

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@backslashchar\ltx@rightbracechar}%
330     \edef\\{\ltx@backslashchar\ltx@backslashchar}%
331     \let\ \ltx@space
332     \ifcase\pdfmatch{#2}{#1} %
333       \endgroup
334       \expandafter\ltx@secondoftwo
335     \or
336       \endgroup
337       \expandafter\ltx@firstoftwo
338     \else
339       \Hy@Warning{%
340         Internal error: Wrong pattern!\MessageBreak
341         --> #2 <--\MessageBreak
342         Pattern check ignored%
343       }%
344       \endgroup
345       \expandafter\ltx@firstoftwo
346     \fi
347   }%
348   \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{%
349     \begingroup
350     \lccode'0=\{\relax
351     \lowercase{\endgroup
352       \def\ltx@leftbracechar{0}%
353     }%
354     \begingroup
355     \lccode'0=\}\relax
356     \lowercase{\endgroup
357       \def\ltx@rightbracechar{0}%
358     }%
359   }%
360 }

```

4.4 Compatibility with format dumps

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

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

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

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

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

4.5 Switches

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

```

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

```

Defaults for the switches are now set.

```

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

```



```

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

```

5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

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

```

5.1 Macros for recursions

```

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

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

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

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

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

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

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

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

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

6.2.3 Postprocessing

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

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

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

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

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

```

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

```

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

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

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

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

```

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

```

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

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

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

```

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

```

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

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

```

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

```

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

```

754     \let\HyPsd@empty\@empty

```

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

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

```

755     \ifHy@unicode

```

```

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

```

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

With Unicode the spaces are replaced by their octal sequences.

```

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

```

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

```

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

```

Try conversion back to PDFDocEncoding.

```

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

```

```

800 \fi
801 \HyPsd@XeTeXBigCharsfalse

```

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

```

802 \pdfstringdefPostHook#1%
803 \endgroup
804 }

```

`\Hy@pdfstringdef`

```

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

```

6.3 Encodings

6.3.1 XeTeX

```

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

```

```

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

```

6.3.2 Workaround for package linguex

```

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

```


6.3.3 PD1 encoding

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

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

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

6.3.4 PU encoding

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

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

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

6.4 Additional user commands

6.4.1 \texorpdfstring

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

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

6.4.2 Hooks for \pdfstringdef

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

```

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

```

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

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

```

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

```

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

```

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

```

`\HyPsd@DisableCommands`

```

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

```

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

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

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

```

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

```

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

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

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

```

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

```

6.5.2 Babel languages

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

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}

```

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

```

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

```

```

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

Nothing to do for english.

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

```

```

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

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

```

```

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

```

```

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

```

```

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

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

```

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

```

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

```

6.5.3 CJK patch

```

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

```

\HyPsd@CJKhook

```

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

```

6.5.4 CJK bookmarks

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

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

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

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

```

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

```



```

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

```

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

```

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

```

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

```

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

```

```

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

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

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

```

\HyPsd@CJK@Unicode

```

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

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

```

```

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

```

```

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

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

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

```

```

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

```

```

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

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

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

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

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

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

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

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

```

```

1585  #2%
1586 }%

```

6.5.7 Unexpandable spaces

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

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

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

```

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

```

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

```

1590 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

`\HyPsd@XSPACE` 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@cccxliv@undef
2218 \let~\HyPsd@UTFviii@cccxliv@def
2219 \fi
2220 \let\unichar\HyPsd@unichar
2221 }%
2222 }%
2223 \def\HyPsd@UTFviii@cccxliv@undef{\@inpenc@undefined@{utf8}}}%
2224 \edef\HyPsd@UTFviii@cccxliv@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@XeTeXBigChartrue
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{hpdfetex}%
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   \fi

```

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

```

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/|<<.*[/].+>>|%
4799         \[( ?\HyPat@ObjRef/|<<.*[/].+>>)+ ?)]$%
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   \@ifnextchar{\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@activetrue
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@activetrue
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@hiddenttrue{%
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       \Field@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\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{\thefootnote}%
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\@capytype\@undefined
7418     \@latex@error{\noexpand\caption outside float}\@ehd
7419     \expandafter\@gobble
7420   \else
7421     \H@refstepcounter\@capytype
7422     \let\Hy@tempa\@caption
7423     \@ifundefined{float@caption}{%
7424       }{%
7425         \expandafter\ifx\csname @float@c@\@capytype\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.

```

7477 \let\Hy@float@caption\@caption
7478 \@ifpackageloaded{float}{%
7479 \def\Hy@float@caption{%
7480 \ifx\Hy@float@currentHref\@undefined
7481 \hyper@makecurrent{\@captype}%
7482 \global\let\Hy@float@currentHref\@currentHref

```

```

7483 \else
7484 \let\@currentHref\Hy@float@currentHref
7485 \fi
7486 \float@caption
7487 }%
7488 \let\HyOrg@float@makebox\float@makebox
7489 \renewcommand{\float@makebox}[1]{%
7490 \HyOrg@float@makebox{%
7491 #1\relax
7492 \ifx\Hy@float@currentHref\@undefined
7493 \else
7494 \expandafter\hyper@@anchor\expandafter{%
7495 \Hy@float@currentHref
7496 }{\relax}%
7497 \global\let\Hy@float@currentHref\@undefined
7498 \fi
7499 }%
7500 }%
7501 }{}

7502 \</package>
7503 \< *check>
7504 \checklatex[1999/06/01 - 2000/06/01]
7505 \checkcommand\def\caption{%
7506 \ifx\@capttype\@undefined
7507 \@latex@error{\noexpand\caption outside float}\@ehd
7508 \expandafter\@gobble
7509 \else
7510 \refstepcounter\@capttype
7511 \expandafter\@firstofone
7512 \fi
7513 {\@dblarg{\@caption\@capttype}}}%
7514 }
7515 \checkcommand\long\def\@caption#1[#2]#3{%
7516 \par
7517 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7518 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7519 }%
7520 \begingroup
7521 \@parboxrestore
7522 \if@minipage
7523 \@setminipage
7524 \fi
7525 \normalsize
7526 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7527 \endgroup
7528 }
7529 \</check>
7530 \< *package>

```

37 Bibliographic references

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

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

```

7531 \def\hyper@natlinkstart#1{%
7532   \Hy@backout{#1}%
7533   \hyper@linkstart{cite}{cite.#1}%
7534   \def\hyper@nat@current{#1}%
7535 }
7536 \def\hyper@natlinkend{%
7537   \hyper@linkend
7538 }
7539 \def\hyper@natlinkbreak#1#2{%
7540   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7541 }
7542 \def\hyper@natanchorstart#1{%
7543   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7544 }
7545 \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.

```

7546 \ltx@ifundefined{NAT@parse}{%
7547   \providecommand*\@extra@binfo{}%
7548   \providecommand*\@extra@b@citeb{}%
7549   \def\bibcite#1#2{%
7550     \@newl@bel{b}{#1\@extra@binfo}{%
7551       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7552     }%
7553   }%
7554   \gdef\@extra@binfo{}%

```

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

```

7555 \let\Hy@bibcite\bibcite
7556 \begingroup
7557   \@ifundefined{bbl@cite@choice}{}{%
7558     \g@addto@macro\bbl@cite@choice{%
7559       \let\bibcite\Hy@bibcite
7560     }%
7561   }%
7562 \endgroup

```

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

```

7563 \providecommand*\@BIBLABEL{\@biblabel}%
7564 \def\@bibitem[#1]#2{%
7565   \@skiphyperrreftrue
7566   \H@item[%
7567     \ifx\Hy@raisedlink\@empty
7568       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7569       \@BIBLABEL{#1}%
7570     \hyper@anchorend
7571   \else
7572     \Hy@raisedlink{%
7573       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7574     }%
7575     \@BIBLABEL{#1}%

```

```

7576 \fi
7577 \hfill
7578 ]%
7579 \@skiphyperreffalse
7580 \if@filesw
7581 \begingroup
7582 \let\protect\noexpand
7583 \immediate\write\@auxout{%
7584 \string\bibcite{#2}{#1}%
7585 }%
7586 \endgroup
7587 \fi
7588 \ignorespaces
7589 }%

```

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

```

7590 \def\@bibitem#1{%
7591 \if@skiphyperrefftrue\H@item\@skiphyperrefffalse
7592 \Hy@raisedlink{%
7593 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7594 }%
7595 \if@filesw
7596 \begingroup
7597 \let\protect\noexpand
7598 \immediate\write\@auxout{%
7599 \string\bibcite{#1}{\the\value{\@listctr}}}%
7600 }%
7601 \endgroup
7602 \fi
7603 \ignorespaces
7604 }%
7605 }{}

7606 \</package>
7607 \< *check>
7608 \checklatex
7609 \checkcommand\def\@lbibitem[#1]#2{%
7610 \item[\@biblabel{#1}]{\hfill}%
7611 \if@filesw
7612 {%
7613 \let\protect\noexpand
7614 \immediate\write\@auxout{%
7615 \string\bibcite{#2}{#1}%
7616 }%
7617 }%
7618 \fi
7619 \ignorespaces
7620 }
7621 \checkcommand\def\@bibitem#1{%
7622 \item
7623 \if@filesw
7624 \immediate\write\@auxout{%
7625 \string\bibcite{#1}{\the\value{\@listctr}}}%
7626 }%
7627 \fi
7628 \ignorespaces
7629 }

```

```

7630 \</check>
7631 \<*/package>

```

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

```

7632 \ifclassloaded{revtex}{%
7633   \Hy@Info{*** compatibility with revtex **** }%
7634   \def\revtex@checking#1#2{%
7635     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7636     \expandafter\def\csname b@#1\endcsname{#2}%
7637     \@SetMaxRnhefLabel{#1}%
7638     \expandafter\let\csname b@#1\endcsname\T@temp
7639   }%

```

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

```

7640 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
7641 \providecommand*{\@extra@b@citeb}{}%
7642 \def\CITEX[#1]#2{%
7643   \let\@citea\@empty
7644   \leavevmode
7645   \unskip
7646   $~{%
7647     \scriptstyle
7648     \@CITE{%
7649       \@for\@citeb:=#2\do{%
7650         \@citea
7651         \def\@citea{,\penalty\@m\ }%
7652         \edef\@citeb{\expandafter\@firstofone\@citeb}%
7653         \if@filesw
7654           \immediate\write\@auxout{\string\citation{\@citeb}}%
7655         \fi
7656         \ifundefined{b@\@citeb\extra@b@citeb}{%
7657           \mbox{\reset@font\bfseries ?}%
7658           \G@refundefinedtrue
7659           \@latex@warning{%
7660             Citation ‘\@citeb’ on page \thepage \space undefined%
7661           }%
7662         }{%
7663           {\csname b@\@citeb\extra@b@citeb\endcsname}%
7664         }%
7665       }%
7666     }{#1}%
7667   }$%
7668 }%

```

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

```

7669 \def\@citex[#1]#2{%
7670   \let\@citea\@empty
7671   \@cite{%
7672     \@for\@citeb:=#2\do{%
7673       \@citea
7674       \def\@citea{,\penalty\@m\ }%
7675       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7676       \if@filesw
7677         \immediate\write\@auxout{\string\citation{\@citeb}}%

```

```

7678 \fi
7679 \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7680 \mbox{\reset@font\bfseries ?}%
7681 \G@refundefinedtrue
7682 \@latex@warning{%
7683 Citation ‘\@citeb’ on page \thepage \space undefined%
7684 }%
7685 }{%
7686 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7687 }%
7688 }%
7689 }{#1}%
7690 }%
7691 }{}

```

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.

```

7692 \@ifpackageloaded{harvard}{%
7693 \Hy@AtBeginDocument{%
7694 \Hy@Info{*** compatibility with harvard **** }%
7695 \Hy@raiselinksfalse
7696 \def\harvardcite#1#2#3#4{%
7697 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
7698 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
7699 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
7700 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7701 }%
7702 \def\HAR@citetoaux#1{%
7703 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7704 \ifHy@backref
7705 \ifx\@empty\@currentlabel
7706 \else
7707 \@bsphack
7708 \if@filesw
7709 \protected@write\@auxout{}{%
7710 \string\@writefile{brf}{%
7711 \string\backcite{#1}{%
7712 {\thepage}{\@currentlabel}{\@currentHref}%
7713 }%
7714 }%
7715 }%
7716 \fi
7717 \@esphack
7718 \fi
7719 }%
7720 \def\harvarditem{%
7721 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7722 }%
7723 }%

```



```

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

```

\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:

```

7746 \long\def\HAR@checkcitations#1#2#3#4{%
7747 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7748 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7749 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7750 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7751 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7752 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7753 \else
7754 \@tempwattrue
7755 \fi
7756 \else
7757 \@tempwattrue
7758 \fi
7759 \else
7760 \@tempwattrue
7761 \fi
7762 }%
7763 }%
7764 }{}

```

37.2 Package chicago

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

```

7765 \@ifpackageloaded{chicago}{%

```

\citeN

```

7766 \def\citeN{%
7767 \def\@citesep{-1000}%
7768 \def\@cite##1##2{##1}%
7769 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%

```

```

7770 \citedata@opt
7771 }%

\shortciteN
7772 \def\shortciteN{%
7773 \def\cite#1#2{#1}%
7774 \def\cite#1#2{#1}%
7775 \def\citeauthoryear#1#2#3{#2 (#3\cite@opt)}%
7776 \citedata@opt
7777 }%

\citedata@opt
7778 \def\citedata@opt{%
7779 \let\cite@opt\empty
7780 \ifnextchar [{%
7781 \@tempswatrue
7782 \citedatax@opt
7783 }{%
7784 \@tempswafalse
7785 \citedatax[]%
7786 }%
7787 }%

\citedatax@opt
7788 \def\citedatax@opt[#1]{%
7789 \def\cite@opt{, #1}%
7790 \citedatax[{#1}]%
7791 }%

7792 }{}

```

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.

```

7793 \ltx@ifclassloaded{slides}{%
7794 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7795 \def\Hy@PageAnchorSlidesPlain{%
7796 \advance\c@page\ltx@one
7797 \edef\Hy@TempPageAnchor{%
7798 \noexpand\hyper@@anchor{%
7799 page.\the\c@slide.\the\c@overlay.\the\c@note%
7800 \ifnum\c@page=\ltx@one
7801 \else
7802 .\the\c@page
7803 \fi
7804 }%
7805 }%
7806 \advance\c@page-\ltx@one
7807 }%
7808 \def\Hy@PageAnchorSlide{%
7809 \advance\c@page\ltx@one

```

```

7810 \ifnum\c@page>\ltx@one
7811 \ltx@ifundefined{theHpage}{%
7812 \protected@edef\Hy@TheSlideOptionalPage{%
7813 \Hy@SlidesFormatOptionalPage{\thepage}%
7814 }%
7815 }{%
7816 \protected@edef\Hy@TheSlideOptionalPage{%
7817 \Hy@SlidesFormatOptionalPage{\theHpage}%
7818 }%
7819 }%
7820 \else
7821 \def\Hy@TheSlideOptionalPage{}%
7822 \fi
7823 \advance\c@page-\ltx@one
7824 \pdfstringdef\@the@H@page{%
7825 \csname
7826 the%
7827 \ltx@ifundefined{theH\Hy@SlidesPage}{\H}%
7828 \Hy@SlidesPage
7829 \endcsname
7830 \Hy@TheSlideOptionalPage
7831 }%
7832 \ltx@gobblethree
7833 }%
7834 \def\Hy@SlidesPage{slide}%
7835 \g@addto@macro\slide{%
7836 \def\Hy@SlidesPage{slide}%
7837 }%
7838 \g@addto@macro\overlay{%
7839 \def\Hy@SlidesPage{overlay}%
7840 }%
7841 \g@addto@macro\note{%
7842 \def\Hy@SlidesPage{note}%
7843 }%
7844 }{%
7845 \def\Hy@PageAnchorSlidesPlain{}%
7846 \def\Hy@PageAnchorSlide{}%
7847 }
7848 \def\Hy@EveryPageAnchor{%
7849 \Hy@DistillerDestFix
7850 \ifHy@pageanchor
7851 \ifHy@hypertextnames
7852 \ifHy@plainpages
7853 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7854 \Hy@PageAnchorSlidesPlain
7855 \else
7856 \begingroup
7857 \let\@number\@firstofone
7858 \Hy@unicodefalse
7859 \Hy@PageAnchorSlide
7860 \pdfstringdef\@the@H@page{\thepage}%
7861 \endgroup
7862 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7863 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7864 \fi
7865 \else
7866 \Hy@GlobalStepCount\Hy@pagecounter

```

```

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

```

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.

```

7893 \def\addcontentsline#1#2#3{% toc extension, type, tag
7894 \begingroup
7895 \let\label\@gobble
7896 \ifx\@currentHref\@empty
7897 \Hy@Warning{%
7898 No destination for bookmark of \string\addcontentsline,%
7899 \MessageBreak destination is added%
7900 }%
7901 \phantomsection
7902 \fi
7903 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7904 \begingroup
7905 \def\Hy@tempa{#1}%
7906 \ifx\Hy@tempa\Hy@bookmarkstype
7907 \Hy@WarningNoLine{%
7908 bookmark level for unknown #2 defaults to 0%
7909 }%
7910 \else
7911 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7912 \fi
7913 \endgroup
7914 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7915 \fi
7916 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%

```

```

7917 \Hy@writebookmark{\csname the#2\endcsname}%
7918 {#3}%
7919 {\@currentHref}%
7920 {\Hy@toclevel}%
7921 {#1}%
7922 \ifHy@verbose
7923 \begingroup
7924 \def\Hy@tempa{#3}%
7925 \@onelevel@sanitize\Hy@tempa
7926 \let\temp@online\on@line
7927 \let\on@line\@empty
7928 \Hy@Info{%
7929 bookmark\temp@online:\MessageBreak
7930 thecounter {\csname the#2\endcsname}\MessageBreak
7931 text {\Hy@tempa}\MessageBreak
7932 reference {\@currentHref}\MessageBreak
7933 toclevel {\Hy@toclevel}\MessageBreak
7934 type {#1}%
7935 }%
7936 \endgroup
7937 \fi
7938 \addtocontents{#1}{%
7939 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7940 }%
7941 \endgroup
7942 }
7943 \def\contentsline#1#2#3#4{%
7944 \ifx\#4\%
7945 \csname l@#1\endcsname{#2}{#3}%
7946 \else
7947 \ifcase\Hy@linktoc % none
7948 \csname l@#1\endcsname{#2}{#3}%
7949 \or % section
7950 \csname l@#1\endcsname{%
7951 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7952 }{#3}%
7953 \or % page
7954 \csname l@#1\endcsname{#2}{#3}%
7955 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7956 }%
7957 \else % all
7958 \csname l@#1\endcsname{%
7959 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7960 }{#3}%
7961 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7962 }%
7963 \fi
7964 \fi
7965 }
7966 \</package>
7967 \<*check>
7968 \checklatex
7969 \checkcommand\def\addcontentsline#1#2#3{%
7970 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7971 }
7972 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7973 \</check>

```

```
7974 \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.

```
7975 \let\H@definecounter\@definecounter
7976 \def\@definecounter#1{%
7977   \H@definecounter{#1}%
7978   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7979 }
```

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.

```
7980 \let\H@newctr\@newctr
7981 \def\@newctr#1[#2]{%
7982   \H@newctr#1[{#2}]%
7983   \expandafter\def\csname theH#1\endcsname{%
7984     \csname the\ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7985   }%
7986 }
```

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.

```
7987 \@ifpackageloaded{amsmath}{%
7988   \def\Hy@make@anchor{%
7989     \Hy@MakeCurrentHrefAuto{AMS}%
7990     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7991   }%
7992   \def\Hy@make@df@tag@@#1{%
7993     \gdef\df@tag{%
7994       \maketag@@@{\Hy@make@anchor#1}%
7995       \def\@currentlabel{#1}%
7996     }%
7997   }%
7998   \def\Hy@make@df@tag@@@#1{%
7999     \gdef\df@tag{%
8000       \tagform@{\Hy@make@anchor#1}%
8001       \toks@{\xp{p@equation{#1}}}%
8002       \edef\@currentlabel{the\toks@}%
8003     }%
8004   }%
8005   \let\HyOrg@make@df@tag@@\make@df@tag@@
8006   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8007   \let\make@df@tag@@\Hy@make@df@tag@@
8008   \let\make@df@tag@@@\Hy@make@df@tag@@@
8009 }
```

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

```

8010 \ifpackagewith{hyperref}{pdftex}{%
8011   \let\H@seteqlabel\@seteqlabel
8012   \def\@seteqlabel#1{%
8013     \H@seteqlabel{#1}%
8014     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8015     \Hy@raisedlink{%
8016       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8017     }%
8018   }%
8019 }{}
```

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.

```

8020 \let\HyOrg@addtoreset\@addtoreset
8021 \def\@addtoreset#1#2{%
8022   \HyOrg@addtoreset{#1}{#2}%
8023   \expandafter\xdef\csname theH#1\endcsname{%
8024     \expandafter\noexpand
8025     \csname the\@ifundefined{theH#2}{}H#2\endcsname
8026     .\noexpand\the\noexpand\value{#1}%
8027   }%
8028 }
```

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

```

8029 \</package>
8030 \<{*check>
8031 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8032 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8033   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8034     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8035       \@addtoreset{#2}{#3}%
8036       \@xp\xdef\csname the#2\endcsname{%
8037         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8038       }%
8039     }%
8040   }%
8041 }%
8042 \</check>
8043 \<{*package>
8044 \@ifpackageloaded{amsmath}{%
```

```

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

```

42 Included figures

Simply intercept the low level graphics package macro.

```

8069 \ifHy@hyperfigures
8070 \let\Hy@Gin@setfile\Gin@setfile
8071 \def\Gin@setfile#1#2#3{%
8072 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8073 }%
8074 \fi
8075 \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.

```

8076 \ifHy@hyperindex
8077 \def\HyInd@ParenLeft{({}%
8078 \def\HyInd@ParenRight{)}}%
8079 \def\hyperindexformat#1#2{%
8080 \let\HyOrg@hyperpage\hyperpage
8081 \let\hyperpage\@firstofone
8082 #1{\HyOrg@hyperpage{#2}}%

```



```

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

```

```

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

```
8175 \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.

```

8176 \def\hyperpage#1{%
8177 \HyInd@hyperpage#1\nohyperpage{}\@nil
8178 }
8179 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8180 \HyInd@@hyperpage{#1}%
8181 #2%
8182 \def\Hy@temp{#3}%
8183 \ifx\Hy@temp\@empty
8184 \else
8185 \ltx@ReturnAfterFi{%
8186 \HyInd@hyperpage#3\@nil
8187 }%
8188 \fi
8189 }
8190 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}

```

```

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

```

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

```

8206 \def\HyInd@pagelink#1{%
8207   \begingroup
8208     \toks@={}%
8209     \HyInd@removespaces#1 \@nil
8210   \endgroup
8211 }
8212 \def\HyInd@removespaces#1 #2\@nil{%
8213   \toks@=\expandafter{\the\toks@#1}%
8214   \ifx\#2\%
8215     \edef\x{\the\toks@}%
8216     \ifx\x\@empty
8217     \else
8218       \hyperlink{page.\the\toks@}{\the\toks@}%
8219     \fi
8220   \else
8221     \ltx@ReturnAfterFi{%
8222       \HyInd@removespaces#2\@nil
8223     }%
8224   \fi
8225 }

```

44 Compatibility with foiltex

```

8226 \@ifclassloaded{foils}{%
8227   \providecommand*\ext@table{lot}%
8228   \providecommand*\ext@figure{lof}%
8229 }{}

```

45 Compatibility with seminar slide package

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

```

8230 \@ifclassloaded{seminar}{%
8231   \Hy@seminarslidestrue
8232   \providecommand\theHslide{\arabic{slide}}%
8233 }{%
8234   \Hy@seminarslidesfalse
8235 }

```

```

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

```

```

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

```

```

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

```

```

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

```

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.)

```

8420 \ifHy@texht
8421   \expandafter\endinput
8422 \fi
8423 \let\real@setref\@setref
8424 \def\@setref#1#2#3{% csname, extract group, refname
8425   \ifx#1\relax
8426     \protect\G@refundefinedtrue
8427     \nfss@text{\reset@font\bfseries ??}%
8428     \@latex@warning{%
8429       Reference ‘#3’ on page \thepage \space undefined%
8430     }%
8431   \else
8432     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8433   \fi
8434 }

```

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

```

8435 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8436   \begingroup
8437   \toks0={\hyper@link{#5}{#4}}%
8438   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8439   \edef\x{\endgroup
8440     \the\toks0 {\the\toks1 }%
8441   }%
8442   \x
8443 }
8444 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8445   \ifx#1\relax
8446     \protect\G@refundefinedtrue
8447     \nfss@text{\reset@font\bfseries ??}%
8448     \@latex@warning{%
8449       Reference ‘#3’ on page \thepage \space undefined%
8450     }%
8451   \else
8452     \protect\hyper@@link
8453     {\expandafter\@fifthoffive#1}%
8454     {page.\expandafter\@secondoffive#1}%
8455     {\expandafter\@secondoffive#1}%
8456   \fi
8457 }

```

```

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

```

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

```

8474 \def\HyRef@StarSetRef#1{%
8475   \begingroup
8476   \Hy@safe@activestru
8477   \edef\x{#1}%
8478   \@onelevel@sanitize\x
8479   \edef\x{\endgroup
8480     \noexpand\HyRef@@StarSetRef
8481     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8482   }%
8483   \x
8484 }
8485 \def\HyRef@@StarSetRef#1#2#3{%
8486   \ifx#1\@undefined
8487     \let#1\relax
8488   \fi
8489   \real@setref#1#3{#2}%
8490 }
8491 \def\@refstar#1{%
8492   \HyRef@StarSetRef{#1}\@firstoffive
8493 }
8494 \def\@pagerefstar#1{%
8495   \HyRef@StarSetRef{#1}\@secondoffive
8496 }
8497 \def\@namerefstar#1{%
8498   \HyRef@StarSetRef{#1}\@thirdoffive
8499 }
8500 \Hy@AtBeginDocument{%
8501   \@ifpackageloaded{varioref}{%
8502     \def\@Refstar#1{%
8503       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8504     }%
8505     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8506       \MakeUppercase#1%
8507     }%
8508     \DeclareRobustCommand*\Ref{%
8509       \@ifstar\@Refstar\HyRef@Ref
8510     }%
8511     \def\HyRef@Ref#1{%
8512       \hyperref[#{1}]{\Ref*{#1}}%

```



```

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

```

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

```

8553 \DeclareRobustCommand*{\autoref}{%
8554   \leavevmode
8555   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
8556 }
8557 \def\HyRef@autoref#1#2{%
8558   \begingroup
8559     \Hy@safe@activetrue
8560     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8561   \endgroup
8562 }
8563 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8564   \HyRef@ShowKeysRef{#2}%
8565   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8566     \edef\HyRef@thisref{%
8567       \expandafter\@fourthoffive#1\@empty\@empty\@empty

```

```

8568 }%
8569 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8570 \Hy@safe@activesfalse
8571 #3{%
8572 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8573 }{%
8574 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8575 }{%
8576 \HyRef@currentHtag
8577 \expandafter\@firstoffive#1\@empty\@empty\@empty
8578 \null
8579 }%
8580 \else
8581 \protect\G@refundefinedtrue
8582 \nfss@text{\reset@font\bfseries ??}%
8583 \@latex@warning{%
8584 Reference ‘#2’ on page \thepage\space undefined%
8585 }%
8586 \fi
8587 }
8588 \def\HyRef@testreftype#1.#2\{\%
8589 \ltx@ifundefined{#1autorefname}\{%
8590 \ltx@ifundefined{#1name}\{%
8591 \HyRef@StripStar#1\*\@nil{#1}%
8592 \ltx@ifundefined{\HyRef@name autorefname}\{%
8593 \ltx@ifundefined{\HyRef@name name}\{%
8594 \def\HyRef@currentHtag{%
8595 \Hy@Warning{No autoref name for ‘#1’}%
8596 }{%
8597 \edef\HyRef@currentHtag{%
8598 \expandafter\noexpand\csname\HyRef@name name\endcsname
8599 \noexpand~%
8600 }%
8601 }%
8602 }{%
8603 \edef\HyRef@currentHtag{%
8604 \expandafter\noexpand
8605 \csname\HyRef@name autorefname\endcsname
8606 \noexpand~%
8607 }%
8608 }%
8609 }{%
8610 \edef\HyRef@currentHtag{%
8611 \expandafter\noexpand\csname#1name\endcsname
8612 \noexpand~%
8613 }%
8614 }%
8615 }{%
8616 \edef\HyRef@currentHtag{%
8617 \expandafter\noexpand\csname#1autorefname\endcsname
8618 \noexpand~%
8619 }%
8620 }%
8621 }
8622 \def\HyRef@StripStar#1*\@nil#3{%
8623 \def\HyRef@name{#2}%
8624 \ifx\HyRef@name\HyRef@CaseStar

```

```

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

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8632 \let\HyRef@ShowKeysRef@gobble
8633 \def\HyRef@ShowKeysInit{%
8634 \begingroup\expandafter\expandafter\expandafter\endgroup
8635 \expandafter\ifx\csname SK@@label\endcsname\relax
8636 \else
8637 \ifx\SK@ref\@empty
8638 \else
8639 \def\HyRef@ShowKeysRef{%
8640 \SK@\SK@\@ref
8641 }%
8642 \fi
8643 \fi
8644 }
8645 \@ifpackageloaded{showkeys}{%
8646 \HyRef@ShowKeysInit
8647 }{%
8648 \Hy@AtBeginDocument{%
8649 \@ifpackageloaded{showkeys}{%
8650 \HyRef@ShowKeysInit
8651 }{%
8652 }%
8653 }

