@Text}\relax
13029 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13030 \HyField@AddToFields
13031 }%
13032 \endgroup
13033 }
13034 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13035 \def\Fld@name{#2}%
13036 \let\Fld@default\relax
13037 \let\Fld@value\relax
13038 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13039 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13040 \begingroup
13041 \Fld@menulength=0 %
13042 \@tempdima\z@
13043 \@for\@curropt:=#3\do{%
13044 \expandafter\Fld@checkequals\@curropt==\\%
13045 \Hy@StepCount\Fld@menulength
13046 \settowidth{\@tempdimb}{\@currDisplay}%
13047 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi

```



```

13048 }%
13049 \advance\@tempdima by 15\p@
13050 \begingroup
13051 \HyField@SetKeys{#1}%
13052 \edef\x{\endgroup
13053 \noexpand\expandafter
13054 \noexpand\HyField@SetKeys
13055 \noexpand\expandafter{%
13056 \expandafter\noexpand\csname DefaultOptionsof%
13057 \ifFld@radio
13058 Radio%
13059 \else
13060 \ifFld@combo
13061 \ifFld@popdown
13062 PopdownBox%
13063 \else
13064 ComboBox%
13065 \fi
13066 \else
13067 ListBox%
13068 \fi
13069 \fi
13070 \endcsname
13071 }%
13072 }\x
13073 \HyField@SetKeys{#1}%
13074 \PDFForm@Name
13075 \ifFld@hidden\def\Fld@width{1sp}\fi
13076 \ifx\Fld@value\relax
13077 \let\Fld@value\Fld@default
13078 \fi
13079 \LayoutChoiceField{#2}{%
13080 \ifFld@radio
13081 \HyField@FlagsRadioButton
13082 \@@Radio{#3}%
13083 \else
13084 \begingroup
13085 \HyField@FlagsChoice
13086 \ifdim\Fld@width<\@tempdima
13087 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13088 \edef\Fld@width{\the\@tempdima}%
13089 \fi
13090 \ifFld@combo
13091 \else
13092 \@tempdima=\the\Fld@menulength\Fld@charsize
13093 \advance\@tempdima by \Fld@borderwidth bp %
13094 \advance\@tempdima by \Fld@borderwidth bp %
13095 \edef\Fld@height{\the\@tempdima}%
13096 \fi
13097 \@@ListBox{#3}%
13098 \endgroup
13099 \fi
13100 }%
13101 \endgroup
13102 }
13103 \def\@@Radio#1{%
13104 \Fld@listcount=0 %

```

```

13105 \EdefEscapeName\Fld@default{\Fld@default}%
13106 \@for\@curropt:=#1\do{%
13107   \expandafter\Fld@checkequals\@curropt==\%
13108   \EdefEscapeName\@currValue{\@currValue}%
13109   \Hy@StepCount\Fld@listcount
13110   \@currDisplay\space
13111   \leavevmode
13112   \Hy@escapeform\PDFForm@Radio
13113   \pdfstartlink user {%
13114     \PDFForm@Radio
13115     /AP<<%
13116     /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.

```

13117     /\@currValue\space \DingObject
13118     >>%
13119     >>%
13120   }%
13121   \relax
13122   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13123   \ifnum\Fld@listcount=1 %
13124     \HyField@AddToFields
13125   \fi
13126   \space % deliberate space between radio buttons
13127 }%
13128 }
13129 \newcount\Fld@listcount
13130 \def\@@Listbox#1{%
13131   \HyField@PDFChoices{#1}%
13132   \leavevmode
13133   \Hy@escapeform\PDFForm@List
13134   \pdfstartlink user {\PDFForm@List}\relax
13135   \MakeChoiceField{\Fld@width}{\Fld@height}%
13136   \pdfendlink
13137   \HyField@AddToFields
13138 }
13139 \def\@PushButton[#1]#2{% parameters, label
13140   \def\Fld@name{#2}%
13141   \begingroup
13142     \expandafter\HyField@SetKeys\expandafter{%
13143       \DefaultOptionsofPushButton,#1%
13144     }%
13145     \PDFForm@Name
13146     \ifHy@pdfa
13147       \Hy@Error{%
13148         PDF/A: Push button with JavaScript is prohibited%
13149       }\@ehc
13150     \LayoutPushButtonField{%
13151       \leavevmode
13152       \MakeButtonField{#2}%
13153     }%
13154   \else
13155     \HyField@FlagsPushButton
13156     \ifFld@hidden\def\Fld@width{1sp}\fi
13157     \LayoutPushButtonField{%
13158       \leavevmode

```

```

13159 \Hy@escapeform\PDFForm@Push
13160 \pdfstartlink user {\PDFForm@Push}\relax
13161 \MakeButtonField{#2}%
13162 \pdfendlink
13163 \HyField@AddToFields
13164 }%
13165 \fi
13166 \endgroup
13167 }
13168 \def\@Submit[#1]#2{%
13169 \def\Fld@width{\DefaultWidthofSubmit}%
13170 \def\Fld@height{\DefaultHeightofSubmit}%
13171 \begingroup
13172 \expandafter\HyField@SetKeys\expandafter{%
13173 \DefaultOptionsofSubmit,#1%
13174 }%
13175 \HyField@FlagsPushButton
13176 \HyField@FlagsSubmit
13177 \ifFld@hidden\def\Fld@width{1sp}\fi
13178 \leavevmode
13179 \Hy@escapeform\PDFForm@Submit
13180 \pdfstartlink user {%
13181 \PDFForm@Submit
13182 /AP<</N \SubmitObject/D \SubmitPObject>>%
13183 }%
13184 \relax
13185 \MakeButtonField{#2}%
13186 \pdfendlink
13187 \HyField@AddToFields
13188 \endgroup
13189 }
13190 \def\@Reset[#1]#2{%
13191 \def\Fld@width{\DefaultWidthofReset}%
13192 \def\Fld@height{\DefaultHeightofReset}%
13193 \begingroup
13194 \expandafter\HyField@SetKeys\expandafter{%
13195 \DefaultOptionsofReset,#1%
13196 }%
13197 \leavevmode
13198 \ifHy@pdfa
13199 \Hy@Error{%
13200 PDF/A: Reset action is prohibited%
13201 }\@ehc
13202 \MakeButtonField{#2}%
13203 \else
13204 \HyField@FlagsPushButton
13205 \ifFld@hidden\def\Fld@width{1sp}\fi
13206 \Hy@escapeform\PDFForm@Reset
13207 \pdfstartlink user {\PDFForm@Reset}\relax
13208 \MakeButtonField{#2}%
13209 \pdfendlink
13210 \HyField@AddToFields
13211 \fi
13212 \endgroup
13213 }
13214 \def\@CheckBox[#1]#2{% parameters, label
13215 \def\Fld@name{#2}%

```

```

13216 \def\Fld@default{0}%
13217 \begingroup
13218 \def\Fld@width{\DefaultWidthofCheckBox}%
13219 \def\Fld@height{\DefaultHeightofCheckBox}%
13220 \expandafter\HyField@SetKeys\expandafter{%
13221 \DefaultOptionsofCheckBox,#1%
13222 }%
13223 \PDFForm@Name
13224 \HyField@FlagsCheckBox
13225 \ifFld@hidden\def\Fld@width{1sp}\fi
13226 \LayoutCheckField{#2}{%
13227 \leavevmode
13228 \Hy@escapeform\PDFForm@Check
13229 \pdfstartlink user {\PDFForm@Check}\relax
13230 \MakeCheckField{\Fld@width}{\Fld@height}%
13231 \pdfendlink
13232 \HyField@AddToFields
13233 }%
13234 \endgroup
13235 }
13236 \def\Hy@FormObjects{%
13237 \pdfobj {%
13238 <<%
13239 /Type/Encoding%
13240 /Differences[%
13241 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13242 /ring/tilde %
13243 39/quotesingle %
13244 96/grave %
13245 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13246 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13247 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13248 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13249 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13250 164/currency %
13251 166/brokenbar %
13252 168/dieresis/copyright/ordfeminine %
13253 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13254 /twosuperior/threesuperior/acute/mu %
13255 183/periodcentered/cedilla/onesuperior/ordmasculine %
13256 188/onequarter/onehalf/threequarters %
13257 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13258 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13259 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13260 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13261 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13262 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13263 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13264 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13265 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
13266 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13267 ]%
13268 >>%
13269 }%
13270 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13271 \pdfobj{%
13272 <<%

```

```

13273 /Type/Font%
13274 /Subtype/Type1%
13275 /Name/ZaDb%
13276 /BaseFont/ZapfDingbats%
13277 >>%
13278 }%
13279 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13280 \pdfobj{%
13281 <<%
13282 /Type/Font%
13283 /Subtype/Type1%
13284 /Name/Helv%
13285 /BaseFont/Helvetica%
13286 /Encoding \OBJ@pdfdocencoding\space 0 R%
13287 >>%
13288 }%
13289 \xdef\OBJ@Helv{\the\pdflastobj}%
13290 \global\let\Hy@FormObjects\relax
13291 }
13292 \pdfTeX

```

47.5 dvipdfm, xetex

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

13293 \def\*dvipdfm|xetex

```

\@Gauge

```

13294 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13295 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13296 }

```

\@Form

```

13297 \def\@Form[#1]{%
13298 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13299 \kvsetkeys{Form}{#1}%
13300 \Hy@FormObjects
13301 \@pdfm@mark{obj @afields []}%
13302 \@pdfm@mark{obj @corder []}%
13303 \@pdfm@mark{%
13304 obj @aform <<%
13305 /Fields @afields%
13306 /DR<<%
13307 /Font<<%
13308 /ZaDb @OBJZaDb%
13309 /Helv @OBJHelv%
13310 >>%
13311 >>%
13312 /DA(/Helv 10 Tf 0 g)%
13313 /CO @corder%
13314 \ifHy@pdfa
13315 \else
13316 \ifHyField@NeedAppearances
13317 /NeedAppearances true%
13318 \fi
13319 \fi
13320 >>%
13321 }%

```

```

13322 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13323 }

\@endForm
13324 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13325 \def\dvipdfm@setdim{%
13326   height \the\ht\pdfm@box\space
13327   width \the\wd\pdfm@box\space
13328   depth \the\dp\pdfm@box\space
13329 }

\HyField@AnnotCount
13330 \newcount\HyField@AnnotCount
13331 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13332 \def\HyField@AdvanceAnnotCount{%
13333   \global\advance\HyField@AnnotCount\@ne
13334 }

\HyField@TheAnnotCount
13335 \def\HyField@TheAnnotCount{%
13336   \the\HyField@AnnotCount
13337 }

\@TextField
13338 \def\@TextField[#1]#2{% parameters, label
13339   \def\Fld@name{#2}%
13340   \let\Fld@default\ltx@empty
13341   \let\Fld@value\@empty
13342   \def\Fld@width{\DefaultWidthofText}%
13343   \def\Fld@height{%
13344     \ifFld@multiline
13345       \DefaultHeightofTextMultiline
13346     \else
13347       \DefaultHeightofText
13348     \fi
13349   }%
13350   \begingroup
13351     \expandafter\HyField@SetKeys\expandafter{%
13352       \DefaultOptionsofText,#1%
13353     }%
13354     \PDFForm@Name
13355     \HyField@FlagsText
13356     \ifFld@hidden\def\Fld@width{1sp}\fi
13357     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13358     \setbox\pdfm@box=\hbox{%
13359       \MakeTextField{\Fld@width}{\Fld@height}%
13360     }%
13361     \HyField@AdvanceAnnotCount
13362     \LayoutTextField{#2}{%
13363       \leavevmode
13364       \Hy@escapeform\PDFForm@Text
13365       \@pdfm@mark{%
13366         ann @text\HyField@TheAnnotCount\space

```

```

13367 \dviPDFForm@setdim << \PDFForm@Text >>%
13368 }%
13369 }%
13370 \unhbox\pdfm@box
13371 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13372 % record in @afields array
13373 \endgroup
13374 }

```

\@ChoiceMenu