```

Defaults for the names that \autoref uses.

```

8654 \providecommand*\AMSautorefname{\equationautorefname}
8655 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8656 \providecommand*\Itemautorefname{\itemautorefname}
8657 \providecommand*\itemautorefname{item}
8658 \providecommand*\equationautorefname{Equation}
8659 \providecommand*\footnoteautorefname{footnote}
8660 \providecommand*\itemautorefname{item}
8661 \providecommand*\figureautorefname{Figure}
8662 \providecommand*\tableautorefname{Table}
8663 \providecommand*\partautorefname{Part}
8664 \providecommand*\appendixautorefname{Appendix}
8665 \providecommand*\chapterautorefname{chapter}
8666 \providecommand*\sectionautorefname{section}
8667 \providecommand*\subsectionautorefname{subsection}
8668 \providecommand*\subsubsectionautorefname{subsubsection}
8669 \providecommand*\paragraphautorefname{paragraph}
8670 \providecommand*\subparagraphautorefname{subparagraph}
8671 \providecommand*\FancyVerbLineautorefname{line}
8672 \providecommand*\theoremautorefname{Theorem}
8673 \providecommand*\pageautorefname{page}
8674 \end{package}

```

46 Configuration files

46.1 PS/PDF strings

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

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

```
8675 \*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8676 \begingroup\expandafter\expandafter\expandafter\endgroup
8677 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8678 \begingroup
8679 \catcode'\|=0 %
8680 \@makeother\|%
8681 |@firstofone{|endgroup
8682 |def|Hy@pstringdef#1#2{%
8683 |begingroup
8684 |edef~{|string~}%
8685 |xdef|Hy@gtemp{#2}%
8686 |endgroup
8687 |let#1|Hy@gtemp
8688 |@onelevel@sanitize#1%
8689 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
8690 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8691 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8692 }%
8693 |def|Hy@ExchangeBackslash#1|#2|@nil{%
8694 #1%
8695 |ifx|\#2|\%
8696 |else
8697 \\\%
8698 |ltx@ReturnAfterFi{%
8699 |Hy@ExchangeBackslash#2|@nil
8700 }%
8701 |fi
8702 }%
8703 }%
8704 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8705 #1%
8706 \ifx\#2\%
8707 \else
8708 \@backslashchar(%
8709 \ltx@ReturnAfterFi{%
8710 \Hy@ExchangeLeftParenthesis#2\@nil
8711 }%
8712 \fi
8713 }%
8714 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8715 #1%
8716 \ifx\#2\%
8717 \else
8718 \@backslashchar)%
8719 \ltx@ReturnAfterFi{%
8720 \Hy@ExchangeRightParenthesis#2\@nil
```

```

8721 }%
8722 \fi
8723 }%
8724 \else
8725 \def\Hy@pstringdef#1#2{%
8726 \begingroup
8727 \edef~{\string~}%
8728 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8729 \endgroup
8730 \let#1\Hy@gtemp
8731 }%
8732 \fi
8733 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8734 <*pdfTeX>
8735 \providecommand*\XR@ext}{pdf}
8736 \Hy@setbreaklinks{true}
8737 \def\HyPat@ObjRef{%
8738 [0-9]*[1-9][0-9]* 0 R%
8739 }

```

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

```

8740 \let\Hy@pdfminorversion\relax
8741 \begingroup\expandafter\expandafter\expandafter\endgroup
8742 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8743 \begingroup\expandafter\expandafter\expandafter\endgroup
8744 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8745 \else
8746 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8747 \fi
8748 \else
8749 \def\Hy@pdfminorversion{\pdfminorversion}%
8750 \fi
8751 \@ifundefined{Hy@pdfminorversion}{%
8752 \PackageInfo{hyperref}{%
8753 PDF version is not set, because pdfTeX is too old (<1.10a)%
8754 }%
8755 }{%
8756 \ifHy@ocgcolorlinks
8757 \ifnum\Hy@pdfminorversion<5 %
8758 \kvsetkeys{Hyp}{pdfversion=1.5}%
8759 \fi
8760 \fi
8761 \ifHy@setpdfversion
8762 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8763 \else
8764 \Hy@pdfminorversion=\Hy@pdfversion\relax
8765 \fi
8766 \PackageInfo{hyperref}{%

```

```

8767 \expandafter\string\Hy@pdfminorversion
8768 :=\number\Hy@pdfversion\space
8769 }%
8770 \fi
8771 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8772 }
8773 \Hy@DisableOption{pdfversion}%

8774 \ifHy@ocgcolorlinks
8775 \pdf@ifdraftmode{ }{%
8776 \immediate\pdfobj{%
8777 <<%
8778 /Type/OCG%
8779 /Name(View)%
8780 /Usage<<%
8781 /Print<<%
8782 /PrintState/OFF%
8783 >>%
8784 /View<<%
8785 /ViewState/ON%
8786 >>%
8787 >>%
8788 >>%
8789 }%
8790 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8791 \immediate\pdfobj{%
8792 <<%
8793 /Type/OCG%
8794 /Name(Print)%
8795 /Usage<<%
8796 /Print<<%
8797 /PrintState/ON%
8798 >>%
8799 /View<<%
8800 /ViewState/OFF%
8801 >>%
8802 >>%
8803 >>%
8804 }%
8805 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8806 \immediate\pdfobj{%
8807 [%
8808 \OBJ@OCG@view\space\OBJ@OCG@print
8809 ]%
8810 }%
8811 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8812 \pdfcatalog{%
8813 /OCProperties<<%
8814 /OCGs \OBJ@OCGs
8815 /D<<%
8816 /OFF[\OBJ@OCG@print]%
8817 /AS[%
8818 <<%
8819 /Event/View%
8820 /OCGs \OBJ@OCGs
8821 /Category[/View]%
8822 >>%
8823 <<%

```

```

8824         /Event/Print%
8825         /OCGs \OBJ@OCGs
8826         /Category[/Print]%
8827     >>%
8828     <<%
8829         /Event/Export%
8830         /OCGs \OBJ@OCGs
8831         /Category[/Print]%
8832     >>%
8833     ]%
8834     >>%
8835     >>%
8836     }%
8837     \begingroup
8838     \edef\x{\endgroup
8839     \pdfpageresources{%
8840         /Properties<<%
8841         /OCView \OBJ@OCG@view
8842         /OCPrint \OBJ@OCG@print
8843     >>%
8844     }%
8845     }%
8846     \x
8847     }%
8848     \Hy@AtBeginDocument{%
8849     \def\Hy@colorlink#1{%
8850     \begingroup
8851     \ifHy@ocgcolorlinks
8852     \def\Hy@ocgcolor{#1}%
8853     \setbox0=\hbox\bgroup\color@begingroup
8854     \else
8855     \HyColor@UseColor#1%
8856     \fi
8857     }%
8858     \def\Hy@endcolorlink{%
8859     \ifHy@ocgcolorlinks
8860     \color@endgroup\egroup
8861     \mbox{%
8862     \pdfliteral page{/OC/OCPrint BDC}%
8863     \rlap{\copy0}%
8864     \pdfliteral page{EMC/OC/OCView BDC}%
8865     \begingroup
8866     \expandafter\HyColor@UseColor\Hy@ocgcolor
8867     \box0 %
8868     \endgroup
8869     \pdfliteral page{EMC}%
8870     }%
8871     \fi
8872     \endgroup
8873     }%
8874     }%
8875     \else
8876     \Hy@DisableOption{ocgcolorlinks}%
8877     \fi

```

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

```

8878 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8879 \ifx\pdfstartlink\@undefined% less than version 14

```

```

8880 \let\pdfstartlink\pdfannotlink
8881 \let\pdfinkmargin\@tempdima
8882 \let\pdfxform\pdfform
8883 \let\pdfastxform\pdfastform
8884 \let\pdfrefxform\pdfrefform
8885 \else
8886 \pdfinkmargin1pt %
8887 \fi

```

First set up the default linking

```
8888 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8889 \Hy@WrapperDef\new@pdfink#1{%
8890 \ifhmode
8891 \@savsf\spacefactor
8892 \fi
8893 \Hy@SaveLastskip
8894 \Hy@VerboseAnchor{#1}%
8895 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8896 \Hy@DestName\Hy@pstringDest\@pdfview
8897 \Hy@RestoreLastskip
8898 \ifhmode
8899 \spacefactor\@savsf
8900 \fi
8901 }
8902 \let\pdf@endanchor\@empty

```

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

```

8903 \def\Hy@DestName#1#2{%
8904 \pdfdest name{#1}#2\relax
8905 }

```

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.

```

8906 \providecommand*\@pdfborder{0 0 1}
8907 \providecommand*\@pdfborderstyle{}
8908 \def\Hy@undefinedname{UNDEFINED}
8909 \def\find@pdfink#1#2{%
8910 \leavevmode
8911 \protected@edef\Hy@testname{#2}%
8912 \ifx\Hy@testname\@empty
8913 \Hy@Warning{%
8914 Empty destination name,\MessageBreak
8915 using ‘\Hy@undefinedname’%
8916 }%
8917 \let\Hy@testname\Hy@undefinedname
8918 \else
8919 \Hy@pstringdef\Hy@testname{%
8920 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8921 }%
8922 \fi
8923 \Hy@StartlinkName{%
8924 \ifHy@pdfa /F 4\fi
8925 \Hy@setpdfborder

```



```

8926 \ifx\@pdfhighlight\@empty
8927 \else
8928 /H\@pdfhighlight
8929 \fi
8930 \ifx\CurrentBorderColor\relax
8931 \else
8932 /C[\CurrentBorderColor]%
8933 \fi
8934 }\Hy@testname
8935 \expandafter\Hy@colorlink\csname @#1color\endcsname
8936 }
8937 \def\Hy@StartlinkName#1#2{%
8938 \pdfstartlink attr{#1}goto name{#2}\relax
8939 }
8940 \def\close@pdfink{%
8941 \Hy@endcolorlink
8942 \Hy@VerboseLinkStop
8943 \pdfendlink
8944 }
8945 \def\hyper@anchor#1{%
8946 \new@pdfink{#1}\anchor@spot\pdf@endanchor
8947 }
8948 \def\hyper@anchorstart#1{%
8949 \new@pdfink{#1}%
8950 \Hy@activeanchortrue
8951 }
8952 \def\hyper@anchorend{%
8953 \pdf@endanchor
8954 \Hy@activeanchorfalse
8955 }
8956 \def\hyper@linkstart#1#2{%
8957 \Hy@VerboseLinkStart{#1}{#2}%
8958 \ltx@ifundefined{@#1bordercolor}{%
8959 \let\CurrentBorderColor\relax
8960 }{%
8961 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8962 }%
8963 \find@pdfink{#1}{#2}%
8964 }
8965 \def\hyper@linkend{\close@pdfink}
8966 \def\hyper@link#1#2#3{%
8967 \Hy@VerboseLinkStart{#1}{#2}%
8968 \ltx@ifundefined{@#1bordercolor}{%
8969 \let\CurrentBorderColor\relax
8970 }{%
8971 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8972 }%
8973 \find@pdfink{#1}{#2}#3\Hy@xspace@end
8974 \close@pdfink
8975 }
8976 \let\CurrentBorderColor\@linkbordercolor
8977 \def\hyper@linkurl#1#2{%
8978 \begingroup
8979 \Hy@pstringdef\Hy@pstringURI{#2}%
8980 \hyper@chars
8981 \leavevmode
8982 \pdfstartlink

```

```

8983 attr{%
8984   \Hy@setpdfborder
8985   \ifx\@pdfhighlight\@empty
8986   \else
8987     /H\@pdfhighlight
8988   \fi
8989   \ifx\@urlbordercolor\relax
8990   \else
8991     /C[\@urlbordercolor]%
8992   \fi
8993 }%
8994 user{%
8995   /Subtype/Link%
8996   \ifHy@pdfa /F 4\fi
8997   /A<<%
8998   /Type/Action%
8999   /S/URI%
9000   /URI(\Hy@pstringURI)%
9001   \ifHy@href@ismap
9002     /IsMap true%
9003   \fi
9004   \Hy@href@nextactionraw
9005   >>%
9006 }%
9007 \relax
9008 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9009 \close@pdflink
9010 \endgroup
9011 }
9012 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9013 \begingroup
9014   \def\Hy@pstringF{#2}%
9015   \Hy@CleanupFile\Hy@pstringF
9016   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9017   \Hy@pstringdef\Hy@pstringD{#3}%
9018   \Hy@MakeRemoteAction
9019   \leavevmode
9020   \pdfstartlink
9021   attr{%
9022     \Hy@setpdfborder
9023     \ifx\@pdfhighlight\@empty
9024     \else
9025       /H\@pdfhighlight
9026     \fi
9027     \ifx\@filebordercolor\relax
9028     \else
9029       /C[\@filebordercolor]%
9030     \fi
9031   }%
9032   user {%
9033     /Subtype/Link%
9034     \ifHy@pdfa /F 4\fi
9035     /A<<%
9036     /F(\Hy@pstringF)%
9037     /S/GoToR%
9038     \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}

9039      \ifx\#3\%
9040        /D[\Hy@href@page\@pdfremotestartview]%
9041      \else
9042        /D(\Hy@pstringD)%
9043      \fi
9044      \Hy@href@nextactionraw
9045      >>%
9046    }%
9047    \relax
9048    \Hy@colorlink\@filecolor#1\Hy@xspace@end
9049    \close@pdflink
9050  \endgroup
9051 }
9052 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9053  \begingroup
9054  \Hy@pstringdef\Hy@pstringF{#1}%
9055  \Hy@pstringdef\Hy@pstringP{#3}%
9056  \leavevmode
9057  \pdfstartlink
9058  attr{%
9059    \Hy@setpdfborder
9060    \ifx\@pdfhighlight\@empty
9061    \else
9062      /H\@pdfhighlight
9063    \fi
9064    \ifx\@runbordercolor\relax
9065    \else
9066      /C[\@runbordercolor]%
9067    \fi
9068  }%
9069  user {%
9070    /Subtype/Link%
9071    \ifHy@pdfa /F 4\fi
9072    /A<<%
9073      /F(\Hy@pstringF)%
9074      /S/Launch%
9075      \Hy@SetNewWindow
9076      \ifx\#3\%
9077      \else
9078        /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9079      \fi
9080      \Hy@href@nextactionraw
9081      >>%
9082    }%
9083    \relax

```

```

9084 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9085 \close@pdfink
9086 \endgroup
9087 }

```

\@pdfproducer

```

9088 \ifx\@pdfproducer\relax
9089 \begingroup\expandafter\expandafter\expandafter\endgroup
9090 \expandafter\ifx\csname luatexversion\endcsname\relax
9091 \def\@pdfproducer{pdfTeX}%
9092 \ifx\eTeXversion\@undefined
9093 \else
9094 \ifx\eTeXversion\relax
9095 \else
9096 \ifnum\eTeXversion>0 %
9097 \def\@pdfproducer{pdfTeX}%
9098 \fi
9099 \fi
9100 \fi
9101 \ifx\pdfTeXversion\@undefined
9102 \else
9103 \ifnum\pdfTeXversion<100 %
9104 \edef\@pdfproducer{%
9105 \@pdfproducer
9106 \the\pdfTeXversion.\pdfTeXrevision
9107 }%
9108 \else
9109 \ifnum\pdfTeXversion<130 %
9110 \edef\@pdfproducer{%
9111 \@pdfproducer-%
9112 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9113 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9114 \pdfTeXrevision
9115 }%
9116 \else
9117 \ifnum\pdfTeXversion<140 %
9118 \else
9119 \def\@pdfproducer{pdfTeX}%
9120 \fi
9121 \edef\@pdfproducer{%
9122 \@pdfproducer-%
9123 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9124 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9125 \pdfTeXrevision
9126 }%
9127 \fi
9128 \fi
9129 \fi
9130 \else
9131 \begingroup
9132 \count@=\luatexversion
9133 \divide\count@ by 100 %
9134 \edef\x{\the\count@}%
9135 \count@=-\x\relax
9136 \multiply\count@ by 100 %
9137 \advance\count@ by \luatexversion
9138 \edef\x{\endgroup

```

```

9139     \def\noexpand\@pdfproducer{%
9140         LuaTeX-\x.\the\count@.\luatexrevision
9141     }%
9142 }%
9143 \x
9144 \fi
9145 \fi

```

\PDF@SetupDox

```

9146 \def\PDF@SetupDoc{%
9147     \ifx\@pdfpagescrop\@empty
9148     \else
9149         \edef\process@me{%
9150             \pdfpagesattr={%
9151                 /CropBox[\@pdfpagescrop]%
9152                 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9153                 \else
9154                     ^^J\the\pdfpagesattr
9155                 \fi
9156             }%
9157         }%
9158         \process@me
9159     \fi
9160     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9161     \pdfcatalog{%
9162         /PageMode/\@pdfpagemode
9163         \ifx\@baseurl\@empty
9164         \else
9165             /URI<</Base(\Hy@pstringB)>>%
9166         \fi
9167     }%
9168     \ifx\@pdfstartpage\@empty
9169     \else
9170         \ifx\@pdfstartview\@empty
9171         \else
9172             openaction goto page\@pdfstartpage{\@pdfstartview}%
9173         \fi
9174     \fi
9175     \edef\Hy@temp{%
9176         \ifHy@pdftoolbar\else /HideToolbar true\fi
9177         \ifHy@pdfmenubar\else /HideMenubar true\fi
9178         \ifHy@pdfwindowui\else /HideWindowUI true\fi
9179         \ifHy@pdffitwindow /FitWindow true\fi
9180         \ifHy@pdfcenterwindow /CenterWindow true\fi
9181         \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9182         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9183         \Hy@UseNameKey{Direction}\@pdfdirection
9184         \Hy@UseNameKey{ViewArea}\@pdfviewarea
9185         \Hy@UseNameKey{ViewClip}\@pdfviewclip
9186         \Hy@UseNameKey{PrintArea}\@pdfprintarea
9187         \Hy@UseNameKey{PrintClip}\@pdfprintclip
9188         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9189         \Hy@UseNameKey{Duplex}\@pdfduplex
9190         \ifx\@pdfpicktraybypdfsize\@empty
9191         \else
9192             /PickTrayByPDFSize \@pdfpicktraybypdfsize
9193         \fi
9194         \ifx\@pdfprintpagerange\@empty

```

```

9195 \else
9196 /PrintPageRange[\@pdfprintpagerange]%
9197 \fi
9198 \ifx\@pdfnumcopies\@empty
9199 \else
9200 /NumCopies \@pdfnumcopies
9201 \fi
9202 }%
9203 \pdfcatalog{%
9204 \ifx\Hy@temp\@empty
9205 \else
9206 /ViewerPreferences<<\Hy@temp>>%
9207 \fi
9208 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9209 \ifx\@pdflang\@empty
9210 \else
9211 /Lang(\@pdflang)%
9212 \fi
9213 }%
9214 }

```

\PDF@FinishDoc

```

9215 \def\PDF@FinishDoc{%
9216 \pdf@ifdraftmode{}{%
9217 \Hy@UseMaketitleInfos
9218 \HyInfo@GenerateAddons
9219 \pdfinfo{%
9220 /Author(\@pdfauthor)%
9221 /Title(\@pdftitle)%
9222 /Subject(\@pdfsubject)%
9223 /Creator(\@pdfcreator)%
9224 \ifx\@pdfcreationdate\@empty
9225 \else
9226 /CreationDate(\@pdfcreationdate)%
9227 \fi
9228 \ifx\@pdfmoddate\@empty
9229 \else
9230 /ModDate(\@pdfmoddate)%
9231 \fi
9232 \ifx\@pdfproducer\relax
9233 \else
9234 /Producer(\@pdfproducer)%
9235 \fi
9236 /Keywords(\@pdfkeywords)%
9237 \ifx\@pdftrapped\@empty
9238 \else
9239 /Trapped/\@pdftrapped
9240 \fi
9241 \HyInfo@Addons
9242 }%
9243 }%
9244 \Hy@DisableOption{pdfauthor}%
9245 \Hy@DisableOption{pdftitle}%
9246 \Hy@DisableOption{pdfsubject}%
9247 \Hy@DisableOption{pdfcreator}%
9248 \Hy@DisableOption{pdfcreationdate}%
9249 \Hy@DisableOption{pdfmoddate}%
9250 \Hy@DisableOption{pdfproducer}%

```

```

9251 \Hy@DisableOption{pdfkeywords}%
9252 \Hy@DisableOption{pdftrapped}%
9253 \Hy@DisableOption{pdfinfo}%
9254 }

```

`\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`.

```

9255 \def\hyper@pagetransition{%
9256   \ifx\@pdfpagetransition\relax
9257   \else
9258     \expandafter\Hy@RemoveTransPageAttr
9259     \the\pdfpageattr^^J/Trans{>>\END
9260     \ifx\@pdfpagetransition\@empty
9261     \else
9262       \edef\@processme{%
9263         \global\pdfpageattr{%
9264           \the\pdfpageattr
9265             ^^J/Trans << /S /\@pdfpagetransition\space >>%
9266         }%
9267       }%
9268       \@processme
9269     \fi
9270   \fi
9271 }

```

`\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.

```

9272 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9273   \ifx\#2\%
9274     \global\pdfpageattr{#1}%
9275   \else
9276     \Hy@RemoveTransPageAttr#1#4\END
9277   \fi
9278 }

```

`\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`.

```

9279 \def\hyper@pageduration{%
9280   \ifx\@pdfpageduration\relax
9281   \else
9282     \expandafter
9283     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
9284     \ifx\@pdfpageduration\@empty
9285     \else
9286       \edef\@processme{%
9287         \global\pdfpageattr{%
9288           \the\pdfpageattr
9289             ^^J/Dur \@pdfpageduration\space
9290         }%
9291       }%
9292       \@processme

```

```

9293 \fi
9294 \fi
9295 }

```

`\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.

```

9296 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9297 \ifx\#2\%
9298 \global\pdfpageattr{#1}%
9299 \else
9300 \Hy@RemoveDurPageAttr#1#4\END
9301 \fi
9302 }

```

`\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).

```

9303 \def\hyper@pagehidden{%
9304 \ifHy@useHidKey
9305 \expandafter
9306 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9307 \ifHy@pdfpagehidden
9308 \edef\@processme{%
9309 \global\pdfpageattr{%
9310 \the\pdfpageattr
9311 ^^J/Hid true % SPACE
9312 }%
9313 }%
9314 \@processme
9315 \fi
9316 \fi
9317 }

```

`\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.

```

9318 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9319 \ifx\#2\%
9320 \global\pdfpageattr{#1}%
9321 \else
9322 \Hy@RemoveHidPageAttr#1#4\END
9323 \fi
9324 }

9325 \pdf@ifdraftmode{}{%
9326 \g@addto@macro\Hy@EveryPageHook{%
9327 \hyper@pagetransition
9328 \hyper@pageduration
9329 \hyper@pagehidden
9330 }%
9331 }

```

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


```

9332 </pdftex>
9333 <*pdftex | xetex>
9334 \Hy@AtBeginDocument{%
9335   \ifHy@setpagesize
9336     \expandafter\@firstofone
9337   \else
9338     \expandafter\@gobble
9339   \fi
9340   {%
9341     \@ifclassloaded{seminar}{%
9342 <*pdftex>
9343   \setlength{\pdfhorigin}{1truein}%
9344   \setlength{\pdfvorigin}{1truein}%
9345 </pdftex>
9346   \ifportrait
9347     \ifdim\paperwidth=\z@
9348     \else
9349       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9350     \fi
9351     \ifdim\paperheight=\z@
9352     \else
9353       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9354     \fi
9355   \else
9356     \ifdim\paperheight=\z@
9357     \else
9358       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9359     \fi
9360     \ifdim\paperwidth=\z@
9361     \else
9362       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9363     \fi
9364   \fi
9365   }{%
9366     \ltx@ifundefined{stockwidth}{%
9367       \ifdim\paperwidth>\z@
9368         \setlength{\pdfpagewidth}{\paperwidth}%
9369       \fi
9370       \ifdim\paperheight>\z@
9371         \setlength{\pdfpageheight}{\paperheight}%
9372       \fi
9373     }{%
9374       \ifdim\stockwidth>\z@
9375         \setlength{\pdfpagewidth}{\stockwidth}%
9376       \fi
9377       \ifdim\stockheight>\z@
9378         \setlength{\pdfpageheight}{\stockheight}%
9379       \fi
9380     }%
9381   }%
9382 }%
9383 \Hy@DisableOption{setpagesize}%
9384 }
9385 </pdftex | xetex>
9386 <*pdftex>
9387 \def\Acrobatmenu#1#2{%
9388   \Hy@Acrobatmenu{#1}{#2}{%

```

```

9389 \leavevmode
9390 \EdefEscapeName\Hy@temp@menu{#1}%
9391 \pdfstartlink
9392   attr{%
9393     \Hy@setpdfborder
9394     \ifx\@pdfhighlight\@empty
9395     \else
9396       /H\@pdfhighlight
9397     \fi
9398     \ifx\@menubordercolor\relax
9399     \else
9400       /C[\@menubordercolor]%
9401     \fi
9402   }%
9403   user{%
9404     /Subtype/Link%
9405     \ifHy@pdfa /F 4\fi
9406     /A<<%
9407     /S/Named%
9408     /N/\Hy@temp@menu
9409     \Hy@href@nextactionraw
9410     >>%
9411   }%
9412   \relax
9413   \Hy@colorlink\@menucolor#2%
9414   \close@pdflink
9415 }%
9416 }

```

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`.

```

9417 \def\Hy@FixNotFirstPage{%
9418   \gdef\Hy@FixNotFirstPage{%
9419     \setbox\AtBeginShipoutBox=\hbox{%
9420       \copy\AtBeginShipoutBox
9421     }%
9422   }%
9423 }
9424 \AtBeginShipout{\Hy@FixNotFirstPage}
9425 \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.

```
9426 \*hypertext>
9427 \providecommand*\XR@ext{}{dvi}
9428 \let\PDF@FinishDoc\ltx@empty
9429 \def\PDF@SetupDoc{%
9430   \ifx\@baseurl\@empty
9431   \else
9432     \special{html:<base href="\@baseurl">}%
9433   \fi
9434 }
9435 \Hy@WrapperDef\hyper@anchor#1{%
9436   \Hy@SaveLastskip
9437   \Hy@VerboseAnchor{#1}%
9438   \begingroup
9439     \let\protect=\string
9440     \hyper@chars
9441     \special{html:<a name=%
9442       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9443   \endgroup
9444   \Hy@activeanchortrue
9445   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9446   \special{html:</a>}%
9447   \Hy@activeanchorfalse
9448   \Hy@RestoreLastskip
9449 }
9450 \Hy@WrapperDef\hyper@anchorstart#1{%
9451   \Hy@SaveLastskip
9452   \Hy@VerboseAnchor{#1}%
9453   \begingroup
9454     \hyper@chars
9455     \special{html:<a name=%
9456       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9457   \endgroup
```

```

9458 \Hy@activeanchortrue
9459 }
9460 \def\hyper@anchorend{%
9461 \special{html:</a>}}%
9462 \Hy@activeanchorfalse
9463 \Hy@RestoreLastskip
9464 }
9465 \def\@urltype{url}
9466 \def\hyper@linkstart#1#2{%
9467 \Hy@VerboseLinkStart{#1}{#2}%
9468 \expandafter\Hy@colorlink\csname @#1color\endcsname
9469 \def\Hy@tempa{#1}%
9470 \ifx\Hy@tempa\@urltype
9471 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9472 \else
9473 \begingroup
9474 \hyper@chars
9475 \special{html:<a href=%
9476 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
9477 \endgroup
9478 \fi
9479 }
9480 \def\hyper@linkend{%
9481 \special{html:</a>}}%
9482 \Hy@endcolorlink
9483 }
9484 \def\hyper@linkfile#1#2#3{%
9485 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9486 }
9487 \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.

```

9488 \leavevmode
9489 \ifHy@raiselinks
9490 \Hy@SaveSpaceFactor
9491 \Hy@SaveSavedSpaceFactor
9492 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9493 \Hy@RestoreSavedSpaceFactor
9494 \@linkdim\dp\@tempboxa
9495 \lower\@linkdim\hbox{%
9496 \hyper@chars
9497 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9498 }%
9499 \Hy@colorlink\@urlcolor
9500 \Hy@RestoreSpaceFactor
9501 #1%
9502 \Hy@SaveSpaceFactor
9503 \@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).