```

13375 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13376 \def\Fld@name{#2}%
13377 \let\Fld@default\relax
13378 \let\Fld@value\relax
13379 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13380 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13381 \begingroup
13382 \Fld@menulength=0 %
13383 \@tempdima\z@
13384 \@for\@curropt:=#3\do{%
13385 \expandafter\Fld@checkequals\@curropt==\%
13386 \Hy@StepCount\Fld@menulength
13387 \settowidth{\@tempdimb}{\@currDisplay}%
13388 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13389 }%
13390 \advance\@tempdima by 15\p@
13391 \begingroup
13392 \HyField@SetKeys{#1}%
13393 \edef\x{\endgroup
13394 \noexpand\expandafter
13395 \noexpand\HyField@SetKeys
13396 \noexpand\expandafter{%
13397 \expandafter\noexpand\csname DefaultOptionsof%
13398 \ifFld@radio
13399 Radio%
13400 \else
13401 \ifFld@combo
13402 \ifFld@popdown
13403 PopdownBox%
13404 \else
13405 ComboBox%
13406 \fi
13407 \else
13408 ListBox%
13409 \fi
13410 \fi
13411 \endcsname
13412 }%
13413 }\x
13414 \HyField@SetKeys{#1}%
13415 \PDFForm@Name
13416 \ifFld@hidden\def\Fld@width{1sp}\fi
13417 \ifx\Fld@value\relax
13418 \let\Fld@value\Fld@default
13419 \fi
13420 \LayoutChoiceField{#2}{%
13421 \ifFld@radio
13422 \HyField@FlagsRadioButton

```

```

13423 \@@Radio{#3}%
13424 \else
13425 \begingroup
13426 \HyField@FlagsChoice
13427 \ifdim\Fld@width<\@tempdima
13428 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13429 \edef\Fld@width{\the\@tempdima}%
13430 \fi
13431 \ifFld@combo
13432 \else
13433 \@tempdima=\the\Fld@menulength\Fld@charsize
13434 \advance\@tempdima by \Fld@borderwidth bp %
13435 \advance\@tempdima by \Fld@borderwidth bp %
13436 \edef\Fld@height{\the\@tempdima}%
13437 \fi
13438 \@@ListBox{#3}%
13439 \endgroup
13440 \fi
13441 }%
13442 \endgroup
13443 }

\@@Radio
13444 \def\@@Radio#1{%
13445 \Fld@listcount=0 %
13446 \EdefEscapeName\Fld@default{\Fld@default}%
13447 \setbox\pdfm@box=\hbox{%
13448 \MakeRadioField{\Fld@width}{\Fld@height}%
13449 }%
13450 \@for\@curropt:=#1\do{%
13451 \expandafter\Fld@checkequals\@curropt==\%
13452 \EdefEscapeName\@currValue{\@currValue}%
13453 \Hy@StepCount\Fld@listcount
13454 \@currDisplay\space
13455 \leavevmode
13456 \Hy@escapeform\PDFForm@Radio
13457 \ifnum\Fld@listcount=1 %
13458 \HyField@AdvanceAnnotCount
13459 \fi
13460 \@pdfm@mark{%
13461 ann %
13462 \ifnum\Fld@listcount=1 %
13463 @radio\HyField@TheAnnotCount%
13464 \space
13465 \fi
13466 \dvipdfm@setdim
13467 <<%
13468 \PDFForm@Radio
13469 /AP<</N<</\@currValue /null>>>>%
13470 >>%
13471 }%
13472 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13473 \ifnum\Fld@listcount=1 %
13474 \@pdfm@mark{%
13475 put @afields @radio\HyField@TheAnnotCount
13476 }%
13477 \fi
13478 }%

```



```

13479 }

\Fld@listcount
13480 \newcount\Fld@listcount

\@@Listbox
13481 \def\@@Listbox#1{%
13482   \HyField@PDFChoices{#1}%
13483   \setbox\pdfm@box=\hbox{%
13484     \MakeChoiceField{\Fld@width}{\Fld@height}%
13485   }%
13486   \leavevmode
13487   \Hy@escapeform\PDFForm@List
13488   \HyField@AdvanceAnnotCount
13489   \@pdfm@mark{%
13490     ann @list\HyField@TheAnnotCount\space
13491     \dvipdfm@setdim
13492     <<\PDFForm@List>>%
13493   }%
13494   \unhbox\pdfm@box
13495   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13496 }

\@PushButton
13497 \def\@PushButton[#1]#2{% parameters, label
13498   \def\Fld@name{#2}%
13499   \begingroup
13500     \expandafter\HyField@SetKeys\expandafter{%
13501       \DefaultOptionsofPushButton,#1%
13502     }%
13503     \PDFForm@Name
13504     \ifHy@pdfa
13505       \Hy@Error{%
13506         PDF/A: Push button with JavaScript is prohibited%
13507       }\@ehc
13508       \LayoutPushButtonField{%
13509         \leavevmode
13510         \MakeButtonField{#2}%
13511       }%
13512     \else
13513       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13514       \HyField@FlagsPushButton
13515       \ifFld@hidden\def\Fld@width{1sp}\fi
13516       \HyField@AdvanceAnnotCount
13517       \LayoutPushButtonField{%
13518         \leavevmode
13519         \Hy@escapeform\PDFForm@Push
13520         \@pdfm@mark{%
13521           ann @push\HyField@TheAnnotCount\space
13522           \dvipdfm@setdim
13523           <<\PDFForm@Push>>%
13524         }%
13525       }%
13526       \unhbox\pdfm@box
13527       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13528     \fi
13529   \endgroup
13530 }

```

\@Submit

```
13531 \def\@Submit[#1]#2{%
13532   \def\Fld@width{\DefaultWidthofSubmit}%
13533   \def\Fld@height{\DefaultHeightofSubmit}%
13534   \begingroup
13535     \expandafter\HyField@SetKeys\expandafter{%
13536       \DefaultOptionsofSubmit,#1%
13537     }%
13538     \HyField@FlagsPushButton
13539     \HyField@FlagsSubmit
13540     \ifFld@hidden\def\Fld@width{1sp}\fi
13541     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13542     \leavevmode
13543     \Hy@escapeform\PDFForm@Submit
13544     \HyField@AdvanceAnnotCount
13545     \@pdfm@mark{%
13546       ann \@submit\HyField@TheAnnotCount\space
13547       \dvipdfm@setdim
13548       <<\PDFForm@Submit>>%
13549     }%
13550     \unhbox\pdfm@box%
13551     \@pdfm@mark{put \@fields \@submit\HyField@TheAnnotCount}%
13552   \endgroup
13553 }
```

\@Reset

```
13554 \def\@Reset[#1]#2{%
13555   \def\Fld@width{\DefaultWidthofReset}%
13556   \def\Fld@height{\DefaultHeightofReset}%
13557   \begingroup
13558     \expandafter\HyField@SetKeys\expandafter{%
13559       \DefaultOptionsofReset,#1%
13560     }%
13561     \leavevmode
13562     \ifHy@pdfa
13563       \Hy@Error{%
13564         PDF/A: Reset action is prohibited%
13565       }\@ehc
13566       \MakeButtonField{#2}%
13567     \else
13568       \HyField@FlagsPushButton
13569       \ifFld@hidden\def\Fld@width{1sp}\fi
13570       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13571       \Hy@escapeform\PDFForm@Reset
13572       \HyField@AdvanceAnnotCount
13573       \@pdfm@mark{%
13574         ann @reset\HyField@TheAnnotCount\space
13575         \dvipdfm@setdim
13576         <<\PDFForm@Reset>>%
13577       }%
13578       \unhbox\pdfm@box
13579       \@pdfm@mark{put \@fields @reset\HyField@TheAnnotCount}%
13580     \fi
13581   \endgroup
13582 }
```

\@CheckBox

```

13583 \def\@CheckBox[#1]#2{% parameters, label
13584 \def\Fld@name{#2}%
13585 \def\Fld@default{0}%
13586 \begingroup
13587 \def\Fld@width{\DefaultWidthofCheckBox}%
13588 \def\Fld@height{\DefaultHeightofCheckBox}%
13589 \expandafter\HyField@SetKeys\expandafter{%
13590 \DefaultOptionsofCheckBox,#1%
13591 }%
13592 \PDFForm@Name
13593 \HyField@FlagsCheckBox
13594 \ifFld@hidden\def\Fld@width{1sp}\fi
13595 \setbox\pdfm@box=\hbox{%
13596 \MakeCheckField{\Fld@width}{\Fld@height}%
13597 }%
13598 \HyField@AdvanceAnnotCount
13599 \LayoutCheckField{#2}{%
13600 \leavevmode
13601 \Hy@escapeform\PDFForm@Check
13602 \@pdfm@mark{%
13603 ann @check\HyField@TheAnnotCount\space
13604 \dvi pdfm@setdim
13605 <<\PDFForm@Check>>%
13606 }%
13607 \unhbox\pdfm@box
13608 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13609 }%
13610 \endgroup
13611 }

13612 \def\Hy@FormObjects{%
13613 \@pdfm@mark{obj @OBJpdfdocencoding%
13614 <<%
13615 /Type/Encoding%
13616 /Differences[%
13617 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13618 39/quotesingle %
13619 96/grave %
13620 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13621 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13622 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13623 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13624 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13625 164/currency %
13626 166/brokenbar %
13627 168/dieresis/copyright/ordfeminine %
13628 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13629 /twosuperior/threesuperior/acute/mu %
13630 183/periodcentered/cedilla/onesuperior/ordmasculine %
13631 188/onequarter/onehalf/threequarters %
13632 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13633 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13634 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13635 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13636 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13637 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13638 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13639 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%

```

```

13640      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13641      /thorn/ydieresis%
13642    ]%
13643  >>%
13644 }%
13645 \@pdfm@mark{obj @OBJZaDb%
13646   <<%
13647   /Type/Font%
13648   /Subtype/Type1%
13649   /Name/ZaDb%
13650   /BaseFont/ZapfDingbats%
13651   >>%
13652 }%
13653 \@pdfm@mark{obj @OBJHelv%
13654   <<%
13655   /Type/Font%
13656   /Subtype/Type1%
13657   /Name/Helv%
13658   /BaseFont/Helvetica%
13659   /Encoding @OBJpdfdocencoding%
13660   >>%
13661 }%
13662 \global\let\Hy@FormObjects\relax
13663 }
13664 </dvipdfm | xetex>

```

47.6 Common forms part

```

13665 (*pdfform)

```

\Hy@escapestring

```

13666 \begingroup\expandafter\expandafter\expandafter\endgroup
13667 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13668   \let\Hy@escapestring\@firstofone
13669   \def\Hy@escapeform#1{%
13670     \ifHy@pdfescapeform
13671       \def\Hy@escapestring##1{%
13672         \noexpand\Hy@escapestring{\noexpand##1}%
13673       }%
13674       \edef\Hy@temp{#1}%
13675       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13676       \def\Hy@escapestring##1{%
13677         \@ifundefined{Hy@esc@\string##1}{%
13678           ##1%
13679           \ThisShouldNotHappen
13680         }{%
13681           \csname Hy@esc@\string##1\endcsname
13682         }%
13683       }%
13684     \else
13685       \let\Hy@escapestring\@firstofone
13686     \fi
13687   }%
13688   \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13689     \ifx\\#3\\%
13690     \else
13691       \expandafter
13692       \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%

```

```

13693 \ltx@ReturnAfterFi{%
13694 \Hy@@escapeform#3\@nil
13695 }%
13696 \fi
13697 }%
13698 \else
13699 \def\Hy@escapeform#1{%
13700 \ifHy@pdfescapeform
13701 \let\Hy@escapestring\pdfescapestring
13702 \else
13703 \let\Hy@escapestring\@firstofone
13704 \fi
13705 }%
13706 \Hy@escapeform{}%
13707 \fi

```

\PDFForm@Name

```

13708 \def\PDFForm@Name{%
13709 \PDFForm@@Name\Fld@name
13710 \ifx\Fld@altname\relax
13711 \else
13712 \PDFForm@@Name\Fld@altname
13713 \fi
13714 \ifx\Fld@mappingname\relax
13715 \else
13716 \PDFForm@@Name\Fld@mappingname
13717 \fi
13718 }

```

\PDFForm@@Name

```

13719 \def\PDFForm@@Name#1{%
13720 \begingroup
13721 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13722 \ifHy@unicode
13723 \Hy@unicodetrue
13724 \fi
13725 \fi
13726 \HyPsd@XeTeXBigCharstrue
13727 \pdfstringdef\Hy@gtemp#1%
13728 \endgroup
13729 \let#1\Hy@gtemp
13730 }

```

\Fld@additionalactions

```

13731 \def\Fld@@additionalactions{%
K input (keystroke) format
13732 \ifx\Fld@keystroke@code\@empty
13733 \else
13734 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13735 \fi
F display format
13736 \ifx\Fld@format@code\@empty
13737 \else
13738 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13739 \fi

```

V validation

```
13740 \ifx\Fld@validate@code\@empty
13741 \else
13742 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13743 \fi
```

C calculation

```
13744 \ifx\Fld@calculate@code\@empty
13745 \else
13746 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13747 \fi
```

Fo receiving the input focus

```
13748 \ifx\Fld@onfocus@code\@empty
13749 \else
13750 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13751 \fi
```

Bl loosing the input focus (blurred)

```
13752 \ifx\Fld@onblur@code\@empty
13753 \else
13754 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13755 \fi
```

D pressing the mouse button (down)

```
13756 \ifx\Fld@onmousedown@code\@empty
13757 \else
13758 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13759 \fi
```

U releasing the mouse button (up)

```
13760 \ifx\Fld@onmouseup@code\@empty
13761 \else
13762 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13763 \fi
```

E cursor enters the annotation's active area.

```
13764 \ifx\Fld@onenter@code\@empty
13765 \else
13766 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13767 \fi
```

X cursor exits the annotation's active area.

```
13768 \ifx\Fld@onexit@code\@empty
13769 \else
13770 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13771 \fi
```

13772 }

```
13773 \def\Fld@additionalactions{%
13774 \if-\Fld@@additionalactions-%
13775 \else
13776 \ifHy@pdfa
13777 \else
13778 /AA<<\Fld@@additionalactions>>%
13779 \fi
13780 \fi
13781 }
```

\Fld@annotnames

```
13782 \def\Fld@annotnames{%
```

```

13783 /T(\Fld@name)%
13784 \ifx\Fld@altname\relax
13785 \else
13786 /TU(\Fld@altname)%
13787 \fi
13788 \ifx\Fld@mappingname\relax
13789 \else
13790 /TM(\Fld@mappingname)%
13791 \fi
13792 }

```

\PDFForm@Check

```

13793 \def\PDFForm@Check{%
13794 /Subtype/Widget%
13795 \Fld@annotflags
13796 \Fld@annotnames
13797 /FT/Btn%
13798 \Fld@flags
13799 /Q \Fld@align
13800 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13801 /MK<<%
13802 \ifnum\Fld@rotation=\z@
13803 \else
13804 /R \Fld@rotation
13805 \fi
13806 \ifx\Fld@bordercolor\relax
13807 \else
13808 /BC[\Fld@bordercolor]%
13809 \fi
13810 \ifx\Fld@bcolor\relax
13811 \else
13812 /BG[\Fld@bcolor]%
13813 \fi
13814 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13815 >>%
13816 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13817 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13818 /H/P%
13819 \ifFld@checked /V/Yes\else /V/Off\fi
13820 \Fld@additionalactions
13821 }

```

\PDFForm@Push

```

13822 \ifHy@pdfa
13823 \else
13824 \def\PDFForm@Push{%
13825 /Subtype/Widget%
13826 \Fld@annotflags
13827 \Fld@annotnames
13828 /FT/Btn%
13829 \Fld@flags
13830 /H/P%
13831 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13832 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13833 \ifx\Fld@bordercolor\relax\else 1\fi
13834 \space
13835 \else

```

```

13836 /MK<<%
13837   \ifnum\Fld@rotation=\z@
13838   \else
13839     /R \Fld@rotation
13840   \fi
13841   \ifx\Fld@bordercolor\relax
13842   \else
13843     /BC[\Fld@bordercolor]%
13844   \fi
13845   >>%
13846 \fi
13847 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13848 \Fld@additionalactions
13849 }%
13850 \fi

```

\PDFForm@List

```

13851 \def\PDFForm@List{%
13852 /Subtype/Widget%
13853 \Fld@annotflags
13854 \Fld@annotnames
13855 /FT/Ch%
13856 \Fld@flags
13857 /Q \Fld@align
13858 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13859 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13860   \ifx\Fld@bordercolor\relax\else 1\fi
13861   \ifx\Fld@bcolor\relax \else 1\fi
13862   \space
13863 \else
13864 /MK<<%
13865   \ifnum\Fld@rotation=\z@
13866   \else
13867     /R \Fld@rotation
13868   \fi
13869   \ifx\Fld@bordercolor\relax
13870   \else
13871     /BC[\Fld@bordercolor]%
13872   \fi
13873   \ifx\Fld@bcolor\relax
13874   \else
13875     /BG[\Fld@bcolor]%
13876   \fi
13877   >>%
13878 \fi
13879 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13880   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13881 \Fld@choices
13882 \Fld@additionalactions
13883 }

```

\PDFForm@Radio

```

13884 \def\PDFForm@Radio{%
13885 /Subtype/Widget%
13886 \Fld@annotflags
13887 \Fld@annotnames
13888 /FT/Btn%

```



```

13889 \Fld@flags
13890 /H/P%
13891 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13892 /MK<<%
13893 \ifnum\Fld@rotation=\z@
13894 \else
13895 /R \Fld@rotation
13896 \fi
13897 \ifx\Fld@bordercolor\relax
13898 \else
13899 /BC[\Fld@bordercolor]%
13900 \fi
13901 \ifx\Fld@bcolor\relax
13902 \else
13903 /BG[\Fld@bcolor]%
13904 \fi
13905 /CA(\Fld@radiosymbol)%
13906 >>%
13907 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13908 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13909 \ifx\@currValue\Fld@default
13910 /V/\Fld@default
13911 /DV/\Fld@default
13912 \else
13913 /V/Off%
13914 /DV/Off%
13915 \fi
13916 \Fld@additionalactions
13917 }

```

\PDFForm@Text

```

13918 \def\PDFForm@Text{%
13919 /Subtype/Widget%
13920 \Fld@annotflags
13921 \Fld@annotnames
13922 /FT/Tx%
13923 \Fld@flags
13924 /Q \Fld@align
13925 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13926 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13927 \ifx\Fld@bordercolor\relax\else 1\fi
13928 \ifx\Fld@bcolor\relax \else 1\fi
13929 \space
13930 \else
13931 /MK<<%
13932 \ifnum\Fld@rotation=\z@
13933 \else
13934 /R \Fld@rotation
13935 \fi
13936 \ifx\Fld@bordercolor\relax
13937 \else
13938 /BC[\Fld@bordercolor]%
13939 \fi
13940 \ifx\Fld@bcolor\relax
13941 \else
13942 /BG[\Fld@bcolor]%
13943 \fi
13944 >>%

```

```

13945 \fi
13946 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13947 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13948 /DV(\Hy@escapestring{\Fld@default})%
13949 /V(\Hy@escapestring{\Fld@value})%
13950 \Fld@additionalactions
13951 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13952 }

```

\PDFForm@Submit

```

13953 \def\PDFForm@Submit{%
13954 /Subtype/Widget%
13955 \Fld@annotflags
13956 \Fld@annotnames
13957 /FT/Btn%
13958 \Fld@flags
13959 /H/P%
13960 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13961 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13962 \ifx\Fld@bordercolor\relax\else 1\fi
13963 \space
13964 \else
13965 /MK<<%
13966 \ifnum\Fld@rotation=\z@
13967 \else
13968 /R \Fld@rotation
13969 \fi
13970 \ifx\Fld@bordercolor\relax
13971 \else
13972 /BC[\Fld@bordercolor]%
13973 \fi
13974 >>%
13975 \fi
13976 /A<<%
13977 /S/SubmitForm%
13978 /F<<%
13979 /FS/URL%
13980 /F(\Hy@escapestring{\Form@action})%
13981 >>%
13982 \Fld@submitflags
13983 >>%
13984 \Fld@additionalactions
13985 }

```

\PDFForm@Reset

```

13986 \ifHy@pdfa
13987 \else
13988 \def\PDFForm@Reset{%
13989 /Subtype/Widget%
13990 \Fld@annotflags
13991 \Fld@annotnames
13992 /FT/Btn%
13993 \Fld@flags
13994 /H/P%
13995 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13996 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13997 \ifx\Fld@bordercolor\relax\else 1\fi

```

```

13998         \space
13999     \else
14000         /MK<<%
14001         \ifnum\Fld@rotation=\z@
14002         \else
14003             /R \Fld@rotation
14004         \fi
14005         \ifx\Fld@bordercolor\relax
14006         \else
14007             /BC[\Fld@bordercolor]%
14008         \fi
14009     %     /CA (Clear)
14010     %     /AC (Done)
14011     >>%
14012 \fi
14013 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14014 /A<</S/ResetForm>>%
14015 \Fld@additionalactions
14016 }%
14017 \fi

14018 </pdfform>
14019 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14020 \def\phantomsection{%
14021   \Hy@MakeCurrentHrefAuto{section*}%
14022   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14023 }
14024 </package>

```

48.1 Bookmarks

```
14025 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document).

The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

14026 \def\Hy@writebookmark#1#2#3#4#5{%
14027   % section number, text, label, level, file
14028   \ifx\WriteBookmarks\relax%
14029   \else
14030     \ifnum#4>\Hy@bookmarksdepth\relax
14031     \else
14032       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14033     \fi
14034   \fi
14035 }
14036 \def\Hy@currentbookmarklevel{0}
14037 \def\Hy@numberline#1{#1 }
14038 \def\@@@writetorep#1#2#3#4#5{%
14039   \begingroup
14040     \edef\Hy@tempa{#5}%
14041     \ifx\Hy@tempa\Hy@bookmarkstype
14042       \edef\Hy@level{#4}%
14043       \ifx\Hy@levelcheck Y%
14044         \@tempcnta\Hy@level\relax
14045         \advance\@tempcnta by -1 %
14046         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14047           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14048           \advance\@tempcnta by 1 %
14049           \Hy@Warning{%
14050             Difference (\the\@tempcnta) between bookmark levels is %
14051             greater \MessageBreak than one, level fixed%
14052           }%
14053           \@tempcnta\Hy@currentbookmarklevel
14054           \advance\@tempcnta by 1 %
14055           \edef\Hy@level{\the\@tempcnta}%
14056         \fi
14057       \else
14058         \global\let\Hy@levelcheck Y%
14059       \fi
14060       \global\let\Hy@currentbookmarklevel\Hy@level
14061       \@tempcnta\Hy@level\relax
14062       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14063       \advance\@tempcnta by -1 %
14064       \edef\Hy@tempa{#3}%
14065       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14066       \ifx\Hy@tempa\Hy@tempb
14067         \Hy@Warning{%
14068           The anchor of a bookmark and its parent's must not%
14069           \MessageBreak be the same. Added a new anchor%
14070         }%
14071       \phantomsection
14072     \fi
14073     \ifHy@bookmarksnumbered
14074       \let\numberline\Hy@numberline
14075       \let\booknumberline\Hy@numberline
14076       \let\partnumberline\Hy@numberline

```

```

14077 \let\chapternumberline\Hy@numberline
14078 \else
14079 \let\numberline\@gobble
14080 \let\booknumberline\@gobble
14081 \let\partnumberline\@gobble
14082 \let\chapternumberline\@gobble
14083 \fi
14084 \HyPsd@XeTeXBigCharstrue
14085 \pdfstringdef\Hy@tempa{#2}%
14086 \HyPsd@SanitizeForOutFile\Hy@tempa
14087 \if@filesw
14088 \stepcounter{bookmark@seq@number}%
14089 \@ifundefined{@outlinefile}{%
14090 }{%
14091 \protected@write{@outlinefile}{%
14092 \protect\BOOKMARK
14093 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14094 {\Hy@tempa}{\Hy@tempb}%
14095 \@percentchar\space\thebookmark@seq@number
14096 }%
14097 }%
14098 \fi
14099 \fi
14100 \endgroup
14101 }
14102 \newcounter{bookmark@seq@number}

14103 \begingroup
14104 \lccode'('= '{%
14105 \lccode')= '}%
14106 \lccode'1=\z@
14107 \lccode'2=\z@
14108 \lccode'3=\z@
14109 \lccode'5=\z@
14110 \lccode'7=\z@
14111 \lccode'\#=\z@
14112 \lccode'\='=\z@
14113 \lccode'\{=\z@
14114 \lccode'\}=\z@
14115 \lowercase{%
14116 \endgroup
14117 \def\HyPsd@SanitizeForOutFile#1{%
14118 \@onelevel@sanitize\Hy@tempa
14119 \escapechar'\%
14120 \edef\Hy@tempa{%
14121 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14122 }%
14123 \edef\Hy@tempa{%
14124 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14125 }%
14126 }%
14127 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14128 #1%
14129 \ifx\#2\\%
14130 \expandafter\ltx@gobble
14131 \else
14132 \expandafter\ltx@firstofone
14133 \fi

```

```

14134 {%
14135   \string\173%
14136   \HyPsd@SanitizeOut@BraceLeft#2\@nil
14137 }%
14138 }%
14139 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14140   #1%
14141   \ifx\#2\%
14142     \expandafter\ltx@gobble
14143   \else
14144     \expandafter\ltx@firstofone
14145   \fi
14146   {%
14147     \string\175%
14148     \HyPsd@SanitizeOut@BraceRight#2\@nil
14149   }%
14150 }%
14151 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14152 \newcommand{\currentpdfbookmark}{%
14153   \pdfbookmark[\Hy@currentbookmarklevel]%
14154 }
14155 \newcommand{\subpdfbookmark}{%
14156   \@tempcnta\Hy@currentbookmarklevel
14157   \Hy@StepCount\@tempcnta
14158   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14159 }
14160 \newcommand{\belowpdfbookmark}[2]{%
14161   \@tempcnta\Hy@currentbookmarklevel
14162   \Hy@StepCount\@tempcnta
14163   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14164   \advance\@tempcnta by -1 %
14165   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14166 }

```

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.