```

9504 \advance\@linkdim by -6.5\p@
9505 \raise\@linkdim\hbox{\special{html:</a>}}}%
9506 \Hy@endcolorlink
9507 \Hy@RestoreSpaceFactor

```

```

9508 \else
9509 \begingroup
9510 \hyper@chars
9511 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9512 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9513 \special{html:</a>}%
9514 \Hy@endcolorlink
9515 \endgroup
9516 \fi
9517 }

```

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

```

9518 \def\hyper@link#1#2#3{%
9519 \Hy@VerboseLinkStart{#1}{#2}%
9520 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
9521 }

9522 \def\hyper@image#1#2{%
9523 \begingroup
9524 \hyper@chars
9525 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9526 \endgroup
9527 }
9528 </hypertex>
9529 <*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.

```

9530 \providecommand*\XR@ext}{dvi}
9531 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9532 \Hy@WrapperDef\hyper@anchor#1{%
9533 \Hy@SaveLastskip
9534 \Hy@VerboseAnchor{#1}%
9535 \begingroup
9536 \let\protect=\string
9537 \special{mark: #1}%
9538 \endgroup
9539 \Hy@activeanchortrue
9540 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9541 \Hy@activeanchorfalse
9542 \Hy@RestoreLastskip
9543 }
9544 \Hy@WrapperDef\hyper@anchorstart#1{%
9545 \Hy@SaveLastskip
9546 \Hy@VerboseAnchor{#1}%
9547 \special{mark: #1}%

```

```

9548 \Hy@activeanchortrue
9549 }
9550 \def\hyper@anchorend{%
9551 \Hy@activeanchorfalse
9552 \Hy@RestoreLastskip
9553 }
9554 \def\hyper@linkstart#1#2{%
9555 \Hy@VerboseLinkStart{#1}{#2}%
9556 \expandafter\Hy@colorlink\csname @#1color\endcsname
9557 \special{button: %
9558 10000000 %
9559 \number\baselineskip\space
9560 #2%
9561 }%
9562 }
9563 \def\hyper@linkend{%
9564 \Hy@endcolorlink
9565 }
9566 \def\hyper@link#1#2#3{%
9567 \Hy@VerboseLinkStart{#1}{#2}%
9568 \leavevmode
9569 \ifHy@raiselinks
9570 \Hy@SaveSpaceFactor
9571 \Hy@SaveSavedSpaceFactor
9572 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9573 \Hy@RestoreSavedSpaceFactor
9574 \@linkdim\dp\@tempboxa
9575 \lower\@linkdim\hbox{%
9576 \special{button: %
9577 \number\wd\@tempboxa\space
9578 \number\ht\@tempboxa\space
9579 #2%
9580 }%
9581 \expandafter\Hy@colorlink\csname @#1color\endcsname
9582 \Hy@RestoreSpaceFactor
9583 #3\Hy@xspace@end
9584 \Hy@SaveSpaceFactor
9585 \Hy@endcolorlink
9586 }%
9587 \@linkdim\ht\@tempboxa
9588 \advance\@linkdim by -6.5\p@
9589 \raise\@linkdim\hbox{}%
9590 \Hy@RestoreSpaceFactor
9591 \else
9592 \special{button: %
9593 \number\wd\@tempboxa\space
9594 \number\ht\@tempboxa\space
9595 #2%
9596 }%
9597 \expandafter\Hy@colorlink\csname @#1color\endcsname
9598 #3\Hy@xspace@end
9599 \Hy@endcolorlink
9600 \fi
9601 }
9602 \def\hyper@linkurl#1#2{%
9603 \begingroup
9604 \hyper@chars

```

```

9605 \leavevmode
9606 \ifHy@raiselinks
9607 \Hy@SaveSpaceFactor
9608 \Hy@SaveSavedSpaceFactor
9609 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9610 \Hy@RestoreSavedSpaceFactor
9611 \@linkdim\dp\@tempboxa
9612 \lower\@linkdim\hbox{%
9613 \special{button: %
9614 \number\wd\@tempboxa\space
9615 \number\ht\@tempboxa\space
9616 launch: \wwwbrowser\space
9617 #2%
9618 }%
9619 \Hy@colorlink\@urlcolor
9620 \Hy@RestoreSpaceFactor
9621 #1\Hy@xspace@end
9622 \Hy@SaveSpaceFactor
9623 \Hy@endcolorlink
9624 }%
9625 \@linkdim\ht\@tempboxa
9626 \advance\@linkdim by -6.5\p@
9627 \raise\@linkdim\hbox{}}%
9628 \Hy@RestoreSpaceFactor
9629 \else
9630 \special{button: %
9631 \number\wd\@tempboxa\space
9632 \number\ht\@tempboxa\space
9633 launch: \wwwbrowser\space
9634 #2%
9635 }%
9636 \Hy@colorlink\@urlcolor
9637 #1\Hy@xspace@end
9638 \Hy@endcolorlink
9639 \fi
9640 \endgroup
9641 }
9642 \def\hyper@linkfile#1#2#3{%
9643 \begingroup
9644 \hyper@chars
9645 \leavevmode
9646 \ifHy@raiselinks
9647 \Hy@SaveSpaceFactor
9648 \Hy@SaveSavedSpaceFactor
9649 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9650 \Hy@RestoreSavedSpaceFactor
9651 \@linkdim\dp\@tempboxa
9652 \lower\@linkdim\hbox{%
9653 \special{button: %
9654 \number\wd\@tempboxa\space
9655 \number\ht\@tempboxa\space
9656 #3,%
9657 file: #2%
9658 }%
9659 \Hy@colorlink\@filecolor
9660 \Hy@RestoreSpaceFactor
9661 #1\Hy@xspace@end

```

```

9662      \Hy@SaveSpaceFactor
9663      \Hy@endcolorlink
9664    }%
9665    \@linkdim\ht\@tempboxa
9666    \advance\@linkdim by -6.5\p@
9667    \raise\@linkdim\hbox{}%
9668    \Hy@RestoreSpaceFactor
9669  \else
9670    \special{button: %
9671      \number\wd\@tempboxa\space
9672      \number\ht\@tempboxa\space
9673      #3,%
9674      file: #2%
9675    }%
9676    \Hy@colorlink\@filecolor
9677    #1\Hy@xspace@end
9678    \Hy@endcolorlink
9679  \fi
9680 \endgroup
9681 }
9682 \ifx\@pdfproducer\relax
9683 \def\@pdfproducer{dviwindo + Distiller}%
9684 \fi
9685 \HyInfo@AddonUnsupportedtrue
9686 \def\PDF@FinishDoc{%
9687   \Hy@UseMaketitleInfos
9688   \HyInfo@TrappedUnsupported
9689   \special{PDF: Keywords \@pdfkeywords}%
9690   \special{PDF: Title \@pdftitle}%
9691   \special{PDF: Creator \@pdfcreator}%
9692   \ifx\@pdfcreationdate\@empty
9693   \else
9694     \special{PDF: CreationDate \@pdfcreationdate}%
9695   \fi
9696   \ifx\@pdfmoddate\@empty
9697   \else
9698     \special{PDF: ModDate \@pdfmoddate}%
9699   \fi
9700   \special{PDF: Author \@pdfauthor}%
9701   \ifx\@pdfproducer\relax
9702   \else
9703     \special{PDF: Producer \@pdfproducer}%
9704   \fi
9705   \special{PDF: Subject \@pdfsubject}%
9706   \Hy@DisableOption{pdfauthor}%
9707   \Hy@DisableOption{pdftitle}%
9708   \Hy@DisableOption{pdfsubject}%
9709   \Hy@DisableOption{pdfcreator}%
9710   \Hy@DisableOption{pdfcreationdate}%
9711   \Hy@DisableOption{pdfmoddate}%
9712   \Hy@DisableOption{pdfproducer}%
9713   \Hy@DisableOption{pdfkeywords}%
9714   \Hy@DisableOption{pdftrapped}%
9715   \Hy@DisableOption{pdfinfo}%
9716 }
9717 \def\PDF@SetupDoc{%
9718   \ifx\@baseurl\@empty

```



```

9719 \else
9720 \special{PDF: Base \@baseurl}%
9721 \fi
9722 \ifx\@pdfpagescrop\@empty\else
9723 \special{PDF: BBox \@pdfpagescrop}%
9724 \fi
9725 \def\Hy@temp{}%
9726 \ifx\@pdfstartpage\@empty
9727 \else
9728 \ifx\@pdfstartview\@empty
9729 \else
9730 \edef\Hy@temp{%
9731 ,Page=\@pdfstartpage
9732 ,View=\@pdfstartview
9733 }%
9734 \fi
9735 \fi
9736 \edef\Hy@temp{%
9737 \noexpand\pdfmark{%
9738 pdfmark=/DOCVIEW,%
9739 PageMode=/\@pdfpagemode
9740 \Hy@temp
9741 }%
9742 }%
9743 \Hy@temp
9744 \ifx\@pdfpagescrop\@empty
9745 \else
9746 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9747 \fi
9748 \edef\Hy@temp{%
9749 \ifHy@pdftoolbar\else /HideToolbar true\fi
9750 \ifHy@pdfmenubar\else /HideMenubar true\fi
9751 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9752 \ifHy@pdffitwindow /FitWindow true\fi
9753 \ifHy@pdfcenterwindow /CenterWindow true\fi
9754 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9755 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9756 \Hy@UseNameKey{Direction}\@pdfdirection
9757 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9758 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9759 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9760 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9761 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9762 \Hy@UseNameKey{Duplex}\@pdfduplex
9763 \ifx\@pdfpicktraybypdfsize\@empty
9764 \else
9765 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9766 \fi
9767 \ifx\@pdfprintpagerange\@empty
9768 \else
9769 /PrintPageRange[\@pdfprintpagerange]%
9770 \fi
9771 \ifx\@pdfnumcopies\@empty
9772 \else
9773 /NumCopies \@pdfnumcopies
9774 \fi
9775 }%

```

```

9776 \pdfmark{pdfmark=/PUT,%
9777   Raw={%
9778     \string{Catalog\string}<<%
9779     \ifx\Hy@temp\@empty
9780     \else
9781       /ViewerPreferences<<\Hy@temp>>%
9782     \fi
9783     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9784     \ifx\@pdflang\@empty
9785     \else
9786       /Lang(\@pdflang)%
9787     \fi
9788   >>%
9789 }%
9790 }%
9791 }
9792 </dviwindo>
9793 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9794 \providecommand*{\XR@ext}{pdf}
9795 \Hy@setbreaklinks{true}
9796 \def\HyPat@ObjRef{%
9797   @[^ ]+%
9798 }
9799 \newsavebox{\pdfm@box}
9800 \def\@pdfm@mark#1{\special{pdf:#1}}
9801 \Hy@WrapperDef\@pdfm@dest#1{%
9802   \Hy@SaveLastskip
9803   \Hy@VerboseAnchor{#1}%
9804   \begingroup
9805     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9806     \def\x{XYZ}%
9807     \ifx\x\@pdfview
9808       \def\x{XYZ @xpos @ypos null}%
9809     \else
9810       \def\x{FitH}%
9811       \ifx\x\@pdfview
9812         \def\x{FitH @ypos}%
9813       \else
9814         \def\x{FitBH}%
9815         \ifx\x\@pdfview
9816           \def\x{FitBH @ypos}%
9817         \else
9818           \def\x{FitV}%
9819           \ifx\x\@pdfview
9820             \def\x{FitV @xpos}%
9821           \else
9822             \def\x{FitBV}%
9823             \ifx\x\@pdfview
9824               \def\x{FitBV @xpos}%
9825             \else
9826               \def\x{Fit}%
9827             \ifx\x\@pdfview
9828               \let\x\@pdfview

```

```

9829         \else
9830         \def\x{FitB}%
9831         \ifx\x\@pdfview
9832         \let\x\@pdfview
9833         \else
9834         \def\x{FitR}%
9835         \ifx\x\@pdfview
9836         \Hy@Warning{'pdfview=FitR' is not supported}%
9837         \def\x{XYZ @xpos @ypos null}%
9838         \else
9839         \@onelevel@sanitize\@pdfview
9840         \Hy@Warning{%
9841         Unknown value '\@pdfview' for pdfview%
9842         }%
9843         \def\x{XYZ @xpos @ypos null}%
9844         \fi
9845         \fi
9846         \fi
9847         \fi
9848         \fi
9849         \fi
9850         \fi
9851         \fi
9852         \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9853     \endgroup
9854     \Hy@RestoreLastskip
9855 }
9856 \providecommand*\@pdfview{XYZ}
9857 \providecommand*\@pdfborder{0 0 1}
9858 \providecommand*\@pdfborderstyle{}
9859 \def\hyper@anchor#1{%
9860     \@pdfm@dest{#1}%
9861 }
9862 \def\hyper@anchorstart#1{%
9863     \Hy@activeanchortrue
9864     \@pdfm@dest{#1}%
9865 }
9866 \def\hyper@anchorend{%
9867     \Hy@activeanchorfalse
9868 }
9869 \newcounter{Hy@AnnotLevel}
9870 \ifHy@ocgcolorlinks
9871     \def\OBJ@OCG@view{@OCG@view}%
9872     \@pdfm@mark{%
9873         obj \OBJ@OCG@view <<%
9874         /Type/OCG%
9875         /Name(View)%
9876         /Usage<<%
9877         /Print<<%
9878         /PrintState/OFF%
9879         >>%
9880         /View<<%
9881         /ViewState/ON%
9882         >>%
9883         >>%
9884         >>%
9885     }%

```

```

9886 \@pdfm@mark{close \OBJ@OCG@view}%
9887 \def\OBJ@OCG@print{@OCG@print}%
9888 \@pdfm@mark{%
9889   obj \OBJ@OCG@print <<%
9890     /Type/OCG%
9891     /Name(Print)%
9892     /Usage<<%
9893     /Print<<%
9894     /PrintState/ON%
9895     >>%
9896     /View<<%
9897     /ViewState/OFF%
9898     >>%
9899     >>%
9900     >>%
9901   }%
9902 \@pdfm@mark{close \OBJ@OCG@print}%
9903 \def\OBJ@OCGs{@OCGs}%
9904 \@pdfm@mark{%
9905   obj \OBJ@OCGs [%
9906     \OBJ@OCG@view\space\OBJ@OCG@print
9907   ]%
9908 }%
9909 \@pdfm@mark{close \OBJ@OCGs}%
9910 \@pdfm@mark{%
9911   put @catalog <<%
9912     /OCProperties<<%
9913     /OCGs \OBJ@OCGs
9914     /D<<%
9915     /OFF[\OBJ@OCG@print]%
9916     /AS[%
9917       <<%
9918         /Event/View%
9919         /OCGs \OBJ@OCGs
9920         /Category[/View]%
9921       >>%
9922       <<%
9923         /Event/Print%
9924         /OCGs \OBJ@OCGs
9925         /Category[/Print]%
9926       >>%
9927       <<%
9928         /Event/Export%
9929         /OCGs \OBJ@OCGs
9930         /Category[/Print]%
9931       >>%
9932     ]%
9933     >>%
9934     >>%
9935     >>%
9936   }%
9937 \AtBeginShipout{%
9938   \setbox\AtBeginShipoutBox=\hbox{%
9939     \copy\AtBeginShipoutBox
9940   \@pdfm@mark{%
9941     put @resources <<%
9942       /Properties<<%

```

```

9943      /OCView \OBJ@OCG@view
9944      /OCPrint \OBJ@OCG@print
9945      >>%
9946      >>%
9947      }%
9948      }%
9949      }%
9950      \Hy@AtBeginDocument{%
9951      \def\Hy@colorlink#1{%
9952      \begingroup
9953      \ifHy@ocgcolorlinks
9954      \def\Hy@ocgcolor{#1}%
9955      \setbox0=\hbox\bgroup\color@begingroup
9956      \else
9957      \HyColor@UseColor#1%
9958      \fi
9959      }%
9960      \def\Hy@endcolorlink{%
9961      \ifHy@ocgcolorlinks
9962      \color@endgroup\egroup
9963      \mbox{%
9964      \@pdfm@mark{content /OC/OCPrint BDC}%
9965      \rlap{\copy0}%
9966      \@pdfm@mark{content EMC/OC/OCView BDC}%
9967      \begingroup
9968      \expandafter\HyColor@UseColor\Hy@ocgcolor
9969      \box0 %
9970      \endgroup
9971      \@pdfm@mark{content EMC}%
9972      }%
9973      \fi
9974      \endgroup
9975      }%
9976      }%
9977      \else
9978      \Hy@DisableOption{ocgcolorlinks}%
9979      \fi

9980      \def\Hy@BeginAnnot#1{%
9981      \stepcounter{Hy@AnnotLevel}%
9982      \ifnum\value{Hy@AnnotLevel}=\@ne
9983      #1%
9984      \fi
9985      }
9986      \def\Hy@endAnnot{%
9987      \ifnum\value{Hy@AnnotLevel}=\@ne
9988      \Hy@endcolorlink
9989      \@pdfm@mark{eann}%
9990      \fi
9991      \addtocounter{Hy@AnnotLevel}\m@ne
9992      }

9993      \def\Hy@undefinedname{UNDEFINED}
9994      \def\hyper@linkstart#1#2{%
9995      \Hy@VerboseLinkStart{#1}{#2}%
9996      \leavevmode
9997      \Hy@BeginAnnot{%
9998      \protected@edef\Hy@testname{#2}%
9999      \ifx\Hy@testname\@empty

```

```

10000 \Hy@Warning{%
10001   Empty destination name,\MessageBreak
10002   using '\Hy@undefinedname'%
10003 }%
10004 \let\Hy@testname\Hy@undefinedname
10005 \else
10006 \Hy@pstringdef\Hy@testname{%
10007   \expandafter\HyperDestNameFilter\expandafter{%
10008     \Hy@testname
10009   }%
10010 }%
10011 \fi
10012 \@pdfm@mark{%
10013   bann<<%
10014   /Type/Annot%
10015   /Subtype/Link%
10016   \ifHy@pdfa /F 4\fi
10017   \Hy@setpdfborder
10018   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10019   \else
10020     /C[\csname @#1bordercolor\endcsname]%
10021   \fi
10022   /A<<%
10023   /S/GoTo%
10024   /D(\Hy@testname)%
10025   \Hy@href@nextactionraw
10026   >>%
10027   >>%
10028 }%
10029 \expandafter\Hy@colorlink\csname @#1color\endcsname
10030 }%
10031 }
10032 \def\hyper@linkend{\Hy@EndAnnot}%
10033 \def\hyper@link#1#2#3{%
10034   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10035 }
10036 \def\hyper@linkfile#1#2#3{%
10037   \leavevmode
10038   \Hy@BeginAnnot{%
10039     \def\Hy@pstringF{#2}%
10040     \Hy@CleanupFile\Hy@pstringF
10041     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10042     \Hy@pstringdef\Hy@pstringD{#3}%
10043     \Hy@MakeRemoteAction
10044     \@pdfm@mark{%
10045       bann<<%
10046       /Type/Annot%
10047       /Subtype/Link%
10048       \ifHy@pdfa /F 4\fi
10049       \Hy@setpdfborder
10050       \ifx\@filebordercolor\relax
10051       \else
10052         /C[\@filebordercolor]%
10053       \fi
10054       /A<<%
10055       /S/GoToR%
10056       /F(\Hy@pstringF)%

```

```

10057      /D%
10058      \ifx\\#3\\%
10059      [\Hy@href@page\@pdfremotestartview]%
10060      \else
10061      (\Hy@pstringD)%
10062      \fi
10063      \Hy@SetNewWindow
10064      \Hy@href@nextactionraw
10065      >>%
10066      >>%
10067      }%
10068      \Hy@colorlink\@filecolor
10069      }%
10070      #1\Hy@xspace@end
10071      \Hy@EndAnnot
10072  }
10073  \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
10074  \leavevmode
10075  \Hy@BeginAnnot{%
10076  \Hy@pstringdef\Hy@pstringF{#1}%
10077  \Hy@pstringdef\Hy@pstringP{#3}%
10078  \@pdfm@mark{%
10079  bann<<%
10080  /Type/Annot%
10081  /Subtype/Link%
10082  \ifHy@pdfa /F 4\fi
10083  \Hy@setpdfborder
10084  \ifx\@runbordercolor\relax
10085  \else
10086  /C[\@runbordercolor]%
10087  \fi
10088  /A<<%
10089  /F(\Hy@pstringF)%
10090  /S/Launch%
10091  \Hy@SetNewWindow
10092  \ifx\\#3\\%
10093  \else
10094  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10095  \fi
10096  \Hy@href@nextactionraw
10097  >>%
10098  >>%
10099  }%
10100  \Hy@colorlink\@runcolor
10101  }%
10102  #2\Hy@xspace@end
10103  \Hy@EndAnnot
10104  }
10105  \def\hyper@linkurl#1#2{%
10106  \leavevmode
10107  \Hy@BeginAnnot{%
10108  \Hy@pstringdef\Hy@pstringURI{#2}%
10109  \@pdfm@mark{%
10110  bann<<%
10111  /Type/Annot%
10112  /Subtype/Link%
10113  \ifHy@pdfa /F 4\fi

```

```

10114 \Hy@setpdfborder
10115 \ifx\@urlbordercolor\relax
10116 \else
10117 /C[\@urlbordercolor]%
10118 \fi
10119 /A<<%
10120 /S/URI%
10121 /URI(\Hy@pstringURI)%
10122 \ifHy@href@ismap
10123 /IsMap true%
10124 \fi
10125 \Hy@href@nextactionraw
10126 >>%
10127 >>%
10128 }%
10129 \Hy@colorlink\@urlcolor
10130 }%
10131 #1\Hy@xspace@end
10132 \Hy@EndAnnot
10133 }
10134 \def\Acrobatmenu#1#2{%
10135 \Hy@Acrobatmenu{#1}{#2}{%
10136 \Hy@BeginAnnot{%
10137 \EdefEscapeName\Hy@temp@menu{#1}%
10138 \@pdfm@mark{%
10139 bann<<%
10140 /Type/Annot%
10141 /Subtype/Link%
10142 \ifHy@pdfa /F 4\fi
10143 \Hy@setpdfborder
10144 \ifx\@menubordercolor\relax
10145 \else
10146 /C[\@menubordercolor]%
10147 \fi
10148 /A<<%
10149 /S/Named%
10150 /N/\Hy@temp@menu
10151 \Hy@href@nextactionraw
10152 >>%
10153 >>%
10154 }%
10155 \Hy@colorlink\@menucolor
10156 }%
10157 #2\Hy@xspace@end
10158 \Hy@EndAnnot
10159 }%
10160 }
10161 \ifx\@pdfproducer\relax
10162 \def\@pdfproducer{dvipdfm}%

```

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

```

10163 \begingroup\expandafter\expandafter\expandafter\endgroup
10164 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10165 \else
10166 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10167 \fi
10168 \fi
10169 \def\PDF@FinishDoc{%

```



```

10170 \Hy@UseMaketitleInfos
10171 \HyInfo@GenerateAddons
10172 \@pdfm@mark{%
10173   docinfo<<%
10174     /Title(\@pdftitle)%
10175     /Subject(\@pdfsubject)%
10176     /Creator(\@pdfcreator)%
10177     \ifx\@pdfcreationdate\@empty
10178     \else
10179       /CreationDate(\@pdfcreationdate)%
10180     \fi
10181     \ifx\@pdfmoddate\@empty
10182     \else
10183       /ModDate(\@pdfmoddate)%
10184     \fi
10185     /Author(\@pdfauthor)%
10186     \ifx\@pdfproducer\relax
10187     \else
10188       /Producer(\@pdfproducer)%
10189     \fi
10190     /Keywords(\@pdfkeywords)%
10191     \ifx\@pdftrapped\@empty
10192     \else
10193       /Trapped/\@pdftrapped
10194     \fi
10195     \HyInfo@Addons
10196   >>%
10197 }%
10198 \Hy@DisableOption{pdfauthor}%
10199 \Hy@DisableOption{pdftitle}%
10200 \Hy@DisableOption{pdfsubject}%
10201 \Hy@DisableOption{pdfcreator}%
10202 \Hy@DisableOption{pdfcreationdate}%
10203 \Hy@DisableOption{pdfmoddate}%
10204 \Hy@DisableOption{pdfproducer}%
10205 \Hy@DisableOption{pdfkeywords}%
10206 \Hy@DisableOption{pdftrapped}%
10207 \Hy@DisableOption{pdfinfo}%
10208 }

10209 \def\PDF@SetupDoc{%
10210   \edef\Hy@temp{%
10211     \ifHy@pdftoolbar\else /HideToolbar true\fi
10212     \ifHy@pdfmenubar\else /HideMenubar true\fi
10213     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10214     \ifHy@pdffitwindow /FitWindow true\fi
10215     \ifHy@pdfcenterwindow /CenterWindow true\fi
10216     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10217     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10218     \Hy@UseNameKey{Direction}\@pdfdirection
10219     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10220     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10221     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10222     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10223     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10224     \Hy@UseNameKey{Duplex}\@pdfduplex
10225     \ifx\@pdfpicktraybypdfsize\@empty
10226     \else

```

```

10227 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10228 \fi
10229 \ifx\@pdfprintpagerange\@empty
10230 \else
10231 /PrintPageRange[\@pdfprintpagerange]%
10232 \fi
10233 \ifx\@pdfnumcopies\@empty
10234 \else
10235 /NumCopies \@pdfnumcopies
10236 \fi
10237 }%
10238 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10239 \@pdfm@mark{%
10240 docview<<%
10241 \ifx\@pdfstartpage\@empty
10242 \else
10243 \ifx\@pdfstartview\@empty
10244 \else
10245 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10246 \fi
10247 \fi
10248 \ifx\@baseurl\@empty
10249 \else
10250 /URI<</Base(\Hy@pstringB)>>%
10251 \fi
10252 /PageMode/\@pdfpagemode
10253 \ifx\Hy@temp\@empty
10254 \else
10255 /ViewerPreferences<<\Hy@temp>>%
10256 \fi
10257 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10258 \ifx\@pdflang\@empty
10259 \else
10260 /Lang(\@pdflang)%
10261 \fi
10262 >>%
10263 }%
10264 \ifx\@pdfpagescrop\@empty
10265 \else
10266 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10267 \fi
10268 }
10269 </dvi pdfm | xetex>
10270 <*dvi pdfm | xetex>

```

\hyper@pagetransition

```

10271 \def\hyper@pagetransition{%
10272 \ifx\@pdfpagetransition\relax
10273 \else
10274 \ifx\@pdfpagetransition\@empty
10275 \else
10276 \special{pdf:put @thispage %
10277 <</Trans<</S/\@pdfpagetransition>>>>%
10278 }%
10279 \fi
10280 \fi
10281 }

```

\hyper@pageduration

```

10282 \def\hyper@pageduration{%
10283   \ifx\@pdfpageduration\relax
10284   \else
10285     \ifx\@pdfpageduration\@empty
10286     \else
10287       \special{pdf:put @thispage %
10288         <</Dur \@pdfpageduration>>%
10289       }%
10290   \fi
10291 \fi
10292 }

```

\hyper@pagehidden

```

10293 \def\hyper@pagehidden{%
10294   \ifHy@useHidKey
10295     \special{pdf:put @thispage %
10296       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10297     }%
10298   \fi
10299 }

10300 \g@addto@macro\Hy@EveryPageBoxHook{%
10301   \hyper@pagetransition
10302   \hyper@pageduration
10303   \hyper@pagehidden
10304 }

10305 </dvipdfm | xetex>

```

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

```

10306 < *dvipdfm>
10307 \AtBeginShipoutFirst{%
10308   \ifHy@setpagesize
10309     \begingroup
10310     \@ifundefined{stockwidth}{%
10311       \ifdim\paperwidth>\z@
10312       \ifdim\paperheight>\z@
10313         \special{papersize=\the\paperwidth,\the\paperheight}%
10314       \fi
10315     \fi
10316   }{%
10317     \ifdim\stockwidth>\z@
10318     \ifdim\stockheight>\z@
10319       \special{papersize=\the\stockwidth,\the\stockheight}%
10320     \fi
10321   \fi
10322 }%
10323 \endgroup
10324 \fi
10325 \Hy@DisableOption{setpagesize}%
10326 }

10327 </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.