```

14167 \renewcommand\pdfbookmark[3][0]{%
14168   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14169   \hyper@anchorstart{#3.#1}\hyper@anchorend
14170 }
14171 \def\BOOKMARK{%
14172   \ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14173 }
14174 \def\@BOOKMARK[#1]{%
14175   \ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
14176 }

```

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`

```

14177 \RequirePackage{rerunfilecheck}[2009/12/10]
14178 \def\Hy@OutlineRerunCheck{%

```

```

14179 \RerunFileCheck{\jobname.out}{%
14180 \immediate\closeout\@outlinefile
14181 }{%
14182 Rerun to get outlines right\MessageBreak
14183 or use package 'bookmark'%
14184 }%
14185 }

```

48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

14186 (*vtex)
14187 \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.

```

14188 \begingroup
14189 \catcode'\=12 %
14190 \ifnum\Hy@VTeXversion<650 %
14191 \catcode'\=12 %
14192 \gdef\hv@pdf@char#1#2#3{%
14193 \char
14194 \ifcase'#1#2#3 %
14195 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14196 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14197 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14198 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14199 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14200 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14201 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14202 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14203 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14204 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14205 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14206 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14207 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14208 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14209 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14210 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14211 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14212 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14213 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14214 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14215 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14216 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14217 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14218 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14219 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14220 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14221 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14222 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14223 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%

```

```

14224 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14225 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14226 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14227 \fi
14228 }%
14229 \else
14230 \gdef\hv@pdf@char{\char'}%
14231 \fi
14232 \endgroup

```

\@@BOOKMARK

```

14233 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14234 \expandafter\edef\csname @count@#3\endcsname{%
14235 \the\@serial@counter
14236 }%
14237 \edef\@mycount{\the\@serial@counter}%
14238 \Hy@StepCount\@serial@counter
14239 \edef\@parcount{%
14240 \expandafter\ifx\csname @count@#5\endcsname\relax
14241 0%
14242 \else
14243 \csname @count@#5\endcsname
14244 \fi
14245 }%
14246 \immediate\special{%
14247 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14248 s=\ifx#2-c\else o\fi,t=#4%
14249 }%
14250 }%

```

\ReadBookmarks

```

14251 \def\ReadBookmarks{%
14252 \begingroup
14253 \def\0{\hv@pdf@char 0}%
14254 \def\1{\hv@pdf@char 1}%
14255 \def\2{\hv@pdf@char 2}%
14256 \def\3{\hv@pdf@char 3}%
14257 \def\({}%
14258 \def\)}%
14259 \def\do##1{%
14260 \ifnum\catcode'##1=\active
14261 \@makeother##1%
14262 \else
14263 \ifnum\catcode'##1=6 %
14264 \@makeother##1%
14265 \fi
14266 \fi
14267 }%
14268 \dospecials
14269 \Hy@safe@activetrue
14270 \InputIfFileExists{\jobname.out}{\}{}%
14271 \endgroup
14272 \ifx\WriteBookmarks\relax
14273 \else
14274 \if@filesw
14275 \newwrite\@outlinefile
14276 \Hy@OutlineRerunCheck

```



```

14277 \immediate\openout\@outlinefile=\jobname.out\relax
14278 \ifHy@typexml
14279 \immediate\write\@outlinefile{<relaxxml>\relax}%
14280 \fi
14281 \fi
14282 \fi
14283 }

14284 </vtex>
14285 <*\vtex>
14286 \def\ReadBookmarks{%
14287 \pdf@ifdraftmode{ }{%
14288 \begingroup
14289 \def\do##1{%
14290 \ifnum\catcode'##1=\active
14291 \@makeother##1%
14292 \else
14293 \ifnum\catcode'##1=6 %
14294 \@makeother##1%
14295 \fi
14296 \fi
14297 }%
14298 \dospecials
14299 \Hy@safe@activetrue
14300 \escapechar='\%
14301 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14302 \calc@bm@number{##5}%
14303 }%
14304 \InputIfFileExists{\jobname.out}{ }{%
14305 \ifx\WriteBookmarks\relax
14306 \global\let\WriteBookmarks\relax
14307 \fi
14308 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14309 \def\Hy@temp{##4}%
14310 (*pdfTeX)
14311 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14312 \Hy@OutlineName{ }\Hy@pstringName{%
14313 ##2\check@bm@number{##3}}%
14314 }{%
14315 \expandafter\strip@prefix\meaning\Hy@temp
14316 }%
14317 </pdfTeX>
14318 (*pdfmark)
14319 \pdfmark{%
14320 pdfmark=/OUT,%
14321 Count={##2\check@bm@number{##3}},%
14322 Dest={##3},%
14323 Title=\expandafter\strip@prefix\meaning\Hy@temp
14324 }%
14325 </pdfmark>
14326 <*\dviPDFM|xetex>
14327 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14328 \@pdfm@mark{%
14329 outline \ifHy@DvipdfmxOutlineOpen
14330 [%
14331 \ifnum##21>\z@
14332 \else
14333 -%

```

```

14334         \fi
14335     ] %
14336     \fi
14337     ##1<<%
14338     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14339     /A<<%
14340     /S/GoTo%
14341     /D(\Hy@pstringName)%
14342     >>%
14343     >>%
14344     }%
14345 \</dvipdfm | xetex>
14346     }%
14347     \begingroup
14348     \def\WriteBookmarks{0}%
14349     \InputIfFileExists{\jobname.out}{-}{-}%
14350     \endgroup
14351     %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14352     \endgroup
14353 }%
14354 \ifx\WriteBookmarks\relax
14355 \else
14356     \if@filesw
14357         \newwrite\@outlinefile
14358         \Hy@OutlineRerunCheck
14359         \immediate\openout\@outlinefile=\jobname.out\relax
14360         \ifHy@typexml
14361             \immediate\write\@outlinefile{<relaxxml>\relax}%
14362         \fi
14363     \fi
14364 \fi
14365 }
14366 \<*/pdfTeX>
14367 \def\Hy@OutlineName#1#2#3#4{%
14368     \pdfoutline goto name{#2}count#3{#4}%
14369 }
14370 \</pdfTeX>
14371 \def\check@bm@number#1{%
14372     \expandafter\ifx\csname B_#1\endcsname\relax
14373     0%
14374     \else
14375         \csname B_#1\endcsname
14376     \fi
14377 }
14378 \def\calc@bm@number#1{%
14379     \@tempcnta=\check@bm@number{#1}\relax
14380     \advance\@tempcnta by 1 %
14381     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14382 }
14383 \</!vTeX>
14384 \ifHy@implicit
14385 \else
14386     \expandafter\endinput
14387 \fi
14388 \</outlines>
14389 \<*/outlines | hypertex>

```

```

14390 \newlength\Hy@SectionHShift
14391 \def\Hy@SectionAnchorHref#1{%
14392   \ifx\protect\@typeset@protect
14393     \Hy@@SectionAnchor{#1}%
14394   \fi
14395 }
14396 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
14397   \leavevmode
14398   \hbox to 0pt{%
14399     \kern-\Hy@SectionHShift
14400     \Hy@raisedlink{%
14401       \hyper@anchorstart{#1}\hyper@anchorend
14402     }%
14403     \hss
14404   }%
14405 }
14406 \let\H@old@ssect\@ssect
14407 \def\@ssect#1#2#3#4#5{%
14408   \Hy@MakeCurrentHrefAuto{section*}%
14409   \setlength{\Hy@SectionHShift}{#1}%
14410   \begingroup
14411     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14412     \toks\tw@\expandafter{%
14413       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14414       #5%
14415     }%
14416   \edef\x{\endgroup
14417     \the\toks@\the\toks\tw@}%
14418   }\x
14419 }
14420 \let\H@old@schapter\@schapter
14421 \def\@schapter#1{%
14422   \begingroup
14423     \let\@mkboth\@gobbletwo
14424     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14425     \Hy@raisedlink{%
14426       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14427     }%
14428   \endgroup
14429   \H@old@schapter{#1}%
14430 }

```

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:

```

14431 \ltx@ifundefined{@chapter}{-}{%
14432   \let\Hy@org@chapter\@chapter
14433   \def\@chapter{%
14434     \def\Hy@next{%
14435       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14436       \Hy@raisedlink{%
14437         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14438       }%
14439     }%
14440     \ifnum\c@secnumdepth>\m@ne
14441       \ltx@ifundefined{if@mainmatter}%
14442       \iftrue{\csname if@mainmatter\endcsname}%
14443       \let\Hy@next\relax

```

```

14444 \fi
14445 \fi
14446 \Hy@next
14447 \Hy@org@chapter
14448 }%
14449 }

14450 \let\H@old@part\@part
14451 \begingroup\expandafter\expandafter\expandafter\endgroup
14452 \expandafter\ifx\csname chapter\endcsname\relax
14453 \let\Hy@secnum@part\z@
14454 \else
14455 \let\Hy@secnum@part\m@ne
14456 \fi
14457 \def\@part{%
14458 \ifnum\Hy@secnum@part>\c@secnumdepth
14459 \phantomsection
14460 \fi
14461 \H@old@part
14462 }

14463 \let\H@old@spart\@spart
14464 \def\@spart#1{%
14465 \Hy@MakeCurrentHrefAuto{part*}%
14466 \Hy@raisedlink{%
14467 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14468 }%
14469 \H@old@spart{#1}%
14470 }

14471 \let\H@old@sect\@sect
14472 \def\@sect#1#2#3#4#5#6[#7]#8{%
14473 \ifnum #2>\c@secnumdepth
14474 \expandafter\@firstoftwo
14475 \else
14476 \expandafter\@secondoftwo
14477 \fi
14478 {%
14479 \Hy@MakeCurrentHrefAuto{section*}%
14480 \setlength{\Hy@SectionHShift}{#3}%
14481 \begingroup
14482 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{{#7}}}%
14483 \toks\tw@\expandafter{%
14484 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14485 #8%
14486 }%
14487 \edef\x{\endgroup
14488 \the\toks@\the\toks\tw@}%
14489 }\x
14490 }{%
14491 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{{#7}}{#8}%
14492 }%
14493 }

14494 </outlines | hypertex>
14495 (*outlines)

14496 \expandafter\def\csname Parent-4\endcsname{}
14497 \expandafter\def\csname Parent-3\endcsname{}
14498 \expandafter\def\csname Parent-2\endcsname{}
14499 \expandafter\def\csname Parent-1\endcsname{}

```

```

14500 \expandafter\def\csname Parent0\endcsname{}
14501 \expandafter\def\csname Parent1\endcsname{}
14502 \expandafter\def\csname Parent2\endcsname{}
14503 \expandafter\def\csname Parent3\endcsname{}
14504 \expandafter\def\csname Parent4\endcsname{}
14505 </outlines>

```

49 Compatibility with koma-script classes