```
10328 (*vtexhtml)
10329 \providecommand*\XR@ext}{htm}
10330 \RequirePackage{vtexhtml}
10331 \newif\if@Localurl
10332 \let\PDF@FinishDoc\ltx@empty
10333 \def\PDF@SetupDoc{%
10334   \ifx\@baseurl\@empty
10335   \else
10336     \special{!direct <base href="\@baseurl">}%
10337   \fi
10338 }
10339 \def\@urltype{url}
10340 \def\hyper@link#1#2#3{%
10341   \Hy@VerboseLinkStart{#1}{#2}%
10342   \leavevmode
10343   \special{!direct <a href=%
10344     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10345   #3\Hy@xspace@end
10346   \special{!direct </a>}%
10347 }
10348 \def\hyper@linkurl#1#2{%
10349   \begingroup
10350     \hyper@chars
10351     \leavevmode
10352     \MathBSuppress=1\relax
10353     \special{!direct <a href=%
10354       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10355     #1\Hy@xspace@end
10356     \MathBSuppress=0\relax
10357     \special{!direct </a>}%
10358   \endgroup
10359 }
10360 \def\hyper@linkfile#1#2#3{%
10361   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi}%
10362 }
10363 \def\hyper@linkstart#1#2{%
10364   \Hy@VerboseLinkStart{#1}{#2}%
10365   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10366     \@Localurltrue
10367     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10368   \else
10369     \@Localurlfalse
10370     \begingroup
10371       \hyper@chars
10372       \special{!aref \HyperDestNameFilter{#2}}%
10373     \endgroup
10374   \fi
10375 }
10376 \def\hyper@linkend{%
10377   \if@Localurl
10378     \special{!endaref}%
10379   \else
10380     \special{!direct </a>}%
```

```

10381 \fi
10382 }
10383 \Hy@WrapperDef\hyper@anchorstart#1{%
10384 \Hy@SaveLastskip
10385 \Hy@VerboseAnchor{#1}%
10386 \begingroup
10387 \hyper@chars
10388 \special{!aname #1}%
10389 \special{!direct <a name=%
10390 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10391 \endgroup
10392 \Hy@activeanchortrue
10393 }
10394 \def\hyper@anchorend{%
10395 \special{!direct </a>}}%
10396 \Hy@activeanchorfalse
10397 \Hy@RestoreLastskip
10398 }
10399 \Hy@WrapperDef\hyper@anchor#1{%
10400 \Hy@SaveLastskip
10401 \Hy@VerboseAnchor{#1}%
10402 \begingroup
10403 \let\protect=\string
10404 \hyper@chars
10405 \leavevmode
10406 \special{!aname #1}%
10407 \special{!direct <a name=%
10408 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10409 \endgroup
10410 \Hy@activeanchortrue
10411 \bgroup\anchor@spot\egroup
10412 \special{!direct </a>}}%
10413 \Hy@activeanchorfalse
10414 \Hy@RestoreLastskip
10415 }
10416 \def\@Form[#1]{%
10417 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10418 }
10419 \let\@endForm\ltx@empty
10420 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10421 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10422 }
10423 \def\@TextField[#1]#2{% parameters, label
10424 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10425 }
10426 \def\@CheckBox[#1]#2{% parameters, label
10427 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10428 }
10429 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10430 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10431 }
10432 \def\@PushButton[#1]#2{% parameters, label
10433 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10434 }
10435 \def\@Reset[#1]#2{%
10436 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10437 }

```

```

10438 \def\@Submit[#1]#2{%
10439   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10440 }
10441 \</vtexhtml>
10442 \<*/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.

```

10443 \ifx\mediaheight\@undefined
10444 \else
10445   \ifx\mediaheight\relax
10446   \else
10447     \ifHy@setpagesize
10448       \providecommand*\VTeXInitMediaSize{%
10449         \ltx@ifundefined{stockwidth}{%
10450           \ifdim\paperheight>0pt %
10451             \setlength\mediaheight\paperheight
10452           \fi
10453           \ifdim\paperheight>0pt %
10454             \setlength\mediawidth\paperwidth
10455           \fi
10456         }{%
10457           \ifdim\stockheight>0pt %
10458             \setlength\mediaheight\stockheight
10459           \fi
10460           \ifdim\stockwidth>0pt %
10461             \setlength\mediawidth\stockwidth
10462           \fi
10463         }%
10464       }%
10465     \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10466   \fi
10467   \Hy@DisableOption{setpagesize}%
10468 \fi
10469 \fi

```

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

```

10470 \providecommand*\@pdfview{xyz}
10471 \providecommand*\@pdfborder{0 0 1}
10472 \providecommand*\@pdfborderstyle{}
10473 \let\CurrentBorderColor\@linkbordercolor
10474 \Hy@WrapperDef\hyper@anchor#1{%
10475   \Hy@SaveLastskip
10476   \Hy@VerboseAnchor{#1}%
10477   \begingroup
10478     \let\protect=\string
10479     \hyper@chars
10480     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10481   \endgroup
10482   \Hy@activeanchortrue
10483   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10484   \Hy@activeanchorfalse
10485   \Hy@RestoreLastskip
10486 }
10487 \Hy@WrapperDef\hyper@anchorstart#1{%
10488   \Hy@SaveLastskip
10489   \Hy@VerboseAnchor{#1}%

```

```

10490 \begingroup
10491 \hyper@chars
10492 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10493 \endgroup
10494 \Hy@activeanchortrue
10495 }
10496 \def\hyper@anchorend{%
10497 \Hy@activeanchorfalse
10498 \Hy@RestoreLastskip
10499 }
10500 \def\@urltype{url}
10501 \def\Hy@undefinedname{UNDEFINED}
10502 \def\hyper@linkstart#1#2{%
10503 \Hy@VerboseLinkStart{#1}{#2}%
10504 \Hy@pstringdef\Hy@pstringURI{#2}%
10505 \expandafter\Hy@colorlink\csname @#1color\endcsname
10506 \ltx@ifundefined{@#1bordercolor}{%
10507 \let\CurrentBorderColor\relax
10508 }{%
10509 \edef\CurrentBorderColor{%
10510 \csname @#1bordercolor\endcsname
10511 }%
10512 }%
10513 \def\Hy@tempa{#1}%
10514 \ifx\Hy@tempa\@urltype
10515 \special{!%
10516 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10517 \ifHy@href@ismap
10518 /IsMap true%
10519 \fi
10520 \Hy@href@nextactionraw
10521 >;%
10522 a=<%
10523 \ifHy@pdfa /F 4\fi
10524 \Hy@setpdfborder
10525 \ifx\CurrentBorderColor\relax
10526 \else
10527 /C [\CurrentBorderColor]%
10528 \fi
10529 >%
10530 }%
10531 \else
10532 \protected@edef\Hy@testname{#2}%
10533 \ifx\Hy@testname\@empty
10534 \Hy@Warning{%
10535 Empty destination name,\MessageBreak
10536 using '\Hy@undefinedname'%
10537 }%
10538 \let\Hy@testname\Hy@undefinedname
10539 \fi
10540 \special{!%
10541 aref \expandafter\HyperDestNameFilter
10542 \expandafter{\Hy@testname};%
10543 a=<%
10544 \ifHy@pdfa /F 4\fi
10545 \Hy@setpdfborder
10546 \ifx\CurrentBorderColor\relax

```

```

10547     \else
10548     /C [\CurrentBorderColor]%
10549     \fi
10550     >%
10551     }%
10552     \fi
10553 }
10554 \def\hyper@linkend{%
10555     \special{!endaref}%
10556     \Hy@endcolorlink
10557 }
10558 \def\hyper@linkfile#1#2#3{%
10559     \leavevmode
10560     \def\Hy@pstringF{#2}%
10561     \Hy@CleanupFile\Hy@pstringF
10562     \special{!%
10563         aref <%
10564         \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10565         f=\Hy@pstringF>#3;%
10566         a=<%
10567         \ifHy@pdfa /F 4\fi
10568         \Hy@setpdfborder
10569         \ifx\@filebordercolor\relax
10570         \else
10571         /C [\@filebordercolor]%
10572         \fi
10573         >%
10574     }%
10575     \Hy@colorlink\@filecolor
10576     #1\Hy@xspace@end
10577     \Hy@endcolorlink
10578     \special{!endaref}%
10579 }
10580 \def\hyper@linkurl#1#2{%
10581     \begingroup
10582     \Hy@pstringdef\Hy@pstringURI{#2}%
10583     \hyper@chars
10584     \leavevmode
10585     \special{!%
10586         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10587         \ifHy@href@ismap
10588         /IsMap true%
10589         \fi
10590         \Hy@href@nextactionraw
10591         >;%
10592         a=<%
10593         \ifHy@pdfa /F 4\fi
10594         \Hy@setpdfborder
10595         \ifx\@urlbordercolor\relax
10596         \else
10597         /C [\@urlbordercolor]%
10598         \fi
10599         >%
10600     }%
10601     \Hy@colorlink\@urlcolor
10602     #1\Hy@xspace@end
10603     \Hy@endcolorlink

```



```

10604 \special{!endaref}%
10605 \endgroup
10606 }
10607 \def\hyper@link#1#2#3{%
10608 \Hy@VerboseLinkStart{#1}{#2}%
10609 \ltx@ifundefined{#@#1bordercolor}{%
10610 \let\CurrentBorderColor\relax
10611 }{%
10612 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10613 }%
10614 \leavevmode
10615 \protected@edef\Hy@testname{#2}%
10616 \ifx\Hy@testname\@empty
10617 \Hy@Warning{%
10618 Empty destination name,\MessageBreak
10619 using '\Hy@undefinedname'%
10620 }%
10621 \let\Hy@testname\Hy@undefinedname
10622 \fi
10623 \special{!%
10624 aref \expandafter\HyperDestNameFilter
10625 \expandafter{\Hy@testname};%
10626 a=<%
10627 \ifHy@pdfa /F 4\fi
10628 \Hy@setpdfborder
10629 \ifx\CurrentBorderColor\relax
10630 \else
10631 /C [\CurrentBorderColor]%
10632 \fi
10633 >%
10634 }%
10635 \expandafter
10636 \Hy@colorlink\csname @#1color\endcsname
10637 #3\Hy@xspace@end
10638 \Hy@endcolorlink
10639 \special{!endaref}%
10640 }
10641 \def\hyper@image#1#2{%
10642 \hyper@linkurl{#2}{#1}%
10643 }
10644 \def\@hyper@launch run:#1\#2#3{%
10645 \Hy@pstringdef\Hy@pstringF{#1}%
10646 \Hy@pstringdef\Hy@pstringP{#3}%
10647 \leavevmode
10648 \special{!aref %
10649 <u=%
10650 /Type/Action%
10651 /S/Launch%
10652 /F(\Hy@pstringF)%
10653 \Hy@SetNewWindow
10654 \ifx\#3\%
10655 \else
10656 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10657 \fi
10658 \Hy@href@nextactionraw
10659 >,%
10660 a=<%

```

```

10661 \ifHy@pdfa /F 4\fi
10662 \Hy@setpdfborder
10663 \ifx\@runbordercolor\relax
10664 \else
10665 /C[\@runbordercolor]%
10666 \fi
10667 >%
10668 }%
10669 \Hy@colorlink\@runcolor
10670 #2\Hy@xspace@end
10671 \Hy@endcolorlink
10672 \special{!endaref}%
10673 }
10674 \def\Acrobatmenu#1#2{%
10675 \EdefEscapeName\Hy@temp@menu{#1}%
10676 \Hy@Acrobatmenu{#1}{#2}{%
10677 \special{!%
10678 aref <u=/S /Named /N /\Hy@temp@menu>;%
10679 a=<%
10680 \ifHy@pdfa /F 4\fi
10681 \Hy@setpdfborder
10682 \ifx\@menubordercolor\relax
10683 \else
10684 /C[\@menubordercolor]%
10685 \fi
10686 >%
10687 }%
10688 \Hy@colorlink\@menucolor
10689 #2\Hy@xspace@end
10690 \Hy@endcolorlink
10691 \special{!endaref}%
10692 }%
10693 }

```

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*.

```

10694 \ifnum\Hy@VTeXversion<702 %
10695 \else
10696 \def\hyper@pagetransition{%
10697 \ifx\@pdfpagetransition\relax
10698 \else
10699 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10700 \else
10701 \hvtex@parse@trans\@pdfpagetransition
10702 \fi
10703 \fi
10704 }%

```

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:

```

10705 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10706 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10707 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10708 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10709 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10710 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10711 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10712 \def\hvtex@par@dimension{/Dm}%
10713 \def\hvtex@par@direction{/Di}%
10714 \def\hvtex@par@duration{/D}%
10715 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10716 \def\hvtex@gettoken{%
10717   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10718 }%

```

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

```

10719 \def\hvtex@gettoken@#1 #2\@nil{%
10720   \edef\hvtex@token{#1}%
10721   \edef\hvtex@buffer{#2}%
10722 }%
10723 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10724 \let\hvtex@trans@code\@empty
10725 \let\hvtex@param@dimension\@empty
10726 \let\hvtex@param@direction\@empty
10727 \let\hvtex@param@duration\@empty
10728 \let\hvtex@param@motion\@empty
10729 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10730 \hvtex@gettoken
10731 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10732 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10733   \else
10734     \hvtex@gettoken
10735   \fi
10736 \fi
10737 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```
10738 \hvtex@trans@params
10739 }%
```

Reentrant macro to parse optional parameters.

```
10740 \def\hvtex@trans@params{%
10741 \ifx\hvtex@buffer\@empty
10742 \else
10743 \hvtex@gettoken
10744 \let\hvtex@trans@par\hvtex@token
10745 \ifx\hvtex@buffer\@empty
10746 \else
10747 \hvtex@gettoken
10748 \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
10749 \let\hvtex@param@duration\hvtex@token
10750 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10751 \expandafter\edef\expandafter\hvtex@param@motion
10752 \expandafter{\expandafter\@gobble\hvtex@token}%
10753 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10754 \expandafter\edef\expandafter\hvtex@param@dimension
10755 \expandafter{\expandafter\@gobble\hvtex@token}%
10756 \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).

```
10757 \let\hvtex@param@direction\hvtex@token
10758 \fi\fi\fi
10759 \fi
10760 \fi
10761 \ifx\hvtex@buffer\@empty
10762 \let\next\hvtex@produce@trans
10763 \else
10764 \let\next\hvtex@trans@params
10765 \fi
10766 \next
10767 }%
```

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

```
10768 \def\hvtex@produce@trans{%
10769 \let\vtex@trans@special\@empty
10770 \if S\hvtex@trans@code
10771 \edef\vtex@trans@special{\hvtex@trans@code
10772 \hvtex@param@dimension\hvtex@param@motion}%
10773 \else\if B\hvtex@trans@code
10774 \edef\vtex@trans@special{%
10775 \hvtex@trans@code\hvtex@param@dimension
10776 }%
10777 \else\if X\hvtex@trans@code
10778 \edef\vtex@trans@special{%
10779 \hvtex@trans@code\hvtex@param@motion
10780 }%
10781 \else\if W\hvtex@trans@code
```

```

10782 \edef\vtex@trans@special{%
10783   \hvtex@trans@code\hvtex@param@direction
10784 }%
10785 \else\if D\hvtex@trans@code
10786   \let\vtex@trans@special\hvtex@trans@code
10787 \else\if R\hvtex@trans@code
10788   \let\vtex@trans@special\hvtex@trans@code
10789 \else\if G\hvtex@trans@code
10790   \edef\vtex@trans@special{%
10791     \hvtex@trans@code\hvtex@param@direction
10792   }%
10793 \fi\fi\fi\fi\fi\fi
10794 \ifx\vtex@trans@special\@empty
10795   \else
10796     \ifx\hvtex@param@duration\@empty
10797     \else
10798       \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10799   \multiply\dimen@\@m
10800   \edef\vtex@trans@special{%
10801     \vtex@trans@special,\strip@pt\dimen@
10802   }%
10803 \fi

```

And all the mess is just for this.

```

10804   \special{!trans \vtex@trans@special}%
10805 \fi
10806 }%
10807 \def\hyper@pageduration{%
10808   \ifx\@pdfpageduration\relax
10809   \else
10810     \ifx\@pdfpageduration\@empty
10811       \special{!duration-}%
10812     \else
10813       \special{!duration \@pdfpageduration}%
10814     \fi
10815   \fi
10816 }%
10817 \def\hyper@pagehidden{%
10818   \ifHy@useHidKey
10819     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10820   \fi
10821 }%
10822 \g@addto@macro\Hy@EveryPageBoxHook{%
10823   \hyper@pagetransition
10824   \hyper@pageduration
10825   \hyper@pagehidden
10826 }%
10827 \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
10828 \ifx\@pdfproducer\relax
10829 \def\@pdfproducer{VTeX}%
10830 \ifnum\Hy@VTeXversion>\z@
10831 \count@\VTeXversion
10832 \divide\count@ 100 %
10833 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10834 \multiply\count@ -100 %
10835 \advance\count@\VTeXversion
10836 \edef\@pdfproducer{%
10837 \@pdfproducer
10838 .\ifnum\count@<10 0\fi\the\count@
10839 \ifx\VTeXOS\@undefined\else
10840 \ifnum\VTeXOS>0 %
10841 \ifnum\VTeXOS<6 %
10842 \space(
10843 \ifcase\VTeXOS
10844 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10845 \fi
10846 )%
10847 \fi
10848 \fi
10849 \fi
10850 ,\space
10851 \ifnum\OpMode=\@one PDF\else PS\fi
10852 \space backend%
10853 \ifx\gexmode\@undefined\else
10854 \ifnum\gexmode>\z@\space with GeX\fi
10855 \fi
10856 }%
10857 \fi
10858 \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).

```

10859 \def\PDF@SetupDoc{%
10860 \ifx\@pdfpagescrop\@empty
10861 \else
10862 \special{!pdfinfo b=<\@pdfpagescrop>}%
10863 \fi

```

```

10864 \ifx\@pdfstartpage\@empty
10865 \else
10866 \ifx\@pdfstartview\@empty
10867 \else
10868 \special{!onopen Page\@pdfstartpage}%
10869 \fi
10870 \fi
10871 \special{!pdfinfo p=</\@pdfpagemode>}%
10872 \ifx\@baseurl\@empty
10873 \else
10874 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10875 \fi
10876 \special{!pdfinfo v=<<<%
10877 \ifHy@pdftoolbar\else /HideToolbar true\fi
10878 \ifHy@pdfmenubar\else /HideMenubar true\fi
10879 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10880 \ifHy@pdfwindow /FitWindow true\fi
10881 \ifHy@pdfcenterwindow /CenterWindow true\fi
10882 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10883 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10884 \Hy@UseNameKey{Direction}\@pdfdirection
10885 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10886 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10887 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10888 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10889 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10890 \Hy@UseNameKey{Duplex}\@pdfduplex
10891 \ifx\@pdfpicktraybypdfsize\@empty
10892 \else
10893 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10894 \fi
10895 \ifx\@pdfprintpagerange\@empty
10896 \else
10897 /PrintPageRange[\@pdfprintpagerange]%
10898 \fi
10899 \ifx\@pdfnumcopies\@empty
10900 \else
10901 /NumCopies \@pdfnumcopies
10902 \fi
10903 >>>}%
10904 \ifx\@pdfpagelayout\@empty
10905 \else
10906 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10907 \fi
10908 }%
10909 \HyInfo@AddonUnsupportedtrue
10910 \define@key{Hyp}{pdfcreationdate}{%
10911 \Hy@Warning{%
10912 VTeX does not support pdfcreationdate.\MessageBreak
10913 Therefore its setting is ignored%
10914 }%
10915 }
10916 \define@key{Hyp}{pdfmoddate}{%
10917 \Hy@Warning{%
10918 VTeX does not support pdfmoddate.\MessageBreak
10919 Therefore its setting is ignored%
10920 }%

```

```

10921 }
10922 \def\PDF@FinishDoc{%
10923   \Hy@UseMaketitleInfos
10924   \HyInfo@TrappedUnsupported
10925   \special{!pdfinfo a=<\@pdfauthor>}%
10926   \special{!pdfinfo t=<\@pdftitle>}%
10927   \special{!pdfinfo s=<\@pdfsubject>}%
10928   \special{!pdfinfo c=<\@pdfcreator>}%
10929   \ifx\@pdfproducer\relax
10930   \else
10931     \special{!pdfinfo r=<\@pdfproducer>}%
10932   \fi
10933   \special{!pdfinfo k=<\@pdfkeywords>}%
10934   \Hy@DisableOption{pdfauthor}%
10935   \Hy@DisableOption{pdftitle}%
10936   \Hy@DisableOption{pdfsubject}%
10937   \Hy@DisableOption{pdfcreator}%
10938   \Hy@DisableOption{pdfcreationdate}%
10939   \Hy@DisableOption{pdfmoddate}%
10940   \Hy@DisableOption{pdfproducer}%
10941   \Hy@DisableOption{pdfkeywords}%
10942   \Hy@DisableOption{pdftrapped}%
10943   \Hy@DisableOption{pdfinfo}%
10944 }
10945 </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.

```

10946 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10947 <package>\providecommand*{\Hy@DistillerDestFix}{%
10948 <*pdfmark | dviwindo>
10949 \def\Hy@DistillerDestFix{%
10950   \begingroup
10951     \let\x\literalps@out

```

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

```

10952   \ifnum \@ifundefined{OpMode}{0}{%
10953     \@ifundefined{gexmode}{0}{%
10954       \ifnum\gexmode>0 \OpMode\else 0\fi
10955     }>1 %
10956   \def\x##1{%
10957     \immediate\special{!=##1}%
10958   }%
10959   \fi
10960   \x{%
10961     /product where{%
10962       pop %

```



```

10963     product(Distiller)search{%
10964     pop pop pop %
10965     version(.)search{%
10966     exch pop exch pop%
10967     (3011)eq{%
10968     gsave %
10969     newpath 0 0 moveto closepath clip%
10970     /Courier findfont 10 scalefont setfont %
10971     72 72 moveto(.)show %
10972     grestore%
10973     }if%
10974     }{pop}ifelse%
10975     }{pop}ifelse%
10976     }if%
10977     }%
10978 \endgroup
10979 }
10980 </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

```

```

10981 (*pdfmark)
10982 \Hy@breaklinks@unsupported
10983 \def\HyPat@ObjRef{%
10984   \[~{}]+\}%
10985 }
10986 \Hy@WrapperDef\hyper@anchor#1{%
10987   \Hy@SaveLastskip
10988   \Hy@VerboseAnchor{#1}%
10989   \begingroup
10990     \pdfmark[\anchor@spot]{%
10991       pdfmark=/DEST,%
10992       linktype=anchor,%
10993       View=/\@pdfview \@pdfviewparams,%
10994       DestAnchor={#1}%
10995     }%
10996   \endgroup
10997   \Hy@RestoreLastskip
10998 }
10999 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11000 \Hy@WrapperDef\hyper@anchorstart#1{%
11001   \Hy@SaveLastskip
11002   \Hy@VerboseAnchor{#1}%
11003   \literalps@out{H.S}%

```

```

11004 \Hy@AllowHyphens
11005 \xdef\hyper@currentanchor{#1}%
11006 \Hy@activeanchortrue
11007 }
11008 \def\hyper@anchorend{%
11009 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11010 \pdfmark{%
11011 pdfmark=/DEST,%
11012 linktype=anchor,%
11013 View=/\@pdfview \@pdfviewparams,%
11014 DestAnchor=\hyper@currentanchor,%
11015 }%
11016 \Hy@activeanchorfalse
11017 \Hy@RestoreLastskip
11018 }
11019 \def\hyper@linkstart#1#2{%
11020 \Hy@VerboseLinkStart{#1}{#2}%
11021 \ifHy@breaklinks
11022 \else
11023 \leavevmode
11024 \ifmmode
11025 \def\Hy@LinkMath{$}%
11026 \else
11027 \let\Hy@LinkMath\ltx@empty
11028 \fi
11029 \Hy@SaveSpaceFactor
11030 \hbox\bgroup
11031 \Hy@RestoreSpaceFactor
11032 \Hy@LinkMath
11033 \fi
11034 \expandafter\Hy@colorlink\csname @#1color\endcsname
11035 \literalps@out{H.S}%
11036 \Hy@AllowHyphens
11037 \xdef\hyper@currentanchor{#2}%
11038 \gdef\hyper@currentlinktype{#1}%
11039 }
11040 \def\hyper@linkend{%
11041 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11042 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11043 \let\Hy@tempcolor\relax
11044 }{%
11045 \edef\Hy@tempcolor{%
11046 \csname @\hyper@currentlinktype bordercolor\endcsname
11047 }%
11048 }%
11049 \pdfmark{%
11050 pdfmark=/ANN,%
11051 linktype=link,%
11052 Subtype=/Link,%
11053 PDFAFlags=4,%
11054 Dest=\hyper@currentanchor,%
11055 AcroHighlight=\@pdfhighlight,%
11056 Border=\@pdfborder,%
11057 BorderStyle=\@pdfborderstyle,%
11058 Color=\Hy@tempcolor,%
11059 Raw=H.B%
11060 }%

```

```

11061 \Hy@endcolorlink
11062 \ifHy@breaklinks
11063 \else
11064 \Hy@LinkMath
11065 \Hy@SaveSpaceFactor
11066 \egroup
11067 \Hy@RestoreSpaceFactor
11068 \fi
11069 }

```

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.

```

11070 \beginingroup
11071 \catcode'P=12 %
11072 \catcode'T=12 %
11073 \lowercase{\endgroup
11074 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11075 }
11076 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11077 \def\hyper@pagetransition{%
11078 \ifx\@pdfpagetransition\relax
11079 \else
11080 \ifx\@pdfpagetransition\@empty
11081 % 1. Does an old entry have to be deleted?
11082 % 2. If 1=yes, how to delete?
11083 \else
11084 \pdfmark{%
11085 pdfmark=/PUT,%
11086 Raw={%
11087 \string{ThisPage\string}%
11088 <</Trans << /S /\@pdfpagetransition\space >> >>%
11089 }%
11090 }%
11091 \fi
11092 \fi
11093 }

```

`\hyper@pageduration`

```

11094 \def\hyper@pageduration{%
11095 \ifx\@pdfpageduration\relax
11096 \else
11097 \ifx\@pdfpageduration\@empty
11098 % 1. Does an old entry have to be deleted?
11099 % 2. If 1=yes, how to delete?
11100 \else
11101 \pdfmark{%
11102 pdfmark=/PUT,%
11103 Raw={%
11104 \string{ThisPage\string}%
11105 <</Dur \@pdfpageduration>>%
11106 }%
11107 }%
11108 \fi
11109 \fi
11110 }

```

\hyper@pagehidden

```
11111 \def\hyper@pagehidden{%
11112   \ifHy@useHidKey
11113     \pdfmark{%
11114       pdfmark=/PUT,%
11115       Raw={%
11116         \string{ThisPage\string}%
11117         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11118       }%
11119     }%
11120   \fi
11121 }

11122 \g@addto@macro\Hy@EveryPageBoxHook{%
11123   \hyper@pagetransition
11124   \hyper@pageduration
11125   \hyper@pagehidden
11126 }

11127 \def\hyper@image#1#2{%
11128   \hyper@linkurl{#2}{#1}%
11129 }
11130 \def\Hy@undefinedname{UNDEFINED}
11131 \def\hyper@link#1#2#3{%
11132   \Hy@VerboseLinkStart{#1}{#2}%
11133   \ltx@ifundefined{#1bordercolor}{%
11134     \let\Hy@tempcolor\relax
11135   }{%
11136     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11137   }%
11138   \begingroup
11139   \protected@edef\Hy@testname{#2}%
11140   \ifx\Hy@testname\@empty
11141     \Hy@Warning{%
11142       Empty destination name,\MessageBreak
11143       using '\Hy@undefinedname'%
11144     }%
11145     \let\Hy@testname\Hy@undefinedname
11146   \fi
11147   \pdfmark[{#3}]{%
11148     Color=\Hy@tempcolor,%
11149     linktype={#1},%
11150     AcroHighlight=\@pdfhighlight,%
11151     Border=\@pdfborder,%
11152     BorderStyle=\@pdfborderstyle,%
11153     pdfmark=/ANN,%
11154     Subtype=/Link,%
11155     PDFAFlags=4,%
11156     Dest=\Hy@testname
11157   }%
11158   \endgroup
11159 }
11160 \newtoks\pdf@docset
11161 \def\PDF@FinishDoc{%
11162   \Hy@UseMaketitleInfos
11163   \Hy@Info@GenerateAddons
11164   \let\Hy@temp\@empty
11165   \ifx\@pdfcreationdate\@empty
```

```

11166 \else
11167   \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11168 \fi
11169 \ifx\@pdfmoddate\@empty
11170 \else
11171   \expandafter\def\expandafter\Hy@temp\expandafter{%
11172     \Hy@temp
11173     ModDate=\@pdfmoddate,%
11174   }%
11175 \fi
11176 \ifx\@pdfproducer\relax
11177 \else
11178   \expandafter\def\expandafter\Hy@temp\expandafter{%
11179     \Hy@temp
11180     Producer=\@pdfproducer,%
11181   }%
11182 \fi
11183 \expandafter
11184 \pdfmark\expandafter{%
11185   \Hy@temp
11186   pdfmark=/DOCINFO,%
11187   Title=\@pdftitle,%
11188   Subject=\@pdfsubject,%
11189   Creator=\@pdfcreator,%
11190   Author=\@pdfauthor,%
11191   Keywords=\@pdfkeywords,%
11192   Trapped=\@pdftrapped
11193 }%
11194 \ifx\HyInfo@Addons\@empty
11195 \else
11196   \pdfmark{%
11197     pdfmark=/DOCINFO,%
11198     Raw={\HyInfo@Addons}%
11199   }%
11200 \fi
11201 \Hy@DisableOption{pdfauthor}%
11202 \Hy@DisableOption{pdftitle}%
11203 \Hy@DisableOption{pdfsubject}%
11204 \Hy@DisableOption{pdfcreator}%
11205 \Hy@DisableOption{pdfcreationdate}%
11206 \Hy@DisableOption{pdfmoddate}%
11207 \Hy@DisableOption{pdfproducer}%
11208 \Hy@DisableOption{pdfkeywords}%
11209 \Hy@DisableOption{pdftrapped}%
11210 \Hy@DisableOption{pdfinfo}%
11211 }
11212 \def\PDF@SetupDoc{%
11213   \def\Hy@temp{}%
11214   \ifx\@pdfstartpage\@empty
11215   \else
11216     \ifx\@pdfstartview\@empty
11217     \else
11218       \edef\Hy@temp{%
11219         ,Page=\@pdfstartpage
11220         ,View=\@pdfstartview
11221       }%
11222     \fi

```

```

11223 \fi
11224 \edef\Hy@temp{%
11225   \noexpand\pdfmark{%
11226     pdfmark=/DOCVIEW,%
11227     PageMode=/\@pdfpagemode
11228     \Hy@temp
11229   }%
11230 }%
11231 \Hy@temp
11232 \ifx\@pdfpagescrop\@empty
11233 \else
11234   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11235 \fi
11236 \edef\Hy@temp{%
11237   \ifHy@pdftoolbar\else /HideToolbar true\fi
11238   \ifHy@pdfmenubar\else /HideMenubar true\fi
11239   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11240   \ifHy@pdfwindow /FitWindow true\fi
11241   \ifHy@pdfcenterwindow /CenterWindow true\fi
11242   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11243   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11244   \Hy@UseNameKey{Direction}\@pdfdirection
11245   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11246   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11247   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11248   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11249   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11250   \Hy@UseNameKey{Duplex}\@pdfduplex
11251   \ifx\@pdfpicktraybypdfsize\@empty
11252   \else
11253     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11254   \fi
11255   \ifx\@pdfprintpagerange\@empty
11256   \else
11257     /PrintPageRange[\@pdfprintpagerange]%
11258   \fi
11259   \ifx\@pdfnumcopies\@empty
11260   \else
11261     /NumCopies \@pdfnumcopies
11262   \fi
11263 }%
11264 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11265 \pdfmark{%
11266   pdfmark=/PUT,%
11267   Raw={%
11268     \string{Catalog\string}<<%
11269     \ifx\Hy@temp\@empty
11270     \else
11271       /ViewerPreferences<<\Hy@temp>>%
11272     \fi
11273     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11274     \ifx\@pdflang\@empty
11275     \else
11276       /Lang(\@pdflang)%
11277     \fi
11278     \ifx\@baseurl\@empty
11279     \else

```

```

11280      /URI<</Base(\Hy@pstringB)>>%
11281      \fi
11282      >>%
11283    }%
11284  }%
11285 }
11286 </pdfmark>
11287 <*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.

```

11288 \newif\ifHy@pdfmarkerror
11289 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11290 \def\pdfmark@[#1]#2{%
11291   \Hy@pdfmarkerrorfalse
11292   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11293   \@processme
11294   \let\pdf@type\relax
11295   \kvsetkeys{PDF}{#2}%
11296   \ifHy@pdfmarkerror
11297   \else
11298     \ifx\pdf@type\relax
11299       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11300       \ifx\\#1\\%
11301         \else
11302           \pdf@rect{#1}%
11303         \fi
11304       \else
11305         \ifx\\#1\\%
11306           \literalps@out{%
11307             [\the\pdf@toks\space\pdf@type\space pdfmark%
11308             ]%
11309           \else
11310             \ltx@ifundefined{@\pdf@linktype color}{%
11311               \Hy@colorlink\@linkcolor
11312             }{%
11313               \expandafter\Hy@colorlink
11314               \csname @\pdf@linktype color\endcsname
11315             }%
11316             \pdf@rect{#1}%
11317             \literalps@out{%
11318               [\the\pdf@toks\space\pdf@type\space pdfmark%
11319               ]%
11320               \Hy@endcolorlink
11321             }%
11322           \fi
11323         \fi
11324       }