```

14506 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

14507 \def\Hy@tempa{%
14508   \def\@addchap{##1}##2{%
14509     \typeout{##2}%
14510     \if@twoside
14511       \@mkboth{##1}{}%
14512     \else
14513       \@mkboth{}{##1}%
14514     \fi
14515     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14516     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14517     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14518     \Hy@raisedlink{%
14519       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14520     }%
14521     \if@twocolumn
14522       \@topnewpage[\@makeschapterhead{##2}]%
14523     \else
14524       \@makeschapterhead{##2}%
14525       \@afterheading
14526     \fi
14527     \addcontentsline{toc}{chapter}{##1}%
14528   }%
14529 }
14530 \@ifclassloaded{scrbook}{%
14531   \@ifclasslater{scrbook}{2001/01/01}{%
14532     \let\Hy@tempa\@empty
14533   }{%
14534     }%
14535   \@ifclassloaded{scrreprt}{%
14536     \@ifclasslater{scrreprt}{2001/01/01}{%
14537       \let\Hy@tempa\@empty
14538     }{%
14539       }%
14540     \let\Hy@tempa\@empty
14541   }%
14542 }%
14543 \Hy@tempa
14544 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
14545 <*pd1enc>
14546 \DeclareFontEncoding{PD1}{-}{-}

Accents
14547 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14548 \DeclareTextAccent`}{PD1}{\textacute}
14549 \DeclareTextAccent^{~}{PD1}{\textasciicircum}
14550 \DeclareTextAccent{~}{PD1}{\texttilde}
14551 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14552 \DeclareTextAccent{r}{PD1}{\textstring}
14553 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14554 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14555 \DeclareTextAccent{c}{PD1}{\textcedilla}
14556 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14557 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14558 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14559 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14560 \DeclareTextCompositeCommand`}{PD1}{\@empty}{\textacute}
14561 \DeclareTextCompositeCommand^{~}{PD1}{\@empty}{\textasciicircum}
14562 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14563 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14564 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
14565 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14566 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14567 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14568 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14569 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14570 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14571 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14572 \DeclareTextCompositeCommand`}{PD1}{\ }{\textacute}
14573 \DeclareTextCompositeCommand^{~}{PD1}{\ }{\textasciicircum}
14574 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14575 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14576 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textstring}
14577 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14578 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14579 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14580 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14581 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14582 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14583 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14584 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14585 \DeclareTextCommand{\newtie}{PD1}[1]{%
14586   \TextSymbolUnavailable{\newtie{#1}}#1%
14587 }
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14588 % U+0009 (CHARACTER TABULATION)
14589 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14590 % U+000A (LINE FEED)
```

14591 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14592 % U+000D (CARRIAGE RETURN)
14593 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
14594 % U+02D8 BREVE; breve
14595 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14596 % U+02C7 CARON; caron
14597 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14598 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14599 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14600 % U+02D9 DOT ABOVE; dotaccent
14601 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14602 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14603 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14604 % U+02DB OGONEK; ogonek
14605 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14606 % U+02DA RING ABOVE; ring
14607 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14608 % U+02DC SMALL TILDE; ilde, *tilde
14609 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14610 % U+0022 QUOTATION MARK; quotedbl
14611 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14612 % U+0023 NUMBER SIGN; numbersign
14613 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14614 % U+0024 DOLLAR SIGN; dollar
14615 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14616 % U+0025 PERCENT SIGN; percent
14617 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14618 % U+0026 AMPERSAND; ampersand
14619 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14620 % U+0028 LEFT PARENTHESIS; parenleft
14621 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14622 % U+0029 RIGHT PARENTHESIS; parenright
14623 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14624 % U+002E FULL STOP; period
14625 \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
14626 % U+003C LESS-THAN SIGN; less
14627 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
\075: U+003D EQUALS SIGN; equal

14628 % U+003E GREATER-THAN SIGN; greater
 14629 \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
 14630 % U+005C REVERSE SOLIDUS; backslash
 14631 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14632 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14633 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14634 % U+005F LOW LINE; underscore
 14635 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14636 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14637 % U+0060 GRAVE ACCENT; grave
 14638 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14639 % U+0069 LATIN SMALL LETTER I; i
 14640 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14641 % U+007B LEFT CURLY BRACKET; braceleft
 14642 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14643 % U+007C VERTICAL LINE; *bar, verticalbar
 14644 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14645 % U+007D RIGHT CURLY BRACKET; braceright
 14646 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14647 % U+007E TILDE; asciitilde
 14648 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14649 % U+2022 BULLET; bullet
 14650 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14651 % U+2020 DAGGER; dagger
 14652 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14653 % U+2021 DOUBLE DAGGER; daggerdbl
 14654 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14655 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14656 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14657 % U+2014 EM DASH; emdash
 14658 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14659 % U+2013 EN DASH; endash
 14660 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14661 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14662 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14663 % U+2044 FRACTION SLASH; fraction
 14664 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14665 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 14666 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039

14667 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guiltingright
14668 \DeclareTextCommand{\guiltingright}{PD1}{\211}% U+203A
14669 % U+2212 MINUS SIGN; minus
14670 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14671 % U+2030 PER MILLE SIGN; perthousand
14672 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14673 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14674 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14675 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14676 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14677 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14678 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14679 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14680 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14681 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14682 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14683 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14684 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14685 % U+2122 TRADE MARK SIGN; trademark
14686 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14687 % U+FB01 LATIN SMALL LIGATURE FI; fi
14688 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14689 % U+FB02 LATIN SMALL LIGATURE FL; fl
14690 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14691 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14692 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14693 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14694 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14695 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14696 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14697 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14698 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
14699 \DeclareTextCommand{\IJ}{PD1}{\230}
14700 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14701 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14702 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14703 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14704 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14705 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14706 % U+0153 LATIN SMALL LIGATURE OE; oe
14707 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14708 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14709 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14710 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14711 \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.
14712 % U+20AC EURO SIGN; *Euro, euro
14713 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14714 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14715 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14716 % U+00A2 CENT SIGN; cent
14717 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14718 % U+00A3 POUND SIGN; sterling
14719 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14720 % U+00A4 CURRENCY SIGN; currency

14721 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14722 % U+00A5 YEN SIGN; yen
14723 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14724 % U+00A6 BROKEN BAR; brokenbar
14725 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14726 % U+00A7 SECTION SIGN; section
14727 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14728 % U+00A8 DIAERESIS; dieresis
14729 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14730 % U+00A9 COPYRIGHT SIGN; copyright
14731 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14732 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14733 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14734 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14735 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14736 % U+00AC NOT SIGN; logicalnot
14737 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14738 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14739 % U+00AE REGISTERED SIGN; registered
14740 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14741 % U+00AF MACRON; *macron, overscore
14742 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14743 % U+00B0 DEGREE SIGN; degree
14744 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14745 % U+00B1 PLUS-MINUS SIGN; plusminus
14746 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14747 % U+00B2 SUPERSCRIFT TWO; twosuperior
14748 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14749 % U+00B3 SUPERSCRIFT THREE; threesuperior
14750 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14751 % U+00B4 ACUTE ACCENT; acute
14752 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14753 % U+00B5 MICRO SIGN; mu, mul
14754 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14755 % U+00B6 PILCROW SIGN; paragraph
14756 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14757 % U+00B7 MIDDLE DOT; middot, *periodcentered
14758 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14759 % U+00B8 CEDILLA; cedilla
14760 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14761 % U+00B9 SUPERSCRIFT ONE; onesuperior
14762 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14763 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14764 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14765 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
14766 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14767 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14768 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14769 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14770 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14771 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14772 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14773 % U+00BF INVERTED QUESTION MARK; questiondown
14774 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF

14775 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14776 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14777 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14778 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14779 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14780 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14781 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14782 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14783 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14784 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14785 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14786 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14787 % U+00C6 LATIN CAPITAL LETTER AE; AE
14788 \DeclareTextCompositeCommand{\AE}{PD1}{\306}% U+00C6
14789 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14790 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14791 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14792 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14793 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14794 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14795 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14796 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14797 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14798 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14799 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14800 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14801 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14802 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14803 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14804 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14805 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14806 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14807 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14808 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14809 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14810 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14811 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14812 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14813 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14814 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14815 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14816 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14817 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14818 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14819 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14820 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14821 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14822 % U+00D7 MULTIPLICATION SIGN; multiply
14823 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14824 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14825 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14826 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14827 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14828 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14829 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14830 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14831 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB

14832 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14833 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14834 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14835 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD
14836 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14837 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14838 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14839 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14840 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14841 \DeclareTextCompositeCommand{'}{PD1}{a}{\340}% U+00E0
14842 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14843 \DeclareTextCompositeCommand{'}{PD1}{a}{\341}% U+00E1
14844 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14845 \DeclareTextCompositeCommand{^}{PD1}{a}{\342}% U+00E2
14846 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14847 \DeclareTextCompositeCommand{~}{PD1}{a}{\343}% U+00E3
14848 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14849 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14850 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14851 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14852 % U+00E6 LATIN SMALL LETTER AE; ae
14853 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14854 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14855 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14856 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14857 \DeclareTextCompositeCommand{'}{PD1}{e}{\350}% U+00E8
14858 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14859 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9
14860 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14861 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA
14862 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14863 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
14864 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14865 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
14866 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
14867 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14868 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14869 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14870 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14871 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14872 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14873 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14874 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14875 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14876 % U+00F0 LATIN SMALL LETTER ETH; eth
14877 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14878 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14879 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1
14880 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14881 \DeclareTextCompositeCommand{'}{PD1}{o}{\362}% U+00F2
14882 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14883 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3
14884 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14885 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4
14886 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14887 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5
14888 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis

```

14889 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
14890 % U+00F7 DIVISION SIGN; divide
14891 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14892 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14893 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14894 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14895 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9
14896 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14897 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14898 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14899 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
14900 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14901 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
14902 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14903 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14904 % U+00FE LATIN SMALL LETTER THORN; thorn
14905 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14906 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14907 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14908 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

14909 \DeclareTextCommand{\SS}{PD1}{SS}
14910 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

14911 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14912 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14913 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14914 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14915 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14916 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14917 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14918 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

14919 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14920 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14921 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14922 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14923 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14924 \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).

```

14925 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14926 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
14927 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14928 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
14929 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
14930 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
14931 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14932 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14933 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
14934 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14935 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
14936 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
14937 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
14938 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

14939 `</pd1enc>`

50.2 PU encoding

14940 `<*puenc>`

14941 `\DeclareFontEncoding{PU}{-}{-}`

50.2.1 NFSS2 accents

14942 `% U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb`
14943 `\DeclareTextCommand{'}{PU}[1]{#1\83\000}% U+0300`
14944 `% U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb`
14945 `\DeclareTextCommand{'}{PU}[1]{#1\83\001}% U+0301`
14946 `% U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb`
14947 `\DeclareTextCommand{^}{PU}[1]{#1\83\002}% U+0302`
14948 `% U+0303 COMBINING TILDE; tildecmb, *tildecmb`
14949 `\DeclareTextCommand{~}{PU}[1]{#1\83\003}% U+0303`
14950 `% U+0304 COMBINING MACRON; macroncmb`
14951 `\DeclareTextCommand{=}{PU}[1]{#1\83\004}% U+0304`
14952 `% U+0306 COMBINING BREVE; brevecmb`
14953 `\DeclareTextCommand{u}{PU}[1]{#1\83\006}% U+0306`
14954 `\DeclareTextCommand{U}{PU}[1]{#1\83\006}% U+0306`
14955 `% U+0307 COMBINING DOT ABOVE; dotaccentcmb`
14956 `\DeclareTextCommand{.}{PU}[1]{#1\83\007}% U+0307`
14957 `% U+0308 COMBINING DIAERESIS; dieresiscmb`
14958 `\DeclareTextCommand{"}{PU}[1]{#1\83\010}% U+0308`
14959 `% U+030A COMBINING RING ABOVE; ringcmb`
14960 `\DeclareTextCommand{r}{PU}[1]{#1\83\012}% U+030A`
14961 `% U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb`
14962 `\DeclareTextCommand{H}{PU}[1]{#1\83\013}% U+030B`
14963 `% U+030C COMBINING CARON; caroncmb`
14964 `\DeclareTextCommand{v}{PU}[1]{#1\83\014}% U+030C`
14965 `% U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb`
14966 `\DeclareTextCommand{G}{PU}[1]{#1\83\017}% U+030F`
14967 `\DeclareTextCommand{C}{PU}[1]{#1\83\017}% U+030F`
14968 `% U+0311 COMBINING INVERTED BREVE; breveinvertedcmb`
14969 `\DeclareTextCommand{newtie}{PU}[1]{#1\83\021}% U+0311`
14970 `% U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb`
14971 `\DeclareTextCommand{d}{PU}[1]{#1\83\043}% U+0323`
14972 `% U+0331 COMBINING MACRON BELOW; macronbelowcmb`
14973 `\DeclareTextCommand{b}{PU}[1]{#1\83\061}% U+0331`
14974 `% U+0327 COMBINING CEDILLA; cedillacmb`
14975 `\DeclareTextCommand{c}{PU}[1]{#1\83\047}% U+0327`
14976 `% U+0328 COMBINING OGONEK; ogonekcmb`
14977 `\DeclareTextCommand{k}{PU}[1]{#1\83\050}% U+0328`
14978 `% U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-`
`blecmb`
14979 `\DeclareTextCommand{t}{PU}[1]{#1\83\141}% U+0361`
14980 `% U+20DD COMBINING ENCLOSING CIRCLE`
14981 `\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.

14982 `\DeclareTextCompositeCommand{'}{PU}{\@empty}{\textasciigrave}`
14983 `\DeclareTextCompositeCommand{'}{PU}{\@empty}{\textacute}`
14984 `\DeclareTextCompositeCommand{^}{PU}{\@empty}{\textasciicircum}`
14985 `\DeclareTextCompositeCommand{~}{PU}{\@empty}{\texttilde}`
14986 `\DeclareTextCompositeCommand{"}{PU}{\@empty}{\textasciidieresis}`
14987 `\DeclareTextCompositeCommand{r}{PU}{\@empty}{\textring}`
14988 `\DeclareTextCompositeCommand{v}{PU}{\@empty}{\textasciicaron}`