```

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}
```

```
11325 \newsavebox{\pdf@box}
11326 \providecommand*\Hy@setouterhbox{\sbox}
11327 \providecommand*\Hy@breaklinksunhbox{\unhbox}
11328 \def\Hy@DEST{/DEST}
11329 \def\pdf@rect#1{%
11330   \begingroup
11331   \chardef\x=1 %
11332   \def\Hy@temp{#1}%
11333   \ifx\Hy@temp\ltx@empty
11334     \chardef\x=0 %
11335   \else
11336     \def\y{\anchor@spot}%
11337     \ifx\Hy@temp\y
11338       \def\y{\relax}%
11339     \ifx\anchor@spot\y
11340       \chardef\x=0 %
11341     \fi
11342   \fi
11343   \fi
11344   \expandafter\endgroup
11345   \ifcase\x
11346     \literalps@out{H.S}%
11347     \literalps@out{H.R}%
11348   \else
11349     \leavevmode
11350     \Hy@SaveSpaceFactor
11351     \ifmmode
11352       \def\Hy@LinkMath{$}%
11353     \else
11354       \let\Hy@LinkMath\ltx@empty
11355     \fi
11356     \ifHy@breaklinks
11357       \Hy@setouterhbox\pdf@box{%
11358         \Hy@RestoreSpaceFactor
11359         \Hy@LinkMath
11360         \Hy@AllowHyphens#1\Hy@xspace@end
11361         \Hy@LinkMath
11362         \Hy@SaveSpaceFactor
11363       }%
11364     \else
11365       \sbox\pdf@box{%
11366         \Hy@RestoreSpaceFactor
11367         \Hy@LinkMath
11368         #1\Hy@xspace@end
11369         \Hy@LinkMath
11370         \Hy@SaveSpaceFactor
11371       }%
11372     \fi
11373     \dimen@ht\pdf@box
11374     \ifdim\dp\pdf@box=\z@
```



```

11375 \literalps@out{H.S}%
11376 \else
11377 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11378 \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...).

```

11379 \ifHy@breaklinks
11380 \ifhmode
11381 \Hy@breaklinksunhbox\pdf@box
11382 \else
11383 \box\pdf@box
11384 \fi
11385 \else
11386 \expandafter\box\pdf@box
11387 \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

11388 \ifdim\dimen@=\z@
11389 \literalps@out{H.R}%
11390 \else
11391 \raise\dimen@\hbox{\literalps@out{H.R}}%
11392 \fi
11393 \Hy@RestoreSpaceFactor
11394 \fi
11395 \ifx\pdf@type\Hy@DEST
11396 \else
11397 \pdf@addtoksx{H.B}%
11398 \fi
11399 }

```

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.

```

11400 \newtoks\pdf@toks
11401 \newtoks\pdf@defaulttoks
11402 \pdf@defaulttoks={}%
11403 \def\pdf@addtoks#1#2{%
11404 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11405 \@processme
11406 }
11407 \def\pdf@addtoksx#1{%
11408 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11409 \@processme
11410 }
11411 \def\PDFdefaults#1{%
11412 \pdf@defaulttoks={#1}%
11413 }

```

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

```

11414 % what is the type of pdfmark?
11415 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11416 % what is the link type?
11417 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}

```

```

11418 \def\pdf@linktype{link}
11419 % parameter is a stream of PDF
11420 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11421 % parameter is a name
11422 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11423 % parameter is a array
11424 \define@key{PDF}{Border}{%
11425   \edef\Hy@temp{#1}%
11426   \ifx\Hy@temp\@empty
11427     \else
11428       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11429     \fi
11430 }
11431 \let\Hy@BorderArrayPatch\@empty
11432 % parameter is a dictionary
11433 \define@key{PDF}{BorderStyle}{%
11434   \edef\Hy@temp{#1}%
11435   \ifx\Hy@temp\@empty
11436     \else
11437       \pdf@addtoks{<<#1>>}{BS}%
11438     \fi
11439 }
11440 % parameter is a array
11441 \define@key{PDF}{Color}{%
11442   \ifx\relax#1\relax
11443     \else
11444       \pdf@addtoks{[#1]}{Color}% hash-ok
11445     \fi
11446 }
11447 % parameter is a string
11448 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11449 % parameter is a integer
11450 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11451 % parameter is a array
11452 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11453 % parameter is a string
11454 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11455 % parameter is a string or file
11456 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11457 % parameter is a destination
11458 \define@key{PDF}{Dest}{%
11459   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11460   \ifx\Hy@pstringDest\@empty
11461     \Hy@pdfmarkerrortrue
11462     \Hy@Warning{Destination with empty name ignored}%
11463   \else
11464     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11465   \fi
11466 }
11467 \define@key{PDF}{DestAnchor}{%
11468   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11469   \ifx\Hy@pstringDest\@empty
11470     \Hy@pdfmarkerrortrue
11471     \Hy@Warning{Destination with empty name ignored}%
11472   \else
11473     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11474   \fi

```

```

11475 }
11476 % parameter is a string
11477 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11478 % parameter is a string
11479 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11480 % parameter is a int
11481 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11482 \define@key{PDF}{PDFAFlags}{%
11483   \ifHy@pdfa
11484     \pdf@addtoks{#1}{F}%
11485   \fi
11486 }
11487 % parameter is a name
11488 \define@key{PDF}{AcroHighlight}{%
11489   \begingroup
11490     \edef\x{#1}%
11491     \expandafter\endgroup\ifx\x\@empty
11492     \else
11493       \pdf@addtoks{#1}{H}%
11494     \fi
11495 }
11496 % parameter is a string
11497 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11498 % parameter is a string
11499 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11500 % parameter is a string
11501 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11502 % parameter is a string
11503 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11504 % parameter is a Boolean
11505 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11506 % parameter is a integer or name
11507 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11508 % parameter is a name
11509 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11510 % parameter is a string
11511 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11512 % parameter is a array
11513 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11514 % parameter is a integer
11515 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11516 % parameter is a name
11517 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11518 % parameter is a string
11519 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11520 % parameter is a string
11521 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11522 % parameter is a string
11523 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11524 % parameter is an array
11525 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11526 % parameter is a string
11527 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

These are the keys used in the DOCINFO section.
11528 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11529 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11530 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}

```

```

11531 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11532 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11533 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11534 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11535 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11536 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11537 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11538 \define@key{PDF}{Trapped}{%
11539   \edef\Hy@temp{#1}%
11540   \ifx\Hy@temp\@empty
11541   \else
11542     \pdf@addtoks{/#1}{Trapped}%
11543   \fi
11544 }
11545
11546 \pdfmarkbase)
11547 \pdfmark
11548 \def\Acrobatmenu#1#2{%
11549   \edef\EscapeName\Hy@temp@menu{#1}%
11550   \Hy@Acrobatmenu{#1}{#2}{%
11551     \pdfmark[{#2}]{%
11552       linktype=menu,%
11553       pdfmark=/ANN,%
11554       AcroHighlight=\pdfhighlight,%
11555       Border=\pdfborder,%
11556       BorderStyle=\pdfborderstyle,%
11557       Color=\menubordercolor,%
11558       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11559       Subtype=/Link,%
11560       PDFAFlags=4%
11561     }%
11562   }%
11563 }

```

And now for some useful examples:

```

11564 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11565 \def\PDFNextPage@[#1]#2{%
11566   \pdfmark[{#2}]{%
11567     #1,%
11568     Border=\pdfborder,%
11569     BorderStyle=\pdfborderstyle,%
11570     Color=.2 .1 .5,%
11571     pdfmark=/ANN,%
11572     Subtype=/Link,%
11573     PDFAFlags=4,%
11574     Page=/Next%
11575   }%
11576 }
11577 \def\PDFPreviousPage{%
11578   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11579 }
11580 \def\PDFPreviousPage@[#1]#2{%
11581   \pdfmark[{#2}]{%
11582     #1,%
11583     Border=\pdfborder,%
11584     BorderStyle=\pdfborderstyle,%
11585     Color=.4 .4 .1,%
11586     pdfmark=/ANN,%

```

```

11587 Subtype=/Link,%
11588 PDFAFlags=4,%
11589 Page=/Prev%
11590 }%
11591 }
11592 \def\PDFOpen#1{%
11593 \pdfmark{#1,pdfmark=/DOCVIEW}%
11594 }

```

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

```

11595 \def\hyper@linkurl#1#2{%
11596 \begingroup
11597 \Hy@pstringdef\Hy@pstringURI{#2}%
11598 \hyper@chars
11599 \leavevmode
11600 \pdfmark[{#1}]{%
11601 pdfmark=/ANN,%
11602 linktype=url,%
11603 AcroHighlight=\@pdfhighlight,%
11604 Border=\@pdfborder,%
11605 BorderStyle=\@pdfborderstyle,%
11606 Color=\@urlbordercolor,%
11607 Action={<<%
11608 /Subtype/URI%
11609 /URI(\Hy@pstringURI)%
11610 \ifHy@href@ismap
11611 /IsMap true%
11612 \fi
11613 >>},%
11614 Subtype=/Link,%
11615 PDFAFlags=4%
11616 }%
11617 \endgroup
11618 }
11619 \def\hyper@linkfile#1#2#3{%
11620 \begingroup
11621 \def\Hy@pstringF{#2}%
11622 \Hy@CleanupFile\Hy@pstringF
11623 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11624 \Hy@pstringdef\Hy@pstringD{#3}%
11625 \Hy@MakeRemoteAction
11626 \leavevmode
11627 \pdfmark[{#1}]{%
11628 pdfmark=/ANN,%
11629 Subtype=/Link,%
11630 PDFAFlags=4,%
11631 AcroHighlight=\@pdfhighlight,%
11632 Border=\@pdfborder,%
11633 BorderStyle=\@pdfborderstyle,%
11634 linktype=file,%
11635 Color=\@filebordercolor,%
11636 Action={%
11637 <<%
11638 /S/GoToR%
11639 \Hy@SetNewWindow
11640 /F(\Hy@pstringF)%
11641 /D%
11642 \ifx\#3\%

```

```

11643      [\Hy@href@page\@pdfremotestartview]%
11644      \else
11645      (\Hy@pstringD)cvn%
11646      \fi
11647      \Hy@href@nextactionraw
11648      >>%
11649      }%
11650      }%
11651      \endgroup
11652      }
11653      \def\@hyper@launch run:#1\|#2#3{%
11654      \begingroup
11655      \Hy@pstringdef\Hy@pstringF{#1}%
11656      \Hy@pstringdef\Hy@pstringP{#3}%
11657      \leavevmode
11658      \pdfmark[{#2}]{%
11659      pdfmark=/ANN,%
11660      Subtype=/Link,%
11661      PDFAFlags=4,%
11662      AcroHighlight=\@pdfhighlight,%
11663      Border=\@pdfborder,%
11664      BorderStyle=\@pdfborderstyle,%
11665      linktype=run,%
11666      Color=\@runbordercolor,%
11667      Action={%
11668      <<%
11669      /S/Launch%
11670      \Hy@SetNewWindow
11671      /F(\Hy@pstringF)%
11672      \ifx\|#3\|
11673      \else
11674      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11675      \fi
11676      \Hy@href@nextactionraw
11677      >>%
11678      }%
11679      }%
11680      \endgroup
11681      }
11682      \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.

```

11683 (*dvips)
11684 \providecommand*\XR@ext\{pdf}
11685 \let\Hy@raisedlink\ltx@empty
11686 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11687 \def\headerps@out#1{\special{! #1}}%
11688 \input{pdfmark.def}%
11689 \ifx\@pdfproducer\relax

```

```

11690 \def\@pdfproducer{dvips + Distiller}%
11691 \fi
11692 \providecommand*\@pdfborder{0 0 1}
11693 \providecommand*\@pdfborderstyle{}
11694 \providecommand*\@pdfview{XYZ}
11695 \providecommand*\@pdfviewparams{ H.V}
11696 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11697 \g@addto@macro\Hy@FirstPageHook{%
11698 \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.

```

11699 /DvipsToPDF{72.27 mul Resolution div} def%
11700 /PDFToDvips{72.27 div Resolution mul} def%
11701 /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.

```

11702 /BorderArrayPatch{%
11703   [exch{%
11704     dup dup type/integertype eq exch type/realtype eq or%
11705     {BPToDvips}if%
11706   }forall]%
11707 }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.

```

11708 /HyperBorder {1 PDFToDvips} def%
11709 /H.V {pdf@hoff pdf@voff null} def%
11710 /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

```

11711 /H.S {%
11712   currentpoint %
11713   HyperBorder add /pdf@lly exch def %
11714   dup DvipsToPDF 72 add /pdf@hoff exch def %
11715   HyperBorder sub /pdf@llx exch def%
11716 } 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`

```

11717 /H.L {%
11718 2 sub dup%
11719 /HyperBasePt exch def %
11720 PDFToDvips /HyperBaseDvips exch def %
11721 currentpoint %
11722 HyperBaseDvips sub /pdf@ury exch def%
11723 /pdf@urx exch def%
11724 } def%
11725 /H.A {%
11726 H.L %
11727 % |pdf@voff| = the distance from the top of the page to a point
11728 % |\baselineskip| above the current point in PDF coordinates
11729 currentpoint exch pop %
11730 vsize 72 sub exch DvipsToPDF %
11731 HyperBasePt sub % baseline skip
11732 sub /pdf@voff exch def%
11733 } def%
11734 /H.R {%
11735 currentpoint %
11736 HyperBorder sub /pdf@ury exch def %
11737 HyperBorder add /pdf@urx exch def %
11738 % |pdf@voff| = the distance from the top of the page to the current point, in
11739 % PDF coordinates
11740 currentpoint exch pop vsize 72 sub %
11741 exch DvipsToPDF sub /pdf@voff exch def%
11742 } def%
11743 }%
11744 }
11745 \AtBeginShipoutFirst{%
11746 \ifHy@setpagesize
11747 \begingroup
11748 \@ifundefined{stockwidth}{%
11749 \ifdim\paperwidth>\z@
11750 \ifdim\paperheight>\z@
11751 \special{papersize=\the\paperwidth,\the\paperheight}%
11752 \fi
11753 \fi
11754 }{%
11755 \ifdim\stockwidth>\z@
11756 \ifdim\stockheight>\z@
11757 \special{papersize=\the\stockwidth,\the\stockheight}%
11758 \fi
11759 \fi
11760 }%
11761 \endgroup
11762 \fi
11763 \Hy@DisableOption{setpagesize}%
11764 }
11765 </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.

```

11766 (*vtexpdfmark)
11767 \providecommand*\XR@ext}{pdf}
11768 \let\Hy@raisedlink\ltx@empty
11769 \def\literalps@out#1{\special{pS:#1}}%
11770 \def\headerps@out#1{\immediate\special{pS:#1}}%
11771 \input{pdfmark.def}%
11772 \ifx\@pdfproducer\relax
11773   \ifnum\OpMode=\@ne
11774     \def\@pdfproducer{VTeX}%
11775   \else
11776     \def\@pdfproducer{VTeX + Distiller}%
11777   \fi
11778 \fi
11779 \providecommand*\@pdfborder{0 0 1}
11780 \providecommand*\@pdfborderstyle{}
11781 \providecommand*\@pdfview{XYZ}
11782 \providecommand*\@pdfviewparams{ H.V}
11783 \g@addto@macro\Hy@FirstPageHook{%
11784   \headerps@out{%
11785     /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.

```

11786   /HyperBorder {1} def%
11787   /H.V {pdf@hoff pdf@voff null} def%
11788   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11789   /H.S {%
11790     currentpoint %
11791     HyperBorder sub%
11792     /pdf@lly exch def %
11793     dup 72 add /pdf@hoff exch def %
11794     HyperBorder sub%
11795     /pdf@llx exch def%
11796   } def%

```

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

```

11797   /H.L {%
11798     2 sub%
11799     /HyperBasePt exch def %
11800     currentpoint %
11801     HyperBasePt add HyperBorder add%
11802     /pdf@ury exch def %
11803     HyperBorder add%
11804     /pdf@urx exch def%
11805   } def%
11806   /H.A {%
11807     H.L %
11808     currentpoint exch pop %
11809     vsize 72 sub exch %
11810     HyperBasePt add add%
11811     /pdf@voff exch def%
11812   } def%

```

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

```

11813 /H.R {%
11814   currentpoint %
11815   HyperBorder add%
11816   /pdf@ury exch def %
11817   HyperBorder add%
11818   /pdf@urx exch def %
11819   currentpoint exch pop vsize 72 sub add%
11820   /pdf@voff exch def%
11821 } def%
11822 }%
11823 }
11824 </vtxpdfmark>

```

46.11 Textures

```

11825 <*textures>
11826 \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.

```

11827 \begingroup
11828 \obeylines %
11829 \gdef\Hy@ps@CR{\noexpand
11830 }%
11831 \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`.

```

11832 \def\literalps@out#1{%
11833   \special{postscript 0 0 transform}%
11834   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11835 }%
11836 %

```

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.

```

11837 \def\headerps@out#1{%
11838   \special{%
11839     prepostscript TeXdict begin\Hy@ps@CR

```

```

11840    #1\Hy@ps@CR
11841    end%
11842 }%
11843 }%
11844 %

```

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.

```

11845 \g@addto@macro\Hy@FirstPageHook{%
11846   \headerps@out{%
11847     /betterpdfmark {%
11848       systemdict begin %
11849         dup /BP eq%
11850         {cleartomark gsave nulldevice []%
11851           {dup /EP eq%
11852             {cleartomark cleartomark grestore}%
11853             {cleartomark}%
11854             ifelse%
11855           }ifelse %
11856         end%
11857       }def\Hy@ps@CR
11858     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11859   }% end of \headerps@out
11860 }% end of \AtBeginShipoutFirst
11861 %
11862 \input{pdfmark.def}%
11863 %
11864 \ifx\@pdfproducer\relax
11865   \def\@pdfproducer{Textures + Distiller}%
11866 \fi
11867 \providecommand*\@pdfborder{0 0 1}
11868 \providecommand*\@pdfborderstyle{}
11869 \providecommand*\@pdfview{XYZ}
11870 \providecommand*\@pdfviewparams{ H.V}
11871 %

```

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 .

```

11872 \Hy@AtBeginDocument{%
11873   \headerps@out{%

```

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

```

11874     /vsize {\Hy@pageheight} def%
11875     /DvipsToPDF {} def%
11876     /PDFToDvips {} def%
11877     /BPToDvips {} def%
11878     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11879     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11880     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11881     /H.S {%
11882       currentpoint %
11883       HyperBorder add /pdf@lly exch def %

```

```

11884     dup DvipsToPDF 72 add /pdf@hoff exch def %
11885     HyperBorder sub /pdf@llx exch def%
11886   } def\Hy@ps@CR
11887   /H.L {%
11888     2 sub %
11889     PDFToDvips /HyperBase exch def %
11890     currentpoint %
11891     HyperBase sub /pdf@ury exch def%
11892     /pdf@urx exch def%
11893   } def\Hy@ps@CR
11894   /H.A {%
11895     H.L %
11896     currentpoint exch pop %
11897     vsize 72 sub exch DvipsToPDF %
11898     HyperBase sub % baseline skip
11899     sub /pdf@voff exch def%
11900   } def\Hy@ps@CR
11901   /H.R {%
11902     currentpoint %
11903     HyperBorder sub /pdf@ury exch def %
11904     HyperBorder add /pdf@urx exch def %
11905     currentpoint exch pop vsize 72 sub %
11906     exch DvipsToPDF sub /pdf@voff exch def%
11907   } def\Hy@ps@CR
11908 }%
11909 }

11910 \Hy@AtBeginDocument{%
11911   \ifHy@colorlinks
11912     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11913   \fi
11914 }

```

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.

```

11915 \expandafter\let\expandafter\keepPDF@SetupDoc
11916   \csname PDF@SetupDoc\endcsname
11917 \def\PDF@SetupDoc{%
11918   \ifx\@baseurl\@empty
11919     \else
11920       \special{html:<base href="\@baseurl">}%
11921     \fi
11922   \keepPDF@SetupDoc
11923 }

11924 \Hy@WrapperDef\hyper@anchor#1{%
11925   \Hy@SaveLastskip
11926   \Hy@VerboseAnchor{#1}%
11927   \begingroup
11928     \let\protect=\string
11929     \special{html:<a name=%
11930       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11931   \endgroup
11932   \Hy@activeanchortrue
11933   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11934   \special{html:</a>}%
11935   \Hy@activeanchorfalse
11936   \Hy@RestoreLastskip

```

```

11937 }
11938 \Hy@WrapperDef\hyper@anchorstart#1{%
11939   \Hy@SaveLastskip
11940   \Hy@VerboseAnchor{#1}%
11941   \begingroup
11942     \hyper@chars
11943     \special{html:<a name=%
11944       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11945   \endgroup
11946   \Hy@activeanchortrue
11947 }
11948 \def\hyper@anchorend{%
11949   \special{html:</a>}%
11950   \Hy@activeanchorfalse
11951   \Hy@RestoreLastskip
11952 }
11953 \def\@urltype{url}
11954 \def\hyper@linkstart#1#2{%
11955   \Hy@VerboseLinkStart{#1}{#2}%
11956   \expandafter\Hy@colorlink\csname @#1color\endcsname
11957   \def\Hy@tempa{#1}%
11958   \ifx\Hy@tempa\@urltype
11959     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11960   \else
11961     \begingroup
11962       \hyper@chars
11963       \special{%
11964         html:<a href=%
11965           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11966       }%
11967     \endgroup
11968   \fi
11969 }
11970 \def\hyper@linkend{%
11971   \special{html:</a>}%
11972   \Hy@endcolorlink
11973 }
11974 \def\hyper@linkfile#1#2#3{%
11975   \hyper@linkurl{#1}{%
11976     \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
11977   }%
11978 }
11979 \def\hyper@linkurl#1#2{%
11980   \leavevmode
11981   \ifHy@raiselinks
11982     \Hy@SaveSpaceFactor
11983     \Hy@SaveSavedSpaceFactor
11984     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11985     \Hy@RestoreSavedSpaceFactor
11986     \@linkdim\dp\@tempboxa
11987     \lower\@linkdim\hbox{%
11988       \hyper@chars
11989       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11990     }%
11991     \Hy@colorlink\@urlcolor
11992     \Hy@RestoreSpaceFactor
11993     #1\Hy@xspace@end

```

```

11994 \Hy@SaveSpaceFactor
11995 \@linkdim\ht\@tempboxa
11996 \advance\@linkdim by -6.5\p@
11997 \raise\@linkdim\hbox{\special{html:</a>}}}%
11998 \Hy@endcolorlink
11999 \Hy@RestoreSpaceFactor
12000 \else
12001 \begingroup
12002 \hyper@chars
12003 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12004 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12005 \special{html:</a>}%
12006 \Hy@endcolorlink
12007 \endgroup
12008 \fi
12009 }

```

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

```

12010 \def\hyper@link#1#2#3{%
12011 \Hy@VerboseLinkStart{#1}{#2}%
12012 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
12013 }
12014 \def\hyper@image#1#2{%
12015 \begingroup
12016 \hyper@chars
12017 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12018 \endgroup
12019 }
12020 </textures>

```

46.12 dvipsone

```

12021 % \subsection{dvipsone driver}
12022 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12023 % |\special| commands.
12024 (*dvipsone)
12025 \providecommand*\XR@ext}{pdf}
12026 \let\Hy@raisedlink\ltx@empty
12027 \providecommand*\@pdfborder{0 0 1}
12028 \providecommand*\@pdfborderstyle{}
12029 \def\literalps@out#1{\special{ps:#1}}%
12030 \def\headerps@out#1{\special{headertext=#1}}%
12031 \input{pdfmark.def}%
12032 \ifx\@pdfproducer\relax
12033 \def\@pdfproducer{dvipsone + Distiller}%
12034 \fi
12035 \HyInfo@AddonUnsupportedtrue
12036 \def\PDF@FinishDoc{%
12037 \Hy@UseMaketitleInfos
12038 \HyInfo@TrappedUnsupported
12039 \special{PDF: Keywords \@pdfkeywords}%
12040 \special{PDF: Title \@pdftitle}%
12041 \special{PDF: Creator \@pdfcreator}%
12042 \ifx\@pdfcreationdate\@empty
12043 \else
12044 \special{PDF: CreationDate \@pdfcreationdate}%
12045 \fi
12046 \ifx\@pdfmoddate\@empty

```

```

12047 \else
12048   \special{PDF: ModDate \@pdfmoddate}%
12049 \fi
12050 \special{PDF: Author \@pdfauthor}%
12051 \ifx\@pdfproducer\relax
12052 \else
12053   \special{PDF: Producer \@pdfproducer}%
12054 \fi
12055 \special{PDF: Subject \@pdfsubject}%
12056 \Hy@DisableOption{pdfauthor}%
12057 \Hy@DisableOption{pdftitle}%
12058 \Hy@DisableOption{pdfsubject}%
12059 \Hy@DisableOption{pdfcreator}%
12060 \Hy@DisableOption{pdfcreationdate}%
12061 \Hy@DisableOption{pdfmoddate}%
12062 \Hy@DisableOption{pdfproducer}%
12063 \Hy@DisableOption{pdfkeywords}%
12064 \Hy@DisableOption{pdftrapped}%
12065 \Hy@DisableOption{pdfinfo}%
12066 }
12067 \def\PDF@SetupDoc{%
12068   \def\Hy@temp{}%
12069   \ifx\@pdfstartpage\@empty
12070   \else
12071     \ifx\@pdfstartview\@empty
12072     \else
12073       \edef\Hy@temp{%
12074         ,Page=\@pdfstartpage
12075         ,View=\@pdfstartview
12076       }%
12077     \fi
12078   \fi
12079   \edef\Hy@temp{%
12080     \noexpand\pdfmark{%
12081       pdfmark=/DOCVIEW,%
12082       PageMode=/\@pdfpagemode
12083     }\Hy@temp
12084   }%
12085 }%
12086 \Hy@temp
12087 \ifx\@pdfpagescrop\@empty
12088 \else
12089   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12090 \fi
12091 \edef\Hy@temp{%
12092   \ifHy@pdftoolbar\else /HideToolbar true\fi
12093   \ifHy@pdfmenubar\else /HideMenubar true\fi
12094   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12095   \ifHy@pdfwindow /FitWindow true\fi
12096   \ifHy@pdfcenterwindow /CenterWindow true\fi
12097   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12098   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12099   \Hy@UseNameKey{Direction}\@pdfdirection
12100   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12101   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12102   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12103   \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

12104 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12105 \Hy@UseNameKey{Duplex}\@pdfduplex
12106 \ifx\@pdfpicktraybypdfsize\@empty
12107 \else
12108 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12109 \fi
12110 \ifx\@pdfprintpagerange\@empty
12111 \else
12112 /PrintPageRange[\@pdfprintpagerange]%
12113 \fi
12114 \ifx\@pdfnumcopies\@empty
12115 \else
12116 /NumCopies \@pdfnumcopies
12117 \fi
12118 }%
12119 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12120 \pdfmark{%
12121 pdfmark=/PUT,%
12122 Raw={%
12123 \string{Catalog\string}<<%
12124 \ifx\Hy@temp\@empty
12125 \else
12126 /ViewerPreferences<<\Hy@temp>>%
12127 \fi
12128 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12129 \ifx\@pdflang\@empty
12130 \else
12131 /Lang(\@pdflang)%
12132 \fi
12133 \ifx\@baseurl\@empty
12134 \else
12135 /URI<</Base(\Hy@pstringB)>>%
12136 \fi
12137 >>%
12138 }%
12139 }%
12140 }
12141 \providecommand*\@pdfview{XYZ}
12142 \providecommand*\@pdfviewparams{ %
12143 gsave revscl currentpoint grestore %
12144 72 add exch pop null exch null%
12145 }
12146 \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 .

```

12147 \g@addto@macro\Hy@FirstPageHook{%
12148 \headerps@out{%

```

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

```

12149 /DvipsToPDF { 65781 div } def%
12150 /PDFToDvips { 65781 mul } def%
12151 /BPToDvips{65781 mul}def%
12152 /HyperBorder { 1 PDFToDvips } def%
12153 /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.

```

12154 /BorderArrayPatch{%
12155   [exch{%
12156     dup dup type/integertype eq exch type/realtype eq or%
12157     {BPToDvips}if%
12158   }forall]%
12159 }def%
12160 /H.S {%
12161   currentpoint %
12162   HyperBorder add /pdf@lly exch def %
12163   dup DvipsToPDF 72 add /pdf@hoff exch def %
12164   HyperBorder sub /pdf@llx exch def%
12165 } def%
12166 /H.L {%
12167   2 sub %
12168   PDFToDvips /HyperBase exch def %
12169   currentpoint %
12170   HyperBase sub /pdf@ury exch def%
12171   /pdf@urx exch def%
12172 } def%
12173 /H.A {%
12174   H.L %
12175   currentpoint exch pop %
12176   HyperBase sub % baseline skip
12177   DvipsToPDF /pdf@voff exch def%
12178 } def%
12179 /H.R {%
12180   currentpoint %
12181   HyperBorder sub /pdf@ury exch def %
12182   HyperBorder add /pdf@urx exch def %
12183   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12184 } def%
12185 }%
12186 }
12187 </dvipsone>

```

46.13 TeX4ht

```

12188 (*tex4ht)
12189 \providecommand*\XR@ext>{html}
12190 \let\Hy@raisedlink\ltx@empty
12191 \@ifpackageloaded{tex4ht}{%
12192   \Hy@InfoNoLine{tex4ht is already loaded}%
12193 }{%
12194   \RequirePackage[hTeX4ht]{tex4ht}%
12195 }
12196 \hyperlinkfileprefix{}
12197 \let\PDF@FinishDoc\ltx@empty
12198 \def\PDF@SetupDoc{%
12199   \ifx\@baseurl\@empty
12200   \else
12201     \special{t4ht=<base href="\@baseurl">}%
12202   \fi
12203 }
12204 \Hy@WrapperDef\hyper@anchor#1{%
12205   \Hy@SaveLastskip

```

```

12206 \Hy@VerboseAnchor{#1}%
12207 \begingroup
12208 \let\protect=\string
12209 \special{t4ht=<a name=%
12210 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12211 \endgroup
12212 \Hy@activeanchortrue
12213 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12214 \special{t4ht=</a>}}%
12215 \Hy@activeanchorfalse
12216 \Hy@RestoreLastskip
12217 }
12218 \Hy@WrapperDef\hyper@anchorstart#1{%
12219 \Hy@SaveLastskip
12220 \Hy@VerboseAnchor{#1}%
12221 \begingroup
12222 \hyper@chars\special{t4ht=<a name=%
12223 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12224 \endgroup
12225 \Hy@activeanchortrue
12226 }
12227 \def\hyper@anchorend{%
12228 \special{t4ht=</a>}}%
12229 \Hy@activeanchorfalse
12230 \Hy@RestoreLastskip
12231 }
12232 \def\@urltype{url}
12233 \def\hyper@linkstart#1#2{%
12234 \Hy@VerboseLinkStart{#1}{#2}%
12235 \expandafter\Hy@colorlink\csname @#1color\endcsname
12236 \def\Hy@tempa{#1}%
12237 \ifx\Hy@tempa\@urltype
12238 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
12239 \else
12240 \begingroup
12241 \hyper@chars
12242 \special{t4ht=<a href=%
12243 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
12244 \endgroup
12245 \fi
12246 }
12247 \def\hyper@linkend{%
12248 \special{t4ht=</a>}}%
12249 \Hy@endcolorlink
12250 }
12251 \def\hyper@linkfile#1#2#3{%
12252 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12253 }
12254 \def\hyper@linkurl#1#2{%
12255 \leavevmode
12256 \ifHy@raiselinks
12257 \Hy@SaveSpaceFactor
12258 \Hy@SaveSavedSpaceFactor
12259 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12260 \Hy@RestoreSavedSpaceFactor
12261 \@linkdim\dp\@tempboxa
12262 \lower\@linkdim\hbox{%

```

```

12263 \begingroup
12264 \hyper@chars
12265 \special{%
12266   t4ht=<a href=\hyper@quote#2\hyper@quote>%
12267 }%
12268 \endgroup
12269 }%
12270 \Hy@colorlink\@urlcolor
12271 \Hy@RestoreSpaceFactor
12272 #1\Hy@xspace@end
12273 \Hy@SaveSpaceFactor
12274 \Hy@endcolorlink
12275 \@linkdim\ht\@tempboxa
12276 \advance\@linkdim by -6.5\p@
12277 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12278 \Hy@RestoreSpaceFactor
12279 \else
12280 \begingroup
12281 \hyper@chars
12282 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12283 \Hy@colorlink\@urlcolor
12284 #1\Hy@xspace@end
12285 \Hy@endcolorlink
12286 \special{t4ht=</a>}}%
12287 \endgroup
12288 \fi
12289 }

```

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

```

12290 \def\hyper@link#1#2#3{%
12291 \Hy@VerboseLinkStart{#1}{#2}%
12292 \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12293 }
12294 \def\hyper@image#1#2{%
12295 \begingroup
12296 \hyper@chars
12297 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12298 \endgroup
12299 }
12300 \let\autoref\ref
12301 \ifx \rEFLiNK \UnDef
12302 \def\rEFLiNK #1#2{#2}%
12303 \fi
12304 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12305 \AtBeginDocument{%
12306 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endc-
12307 sname
12308 \expandafter\def\csname Make:Label\endcsname#1#2{%
12309 \ifhmode
12310 \Hy@SaveSpaceFactor
12311 \else
12312 \global\Hy@SavedSpaceFactor=1000 %
12313 \fi
12314 \Hy@OrgMakeLabel{#1}{%
12315 \Hy@RestoreSpaceFactor
12316 #2\Hy@xspace@end%
12317 \Hy@SaveSpaceFactor

```

```

12317 }%
12318 \Hy@RestoreSpaceFactor
12319 }%
12320 }
12321 \</tex4ht>
12322 \<*tex4htcfg>
12323 \IfFileExists{\jobname.cfg}{\endinput}{}
12324 \Preamble{html}
12325 \begin{document}%
12326 \EndPreamble
12327 \def\TeX{TeX}
12328 \def\OMEGA{\Omega}
12329 \def\LaTeX{\LaTeX}
12330 \def\LaTeXe{\LaTeXe}
12331 \def\TeX{e-TeX}
12332 \def\MF{Metafont}
12333 \def\MP{MetaPost}
12334 \</tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

12335 \<*pdfmark>
12336 \long\def\@Form[#1]{%
12337 \g@addto@macro\Hy@FirstPageHook{%
12338 \headerps@out{%
12339 [%
12340 /_objdef{pdfDocEncoding}%
12341 /type/dict%
12342 /OBJ pdfmark%
12343 [%
12344 {pdfDocEncoding}%
12345 <<%
12346 /Type/Encoding%
12347 /Differences[%
12348 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12349 /tilde %
12350 39/quotesingle %
12351 96/grave %
12352 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12353 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12354 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12355 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12356 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12357 164/currency %
12358 166/brokenbar %
12359 168/dieresis/copyright/ordfeminine %
12360 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12361 /twosuperior/threesuperior/acute/mu %
12362 183/periodcentered/cedilla/onesuperior/ordmasculine %
12363 188/onequarter/onehalf/threequarters %
12364 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12365 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12366 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12367 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12368 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12369 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%

```

```

12370      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12371      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
12372      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
12373      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12374  ]%
12375  >>%
12376 /PUT pdfmark%
12377 [%
12378   /_objdef{ZaDb}%
12379   /type/dict%
12380 /OBJ pdfmark%
12381 [%
12382   {ZaDb}%
12383   <<%
12384     /Type/Font%
12385     /Subtype/Type1%
12386     /Name/ZaDb%
12387     /BaseFont/ZapfDingbats%
12388   >>%
12389 /PUT pdfmark%
12390 [%
12391   /_objdef{Helv}%
12392   /type/dict%
12393 /OBJ pdfmark%
12394 [%
12395   {Helv}%
12396   <<%
12397     /Type/Font%
12398     /Subtype/Type1%
12399     /Name/Helv%
12400     /BaseFont/Helvetica%
12401     /Encoding{pdfDocEncoding}%
12402   >>%
12403 /PUT pdfmark%
12404 [%
12405   /_objdef{aform}%
12406   /type/dict%
12407 /OBJ pdfmark%
12408 [%
12409   /_objdef{afields}%
12410   /type/array%
12411 /OBJ pdfmark%
12412 {%
12413   [%
12414     /BBox[0 0 100 100]%
12415     /_objdef{Check}%
12416 /BP pdfmark %
12417 1 0 0 setrgbcolor%
12418 /ZapfDingbats 80 selectfont %
12419 20 20 moveto%
12420 (4)show%
12421 [/EP pdfmark%
12422 [%
12423   /BBox[0 0 100 100]%
12424   /_objdef{Cross}%
12425 /BP pdfmark %
12426 1 0 0 setrgbcolor%

```

```

12427 /ZapfDingbats 80 selectfont %
12428 20 20 moveto%
12429 (8)show%
12430 [/EP pdfmark%
12431 [%
12432 /BBox[0 0 250 100]%
12433 /_objdef{Submit}%
12434 /BP pdfmark %
12435 0.6 setgray %
12436 0 0 250 100 rectfill %
12437 1 setgray %
12438 2 2 moveto %
12439 2 98 lineto %
12440 248 98 lineto %
12441 246 96 lineto %
12442 4 96 lineto %
12443 4 4 lineto %
12444 fill %
12445 0.34 setgray %
12446 248 98 moveto %
12447 248 2 lineto %
12448 2 2 lineto %
12449 4 4 lineto %
12450 246 4 lineto %
12451 246 96 lineto %
12452 fill%
12453 /Helvetica 76 selectfont %
12454 0 setgray %
12455 8 22.5 moveto%
12456 (Submit)show%
12457 [/EP pdfmark%
12458 [%
12459 /BBox[0 0 250 100]%
12460 /_objdef{SubmitP}%
12461 /BP pdfmark %
12462 0.6 setgray %
12463 0 0 250 100 rectfill %
12464 0.34 setgray %
12465 2 2 moveto %
12466 2 98 lineto %
12467 248 98 lineto %
12468 246 96 lineto %
12469 4 96 lineto %
12470 4 4 lineto %
12471 fill %
12472 1 setgray %
12473 248 98 moveto %
12474 248 2 lineto %
12475 2 2 lineto %
12476 4 4 lineto %
12477 246 4 lineto %
12478 246 96 lineto %
12479 fill%
12480 /Helvetica 76 selectfont %
12481 0 setgray %
12482 10 20.5 moveto%
12483 (Submit)show%

```

```

12484 [/EP pdfmark%
12485 } ?pdfmark%
12486 [%
12487 {aform}%
12488 <<%
12489 /Fields{afields}%
12490 /DR<<%
12491 /Font<<%
12492 /ZaDb{ZaDb}%
12493 /Helv{Helv}%
12494 >>%
12495 >>%
12496 /DA(/Helv 10 Tf 0 g)%
12497 /CO{corder}%
12498 \ifHy@pdfa
12499 \else
12500 \ifHyField@NeedAppearances
12501 /NeedAppearances true%
12502 \fi
12503 \fi
12504 >>%
12505 /PUT pdfmark%
12506 [%
12507 {Catalog}%
12508 <<%
12509 /AcroForm{aform}%
12510 >>%
12511 /PUT pdfmark%
12512 [%
12513 /__objdef{corder}%
12514 /type/array%
12515 /OBJ pdfmark% dps
12516 }}%
12517 \kvsetkeys{Form}{#1}%
12518 }
12519 \let\@endForm\ltx@empty
12520 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12521 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12522 }
12523 \def\@TextField[#1]#2{% parameters, label
12524 \def\Fld@name{#2}%
12525 \let\Fld@default\ltx@empty
12526 \let\Fld@value\@empty
12527 \def\Fld@width{\DefaultWidthofText}%
12528 \def\Fld@height{%
12529 \ifFld@multiline
12530 \DefaultHeightofTextMultiline
12531 \else
12532 \DefaultHeightofText
12533 \fi
12534 }%
12535 \begingroup
12536 \expandafter\HyField@SetKeys\expandafter{%
12537 \DefaultOptionsofText,#1%
12538 }%
12539 \HyField@FlagsText
12540 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12541 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12542 \LayoutTextField{#2}{%
12543   \leavevmode
12544   \Hy@escapeform\PDFForm@Text
12545   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12546     pdfmark=/ANN,Raw={\PDFForm@Text}%
12547   }%
12548 }%
12549 \endgroup
12550 }
12551 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12552 \def\Fld@name{#2}%
12553 \let\Fld@default\relax
12554 \let\Fld@value\relax
12555 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12556 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12557 \begingroup
12558 \Fld@menulength=0 %
12559 \@tempdima\z@
12560 \@for\@curropt:=#3\do{%
12561   \expandafter\Fld@checkequals\@curropt==\%
12562   \Hy@StepCount\Fld@menulength
12563   \settowidth{\@tempdimb}{\@currDisplay}%
12564   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12565 }%
12566 \advance\@tempdima by 15\p@
12567 \begingroup
12568 \HyField@SetKeys{#1}%
12569 \edef\x{\endgroup
12570 \noexpand\expandafter
12571 \noexpand\HyField@SetKeys
12572 \noexpand\expandafter{%
12573 \expandafter\noexpand\csname DefaultOptionsof%
12574 \ifFld@radio
12575   Radio%
12576 \else
12577   \ifFld@combo
12578     \ifFld@popdown
12579       PopdownBox%
12580     \else
12581       ComboBox%
12582     \fi
12583   \else
12584     ListBox%
12585   \fi
12586 \fi
12587 \endcsname
12588 }%
12589 }\x
12590 \HyField@SetKeys{#1}%
12591 \ifFld@hidden\def\Fld@width{1sp}\fi
12592 \ifx\Fld@value\relax
12593 \let\Fld@value\Fld@default
12594 \fi
12595 \LayoutChoiceField{#2}{%
12596 \ifFld@radio
12597 \HyField@FlagsRadioButton

```



```

12598     \@@Radio{#3}%
12599 \else
12600 \begingroup
12601   \HyField@FlagsChoice
12602   \ifdim\Fld@width<\@tempdima
12603     \ifdim\@tempdima<1cm\@tempdima1cm\fi
12604     \edef\Fld@width{\the\@tempdima}%
12605   \fi
12606   \ifFld@combo
12607   \else
12608     \@tempdima=\the\Fld@menulength\Fld@charsize
12609     \advance\@tempdima by \Fld@borderwidth bp %
12610     \advance\@tempdima by \Fld@borderwidth bp %
12611     \edef\Fld@height{\the\@tempdima}%
12612   \fi
12613   \@@ListBox{#3}%
12614 \endgroup
12615 \fi
12616 }%
12617 \endgroup
12618 }
12619 \def\@@Radio#1{%
12620   \Fld@listcount=0 %
12621   \EdefEscapeName\Fld@default{\Fld@default}%
12622   \@for\@curropt:=#1\do{%
12623     \expandafter\Fld@checkequals\@curropt==\%
12624     \EdefEscapeName\@currValue{\@currValue}%
12625     \Hy@StepCount\Fld@listcount
12626     \@currDisplay\space
12627     \Hy@escapeform\PDFForm@Radio
12628     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12629       pdfmark=/ANN,%
12630       Raw={%
12631         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12632       }%
12633     } % deliberate space between radio buttons
12634   }%
12635 }
12636 \newcount\Fld@listcount
12637 \def\@@ListBox#1{%
12638   \HyField@PDFChoices{#1}%
12639   \Hy@escapeform\PDFForm@List
12640   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12641     pdfmark=/ANN,Raw={\PDFForm@List}%
12642   }%
12643 }
12644 \def\@PushButton[#1]#2{% parameters, label
12645   \def\Fld@name{#2}%
12646   \begingroup
12647     \expandafter\HyField@SetKeys\expandafter{%
12648       \DefaultOptionsofPushButton,#1%
12649     }%
12650     \ifHy@pdfa
12651       \Hy@Error{%
12652         PDF/A: Push button with JavaScript is prohibited%
12653       }\@ehc
12654     \LayoutPushButtonField{%

```

```

12655     \leavevmode
12656     \MakeButtonField{#2}%
12657 }%
12658 \else
12659     \HyField@FlagsPushButton
12660     \ifFld@hidden\def\Fld@width{1sp}\fi
12661     \LayoutPushButtonField{%
12662         \leavevmode
12663         \Hy@escapeform\PDFForm@Push
12664         \pdfmark[\MakeButtonField{#2}]{%
12665             pdfmark=/ANN,Raw={\PDFForm@Push}%
12666         }%
12667     }%
12668 \fi
12669 \endgroup
12670 }
12671 \def\@Submit[#1]#2{%
12672     \def\Fld@width{\DefaultWidthofSubmit}%
12673     \def\Fld@height{\DefaultHeightofSubmit}%
12674     \begingroup
12675         \expandafter\HyField@SetKeys\expandafter{%
12676             \DefaultOptionsofSubmit,#1%
12677         }%
12678         \HyField@FlagsPushButton
12679         \HyField@FlagsSubmit
12680         \ifFld@hidden\def\Fld@width{1sp}\fi
12681         \Hy@escapeform\PDFForm@Submit
12682         \pdfmark[\MakeButtonField{#2}]{%
12683             pdfmark=/ANN,%
12684             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12685         }%
12686     \endgroup
12687 }
12688 \def\@Reset[#1]#2{%
12689     \def\Fld@width{\DefaultWidthofReset}%
12690     \def\Fld@height{\DefaultHeightofReset}%
12691     \begingroup
12692         \expandafter\HyField@SetKeys\expandafter{%
12693             \DefaultOptionsofReset,#1%
12694         }%
12695         \leavevmode
12696         \ifHy@pdfa
12697             \Hy@Error{%
12698                 PDF/A: Reset action is prohibited%
12699             }\@ehc
12700             \MakeButtonField{#2}%
12701         \else
12702             \HyField@FlagsPushButton
12703             \ifFld@hidden\def\Fld@width{1sp}\fi
12704             \Hy@escapeform\PDFForm@Reset
12705             \pdfmark[\MakeButtonField{#2}]{%
12706                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12707             }%
12708         \fi
12709     \endgroup
12710 }%
12711 \def\@CheckBox[#1]#2{% parameters, label

```

```

12712 \def\Fld@name{#2}%
12713 \def\Fld@default{0}%
12714 \begingroup
12715   \def\Fld@width{\DefaultWidthofCheckBox}%
12716   \def\Fld@height{\DefaultHeightofCheckBox}%
12717   \expandafter\HyField@SetKeys\expandafter{%
12718     \DefaultOptionsofCheckBox,#1%
12719   }%
12720   \HyField@FlagsCheckBox
12721   \ifFld@hidden\def\Fld@width{1sp}\fi
12722   \LayoutCheckField{#2}{%
12723     \leavevmode
12724     \Hy@escapeform\PDFForm@Check
12725     \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
12726       pdfmark=/ANN,Raw={\PDFForm@Check}%
12727     }%
12728   }%
12729 \endgroup
12730 }
12731 \</pdfmark>

```

47.2 HyperTeX

```

12732 \<hypertex>
12733 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12734 \let\@endForm\ltx@empty
12735 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12736   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12737 }
12738 \def\@TextField[#1]#2{% parameters, label
12739   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12740 }
12741 \def\@CheckBox[#1]#2{% parameters, label
12742   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12743 }
12744 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12745   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12746 }
12747 \def\@PushButton[#1]#2{% parameters, label
12748   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12749 }
12750 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12751 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12752 \</hypertex>

```

47.3 TeX4ht

```

12753 \<tex4ht>
12754 \def\@Form[#1]{%
12755   \kvsetkeys{Form}{#1}%
12756   \HCode{<form action="\Form@action" method="\Form@method">}%
12757 }
12758 \def\@endForm{\HCode{</form>}}
12759 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12760   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12761 }
12762 \def\@TextField[#1]#2{% parameters, label
12763   \let\Hy@reserved@a\@empty
12764   \def\Fld@name{#2}%

```

```

12765 \let\Fld@default\ltx@empty
12766 \bgroup
12767 \Field@toks={ }%
12768 \kvsetkeys{Field}{#1}%
12769 \HCode{<label for="\Fld@name">#2</label>}%
12770 \ifFld@password
12771 \@@PasswordField
12772 \else
12773 \@@TextField
12774 \fi
12775 \egroup
12776 }
12777 \def\@@PasswordField{%
12778 \HCode{%
12779 <input type="password" %
12780 id="\Fld@name" %
12781 name="\Fld@name" %
12782 \ifFld@hidden type="hidden" \fi
12783 value="\Fld@default" %
12784 \the\Field@toks
12785 >%
12786 }%
12787 }
12788 \def\@@TextField{%
12789 \ifFld@multiline
12790 \HCode{<textarea %
12791 \ifFld@readonly readonly \fi
12792 id="\Fld@name" %
12793 name="\Fld@name" %
12794 \ifFld@hidden type="hidden" \fi
12795 \the\Field@toks>%
12796 }%
12797 \Fld@default
12798 \HCode{</textarea>}%
12799 \else
12800 \HCode{<input type="text" %
12801 \ifFld@readonly readonly \fi
12802 id="\Fld@name" %
12803 name="\Fld@name" %
12804 \ifFld@hidden type="hidden" \fi
12805 value="\Fld@default" %
12806 \the\Field@toks>%
12807 }%
12808 \fi
12809 }
12810 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12811 \def\Fld@name{#2}%
12812 \let\Fld@default\ltx@empty
12813 \let\Hy@reserved@a\relax
12814 \begingroup
12815 \expandafter\Fld@findlength#3\\%
12816 \Field@toks={ }%
12817 \kvsetkeys{Field}{#1}%
12818 #2%
12819 \ifFld@radio
12820 \expandafter\@@Radio#3\\%
12821 \else

```

```

12822 \expandafter\@@Menu#3\\%
12823 \fi
12824 \endgroup
12825 }
12826 \def\Fld@findlength#1\\{%
12827 \Fld@menulength=0 %
12828 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12829 }
12830 \def\@@Menu#1\\{%
12831 \HCode{<select size="\the\Fld@menulength" %
12832 name="\Fld@name" %
12833 \the\Field@toks>%
12834 }%
12835 \@for\@curropt:=#1\do{%
12836 \expandafter\Fld@checkequals\@curropt==\\%
12837 \HCode{<option %
12838 \ifx\@curropt\Fld@default selected \fi
12839 value="\@currValue">\@currDisplay</option>%
12840 }%
12841 }%
12842 \HCode{</select>}%
12843 }
12844 \def\@@Radio#1\\{%
12845 \@for\@curropt:=#1\do{%
12846 \expandafter\Fld@checkequals\@curropt==\\%
12847 \HCode{<input type="radio" %
12848 \ifx\@curropt\Fld@default checked \fi
12849 name="\Fld@name" %
12850 value="\@currValue" %
12851 \the\Field@toks>%
12852 }%
12853 \@currDisplay
12854 }%
12855 }
12856 \def\@PushButton[#1]#2{% parameters, label
12857 \def\Fld@name{#2}%
12858 \bgroup
12859 \Field@toks={ }%
12860 \kvsetkeys{Field}{#1}%
12861 \HCode{<input type="button" %
12862 name="\Fld@name" %
12863 value="#2" %
12864 \the\Field@toks>%
12865 }%
12866 \HCode{</button>}%
12867 \egroup
12868 }
12869 \def\@Submit[#1]#2{%
12870 \HCode{<button type="submit">#2</button>}%
12871 }
12872 \def\@Reset[#1]#2{%
12873 \HCode{<button type="reset">#2</button>}%
12874 }
12875 \def\@CheckBox[#1]#2{% parameters, label
12876 \let\Hy@reserved@a\@empty
12877 \def\Fld@name{#2}%
12878 \def\Fld@default{0}%

```

```

12879 \bgroup
12880 \Field@toks={ }%
12881 \kvsetkeys{Field}{#1}%
12882 \HCode{<input type="checkbox" %
12883 \ifFld@checked checked \fi
12884 \ifFld@disabled disabled \fi
12885 \ifFld@readonly readonly \fi
12886 name="\Fld@name" %
12887 \ifFld@hidden type="hidden" \fi
12888 value="\Fld@default" %
12889 \the\Field@toks>%
12890 #2%
12891 }%
12892 \egroup
12893 }
12894 </tex4ht>

```

47.4 pdfTeX

```

12895 (*pdfTeX)
12896 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12897 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12898 }
12899 \def\MakeFieldObject#1#2{\sbox0{#1}%
12900 \immediate\pdfxform0 %
12901 \expandafter\edef\csname #2Object\endcsname{%
12902 \the\pdflastxform\space 0 R%
12903 }%
12904 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12905 }%
12906 \let\HyField@afields\ltx@empty
12907 \begingroup\expandafter\expandafter\expandafter\endgroup
12908 \expandafter\ifx\csname pdflastlink\endcsname\relax
12909 \let\HyField@AddToFields\relax
12910 \PackageInfo{hyperref}{%
12911 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12912 \MessageBreak
12913 Adobe Reader/Acrobat accepts an empty /Field array,%
12914 \MessageBreak
12915 but other PDF viewers might complain%
12916 }%
12917 \else
12918 \let\HyField@AuxAddToFields\ltx@gobble
12919 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12920 \Hy@AtBeginDocument{%
12921 \if@filesw
12922 \immediate\write\@mainaux{%
12923 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12924 }%
12925 \fi
12926 \let\HyField@AfterAuxOpen\@firstofone
12927 \def\HyField@AuxAddToFields#1{%
12928 \xdef\HyField@afields{%
12929 \ifx\HyField@afields\@empty
12930 \else
12931 \HyField@afields
12932 \space
12933 \fi

```

```

12934      #1 0 R%
12935    }%
12936  }%
12937 }%
12938 \def\HyField@AddToFields{%
12939   \expandafter\HyField@@AddToFields\expandafter{%
12940     \the\pdfastlink
12941   }%
12942 }%
12943 \def\HyField@@AddToFields#1{%
12944   \HyField@AfterAuxOpen{%
12945     \if@filesw
12946       \write\@mainaux{%
12947         \string\HyField@AuxAddToFields{#1}%
12948       }%
12949     \fi
12950   }%
12951 }%
12952 \fi
12953 \def\@Form[#1]{%
12954   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12955   \kvsetkeys{Form}{#1}%
12956   \pdf@ifdraftmode{}{%
12957     \Hy@FormObjects
12958     \ifnum\pdfTeXversion>13 %
12959       \pdfrefobj\OBJ@pdfdocencoding
12960       \pdfrefobj\OBJ@ZaDb
12961       \pdfrefobj\OBJ@Helv
12962     \fi
12963     \AtVeryEndDocument{%
12964       \immediate\pdfobj{%
12965         <<%
12966           /Fields[\HyField@afields]%
12967           /DR<<%
12968           /Font<<%
12969             /ZaDb \OBJ@ZaDb\space 0 R%
12970             /Helv \OBJ@Helv\space 0 R%
12971           >>%
12972         >>%
12973         /DA(/Helv 10 Tf 0 g)%
12974         \ifHy@pdfa
12975         \else
12976           \ifHyField@NeedAppearances
12977             /NeedAppearances true%
12978           \fi
12979         \fi
12980       >>%
12981     }%
12982     \edef\OBJ@acroform{\the\pdfastobj}%
12983     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12984   }%
12985 }%
12986 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12987   \begingroup
12988     \fontfamily{pzd}%
12989     \fontencoding{U}%

```

```

12990 \fontseries{m}%
12991 \fontshape{n}%
12992 \selectfont
12993 \char123 %
12994 \endgroup
12995 }{Ding}%
12996 \MakeFieldObject{%
12997 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12998 }{Submit}%
12999 \MakeFieldObject{%
13000 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13001 }{SubmitP}%
13002 }
13003 \let\@endForm\ltx@empty
13004 \def\@TextField[#1]#2{% parameters, label
13005 \def\Fld@name{#2}%
13006 \let\Fld@default\ltx@empty
13007 \let\Fld@value\@empty
13008 \def\Fld@width{\DefaultWidthofText}%
13009 \def\Fld@height{%
13010 \ifFld@multiline
13011 \DefaultHeightofTextMultiline
13012 \else
13013 \DefaultHeightofText
13014 \fi
13015 }%
13016 \begingroup
13017 \expandafter\HyField@SetKeys\expandafter{%
13018 \DefaultOptionsofText,#1%
13019 }%
13020 \PDFForm@Name
13021 \HyField@FlagsText
13022 \ifFld@hidden\def\Fld@width{1sp}\fi
13023 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13024 \LayoutTextField{#2}{%
13025 \leavevmode
13026 \Hy@escapeform\PDFForm@Text
13027 \pdfstartlink user {\PDFForm@Text}\relax
13028 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13029 \HyField@AddToFields
13030 }%
13031 \endgroup
13032 }
13033 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13034 \def\Fld@name{#2}%
13035 \let\Fld@default\relax
13036 \let\Fld@value\relax
13037 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13038 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13039 \begingroup
13040 \Fld@menulength=0 %
13041 \@tempdima\z@
13042 \@for\@curropt:=#3\do{%
13043 \expandafter\Fld@checkequals\@curropt==\\%
13044 \Hy@StepCount\Fld@menulength
13045 \settowidth{\@tempdimb}{\@currDisplay}%
13046 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi

```



```

13047 }%
13048 \advance\@tempdima by 15\p@
13049 \begingroup
13050 \HyField@SetKeys{#1}%
13051 \edef\x{\endgroup
13052 \noexpand\expandafter
13053 \noexpand\HyField@SetKeys
13054 \noexpand\expandafter{%
13055 \expandafter\noexpand\csname DefaultOptionsof%
13056 \ifFld@radio
13057 Radio%
13058 \else
13059 \ifFld@combo
13060 \ifFld@popdown
13061 PopdownBox%
13062 \else
13063 ComboBox%
13064 \fi
13065 \else
13066 ListBox%
13067 \fi
13068 \fi
13069 \endcsname
13070 }%
13071 }\x
13072 \HyField@SetKeys{#1}%
13073 \PDFForm@Name
13074 \ifFld@hidden\def\Fld@width{1sp}\fi
13075 \ifx\Fld@value\relax
13076 \let\Fld@value\Fld@default
13077 \fi
13078 \LayoutChoiceField{#2}{%
13079 \ifFld@radio
13080 \HyField@FlagsRadioButton
13081 \@@Radio{#3}%
13082 \else
13083 \begingroup
13084 \HyField@FlagsChoice
13085 \ifdim\Fld@width<\@tempdima
13086 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13087 \edef\Fld@width{\the\@tempdima}%
13088 \fi
13089 \ifFld@combo
13090 \else
13091 \@tempdima=\the\Fld@menulength\Fld@charsize
13092 \advance\@tempdima by \Fld@borderwidth bp %
13093 \advance\@tempdima by \Fld@borderwidth bp %
13094 \edef\Fld@height{\the\@tempdima}%
13095 \fi
13096 \@@ListBox{#3}%
13097 \endgroup
13098 \fi
13099 }%
13100 \endgroup
13101 }
13102 \def\@@Radio#1{%
13103 \Fld@listcount=0 %

```

```

13104 \EdefEscapeName\Fld@default{\Fld@default}%
13105 \@for\@curropt:=#1\do{%
13106   \expandafter\Fld@checkequals\@curropt==\%
13107   \EdefEscapeName\@currValue{\@currValue}%
13108   \Hy@StepCount\Fld@listcount
13109   \@currDisplay\space
13110   \leavevmode
13111   \Hy@escapeform\PDFForm@Radio
13112   \pdfstartlink user {%
13113     \PDFForm@Radio
13114     /AP<<%
13115     /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.