```

14989 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14990 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14991 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14992 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14993 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14994 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14995 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14996 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14997 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14998 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14999 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
15000 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

15001 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
15002 \DeclareTextCompositeCommand{\' }{PU}{\ }{\textacute}
15003 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
15004 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15005 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15006 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
15007 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15008 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15009 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15010 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
15011 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15012 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15013 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15014 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15015 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15016 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15017 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15018 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15019 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

15020 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
15021 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
15022 \DeclareTextCommand{\capitalgrave}{PU}[1]{\{'{#1}}
15023 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
15024 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
15025 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
15026 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
15027 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
15028 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
15029 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
15030 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
15031 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
15032 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
15033 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
15034 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15035 % U+0009 (CHARACTER TABULATION)
15036 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15037 % U+000A (LINE FEED)
15038 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15039 % U+000D (CARRIAGE RETURN)
15040 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

\80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 15041 % U+0022 QUOTATION MARK; quotedbl
 15042 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
 15043 % U+0023 NUMBER SIGN; numbersign
 15044 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 15045 % U+0024 DOLLAR SIGN; dollar
 15046 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 15047 % U+0025 PERCENT SIGN; percent
 15048 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 15049 % U+0026 AMPERSAND; ampersand
 15050 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 15051 % U+0027 APOSTROPHE; quotesingle
 15052 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 15053 % U+0028 LEFT PARENTHESIS; parenleft
 15054 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 15055 % U+0029 RIGHT PARENTHESIS; parenright
 15056 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 15057 % U+002A ASTERISK; asterisk
 15058 \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
 15059 % U+003C LESS-THAN SIGN; less
 15060 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 15061 % U+003E GREATER-THAN SIGN; greater
 15062 \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
 15063 % U+005C REVERSE SOLIDUS; backslash
 15064 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 15065 % U+005E CIRCUMFLEX ACCENT; asciicircum
 15066 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 15067 % U+005F LOW LINE; underscore
 15068 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 15069 % U+0060 GRAVE ACCENT; grave
 15070 \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

15071 % U+0069 LATIN SMALL LETTER I; i
 15072 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 15073 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 \80\152: U+006A LATIN SMALL LETTER J; j
 ...
 \80\172: U+007A LATIN SMALL LETTER Z; z
 15074 % U+007B LEFT CURLY BRACKET; braceleft
 15075 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 15076 % U+007C VERTICAL LINE; *bar, verticalbar
 15077 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 15078 % U+007D RIGHT CURLY BRACKET; braceright
 15079 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 15080 % U+007E TILDE; asciitilde
 15081 \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
 15082 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 15083 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 15084 % U+00A2 CENT SIGN; cent
 15085 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 15086 % U+00A3 POUND SIGN; sterling
 15087 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 15088 % U+00A4 CURRENCY SIGN; currency
 15089 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 15090 % U+00A5 YEN SIGN; yen
 15091 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 15092 % U+00A6 BROKEN BAR; brokenbar
 15093 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 15094 % U+00A7 SECTION SIGN; section
 15095 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 15096 % U+00A8 DIAERESIS; dieresis
 15097 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 15098 % U+00A9 COPYRIGHT SIGN; copyright
 15099 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 15100 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 15101 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 15102 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 15103 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 15104 % U+00AC NOT SIGN; logicalnot
 15105 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 15106 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 15107 % U+00AE REGISTERED SIGN; registered
 15108 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 15109 % U+00AF MACRON; *macron, overscore
 15110 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 15111 % U+00B0 DEGREE SIGN; degree
 15112 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 15113 % U+00B1 PLUS-MINUS SIGN; plusminus
 15114 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 15115 % U+00B2 SUPERScript TWO; twosuperior
 15116 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 15117 % U+00B3 SUPERScript THREE; threesuperior

15118 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
15119 % U+00B4 ACUTE ACCENT; acute
15120 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15121 \DeclareTextCommand{\textasciicute}{PU}{\80\264}% U+00B4
15122 % U+00B5 MICRO SIGN; mu, mu1
15123 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15124 % U+00B6 PILCROW SIGN; paragraph
15125 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15126 % U+00B7 MIDDLE DOT; middot, *periodcentered
15127 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15128 % U+00B8 CEDILLA; cedilla
15129 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15130 % U+00B9 SUPERScript ONE; onesuperior
15131 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
15132 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15133 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15134 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
15135 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15136 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15137 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15138 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15139 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15140 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15141 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15142 % U+00BF INVERTED QUESTION MARK; questiondown
15143 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15144 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15145 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15146 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15147 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15148 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15149 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15150 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15151 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15152 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15153 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15154 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15155 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15156 % U+00C6 LATIN CAPITAL LETTER AE; AE
15157 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15158 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15159 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15160 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15161 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15162 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15163 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15164 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15165 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15166 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15167 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15168 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15169 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15170 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15171 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15172 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15173 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE

15174 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15175 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317}% U+00CF
15176 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15177 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15178 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15179 \DeclareTextCompositeCommand{~}{PU}{N}{\80\321}% U+00D1
15180 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15181 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}% U+00D2
15182 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15183 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}% U+00D3
15184 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15185 \DeclareTextCompositeCommand{^}{PU}{O}{\80\324}% U+00D4
15186 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15187 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325}% U+00D5
15188 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15189 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6
15190 % U+00D7 MULTIPLICATION SIGN; multiply
15191 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15192 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15193 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15194 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15195 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}% U+00D9
15196 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15197 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}% U+00DA
15198 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15199 \DeclareTextCompositeCommand{^}{PU}{U}{\80\333}% U+00DB
15200 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15201 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC
15202 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15203 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}% U+00DD
15204 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
15205 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15206 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15207 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15208 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15209 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}% U+00E0
15210 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15211 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}% U+00E1
15212 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15213 \DeclareTextCompositeCommand{^}{PU}{a}{\80\342}% U+00E2
15214 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15215 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}% U+00E3
15216 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15217 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15218 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15219 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15220 % U+00E6 LATIN SMALL LETTER AE; ae
15221 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15222 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15223 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15224 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15225 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}% U+00E8
15226 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15227 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}% U+00E9
15228 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15229 \DeclareTextCompositeCommand{^}{PU}{e}{\80\352}% U+00EA
15230 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis

15231 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15232 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15233 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
15234 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
15235 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15236 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
15237 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
15238 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15239 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE
15240 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE
15241 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15242 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15243 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15244 % U+00F0 LATIN SMALL LETTER ETH; eth
15245 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15246 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15247 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1
15248 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15249 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2
15250 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15251 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3
15252 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15253 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4
15254 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15255 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5
15256 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15257 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
15258 % U+00F7 DIVISION SIGN; divide
15259 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15260 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15261 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15262 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15263 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9
15264 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15265 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA
15266 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15267 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB
15268 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15269 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC
15270 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15271 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD
15272 % U+00FE LATIN SMALL LETTER THORN; thorn
15273 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
15274 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15275 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

50.2.4 Latin Extended-A: U+0080 to U+017F

15276 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
15277 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100
15278 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
15279 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101
15280 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
15281 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
15282 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
15283 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
15284 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek

15285 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
15286 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
15287 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15288 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15289 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15290 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15291 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
15292 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15293 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15294 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15295 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15296 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-
cent
15297 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15298 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15299 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15300 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15301 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15302 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15303 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15304 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15305 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15306 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15307 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15308 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15309 \DeclareTextCompositeCommand{\DJ}{PU}{\81\020}% U+0110
15310 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15311 \DeclareTextCompositeCommand{\dj}{PU}{\81\021}% U+0111
15312 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15313 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15314 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15315 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15316 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15317 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15318 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15319 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15320 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15321 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15322 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15323 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15324 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15325 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15326 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15327 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15328 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15329 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15330 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15331 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15332 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15333 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15334 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15335 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15336 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15337 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15338 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15339 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F

15340 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
 15341 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
 15342 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
 15343 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
 15344 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
 15345 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15346 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15347 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15348 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15349 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
 15350 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
 15351 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
 15352 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
 15353 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
 15354 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
 15355 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
 15356 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
 15357 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
 15358 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
 15359 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15360 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
 15361 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
 15362 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
 15363 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
 15364 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15365 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
 15366 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 15367 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 15368 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 15369 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15370 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
 15371 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 15372 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 15373 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 15374 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15375 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
 15376 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 15377 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 15378 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 15379 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 15380 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 15381 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 15382 % U+0133 LATIN SMALL LIGATURE IJ; ij
 15383 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 15384 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 15385 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 15386 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 15387 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15388 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
 15389 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 15390 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15391 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15392 \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`.

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15393 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15394 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15395 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15396 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15397 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15398 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15399 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15400 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15401 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15402 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15403 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15404 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15405 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15406 \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.
15407 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
15408 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15409 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15410 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15411 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15412 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15413 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15414 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15415 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15416 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15417 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15418 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15419 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15420 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15421 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15422 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15423 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15424 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15425 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15426 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15427 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15428 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15429 % U+014A LATIN CAPITAL LETTER ENG; Eng
15430 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15431 % U+014B LATIN SMALL LETTER ENG; eng
15432 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15433 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15434 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15435 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15436 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15437 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15438 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15439 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve

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15440 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15441 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
15442 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15443 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
15444 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15445 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15446 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15447 % U+0153 LATIN SMALL LIGATURE OE; oe
15448 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15449 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15450 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
15451 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15452 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
15453 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
15454 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15455 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15456 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15457 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15458 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15459 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15460 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15461 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15462 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
15463 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15464 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
15465 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15466 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
15467 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15468 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
15469 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15470 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15471 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15472 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15473 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15474 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15475 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15476 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15477 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
15478 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15479 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15480 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15481 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15482 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15483 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15484 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15485 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15486 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15487 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15488 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15489 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15490 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15491 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15492 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169

15493 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 15494 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 15495 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 15496 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 15497 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 15498 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 15499 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 15500 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 15501 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15502 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15503 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15504 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 15505 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
 cute, Uhungarumlaut
 15506 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15507 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-
 cute, uhungarumlaut
 15508 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 15509 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15510 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15511 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15512 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15513 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15514 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15515 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15516 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15517 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15518 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15519 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15520 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15521 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15522 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15523 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15524 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15525 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15526 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15527 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15528 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15529 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15530 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15531 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15532 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15533 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15534 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15535 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15536 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

50.2.5 Latin Extended-B: U+0180 to U+024F

15537 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15538 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15539 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15540 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15541 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15542 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15543 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15544 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15545 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron

15546 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15547 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15548 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15549 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15550 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15551 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15552 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15553 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15554 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15555 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15556 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15557 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15558 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15559 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15560 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15561 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15562 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15563 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15564 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15565 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15566 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15567 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15568 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15569 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15570 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15571 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15572 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15573 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15574 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15575 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15576 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15577 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15578 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15579 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15580 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
15581 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15582 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15583 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15584 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15585 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15586 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15587 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslasha-
cute, Ostrokeacute
15588 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15589 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslasha-
cute, ostrokeacute
15590 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15591 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15592 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15593 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15594 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15595 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15596 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15597 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15598 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15599 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15600 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208

15601 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 15602 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15603 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15604 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 15605 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 15606 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 15607 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 15608 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 15609 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15610 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15611 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15612 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15613 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15614 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15615 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15616 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15617 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15618 % U+021F LATIN SMALL LETTER H WITH CARON
 15619 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15620 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15621 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15622 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15623 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15624 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15625 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15626 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15627 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15628 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15629 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15630 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15631 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15632 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15633 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15634 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15635 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15636 % U+0237 LATIN SMALL LETTER DOTLESS J
 15637 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

15638 % U+02C7 CARON; caron
 15639 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15640 % U+02D8 BREVE; breve
 15641 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15642 % U+02D9 DOT ABOVE; dotaccent
 15643 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15644 % U+02DA RING ABOVE; ring
 15645 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15646 % U+02DB OGONEK; ogonek
 15647 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15648 % U+02DC SMALL TILDE; ilde, *tilde
 15649 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15650 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15651 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15652 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15653 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15654 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15655 % U+02F7 MODIFIER LETTER LOW TILDE

15656 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

50.2.7 Combining Diacritical Marks: U+0300 to U+036F

15657 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15658 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
15659 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15660 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
15661 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15662 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
15663 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15664 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
15665 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
blecmb
15666 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

50.2.8 Greek and Coptic: U+0370 to U+03FF

15667 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
15668 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
15669 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
15670 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
15671 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
15672 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
15673 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
15674 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
15675 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
15676 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
15677 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
15678 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
15679 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
cronos
15680 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
15681 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonos
15682 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
15683 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
15684 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
15685 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
tadiesistonos
15686 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
15687 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
15688 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
15689 % U+0392 GREEK CAPITAL LETTER BETA; Beta
15690 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
15691 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
15692 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
15693 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
15694 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
15695 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
15696 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
15697 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
15698 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
15699 % U+0397 GREEK CAPITAL LETTER ETA; Eta
15700 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
15701 % U+0398 GREEK CAPITAL LETTER THETA; Theta
15702 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15703 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15704 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15705 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa

15706 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15707 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15708 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15709 % U+039C GREEK CAPITAL LETTER MU; Mu
15710 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15711 % U+039D GREEK CAPITAL LETTER NU; Nu
15712 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15713 % U+039E GREEK CAPITAL LETTER XI; Xi
15714 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15715 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15716 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15717 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15718 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15719 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15720 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15721 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15722 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15723 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15724 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15725 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15726 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15727 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15728 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15729 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15730 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15731 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15732 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15733 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15734 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15735 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15736 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15737 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
15738 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilon
15739 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
15740 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15741 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
15742 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
15743 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
15744 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15745 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
15746 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15747 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
15748 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
15749 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0
15750 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15751 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15752 % U+03B2 GREEK SMALL LETTER BETA; beta
15753 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15754 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15755 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15756 % U+03B4 GREEK SMALL LETTER DELTA; delta
15757 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15758 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15759 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15760 % U+03B6 GREEK SMALL LETTER ZETA; zeta

15761 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15762 % U+03B7 GREEK SMALL LETTER ETA; eta
15763 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15764 % U+03B8 GREEK SMALL LETTER THETA; theta
15765 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15766 % U+03B9 GREEK SMALL LETTER IOTA; iota
15767 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15768 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15769 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15770 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15771 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15772 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15773 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15774 % U+03BD GREEK SMALL LETTER NU; nu
15775 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15776 % U+03BE GREEK SMALL LETTER XI; xi
15777 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15778 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15779 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15780 % U+03C0 GREEK SMALL LETTER PI; pi
15781 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15782 % U+03C1 GREEK SMALL LETTER RHO; rho
15783 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15784 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15785 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15786 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15787 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15788 % U+03C4 GREEK SMALL LETTER TAU; tau
15789 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15790 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15791 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15792 % U+03C6 GREEK SMALL LETTER PHI; phi
15793 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15794 % U+03C7 GREEK SMALL LETTER CHI; chi
15795 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15796 % U+03C8 GREEK SMALL LETTER PSI; psi
15797 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15798 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15799 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15800 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
15801 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\312}% U+03CA
15802 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
15803 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}% U+03CB
15804 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15805 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
15806 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15807 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15808 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
15809 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15810 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
15811 % U+03DA GREEK LETTER STIGMA; Stigmatreek
15812 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
15813 % U+03DB GREEK SMALL LETTER STIGMA
15814 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB
15815 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
15816 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC

15817 % U+03DD GREEK SMALL LETTER DIGAMMA
 15818 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15819 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15820 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15821 % U+03DF GREEK SMALL LETTER KOPPA
 15822 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15823 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15824 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15825 % U+03E1 GREEK SMALL LETTER SAMPI
 15826 \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.

15827 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15828 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
 15829 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
 15830 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 15831 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
 15832 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 15833 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 15834 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 15835 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
 15836 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
 15837 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 15838 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 15839 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 15840 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrilic, *afii10055
 15841 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
 15842 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
 15843 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
 15844 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
 15845 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
 15846 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
 15847 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
 15848 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
 15849 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
 15850 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
 15851 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
 15852 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
 15853 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
 15854 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
 15855 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
 15856 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
 15857 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
 15858 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
 15859 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
 15860 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
 15861 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
 15862 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
 15863 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
 15864 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
 15865 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
 15866 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
 15867 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
 15868 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020

15869 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
 15870 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
 15871 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
 15872 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
 15873 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
 15874 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
 15875 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
 15876 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
 15877 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
 15878 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
 15879 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
 15880 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
 15881 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
 15882 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
 15883 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
 15884 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
 15885 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
 15886 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
 15887 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 15888 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 15889 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
 15890 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
 15891 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
 15892 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
 15893 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
 15894 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
 15895 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
 15896 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
 15897 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
 15898 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
 15899 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
 15900 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
 15901 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
 15902 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
 15903 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
 15904 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
 15905 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
 15906 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
 15907 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
 15908 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
 15909 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
 15910 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
 15911 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
 15912 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
 15913 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
 15914 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
 15915 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
 15916 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
 15917 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
 15918 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
 15919 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
 15920 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
 15921 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
 15922 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
 15923 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
 15924 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
 15925 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049

15926 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15927 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15928 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15929 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15930 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15931 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15932 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15933 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15934 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15935 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15936 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15937 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15938 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15939 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15940 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15941 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15942 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15943 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15944 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15945 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15946 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15947 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15948 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15949 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15950 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15951 \DeclareTextCommand{\cyrle}{PU}{\84\073}% U+043B
15952 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15953 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15954 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15955 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15956 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15957 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15958 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15959 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15960 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15961 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15962 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15963 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
15964 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15965 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15966 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15967 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
15968 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15969 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15970 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15971 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15972 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15973 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15974 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15975 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15976 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15977 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15978 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15979 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15980 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
lic
15981 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A

15982 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 15983 \DeclareTextCommand{\cyrrery}{PU}{\84\113}% U+044B
 15984 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 15985 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
 15986 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 15987 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
 15988 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 15989 \DeclareTextCommand{\cyrriu}{PU}{\84\116}% U+044E
 15990 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 15991 \DeclareTextCommand{\cyrria}{PU}{\84\117}% U+044F
 15992 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 15993 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
 15994 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 15995 \DeclareTextCommand{\cyrrio}{PU}{\84\121}% U+0451
 15996 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 15997 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 15998 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 15999 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 16000 \DeclareTextCompositeCommand{\'}{PU}{\cyrge}{\84\123}% U+0453
 16001 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16002 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 16003 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16004 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 16005 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
 16006 \DeclareTextCommand{\cyrri}{PU}{\84\126}% U+0456
 16007 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16008 \DeclareTextCommand{\cyrri}{PU}{\84\127}% U+0457
 16009 \DeclareTextCompositeCommand{\"}{PU}{\cyrri}{\84\127}% U+0457
 16010 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16011 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 16012 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16013 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
 16014 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16015 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 16016 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16017 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 16018 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16019 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 16020 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16021 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
 16022 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16023 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 16024 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 16025 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16026 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 16027 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16028 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16029 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
 16030 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 16031 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 16032 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 16033 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 16034 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463
 16035 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 16036 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 16037 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic

16038 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 16039 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 16040 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 16041 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 16042 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 16043 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-
 otifiedcyrillic
 16044 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 16045 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
 fiedcyrillic
 16046 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 16047 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 16048 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 16049 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 16050 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 16051 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
 cyrillic
 16052 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 16053 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
 cyrillic
 16054 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 16055 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 16056 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 16057 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 16058 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 16059 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 16060 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 16061 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 16062 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 16063 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 16064 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 16065 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 16066 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 16067 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 16068 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 16069 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 16070 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 16071 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 16072 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 16073 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 16074 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 16075 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 16076 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 16077 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 16078 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 16079 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 16080 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 16081 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 16082 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 16083 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatit-
 locyrillic
 16084 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 16085 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic

16086 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16087 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16088 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16089 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16090 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16091 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16092 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16093 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16094 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16095 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16096 \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-
 macyrillicmb
 \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
 16097 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16098 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16099 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16100 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16101 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16102 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16103 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16104 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16105 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16106 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16107 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16108 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16109 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 16110 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16111 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 16112 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16113 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 16114 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16115 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16116 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16117 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 16118 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16119 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 16120 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16121 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 16122 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16123 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 16124 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497

16125 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
16126 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
16127 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
16128 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
16129 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
16130 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
16131 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
16132 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
16133 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
16134 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
16135 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
16136 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
16137 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic
16138 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
16139 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
16140 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
16141 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
16142 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
16143 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
16144 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
16145 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
16146 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
16147 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
16148 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
16149 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
16150 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
16151 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
16152 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
16153 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
16154 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
16155 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
16156 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
16157 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
16158 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
16159 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
16160 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
16161 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
16162 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
16163 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
16164 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
16165 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
16166 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
16167 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
16168 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB

16169 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 16170 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16171 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 16172 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD
 16173 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16174 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16175 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16176 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 16177 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 16178 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16179 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 16180 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 16181 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
 16182 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16183 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 16184 \DeclareTextCommand{\cyrhddsc}{PU}{\84\263}% U+04B3
 16185 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16186 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16187 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16188 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16189 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 16190 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16191 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 16192 \DeclareTextCommand{\cyrchrddsc}{PU}{\84\267}% U+04B7
 16193 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chevverticalstrokecyrillic
 16194 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16195 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chevverticalstrokecyrillic
 16196 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16197 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16198 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16199 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16200 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16201 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
 16202 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16203 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 16204 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16205 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 16206 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16207 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16208 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 16209 \DeclareTextCommand{\cyrabhchddsc}{PU}{\84\277}% U+04BF
 16210 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16211 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic

16212 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16213 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
16214 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16215 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
16216 \DeclareTextCompositeCommand{\U}{PU}{\cyrrzh}{\84\302}% U+04C2
16217 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16218 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16219 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16220 \DeclareTextCommand{\cyrrkhk}{PU}{\84\304}% U+04C4
16221 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
16222 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16223 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16224 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6
16225 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16226 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16227 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16228 \DeclareTextCommand{\cyrrnhk}{PU}{\84\310}% U+04C8
16229 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
siancyrillic
16230 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16231 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
16232 \DeclareTextCommand{\cyrrchldsc}{PU}{\84\314}% U+04CC
16233 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16234 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16235 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16236 \DeclareTextCommand{\cyrrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
16237 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
16238 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16239 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
16240 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16241 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
lic
16242 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
16243 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
16244 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
16245 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
16246 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16247 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
16248 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16249 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
16250 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16251 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
16252 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16253 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
16254 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16255 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
16256 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
16257 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrillic
16258 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16259 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrillic
16260 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB
16261 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrillic

16262 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
16263 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic
16264 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
16265 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic
16266 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
16267 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic
16268 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
16269 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
16270 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16271 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-cyrillic
16272 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16273 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
16274 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2
16275 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
16276 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3
16277 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis-cyrillic
16278 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
16279 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis-cyrillic
16280 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
16281 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis-cyrillic
16282 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
16283 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis-cyrillic
16284 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
16285 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
16286 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16287 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
16288 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16289 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresis-cyrillic
16290 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
16291 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresis-cyrillic
16292 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
16293 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16294 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
16295 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16296 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
16297 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16298 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE
16299 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16300 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF
16301 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis-cyrillic
16302 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
16303 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis-cyrillic
16304 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
16305 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
16306 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
16307 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic

16308 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 16309 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
 siscyrillic
 16310 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
 16311 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-
 cyrillic
 16312 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
 16313 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16314 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16315 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 16316 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16317 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 16318 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
 16319 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 16320 \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
 16321 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16322 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16323 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16324 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

50.2.10 Thai: U+0E00 to U+0E7F

16325 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 16326 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

16327 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16328 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 16329 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16330 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 16331 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 16332 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 16333 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 16334 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 16335 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 16336 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 16337 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 16338 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 16339 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 16340 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 16341 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 16342 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 16343 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 16344 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 16345 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 16346 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 16347 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 16348 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E

16349 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16350 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
16351 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16352 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
16353 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16354 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
16355 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16356 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
16357 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16358 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
16359 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16360 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
16361 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
16362 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
16363 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16364 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
16365 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16366 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
16367 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16368 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
16369 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16370 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
16371 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16372 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
16373 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16374 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
16375 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16376 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
16377 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16378 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
16379 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16380 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
16381 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16382 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
16383 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16384 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
16385 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16386 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
16387 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16388 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
16389 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16390 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
16391 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16392 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
16393 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16394 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
16395 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16396 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
16397 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16398 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
16399 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16400 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
16401 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16402 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
16403 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16404 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
16405 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent

16406 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
16407 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16408 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
16409 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16410 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
16411 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16412 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
16413 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16414 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
16415 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16416 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16417 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16418 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
16419 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16420 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16421 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16422 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16423 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16424 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16425 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16426 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16427 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16428 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82
16429 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16430 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83
16431 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16432 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16433 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16434 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16435 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16436 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
16437 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16438 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
16439 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16440 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
16441 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16442 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
16443 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16444 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
16445 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16446 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
16447 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16448 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
16449 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16450 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
16451 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16452 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16453 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16454 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16455 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16456 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16457 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16458 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16459 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16460 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16461 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16462 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97

16463 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 16464 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 16465 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 16466 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 16467 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-
 taccent
 16468 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 16469 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 16470 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 16471 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 16472 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 16473 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 16474 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 16475 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 16476 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 16477 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 16478 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 16479 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 16480 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

50.2.12 General Punctuation: U+2000 to U+206F

16481 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 16482 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 16483 % U+2013 EN DASH; endash
 16484 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 16485 % U+2014 EM DASH; emdash
 16486 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 16487 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 16488 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 16489 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 16490 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 16491 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 16492 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 16493 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 16494 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 16495 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 16496 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 16497 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 16498 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 16499 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 16500 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 16501 % U+2020 DAGGER; dagger
 16502 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 16503 % U+2021 DOUBLE DAGGER; daggerdbl
 16504 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 16505 % U+2022 BULLET; bullet
 16506 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 16507 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 16508 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 16509 % U+2030 PER MILLE SIGN; perthousand
 16510 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 16511 % U+2031 PER TEN THOUSAND SIGN
 16512 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 16513 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 16514 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039

16515 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 inglright
 16516 \DeclareTextCommand{\guilsglright}{PU}{\9040\072}% U+203A
 16517 % U+203B REFERENCE MARK; referencemark
 16518 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 16519 % U+203D INTERROBANG
 16520 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 16521 % U+2044 FRACTION SLASH; fraction
 16522 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 16523 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 16524 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 16525 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 16526 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 16527 % U+2052 COMMERCIAL MINUS SIGN
 16528 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

50.2.13 Superscripts and Subscripts: U+2070 to U+209F

16529 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 16530 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 16531 % U+2074 SUPERSCRIPT FOUR; foursuperior
 16532 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 16533 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 16534 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 16535 % U+2076 SUPERSCRIPT SIX; sixsuperior
 16536 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 16537 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 16538 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 16539 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 16540 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 16541 % U+2079 SUPERSCRIPT NINE; ninesuperior
 16542 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 16543 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 16544 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 16545 % U+207B SUPERSCRIPT MINUS
 16546 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 16547 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 16548 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}
 16549 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 16550 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 16551 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 16552 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 16553 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 16554 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 16555 % U+2080 SUBSCRIPT ZERO; zeroinferior
 16556 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 16557 % U+2081 SUBSCRIPT ONE; oneinferior
 16558 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 16559 % U+2082 SUBSCRIPT TWO; twoinferior
 16560 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 16561 % U+2083 SUBSCRIPT THREE; threeinferior
 16562 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 16563 % U+2084 SUBSCRIPT FOUR; fourinferior
 16564 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 16565 % U+2085 SUBSCRIPT FIVE; fiveinferior
 16566 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 16567 % U+2086 SUBSCRIPT SIX; sixinferior
 16568 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086

16569 % U+2087 SUBSCRIPT SEVEN; seveninferior
 16570 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 16571 % U+2088 SUBSCRIPT EIGHT; eightinferior
 16572 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 16573 % U+2089 SUBSCRIPT NINE; nineinferior
 16574 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 16575 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 16576 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 16577 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 16578 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

50.2.14 Currency Symbols: U+20A0 to U+20CF

16579 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 16580 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 16581 % U+20A4 LIRA SIGN; afi08941, *lira
 16582 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 16583 % U+20A6 NAIRA SIGN
 16584 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 16585 % U+20A7 PESETA SIGN; peseta
 16586 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 16587 % U+20A9 WON SIGN; won
 16588 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 16589 % U+20AB DONG SIGN; dong
 16590 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 16591 % U+20AC EURO SIGN; *Euro, euro
 16592 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 16593 % U+20B1 PESO SIGN
 16594 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 16595 % U+20B2 GUARANI SIGN
 16596 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

50.2.15 Letterlike Symbols: U+2100 to U+214F

16597 % U+2103 DEGREE CELSIUS; centigrade
 16598 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 16599 % U+2116 NUMERO SIGN; *afi61352, numero
 16600 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 16601 % U+2117 SOUND RECORDING COPYRIGHT
 16602 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 16603 % U+211E PRESCRIPTION TAKE; prescription
 16604 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 16605 % U+2120 SERVICE MARK
 16606 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 16607 % U+2122 TRADE MARK SIGN; trademark
 16608 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 16609 % U+2126 OHM SIGN; Ohm, Omega
 16610 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 16611 % U+2127 INVERTED OHM SIGN
 16612 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 16613 % U+212B ANGSTROM SIGN; angstrom
 16614 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 16615 % U+212E ESTIMATED SYMBOL; estimated
 16616 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 16617 % U+2135 ALEF SYMBOL; aleph
 16618 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16619 % U+2190 LEFTWARDS ARROW; arrowleft

16620 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 16621 % U+2191 UPWARDS ARROW; arrowup
 16622 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16623 % U+2192 RIGHTWARDS ARROW; arrowright
 16624 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16625 % U+2193 DOWNWARDS ARROW; arrowdown
 16626 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

50.2.17 Mathematical Operators: U+2200 to U+22FF

16627 % U+2212 MINUS SIGN; minus
 16628 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16629 % U+221A SQUARE ROOT; radical
 16630 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

50.2.18 Miscellaneous Technical: U+2300 to U+23FF

16631 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16632 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16633 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16634 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

50.2.19 Control Pictures: U+2400 to U+243F

16635 % U+2422 BLANK SYMBOL
 16636 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16637 % U+2423 OPEN BOX; blank
 16638 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

16639 % U+2460 CIRCLED DIGIT ONE; onecircle
 16640 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 16641 % U+2461 CIRCLED DIGIT TWO; twocircle
 16642 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 16643 % U+2462 CIRCLED DIGIT THREE; threecircle
 16644 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 16645 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16646 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 16647 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16648 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16649 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16650 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16651 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 16652 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16653 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16654 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16655 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16656 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16657 % U+2469 CIRCLED NUMBER TEN; tencircle
 16658 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16659 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16660 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16661 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16662 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16663 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16664 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16665 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16666 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16667 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16668 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E

16669 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16670 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16671 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16672 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16673 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16674 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16675 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16676 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16677 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16678 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16679 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 16680 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 16681 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 16682 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 16683 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16684 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16685 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16686 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16687 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16688 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16689 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16690 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16691 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16692 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16693 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16694 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16695 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16696 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16697 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16698 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16699 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16700 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16701 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16702 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16703 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16704 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16705 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16706 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16707 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16708 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16709 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16710 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16711 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16712 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16713 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16714 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16715 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16716 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16717 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16718 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16719 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16720 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16721 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16722 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16723 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16724 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16725 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle

16726 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16727 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16728 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16729 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16730 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16731 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16732 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16733 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16734 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16735 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16736 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16737 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16738 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16739 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
16740 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16741 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16742 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16743 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16744 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16745 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16746 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16747 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16748 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16749 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16750 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16751 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16752 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16753 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16754 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16755 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16756 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16757 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16758 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16759 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16760 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
16761 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16762 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16763 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16764 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16765 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16766 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16767 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16768 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16769 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16770 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16771 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16772 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16773 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16774 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16775 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16776 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16777 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16778 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16779 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16780 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16781 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16782 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9

```

16783 % U+24EA CIRCLED DIGIT ZERO
16784 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

50.2.21 Box Drawing: U+2500 to U+257F

```

16785 % U+25E6 WHITE BULLET; *openbullet, whitebullet
16786 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
16787 % U+25EF LARGE CIRCLE; largecircle
16788 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

```

50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

```

16789 % U+266A EIGHTH NOTE; musicalnote
16790 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
16791 % U+26AD MARRIAGE SYMBOL
16792 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
16793 % U+26AE DIVORCE SYMBOL
16794 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

```

16795 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
16796 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
16797 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
16798 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```

16799 % U+FB01 LATIN SMALL LIGATURE FI; fi
16800 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
16801 % U+FB02 LATIN SMALL LIGATURE FL; fl
16802 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

16803 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

16804 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16805 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16806 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16807 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16808 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16809 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16810 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16811 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

16812 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16813 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16814 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16815 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16816 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16817 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

16818 <*puvnenc>

```

16819 \DeclareTextCommand{\abreve}{PU}{\81\003}
16820 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16821 \DeclareTextCommand{\dj}{PU}{\81\021}
16822 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16823 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16824 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16825 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16826 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16827 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16828 \DeclareTextCommand{\DJ}{PU}{\81\020}
16829 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16830 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16831 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16832 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16833 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16834 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16835 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16836 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}
16837 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16838 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16839 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16840 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16841 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}
16842 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16843 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16844 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16845 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16846 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
16847 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16848 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16849 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16850 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16851 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
16852 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16853 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16854 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16855 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16856 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
16857 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16858 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16859 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16860 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16861 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
16862 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16863 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16864 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16865 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16866 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
16867 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16868 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16869 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16870 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16871 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
16872 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16873 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16874 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16875 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}

```

16876 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16877 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16878 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16879 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16880 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16881 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16882 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16883 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16884 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16885 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16886 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16887 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
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16951 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16952 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
16953 </puvnenc>

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50.4 PU encoding, additions for Arabi

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16954 (*puarenc)
16955 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
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16956 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16957 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16958 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16959 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARA-
BIC LETTER ALEF WITH HAMZA BELOW
16960 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16961 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16962 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16963 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16964 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16965 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16966 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16967 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LET-
TER HAH
16968 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LET-
TER KHAH
16969 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16970 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LET-
TER THAL
16971 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16972 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN

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16973 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LET-
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16974 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
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16975 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16976 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16977 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16978 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16979 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16980 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16981 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16982 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16983 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16984 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16985 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16986 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
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16987 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON
16988 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16989 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LET-
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16991 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16992 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16993 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16994 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KAS-
RATAN
16995 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
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16998 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA
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TER TCHEH
17002 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
17003 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
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17004 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
17005 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
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17007 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
17008 (/puarenc)

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51 End of file hycheck.tex

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17009 \<check>
17010 \typeout{}
17011 \begin{document}
17012 \end{document}

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17013 </check>

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