```

13116     /\@currValue\space \DingObject
13117     >>%
13118     >>%
13119   }%
13120   \relax
13121   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13122   \ifnum\Fld@listcount=1 %
13123     \HyField@AddToFields
13124   \fi
13125   \space % deliberate space between radio buttons
13126 }%
13127 }
13128 \newcount\Fld@listcount
13129 \def\@@Listbox#1{%
13130   \HyField@PDFChoices{#1}%
13131   \leavevmode
13132   \Hy@escapeform\PDFForm@List
13133   \pdfstartlink user {\PDFForm@List}\relax
13134   \MakeChoiceField{\Fld@width}{\Fld@height}%
13135   \pdfendlink
13136   \HyField@AddToFields
13137 }
13138 \def\@PushButton[#1]#2{% parameters, label
13139   \def\Fld@name{#2}%
13140   \begingroup
13141     \expandafter\HyField@SetKeys\expandafter{%
13142       \DefaultOptionsofPushButton,#1%
13143     }%
13144     \PDFForm@Name
13145     \ifHy@pdfa
13146       \Hy@Error{%
13147         PDF/A: Push button with JavaScript is prohibited%
13148       }\@ehc
13149       \LayoutPushButtonField{%
13150         \leavevmode
13151         \MakeButtonField{#2}%
13152       }%
13153     \else
13154       \HyField@FlagsPushButton
13155       \ifFld@hidden\def\Fld@width{1sp}\fi
13156       \LayoutPushButtonField{%
13157         \leavevmode

```

```

13158     \Hy@escapeform\PDFForm@Push
13159     \pdfstartlink user {\PDFForm@Push}\relax
13160     \MakeButtonField{#2}%
13161     \pdfendlink
13162     \HyField@AddToFields
13163 }%
13164 \fi
13165 \endgroup
13166 }
13167 \def\@Submit[#1]#2{%
13168   \def\Fld@width{\DefaultWidthofSubmit}%
13169   \def\Fld@height{\DefaultHeightofSubmit}%
13170   \begingroup
13171     \expandafter\HyField@SetKeys\expandafter{%
13172       \DefaultOptionsofSubmit,#1%
13173     }%
13174     \HyField@FlagsPushButton
13175     \HyField@FlagsSubmit
13176     \ifFld@hidden\def\Fld@width{1sp}\fi
13177     \leavevmode
13178     \Hy@escapeform\PDFForm@Submit
13179     \pdfstartlink user {%
13180       \PDFForm@Submit
13181       /AP<</N \SubmitObject/D \SubmitPObject>>%
13182     }%
13183     \relax
13184     \MakeButtonField{#2}%
13185     \pdfendlink
13186     \HyField@AddToFields
13187 \endgroup
13188 }
13189 \def\@Reset[#1]#2{%
13190   \def\Fld@width{\DefaultWidthofReset}%
13191   \def\Fld@height{\DefaultHeightofReset}%
13192   \begingroup
13193     \expandafter\HyField@SetKeys\expandafter{%
13194       \DefaultOptionsofReset,#1%
13195     }%
13196     \leavevmode
13197     \ifHy@pdfa
13198       \Hy@Error{%
13199         PDF/A: Reset action is prohibited%
13200       }\@ehc
13201       \MakeButtonField{#2}%
13202     \else
13203       \HyField@FlagsPushButton
13204       \ifFld@hidden\def\Fld@width{1sp}\fi
13205       \Hy@escapeform\PDFForm@Reset
13206       \pdfstartlink user {\PDFForm@Reset}\relax
13207       \MakeButtonField{#2}%
13208       \pdfendlink
13209       \HyField@AddToFields
13210     \fi
13211 \endgroup
13212 }
13213 \def\@CheckBox[#1]#2{% parameters, label
13214   \def\Fld@name{#2}%

```

```

13215 \def\Fld@default{0}%
13216 \begingroup
13217 \def\Fld@width{\DefaultWidthofCheckBox}%
13218 \def\Fld@height{\DefaultHeightofCheckBox}%
13219 \expandafter\HyField@SetKeys\expandafter{%
13220 \DefaultOptionsofCheckBox,#1%
13221 }%
13222 \PDFForm@Name
13223 \HyField@FlagsCheckBox
13224 \ifFld@hidden\def\Fld@width{1sp}\fi
13225 \LayoutCheckField{#2}{%
13226 \leavevmode
13227 \Hy@escapeform\PDFForm@Check
13228 \pdfstartlink user {\PDFForm@Check}\relax
13229 \MakeCheckField{\Fld@width}{\Fld@height}%
13230 \pdfendlink
13231 \HyField@AddToFields
13232 }%
13233 \endgroup
13234 }
13235 \def\Hy@FormObjects{%
13236 \pdfobj {%
13237 <<%
13238 /Type/Encoding%
13239 /Differences[%
13240 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13241 /ring/tilde %
13242 39/quotesingle %
13243 96/grave %
13244 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13245 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13246 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13247 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13248 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13249 164/currency %
13250 166/brokenbar %
13251 168/dieresis/copyright/ordfeminine %
13252 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13253 /twosuperior/threesuperior/acute/mu %
13254 183/periodcentered/cedilla/onesuperior/ordmasculine %
13255 188/onequarter/onehalf/threequarters %
13256 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13257 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13258 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13259 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13260 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13261 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13262 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13263 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13264 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
13265 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13266 ]%
13267 >>%
13268 }%
13269 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13270 \pdfobj{%
13271 <<%

```

```

13272 /Type/Font%
13273 /Subtype/Type1%
13274 /Name/ZaDb%
13275 /BaseFont/ZapfDingbats%
13276 >>%
13277 }%
13278 \xdef\OBJ@ZaDb{\the\pdflastobj}%
13279 \pdfobj{%
13280 <<%
13281 /Type/Font%
13282 /Subtype/Type1%
13283 /Name/Helv%
13284 /BaseFont/Helvetica%
13285 /Encoding \OBJ@pdfdocencoding\space 0 R%
13286 >>%
13287 }%
13288 \xdef\OBJ@Helv{\the\pdflastobj}%
13289 \global\let\Hy@FormObjects\relax
13290 }
13291 \</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.

```
13292 \<{*dvipdfm | xetex}>
```

\@Gauge

```

13293 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13294 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13295 }

```

\@Form

```

13296 \def\@Form[#1]{%
13297 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13298 \kvsetkeys{Form}{#1}%
13299 \Hy@FormObjects
13300 \@pdfm@mark{obj @afields []}%
13301 \@pdfm@mark{obj @corder []}%
13302 \@pdfm@mark{%
13303 obj @aform <<%
13304 /Fields @afields%
13305 /DR<<%
13306 /Font<<%
13307 /ZaDb @OBJZaDb%
13308 /Helv @OBJHelv%
13309 >>%
13310 >>%
13311 /DA(/Helv 10 Tf 0 g)%
13312 /CO @corder%
13313 \ifHy@pdfa
13314 \else
13315 \ifHyField@NeedAppearances
13316 /NeedAppearances true%
13317 \fi
13318 \fi
13319 >>%
13320 }%

```

```

13321 \pdfmark{put @catalog <</AcroForm @aform>>}%
13322 }

\@endForm
13323 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13324 \def\dvipdfm@setdim{%
13325   height \the\ht\pdfm@box\space
13326   width \the\wd\pdfm@box\space
13327   depth \the\dp\pdfm@box\space
13328 }

\HyField@AnnotCount
13329 \newcount\HyField@AnnotCount
13330 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13331 \def\HyField@AdvanceAnnotCount{%
13332   \global\advance\HyField@AnnotCount\@ne
13333 }

\HyField@TheAnnotCount
13334 \def\HyField@TheAnnotCount{%
13335   \the\HyField@AnnotCount
13336 }

\@TextField
13337 \def\@TextField[#1]#2{% parameters, label
13338   \def\Fld@name{#2}%
13339   \let\Fld@default\ltx@empty
13340   \let\Fld@value\@empty
13341   \def\Fld@width{\DefaultWidthofText}%
13342   \def\Fld@height{%
13343     \ifFld@multiline
13344       \DefaultHeightofTextMultiline
13345     \else
13346       \DefaultHeightofText
13347     \fi
13348   }%
13349   \begingroup
13350   \expandafter\HyField@SetKeys\expandafter{%
13351     \DefaultOptionsofText,#1%
13352   }%
13353   \PDFForm@Name
13354   \HyField@FlagsText
13355   \ifFld@hidden\def\Fld@width{1sp}\fi
13356   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13357   \setbox\pdfm@box=\hbox{%
13358     \MakeTextField{\Fld@width}{\Fld@height}%
13359   }%
13360   \HyField@AdvanceAnnotCount
13361   \LayoutTextField{#2}{%
13362     \leavevmode
13363     \Hy@escapeform\PDFForm@Text
13364     \pdfmark{%
13365       ann @text\HyField@TheAnnotCount\space

```

```

13366 \dvipdfm@setdim << \PDFForm@Text >>%
13367 }%
13368 }%
13369 \unhbox\pdfm@box
13370 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13371 % record in @afields array
13372 \endgroup
13373 }

```

\@ChoiceMenu

```

13374 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13375 \def\Fld@name{#2}%
13376 \let\Fld@default\relax
13377 \let\Fld@value\relax
13378 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13379 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13380 \begingroup
13381 \Fld@menulength=0 %
13382 \@tempdima\z@
13383 \@for\@curropt:=#3\do{%
13384 \expandafter\Fld@checkequals\@curropt==\%
13385 \Hy@StepCount\Fld@menulength
13386 \settowidth{\@tempdimb}{\@currDisplay}%
13387 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13388 }%
13389 \advance\@tempdima by 15\p@
13390 \begingroup
13391 \HyField@SetKeys{#1}%
13392 \edef\x{\endgroup
13393 \noexpand\expandafter
13394 \noexpand\HyField@SetKeys
13395 \noexpand\expandafter{%
13396 \expandafter\noexpand\curname DefaultOptionsof%
13397 \ifFld@radio
13398 Radio%
13399 \else
13400 \ifFld@combo
13401 \ifFld@popdown
13402 PopdownBox%
13403 \else
13404 ComboBox%
13405 \fi
13406 \else
13407 ListBox%
13408 \fi
13409 \fi
13410 \endcurname
13411 }%
13412 }\x
13413 \HyField@SetKeys{#1}%
13414 \PDFForm@Name
13415 \ifFld@hidden\def\Fld@width{1sp}\fi
13416 \ifx\Fld@value\relax
13417 \let\Fld@value\Fld@default
13418 \fi
13419 \LayoutChoiceField{#2}{%
13420 \ifFld@radio
13421 \HyField@FlagsRadioButton

```

```

13422 \@@Radio{#3}%
13423 \else
13424 \begingroup
13425 \HyField@FlagsChoice
13426 \ifdim\Fld@width<\@tempdima
13427 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13428 \edef\Fld@width{\the\@tempdima}%
13429 \fi
13430 \ifFld@combo
13431 \else
13432 \@tempdima=\the\Fld@menulength\Fld@charsize
13433 \advance\@tempdima by \Fld@borderwidth bp %
13434 \advance\@tempdima by \Fld@borderwidth bp %
13435 \edef\Fld@height{\the\@tempdima}%
13436 \fi
13437 \@@ListBox{#3}%
13438 \endgroup
13439 \fi
13440 }%
13441 \endgroup
13442 }

```

\@@Radio

```

13443 \def\@@Radio#1{%
13444 \Fld@listcount=0 %
13445 \EdefEscapeName\Fld@default{\Fld@default}%
13446 \setbox\pdfm@box=\hbox{%
13447 \MakeRadioField{\Fld@width}{\Fld@height}%
13448 }%
13449 \@for\@curropt:=#1\do{%
13450 \expandafter\Fld@checkequals\@curropt==\%
13451 \EdefEscapeName\@currValue{\@currValue}%
13452 \Hy@StepCount\Fld@listcount
13453 \@currDisplay\space
13454 \leavevmode
13455 \Hy@escapeform\PDFForm@Radio
13456 \ifnum\Fld@listcount=1 %
13457 \HyField@AdvanceAnnotCount
13458 \fi
13459 \@pdfm@mark{%
13460 ann %
13461 \ifnum\Fld@listcount=1 %
13462 @radio\HyField@TheAnnotCount%
13463 \space
13464 \fi
13465 \dvipdfm@setdim
13466 <<%
13467 \PDFForm@Radio
13468 /AP<</N<</\@currValue /null>>>>%
13469 >>%
13470 }%
13471 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13472 \ifnum\Fld@listcount=1 %
13473 \@pdfm@mark{%
13474 put @afields @radio\HyField@TheAnnotCount
13475 }%
13476 \fi
13477 }%

```



```

13478 }

\Fld@listcount
13479 \newcount\Fld@listcount

\@@Listbox
13480 \def\@@Listbox#1{%
13481   \HyField@PDFChoices{#1}%
13482   \setbox\pdfm@box=\hbox{%
13483     \MakeChoiceField{\Fld@width}{\Fld@height}%
13484   }%
13485   \leavevmode
13486   \Hy@escapeform\PDFForm@List
13487   \HyField@AdvanceAnnotCount
13488   \@pdfm@mark{%
13489     ann @list\HyField@TheAnnotCount\space
13490     \dvipdfm@setdim
13491     <<\PDFForm@List>>%
13492   }%
13493   \unhbox\pdfm@box
13494   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13495 }

\@PushButton
13496 \def\@PushButton[#1]#2{% parameters, label
13497   \def\Fld@name{#2}%
13498   \begingroup
13499     \expandafter\HyField@SetKeys\expandafter{%
13500       \DefaultOptionsofPushButton,#1%
13501     }%
13502     \PDFForm@Name
13503     \ifHy@pdfa
13504       \Hy@Error{%
13505         PDF/A: Push button with JavaScript is prohibited%
13506       }\@ehc
13507       \LayoutPushButtonField{%
13508         \leavevmode
13509         \MakeButtonField{#2}%
13510       }%
13511     \else
13512       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13513       \HyField@FlagsPushButton
13514       \ifFld@hidden\def\Fld@width{1sp}\fi
13515       \HyField@AdvanceAnnotCount
13516       \LayoutPushButtonField{%
13517         \leavevmode
13518         \Hy@escapeform\PDFForm@Push
13519         \@pdfm@mark{%
13520           ann @push\HyField@TheAnnotCount\space
13521           \dvipdfm@setdim
13522           <<\PDFForm@Push>>%
13523         }%
13524       }%
13525       \unhbox\pdfm@box
13526       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13527     \fi
13528   \endgroup
13529 }

```

\@Submit

```
13530 \def\@Submit[#1]#2{%
13531   \def\Fld@width{\DefaultWidthofSubmit}%
13532   \def\Fld@height{\DefaultHeightofSubmit}%
13533   \begingroup
13534     \expandafter\HyField@SetKeys\expandafter{%
13535       \DefaultOptionsofSubmit,#1%
13536     }%
13537     \HyField@FlagsPushButton
13538     \HyField@FlagsSubmit
13539     \ifFld@hidden\def\Fld@width{1sp}\fi
13540     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13541     \leavevmode
13542     \Hy@escapeform\PDFForm@Submit
13543     \HyField@AdvanceAnnotCount
13544     \@pdfm@mark{%
13545       ann \@submit\HyField@TheAnnotCount\space
13546       \dvipdfm@setdim
13547       <<\PDFForm@Submit>>%
13548     }%
13549     \unhbox\pdfm@box%
13550     \@pdfm@mark{put \@fields \@submit\HyField@TheAnnotCount}%
13551   \endgroup
13552 }
```

\@Reset

```
13553 \def\@Reset[#1]#2{%
13554   \def\Fld@width{\DefaultWidthofReset}%
13555   \def\Fld@height{\DefaultHeightofReset}%
13556   \begingroup
13557     \expandafter\HyField@SetKeys\expandafter{%
13558       \DefaultOptionsofReset,#1%
13559     }%
13560     \leavevmode
13561     \ifHy@pdfa
13562       \Hy@Error{%
13563         PDF/A: Reset action is prohibited%
13564       }\@ehc
13565       \MakeButtonField{#2}%
13566     \else
13567       \HyField@FlagsPushButton
13568       \ifFld@hidden\def\Fld@width{1sp}\fi
13569       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13570       \Hy@escapeform\PDFForm@Reset
13571       \HyField@AdvanceAnnotCount
13572       \@pdfm@mark{%
13573         ann @reset\HyField@TheAnnotCount\space
13574         \dvipdfm@setdim
13575         <<\PDFForm@Reset>>%
13576       }%
13577       \unhbox\pdfm@box
13578       \@pdfm@mark{put \@fields @reset\HyField@TheAnnotCount}%
13579     \fi
13580   \endgroup
13581 }
```

\@CheckBox

```

13582 \def\@CheckBox[#1]#2{% parameters, label
13583 \def\Fld@name{#2}%
13584 \def\Fld@default{0}%
13585 \begingroup
13586 \def\Fld@width{\DefaultWidthofCheckBox}%
13587 \def\Fld@height{\DefaultHeightofCheckBox}%
13588 \expandafter\HyField@SetKeys\expandafter{%
13589 \DefaultOptionsofCheckBox,#1%
13590 }%
13591 \PDFForm@Name
13592 \HyField@FlagsCheckBox
13593 \ifFld@hidden\def\Fld@width{1sp}\fi
13594 \setbox\pdfm@box=\hbox{%
13595 \MakeCheckField{\Fld@width}{\Fld@height}%
13596 }%
13597 \HyField@AdvanceAnnotCount
13598 \LayoutCheckField{#2}{%
13599 \leavevmode
13600 \Hy@escapeform\PDFForm@Check
13601 \@pdfm@mark{%
13602 ann @check\HyField@TheAnnotCount\space
13603 \dvi pdfm@setdim
13604 <<\PDFForm@Check>>%
13605 }%
13606 \unhbox\pdfm@box
13607 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13608 }%
13609 \endgroup
13610 }

13611 \def\Hy@FormObjects{%
13612 \@pdfm@mark{obj @OBJpdfdocencoding%
13613 <<%
13614 /Type/Encoding%
13615 /Differences[%
13616 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13617 39/quotesingle %
13618 96/grave %
13619 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13620 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13621 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13622 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13623 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13624 164/currency %
13625 166/brokenbar %
13626 168/dieresis/copyright/ordfeminine %
13627 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13628 /twosuperior/threesuperior/acute/mu %
13629 183/periodcentered/cedilla/onesuperior/ordmasculine %
13630 188/onequarter/onehalf/threequarters %
13631 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13632 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13633 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13634 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13635 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13636 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13637 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13638 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%

```

```

13639      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13640      /thorn/ydieresis%
13641    ]%
13642  >>%
13643 }%
13644 \@pdfm@mark{obj @OBJZaDb%
13645   <<%
13646     /Type/Font%
13647     /Subtype/Type1%
13648     /Name/ZaDb%
13649     /BaseFont/ZapfDingbats%
13650   >>%
13651 }%
13652 \@pdfm@mark{obj @OBJHelv%
13653   <<%
13654     /Type/Font%
13655     /Subtype/Type1%
13656     /Name/Helv%
13657     /BaseFont/Helvetica%
13658     /Encoding @OBJpdfdocencoding%
13659   >>%
13660 }%
13661 \global\let\Hy@FormObjects\relax
13662 }
13663 </dvipdfm | xetex>

```

47.6 Common forms part

```

13664 (*pdfmform)

\Hy@escapestring

13665 \begingroup\expandafter\expandafter\expandafter\endgroup
13666 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13667   \let\Hy@escapestring\@firstofone
13668   \def\Hy@escapeform#1{%
13669     \ifHy@pdfescapeform
13670       \def\Hy@escapestring##1{%
13671         \noexpand\Hy@escapestring{\noexpand##1}%
13672       }%
13673       \edef\Hy@temp{#1}%
13674       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13675       \def\Hy@escapestring##1{%
13676         \@ifundefined{Hy@esc@\string##1}{%
13677           ##1%
13678           \ThisShouldNotHappen
13679         }{%
13680           \csname Hy@esc@\string##1\endcsname
13681         }%
13682       }%
13683     \else
13684       \let\Hy@escapestring\@firstofone
13685     \fi
13686   }%
13687   \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13688     \ifx\#3\%
13689       \else
13690         \expandafter
13691         \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%

```

```

13692 \ltx@ReturnAfterFi{%
13693 \Hy@@escapeform#3\@nil
13694 }%
13695 \fi
13696 }%
13697 \else
13698 \def\Hy@escapeform#1{%
13699 \ifHy@pdfescapeform
13700 \let\Hy@escapestring\pdfescapestring
13701 \else
13702 \let\Hy@escapestring\@firstofone
13703 \fi
13704 }%
13705 \Hy@escapeform{}%
13706 \fi

```

\PDFForm@Name

```

13707 \def\PDFForm@Name{%
13708 \PDFForm@@Name\Fld@name
13709 \ifx\Fld@altname\relax
13710 \else
13711 \PDFForm@@Name\Fld@altname
13712 \fi
13713 \ifx\Fld@mappingname\relax
13714 \else
13715 \PDFForm@@Name\Fld@mappingname
13716 \fi
13717 }

```

\PDFForm@@Name

```

13718 \def\PDFForm@@Name#1{%
13719 \begingroup
13720 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13721 \ifHy@unicode
13722 \Hy@unicodetrue
13723 \fi
13724 \fi
13725 \HyPsd@XeTeXBigCharstrue
13726 \pdfstringdef\Hy@gtemp#1%
13727 \endgroup
13728 \let#1\Hy@gtemp
13729 }

```

\Fld@additionalactions

```

13730 \def\Fld@@additionalactions{%
K input (keystroke) format
13731 \ifx\Fld@keystroke@code\@empty
13732 \else
13733 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13734 \fi
F display format
13735 \ifx\Fld@format@code\@empty
13736 \else
13737 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13738 \fi

```

V validation

```
13739 \ifx\Fld@validate@code\@empty
13740 \else
13741 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13742 \fi
```

C calculation

```
13743 \ifx\Fld@calculate@code\@empty
13744 \else
13745 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13746 \fi
```

Fo receiving the input focus

```
13747 \ifx\Fld@onfocus@code\@empty
13748 \else
13749 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13750 \fi
```

Bl loosing the input focus (blurred)

```
13751 \ifx\Fld@onblur@code\@empty
13752 \else
13753 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13754 \fi
```

D pressing the mouse button (down)

```
13755 \ifx\Fld@onmousedown@code\@empty
13756 \else
13757 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13758 \fi
```

U releasing the mouse button (up)

```
13759 \ifx\Fld@onmouseup@code\@empty
13760 \else
13761 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13762 \fi
```

E cursor enters the annotation's active area.

```
13763 \ifx\Fld@onenter@code\@empty
13764 \else
13765 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13766 \fi
```

X cursor exits the annotation's active area.

```
13767 \ifx\Fld@onexit@code\@empty
13768 \else
13769 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13770 \fi
```

```
13771 }
13772 \def\Fld@additionalactions{%
13773 \if-\Fld@@additionalactions-%
13774 \else
13775 \ifHy@pdfa
13776 \else
13777 /AA<<\Fld@@additionalactions>>%
13778 \fi
13779 \fi
13780 }
```

\Fld@annotnames

```
13781 \def\Fld@annotnames{%
```

```

13782 /T(\Fld@name)%
13783 \ifx\Fld@altname\relax
13784 \else
13785 /TU(\Fld@altname)%
13786 \fi
13787 \ifx\Fld@mappingname\relax
13788 \else
13789 /TM(\Fld@mappingname)%
13790 \fi
13791 }

```

\PDFForm@Check

```

13792 \def\PDFForm@Check{%
13793 /Subtype/Widget%
13794 \Fld@annotflags
13795 \Fld@annotnames
13796 /FT/Btn%
13797 \Fld@flags
13798 /Q \Fld@align
13799 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13800 /MK<<%
13801 \ifnum\Fld@rotation=\z@
13802 \else
13803 /R \Fld@rotation
13804 \fi
13805 \ifx\Fld@bordercolor\relax
13806 \else
13807 /BC[\Fld@bordercolor]%
13808 \fi
13809 \ifx\Fld@bcolor\relax
13810 \else
13811 /BG[\Fld@bcolor]%
13812 \fi
13813 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13814 >>%
13815 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13816 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13817 /H/P%
13818 \ifFld@checked /V/Yes\else /V/Off\fi
13819 \Fld@additionalactions
13820 }

```

\PDFForm@Push

```

13821 \ifHy@pdfa
13822 \else
13823 \def\PDFForm@Push{%
13824 /Subtype/Widget%
13825 \Fld@annotflags
13826 \Fld@annotnames
13827 /FT/Btn%
13828 \Fld@flags
13829 /H/P%
13830 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13831 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13832 \ifx\Fld@bordercolor\relax\else 1\fi
13833 \space
13834 \else

```

```

13835 /MK<<%
13836 \ifnum\Fld@rotation=\z@
13837 \else
13838 /R \Fld@rotation
13839 \fi
13840 \ifx\Fld@bordercolor\relax
13841 \else
13842 /BC[\Fld@bordercolor]%
13843 \fi
13844 >>%
13845 \fi
13846 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13847 \Fld@additionalactions
13848 }%
13849 \fi

```

\PDFForm@List

```

13850 \def\PDFForm@List{%
13851 /Subtype/Widget%
13852 \Fld@annotflags
13853 \Fld@annotnames
13854 /FT/Ch%
13855 \Fld@flags
13856 /Q \Fld@align
13857 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13858 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13859 \ifx\Fld@bordercolor\relax\else 1\fi
13860 \ifx\Fld@bcolor\relax \else 1\fi
13861 \space
13862 \else
13863 /MK<<%
13864 \ifnum\Fld@rotation=\z@
13865 \else
13866 /R \Fld@rotation
13867 \fi
13868 \ifx\Fld@bordercolor\relax
13869 \else
13870 /BC[\Fld@bordercolor]%
13871 \fi
13872 \ifx\Fld@bcolor\relax
13873 \else
13874 /BG[\Fld@bcolor]%
13875 \fi
13876 >>%
13877 \fi
13878 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13879 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13880 \Fld@choices
13881 \Fld@additionalactions
13882 }

```

\PDFForm@Radio

```

13883 \def\PDFForm@Radio{%
13884 /Subtype/Widget%
13885 \Fld@annotflags
13886 \Fld@annotnames
13887 /FT/Btn%

```



```

13888 \Fld@flags
13889 /H/P%
13890 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13891 /MK<<%
13892 \ifnum\Fld@rotation=\z@
13893 \else
13894 /R \Fld@rotation
13895 \fi
13896 \ifx\Fld@bordercolor\relax
13897 \else
13898 /BC[\Fld@bordercolor]%
13899 \fi
13900 \ifx\Fld@bcolor\relax
13901 \else
13902 /BG[\Fld@bcolor]%
13903 \fi
13904 /CA(\Fld@radiosymbol)%
13905 >>%
13906 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13907 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13908 \ifx\@currValue\Fld@default
13909 /V/\Fld@default
13910 /DV/\Fld@default
13911 \else
13912 /V/Off%
13913 /DV/Off%
13914 \fi
13915 \Fld@additionalactions
13916 }

```

\PDFForm@Text

```

13917 \def\PDFForm@Text{%
13918 /Subtype/Widget%
13919 \Fld@annotflags
13920 \Fld@annotnames
13921 /FT/Tx%
13922 \Fld@flags
13923 /Q \Fld@align
13924 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13925 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13926 \ifx\Fld@bordercolor\relax\else 1\fi
13927 \ifx\Fld@bcolor\relax \else 1\fi
13928 \space
13929 \else
13930 /MK<<%
13931 \ifnum\Fld@rotation=\z@
13932 \else
13933 /R \Fld@rotation
13934 \fi
13935 \ifx\Fld@bordercolor\relax
13936 \else
13937 /BC[\Fld@bordercolor]%
13938 \fi
13939 \ifx\Fld@bcolor\relax
13940 \else
13941 /BG[\Fld@bcolor]%
13942 \fi
13943 >>%

```

```

13944 \fi
13945 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13946 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13947 /DV(\Hy@escapestring{\Fld@default})%
13948 /V(\Hy@escapestring{\Fld@value})%
13949 \Fld@additionalactions
13950 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13951 }

```

\PDFForm@Submit

```

13952 \def\PDFForm@Submit{%
13953 /Subtype/Widget%
13954 \Fld@annotflags
13955 \Fld@annotnames
13956 /FT/Btn%
13957 \Fld@flags
13958 /H/P%
13959 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13960 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13961 \ifx\Fld@bordercolor\relax\else 1\fi
13962 \space
13963 \else
13964 /MK<<%
13965 \ifnum\Fld@rotation=\z@
13966 \else
13967 /R \Fld@rotation
13968 \fi
13969 \ifx\Fld@bordercolor\relax
13970 \else
13971 /BC[\Fld@bordercolor]%
13972 \fi
13973 >>%
13974 \fi
13975 /A<<%
13976 /S/SubmitForm%
13977 /F<<%
13978 /FS/URL%
13979 /F(\Hy@escapestring{\Form@action})%
13980 >>%
13981 \Fld@submitflags
13982 >>%
13983 \Fld@additionalactions
13984 }

```

\PDFForm@Reset

```

13985 \ifHy@pdfa
13986 \else
13987 \def\PDFForm@Reset{%
13988 /Subtype/Widget%
13989 \Fld@annotflags
13990 \Fld@annotnames
13991 /FT/Btn%
13992 \Fld@flags
13993 /H/P%
13994 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13995 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13996 \ifx\Fld@bordercolor\relax\else 1\fi

```

```

13997         \space
13998     \else
13999         /MK<<%
14000         \ifnum\Fld@rotation=\z@
14001         \else
14002             /R \Fld@rotation
14003         \fi
14004         \ifx\Fld@bordercolor\relax
14005         \else
14006             /BC[\Fld@bordercolor]%
14007         \fi
14008 %         /CA (Clear)
14009 %         /AC (Done)
14010     >>%
14011 \fi
14012 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14013 /A<</S/ResetForm>>%
14014 \Fld@additionalactions
14015 }%
14016 \fi

14017 </pdfform>
14018 <*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`

```

14019 \def\phantomsection{%
14020   \Hy@MakeCurrentHrefAuto{section*}%
14021   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14022 }
14023 </package>

```

48.1 Bookmarks

```
14024 <*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.

```

14025 \def\Hy@writebookmark#1#2#3#4#5{%
14026   % section number, text, label, level, file
14027   \ifx\WriteBookmarks\relax%
14028   \else
14029     \ifnum#4>\Hy@bookmarksdepth\relax
14030     \else
14031       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14032     \fi
14033   \fi
14034 }
14035 \def\Hy@currentbookmarklevel{0}
14036 \def\Hy@numberline#1{#1 }
14037 \def\@@writetorep#1#2#3#4#5{%
14038   \begingroup
14039     \edef\Hy@tempa{#5}%
14040     \ifx\Hy@tempa\Hy@bookmarkstype
14041       \edef\Hy@level{#4}%
14042       \ifx\Hy@levelcheck Y%
14043         \@tempcnta\Hy@level\relax
14044         \advance\@tempcnta by -1 %
14045         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14046           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14047           \advance\@tempcnta by 1 %
14048           \Hy@Warning{%
14049             Difference (\the\@tempcnta) between bookmark levels is %
14050             greater \MessageBreak than one, level fixed%
14051           }%
14052           \@tempcnta\Hy@currentbookmarklevel
14053           \advance\@tempcnta by 1 %
14054           \edef\Hy@level{\the\@tempcnta}%
14055         \fi
14056       \else
14057         \global\let\Hy@levelcheck Y%
14058       \fi
14059       \global\let\Hy@currentbookmarklevel\Hy@level
14060       \@tempcnta\Hy@level\relax
14061       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14062       \advance\@tempcnta by -1 %
14063       \edef\Hy@tempa{#3}%
14064       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14065       \ifx\Hy@tempa\Hy@tempb
14066         \Hy@Warning{%
14067           The anchor of a bookmark and its parent's must not%
14068           \MessageBreak be the same. Added a new anchor%
14069         }%
14070       \phantomsection
14071     \fi
14072     \ifHy@bookmarksnumbered
14073       \let\numberline\Hy@numberline
14074       \let\booknumberline\Hy@numberline
14075       \let\partnumberline\Hy@numberline

```

```

14076 \let\chapternumberline\Hy@numberline
14077 \else
14078 \let\numberline\@gobble
14079 \let\booknumberline\@gobble
14080 \let\partnumberline\@gobble
14081 \let\chapternumberline\@gobble
14082 \fi
14083 \HyPsd@XeTeXBigCharstrue
14084 \pdfstringdef\Hy@tempa{#2}%
14085 \HyPsd@SanitizeForOutFile\Hy@tempa
14086 \if@filesw
14087 \stepcounter{bookmark@seq@number}%
14088 \@ifundefined{@outlinefile}{%
14089 }{%
14090 \protected@write{@outlinefile}{%
14091 \protect\BOOKMARK
14092 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14093 {\Hy@tempa}{\Hy@tempb}%
14094 \@percentchar\space\thebookmark@seq@number
14095 }%
14096 }%
14097 \fi
14098 \fi
14099 \endgroup
14100 }
14101 \newcounter{bookmark@seq@number}

14102 \begingroup
14103 \lccode'('= '{%
14104 \lccode')= '}%
14105 \lccode'1=\z@
14106 \lccode'2=\z@
14107 \lccode'3=\z@
14108 \lccode'5=\z@
14109 \lccode'7=\z@
14110 \lccode'\#=\z@
14111 \lccode'\='=\z@
14112 \lccode'\{=\z@
14113 \lccode'\}=\z@
14114 \lowercase{%
14115 \endgroup
14116 \def\HyPsd@SanitizeForOutFile#1{%
14117 \@onelevel@sanitize\Hy@tempa
14118 \escapechar'\%
14119 \edef\Hy@tempa{%
14120 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14121 }%
14122 \edef\Hy@tempa{%
14123 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14124 }%
14125 }%
14126 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14127 #1%
14128 \ifx\#2\\%
14129 \expandafter\ltx@gobble
14130 \else
14131 \expandafter\ltx@firstofone
14132 \fi

```

```

14133  {%
14134    \string\173%
14135    \HyPsd@SanitizeOut@BraceLeft#2\@nil
14136  }%
14137 }%
14138 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14139   #1%
14140   \ifx\#2\%
14141     \expandafter\ltx@gobble
14142   \else
14143     \expandafter\ltx@firstofone
14144   \fi
14145   {%
14146     \string\175%
14147     \HyPsd@SanitizeOut@BraceRight#2\@nil
14148   }%
14149 }%
14150 }

```

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

```

14151 \newcommand{\currentpdfbookmark}{%
14152   \pdfbookmark[\Hy@currentbookmarklevel]%
14153 }
14154 \newcommand{\subpdfbookmark}{%
14155   \@tempcnta\Hy@currentbookmarklevel
14156   \Hy@StepCount\@tempcnta
14157   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14158 }
14159 \newcommand{\belowpdfbookmark}[2]{%
14160   \@tempcnta\Hy@currentbookmarklevel
14161   \Hy@StepCount\@tempcnta
14162   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14163   \advance\@tempcnta by -1 %
14164   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14165 }

```

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.

```

14166 \renewcommand\pdfbookmark[3][0]{%
14167   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14168   \hyper@anchorstart{#3.#1}\hyper@anchorend
14169 }
14170 \def\BOOKMARK{%
14171   \ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14172 }
14173 \def\@BOOKMARK[#1]{%
14174   \ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
14175 }

```

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`

```

14176 \RequirePackage{rerunfilecheck}[2009/12/10]
14177 \def\Hy@OutlineRerunCheck{%

```

```

14178 \RerunFileCheck{\jobname.out}{%
14179 \immediate\closeout\@outlinefile
14180 }{%
14181 Rerun to get outlines right\MessageBreak
14182 or use package 'bookmark'%
14183 }%
14184 }

```

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.

```

14185 \*vtex>
14186 \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.

```

14187 \begingroup
14188 \catcode'\=12 %
14189 \ifnum\Hy@VTeXversion<650 %
14190 \catcode'\=12 %
14191 \gdef\hv@pdf@char#1#2#3{%
14192 \char
14193 \ifcase'#1#2#3 %
14194 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14195 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14196 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14197 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14198 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14199 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14200 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14201 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14202 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14203 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14204 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14205 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14206 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14207 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14208 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14209 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14210 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14211 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14212 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14213 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14214 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14215 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14216 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14217 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14218 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14219 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14220 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14221 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14222 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%

```

```

14223 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14224 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14225 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14226 \fi
14227 }%
14228 \else
14229 \gdef\hv@pdf@char{\char'}%
14230 \fi
14231 \endgroup

```

\@@BOOKMARK

```

14232 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14233 \expandafter\edef\csname @count@#3\endcsname{%
14234 \the\@serial@counter
14235 }%
14236 \edef\@mycount{\the\@serial@counter}%
14237 \Hy@StepCount\@serial@counter
14238 \edef\@parcount{%
14239 \expandafter\ifx\csname @count@#5\endcsname\relax
14240 0%
14241 \else
14242 \csname @count@#5\endcsname
14243 \fi
14244 }%
14245 \immediate\special{%
14246 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14247 s=\ifx#2-c\else o\fi,t=#4%
14248 }%
14249 }%

```

\ReadBookmarks

```

14250 \def\ReadBookmarks{%
14251 \begingroup
14252 \def\0{\hv@pdf@char 0}%
14253 \def\1{\hv@pdf@char 1}%
14254 \def\2{\hv@pdf@char 2}%
14255 \def\3{\hv@pdf@char 3}%
14256 \def\({}%
14257 \def\)}%
14258 \def\do##1{%
14259 \ifnum\catcode'##1=\active
14260 \@makeother##1%
14261 \else
14262 \ifnum\catcode'##1=6 %
14263 \@makeother##1%
14264 \fi
14265 \fi
14266 }%
14267 \dospecials
14268 \Hy@safe@activetrue
14269 \InputIfFileExists{\jobname.out}{\}{}%
14270 \endgroup
14271 \ifx\WriteBookmarks\relax
14272 \else
14273 \if@filesw
14274 \newwrite\@outlinefile
14275 \Hy@OutlineRerunCheck

```



```

14276 \immediate\openout\@outlinefile=\jobname.out\relax
14277 \ifHy@typexml
14278 \immediate\write\@outlinefile{<relaxxml>\relax}%
14279 \fi
14280 \fi
14281 \fi
14282 }

14283 </vtex>
14284 <*\vtex>
14285 \def\ReadBookmarks{%
14286 \pdf@ifdraftmode{ }{%
14287 \begingroup
14288 \def\do##1{%
14289 \ifnum\catcode'##1=\active
14290 \@makeother##1%
14291 \else
14292 \ifnum\catcode'##1=6 %
14293 \@makeother##1%
14294 \fi
14295 \fi
14296 }%
14297 \dospecials
14298 \Hy@safe@activetrue
14299 \escapechar='\%
14300 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14301 \calc@bm@number{##5}%
14302 }%
14303 \InputIfFileExists{\jobname.out}{ }{%
14304 \ifx\WriteBookmarks\relax
14305 \global\let\WriteBookmarks\relax
14306 \fi
14307 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14308 \def\Hy@temp{##4}%
14309 (*pdfctx)
14310 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14311 \Hy@OutlineName{ }\Hy@pstringName{%
14312 ##2\check@bm@number{##3}}%
14313 }{%
14314 \expandafter\strip@prefix\meaning\Hy@temp
14315 }%
14316 </pdfctx>
14317 (*pdfmark)
14318 \pdfmark{%
14319 pdfmark=/OUT,%
14320 Count={##2\check@bm@number{##3}},%
14321 Dest={##3},%
14322 Title=\expandafter\strip@prefix\meaning\Hy@temp
14323 }%
14324 </pdfmark>
14325 <*\dviptfm|xetex>
14326 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14327 \@pdfm@mark{%
14328 outline \ifHy@DvipdfmxOutlineOpen
14329 [%
14330 \ifnum##21>\z@
14331 \else
14332 -%

```

```

14333         \fi
14334     ] %
14335     \fi
14336     ##1<<%
14337     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14338     /A<<%
14339     /S/GoTo%
14340     /D(\Hy@pstringName)%
14341     >>%
14342     >>%
14343     }%
14344 \</dvipdfm | xetex>
14345     }%
14346     \begingroup
14347     \def\WriteBookmarks{0}%
14348     \InputIfFileExists{\jobname.out}{-}{-}%
14349     \endgroup
14350     %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14351     \endgroup
14352 }%
14353 \ifx\WriteBookmarks\relax
14354 \else
14355     \if@filesw
14356         \newwrite\@outlinefile
14357         \Hy@OutlineRerunCheck
14358         \immediate\openout\@outlinefile=\jobname.out\relax
14359         \ifHy@typexml
14360             \immediate\write\@outlinefile{<relaxxml>\relax}%
14361         \fi
14362     \fi
14363     \fi
14364 }
14365 \<*/pdfTeX>
14366 \def\Hy@OutlineName#1#2#3#4{%
14367     \pdfoutline goto name{#2}count#3{#4}%
14368 }
14369 \</pdfTeX>
14370 \def\check@bm@number#1{%
14371     \expandafter\ifx\csname B_#1\endcsname\relax
14372         0%
14373     \else
14374         \csname B_#1\endcsname
14375     \fi
14376 }
14377 \def\calc@bm@number#1{%
14378     \@tempcnta=\check@bm@number{#1}\relax
14379     \advance\@tempcnta by 1 %
14380     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14381 }
14382 \</!vTeX>
14383 \ifHy@implicit
14384 \else
14385     \expandafter\endinput
14386 \fi
14387 \</outlines>
14388 \<*/outlines | hypertex>

```

```

14389 \newlength\Hy@SectionHShift
14390 \def\Hy@SectionAnchorHref#1{%
14391   \ifx\protect\@typeset@protect
14392     \Hy@@SectionAnchor{#1}%
14393   \fi
14394 }
14395 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
14396   \leavevmode
14397   \hbox to 0pt{%
14398     \kern-\Hy@SectionHShift
14399     \Hy@raisedlink{%
14400       \hyper@anchorstart{#1}\hyper@anchorend
14401     }%
14402     \hss
14403   }%
14404 }
14405 \let\H@old@ssect\@ssect
14406 \def\@ssect#1#2#3#4#5{%
14407   \Hy@MakeCurrentHrefAuto{section*}%
14408   \setlength{\Hy@SectionHShift}{#1}%
14409   \begingroup
14410     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14411     \toks\tw@\expandafter{%
14412       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14413       #5%
14414     }%
14415   \edef\x{\endgroup
14416     \the\toks@\the\toks\tw@}%
14417   }\x
14418 }
14419 \let\H@old@schapter\@schapter
14420 \def\@schapter#1{%
14421   \begingroup
14422     \let\@mkboth\@gobbletwo
14423     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14424     \Hy@raisedlink{%
14425       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14426     }%
14427   \endgroup
14428   \H@old@schapter{#1}%
14429 }

```

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:

```

14430 \ltx@ifundefined{@chapter}{-}{%
14431   \let\Hy@org@chapter\@chapter
14432   \def\@chapter{%
14433     \def\Hy@next{%
14434       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14435       \Hy@raisedlink{%
14436         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14437       }%
14438     }%
14439     \ifnum\c@secnumdepth>\m@ne
14440       \ltx@ifundefined{if@mainmatter}%
14441       \iftrue{\csname if@mainmatter\endcsname}%
14442       \let\Hy@next\relax

```

```

14443 \fi
14444 \fi
14445 \Hy@next
14446 \Hy@org@chapter
14447 }%
14448 }

14449 \let\H@old@part\@part
14450 \begingroup\expandafter\expandafter\expandafter\endgroup
14451 \expandafter\ifx\csname chapter\endcsname\relax
14452 \let\Hy@secnum@part\z@
14453 \else
14454 \let\Hy@secnum@part\m@ne
14455 \fi
14456 \def\@part{%
14457 \ifnum\Hy@secnum@part>\c@secnumdepth
14458 \phantomsection
14459 \fi
14460 \H@old@part
14461 }

14462 \let\H@old@spart\@spart
14463 \def\@spart#1{%
14464 \Hy@MakeCurrentHrefAuto{part*}%
14465 \Hy@raisedlink{%
14466 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14467 }%
14468 \H@old@spart{#1}%
14469 }

14470 \let\H@old@sect\@sect
14471 \def\@sect#1#2#3#4#5#6[#7]#8{%
14472 \ifnum #2>\c@secnumdepth
14473 \expandafter\@firstoftwo
14474 \else
14475 \expandafter\@secondoftwo
14476 \fi
14477 {%
14478 \Hy@MakeCurrentHrefAuto{section*}%
14479 \setlength{\Hy@SectionHShift}{#3}%
14480 \begingroup
14481 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14482 \toks\tw@\expandafter{%
14483 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14484 #8%
14485 }%
14486 \edef\x{\endgroup
14487 \the\toks@{\the\toks\tw@}}%
14488 }\x
14489 }{%
14490 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14491 }%
14492 }

14493 </outlines | hypertex>
14494 (*outlines)

14495 \expandafter\def\csname Parent-4\endcsname{}
14496 \expandafter\def\csname Parent-3\endcsname{}
14497 \expandafter\def\csname Parent-2\endcsname{}
14498 \expandafter\def\csname Parent-1\endcsname{}

```

```

14499 \expandafter\def\csname Parent0\endcsname{}
14500 \expandafter\def\csname Parent1\endcsname{}
14501 \expandafter\def\csname Parent2\endcsname{}
14502 \expandafter\def\csname Parent3\endcsname{}
14503 \expandafter\def\csname Parent4\endcsname{}
14504 </outlines>

```

49 Compatibility with koma-script classes

```

14505 <*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.

```

14506 \def\Hy@tempa{%
14507   \def\@addchap{##1}##2{%
14508     \typeout{##2}%
14509     \if@twoside
14510       \@mkboth{##1}{}%
14511     \else
14512       \@mkboth{}{##1}%
14513     \fi
14514     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14515     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14516     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14517     \Hy@raisedlink{%
14518       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14519     }%
14520     \if@twocolumn
14521       \@topnewpage[\@makeschapterhead{##2}]%
14522     \else
14523       \@makeschapterhead{##2}%
14524       \@afterheading
14525     \fi
14526     \addcontentsline{toc}{chapter}{##1}%
14527   }%
14528 }
14529 \@ifclassloaded{scrbook}{%
14530   \@ifclasslater{scrbook}{2001/01/01}{%
14531     \let\Hy@tempa\@empty
14532   }{}%
14533 }{%
14534   \@ifclassloaded{scrreprt}{%
14535     \@ifclasslater{scrreprt}{2001/01/01}{%
14536       \let\Hy@tempa\@empty
14537     }{}%
14538   }{}%
14539   \let\Hy@tempa\@empty
14540 }%
14541 }%
14542 \Hy@tempa
14543 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
14544 <*pd1enc>
14545 \DeclareFontEncoding{PD1}{-}{-}

Accents
14546 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14547 \DeclareTextAccent`}{PD1}{\textacute}
14548 \DeclareTextAccent^{~}{PD1}{\textasciicircum}
14549 \DeclareTextAccent{~}{PD1}{\texttilde}
14550 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14551 \DeclareTextAccent{r}{PD1}{\textstring}
14552 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14553 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14554 \DeclareTextAccent{c}{PD1}{\textcedilla}
14555 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14556 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14557 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14558 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
14559 \DeclareTextCompositeCommand`}{PD1}{\@empty}{\textacute}
14560 \DeclareTextCompositeCommand^{~}{PD1}{\@empty}{\textasciicircum}
14561 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14562 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14563 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
14564 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14565 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14566 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14567 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14568 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14569 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14570 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
14571 \DeclareTextCompositeCommand`}{PD1}{\ }{\textacute}
14572 \DeclareTextCompositeCommand^{~}{PD1}{\ }{\textasciicircum}
14573 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14574 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14575 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textstring}
14576 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14577 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14578 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14579 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14580 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14581 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14582 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14583 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14584 \DeclareTextCommand{\newtie}{PD1}[1]{%
14585   \TextSymbolUnavailable{\newtie{#1}}#1%
14586 }
```

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

```
14587 % U+0009 (CHARACTER TABULATION)
14588 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14589 % U+000A (LINE FEED)
```

```

14590 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14591 % U+000D (CARRIAGE RETURN)
14592 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
14593 % U+02D8 BREVE; breve
14594 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14595 % U+02C7 CARON; caron
14596 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14597 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14598 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14599 % U+02D9 DOT ABOVE; dotaccent
14600 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14601 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14602 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14603 % U+02DB OGONEK; ogonek
14604 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14605 % U+02DA RING ABOVE; ring
14606 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14607 % U+02DC SMALL TILDE; ilde, *tilde
14608 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14609 % U+0022 QUOTATION MARK; quotedbl
14610 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14611 % U+0023 NUMBER SIGN; numbersign
14612 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14613 % U+0024 DOLLAR SIGN; dollar
14614 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14615 % U+0025 PERCENT SIGN; percent
14616 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14617 % U+0026 AMPERSAND; ampersand
14618 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14619 % U+0028 LEFT PARENTHESIS; parenleft
14620 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14621 % U+0029 RIGHT PARENTHESIS; parenright
14622 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14623 % U+002E FULL STOP; period
14624 \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
14625 % U+003C LESS-THAN SIGN; less
14626 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
\075: U+003D EQUALS SIGN; equal

```

14627 % U+003E GREATER-THAN SIGN; greater
 14628 \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
 14629 % U+005C REVERSE SOLIDUS; backslash
 14630 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14631 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14632 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14633 % U+005F LOW LINE; underscore
 14634 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14635 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14636 % U+0060 GRAVE ACCENT; grave
 14637 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14638 % U+0069 LATIN SMALL LETTER I; i
 14639 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14640 % U+007B LEFT CURLY BRACKET; braceleft
 14641 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14642 % U+007C VERTICAL LINE; *bar, verticalbar
 14643 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14644 % U+007D RIGHT CURLY BRACKET; braceright
 14645 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14646 % U+007E TILDE; asciitilde
 14647 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14648 % U+2022 BULLET; bullet
 14649 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14650 % U+2020 DAGGER; dagger
 14651 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14652 % U+2021 DOUBLE DAGGER; daggerdbl
 14653 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14654 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14655 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14656 % U+2014 EM DASH; emdash
 14657 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14658 % U+2013 EN DASH; endash
 14659 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14660 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14661 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14662 % U+2044 FRACTION SLASH; fraction
 14663 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14664 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 14665 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039

14666 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guiltingright
14667 \DeclareTextCommand{\guiltingright}{PD1}{\211}% U+203A
14668 % U+2212 MINUS SIGN; minus
14669 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14670 % U+2030 PER MILLE SIGN; perthousand
14671 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14672 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14673 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14674 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14675 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14676 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14677 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14678 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14679 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14680 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14681 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14682 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14683 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14684 % U+2122 TRADE MARK SIGN; trademark
14685 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14686 % U+FB01 LATIN SMALL LIGATURE FI; fi
14687 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14688 % U+FB02 LATIN SMALL LIGATURE FL; fl
14689 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14690 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14691 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14692 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14693 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14694 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14695 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14696 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14697 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
14698 \DeclareTextCommand{\IJ}{PD1}{\230}
14699 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14700 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14701 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14702 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14703 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14704 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14705 % U+0153 LATIN SMALL LIGATURE OE; oe
14706 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14707 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14708 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14709 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14710 \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.
14711 % U+20AC EURO SIGN; *Euro, euro
14712 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14713 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14714 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14715 % U+00A2 CENT SIGN; cent
14716 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14717 % U+00A3 POUND SIGN; sterling
14718 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14719 % U+00A4 CURRENCY SIGN; currency

14720 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14721 % U+00A5 YEN SIGN; yen
14722 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14723 % U+00A6 BROKEN BAR; brokenbar
14724 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14725 % U+00A7 SECTION SIGN; section
14726 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14727 % U+00A8 DIAERESIS; dieresis
14728 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14729 % U+00A9 COPYRIGHT SIGN; copyright
14730 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14731 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14732 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14733 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motleft
14734 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14735 % U+00AC NOT SIGN; logicalnot
14736 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14737 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14738 % U+00AE REGISTERED SIGN; registered
14739 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14740 % U+00AF MACRON; *macron, overscore
14741 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14742 % U+00B0 DEGREE SIGN; degree
14743 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14744 % U+00B1 PLUS-MINUS SIGN; plusminus
14745 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14746 % U+00B2 SUPERSCRIFT TWO; twosuperior
14747 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
14748 % U+00B3 SUPERSCRIFT THREE; threesuperior
14749 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
14750 % U+00B4 ACUTE ACCENT; acute
14751 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14752 % U+00B5 MICRO SIGN; mu, mul
14753 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14754 % U+00B6 PILCROW SIGN; paragraph
14755 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14756 % U+00B7 MIDDLE DOT; middot, *periodcentered
14757 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14758 % U+00B8 CEDILLA; cedilla
14759 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14760 % U+00B9 SUPERSCRIFT ONE; onesuperior
14761 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
14762 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14763 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14764 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
14765 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14766 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14767 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14768 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14769 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14770 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14771 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14772 % U+00BF INVERTED QUESTION MARK; questiondown
14773 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF

14774 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14775 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14776 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14777 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14778 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14779 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14780 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14781 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14782 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14783 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14784 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14785 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14786 % U+00C6 LATIN CAPITAL LETTER AE; AE
14787 \DeclareTextCompositeCommand{\AE}{PD1}{\306}% U+00C6
14788 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14789 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14790 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14791 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14792 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14793 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14794 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14795 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14796 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14797 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14798 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14799 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14800 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14801 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14802 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14803 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14804 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14805 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14806 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14807 \DeclareTextCompositeCommand{\DH}{PD1}{\320}% U+00D0
14808 \DeclareTextCompositeCommand{\DJ}{PD1}{\320}% U+00D0
14809 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14810 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14811 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14812 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14813 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14814 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14815 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14816 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14817 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14818 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14819 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14820 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14821 % U+00D7 MULTIPLICATION SIGN; multiply
14822 \DeclareTextCompositeCommand{\textmultiply}{PD1}{\327}% U+00D7
14823 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14824 \DeclareTextCompositeCommand{\O}{PD1}{\330}% U+00D8
14825 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14826 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14827 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14828 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14829 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14830 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB

14831 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14832 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14833 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14834 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD
14835 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14836 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14837 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14838 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14839 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14840 \DeclareTextCompositeCommand`{PD1}{a}{\340}% U+00E0
14841 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14842 \DeclareTextCompositeCommand`{PD1}{a}{\341}% U+00E1
14843 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14844 \DeclareTextCompositeCommand`{PD1}{a}{\342}% U+00E2
14845 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14846 \DeclareTextCompositeCommand`{PD1}{a}{\343}% U+00E3
14847 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14848 \DeclareTextCompositeCommand`{PD1}{a}{\344}% U+00E4
14849 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14850 \DeclareTextCompositeCommand{r}{PD1}{a}{\345}% U+00E5
14851 % U+00E6 LATIN SMALL LETTER AE; ae
14852 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14853 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14854 \DeclareTextCompositeCommand{c}{PD1}{c}{\347}% U+00E7
14855 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14856 \DeclareTextCompositeCommand`{PD1}{e}{\350}% U+00E8
14857 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14858 \DeclareTextCompositeCommand`{PD1}{e}{\351}% U+00E9
14859 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14860 \DeclareTextCompositeCommand`{PD1}{e}{\352}% U+00EA
14861 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14862 \DeclareTextCompositeCommand`{PD1}{e}{\353}% U+00EB
14863 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14864 \DeclareTextCompositeCommand`{PD1}{i}{\354}% U+00EC
14865 \DeclareTextCompositeCommand`{PD1}{i}{\354}% U+00EC
14866 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14867 \DeclareTextCompositeCommand`{PD1}{i}{\355}% U+00ED
14868 \DeclareTextCompositeCommand`{PD1}{i}{\355}% U+00ED
14869 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14870 \DeclareTextCompositeCommand`{PD1}{i}{\356}% U+00EE
14871 \DeclareTextCompositeCommand`{PD1}{i}{\356}% U+00EE
14872 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14873 \DeclareTextCompositeCommand`{PD1}{i}{\357}% U+00EF
14874 \DeclareTextCompositeCommand`{PD1}{i}{\357}% U+00EF
14875 % U+00F0 LATIN SMALL LETTER ETH; eth
14876 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14877 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14878 \DeclareTextCompositeCommand`{PD1}{n}{\361}% U+00F1
14879 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14880 \DeclareTextCompositeCommand`{PD1}{o}{\362}% U+00F2
14881 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14882 \DeclareTextCompositeCommand`{PD1}{o}{\363}% U+00F3
14883 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14884 \DeclareTextCompositeCommand`{PD1}{o}{\364}% U+00F4
14885 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14886 \DeclareTextCompositeCommand`{PD1}{o}{\365}% U+00F5
14887 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis

```

14888 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
14889 % U+00F7 DIVISION SIGN; divide
14890 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14891 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14892 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14893 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14894 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9
14895 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14896 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA
14897 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14898 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB
14899 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14900 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
14901 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14902 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
14903 % U+00FE LATIN SMALL LETTER THORN; thorn
14904 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14905 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14906 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14907 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

14908 \DeclareTextCommand{\SS}{PD1}{SS}
14909 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

14910 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14911 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14912 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14913 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14914 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14915 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14916 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14917 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

14918 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14919 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14920 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14921 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14922 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14923 \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).

```

14924 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
14925 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
14926 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
14927 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
14928 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
14929 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
14930 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14931 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14932 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
14933 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14934 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
14935 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
14936 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
14937 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

14938 `</pd1enc>`

50.2 PU encoding

14939 `<*puenc>`

14940 `\DeclareFontEncoding{PU}{-}{-}`

50.2.1 NFSS2 accents

14941 `% U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb`
14942 `\DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300`
14943 `% U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb`
14944 `\DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301`
14945 `% U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb`
14946 `\DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302`
14947 `% U+0303 COMBINING TILDE; tildecmb, *tildecmb`
14948 `\DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303`
14949 `% U+0304 COMBINING MACRON; macroncmb`
14950 `\DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304`
14951 `% U+0306 COMBINING BREVE; brevecmb`
14952 `\DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306`
14953 `\DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306`
14954 `% U+0307 COMBINING DOT ABOVE; dotaccentcmb`
14955 `\DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307`
14956 `% U+0308 COMBINING DIAERESIS; dieresiscmb`
14957 `\DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308`
14958 `% U+030A COMBINING RING ABOVE; ringcmb`
14959 `\DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A`
14960 `% U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb`
14961 `\DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B`
14962 `% U+030C COMBINING CARON; caroncmb`
14963 `\DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C`
14964 `% U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb`
14965 `\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F`
14966 `\DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F`
14967 `% U+0311 COMBINING INVERTED BREVE; breveinvertedcmb`
14968 `\DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311`
14969 `% U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb`
14970 `\DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323`
14971 `% U+0331 COMBINING MACRON BELOW; macronbelowcmb`
14972 `\DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331`
14973 `% U+0327 COMBINING CEDILLA; cedillacmb`
14974 `\DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327`
14975 `% U+0328 COMBINING OGONEK; ogonekcmb`
14976 `\DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328`
14977 `% U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-`
`blecmb`
14978 `\DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361`
14979 `% U+20DD COMBINING ENCLOSING CIRCLE`
14980 `\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.

14981 `\DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}`
14982 `\DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}`
14983 `\DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}`
14984 `\DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttildel}`
14985 `\DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}`
14986 `\DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}`
14987 `\DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}`

```

14988 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14989 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14990 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14991 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14992 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14993 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14994 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14995 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14996 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14997 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14998 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14999 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

15000 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
15001 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textacute}
15002 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
15003 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15004 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15005 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textstring}
15006 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15007 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15008 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15009 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
15010 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15011 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15012 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15013 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15014 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15015 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15016 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15017 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15018 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

15019 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
15020 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
15021 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
15022 \DeclareTextCommand{\capitalacute}{PU}[1]{\`{#1}}
15023 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
15024 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
15025 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}
15026 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
15027 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
15028 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
15029 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
15030 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
15031 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
15032 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
15033 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

15034 % U+0009 (CHARACTER TABULATION)
15035 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15036 % U+000A (LINE FEED)
15037 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15038 % U+000D (CARRIAGE RETURN)
15039 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

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\80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 15040 % U+0022 QUOTATION MARK; quotedbl
 15041 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
 15042 % U+0023 NUMBER SIGN; numbersign
 15043 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 15044 % U+0024 DOLLAR SIGN; dollar
 15045 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 15046 % U+0025 PERCENT SIGN; percent
 15047 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 15048 % U+0026 AMPERSAND; ampersand
 15049 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 15050 % U+0027 APOSTROPHE; quotesingle
 15051 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 15052 % U+0028 LEFT PARENTHESIS; parenleft
 15053 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 15054 % U+0029 RIGHT PARENTHESIS; parenright
 15055 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 15056 % U+002A ASTERISK; asterisk
 15057 \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
 15058 % U+003C LESS-THAN SIGN; less
 15059 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 15060 % U+003E GREATER-THAN SIGN; greater
 15061 \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
 15062 % U+005C REVERSE SOLIDUS; backslash
 15063 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 15064 % U+005E CIRCUMFLEX ACCENT; asciicircum
 15065 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 15066 % U+005F LOW LINE; underscore
 15067 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 15068 % U+0060 GRAVE ACCENT; grave
 15069 \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

15070 % U+0069 LATIN SMALL LETTER I; i
 15071 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
 15072 \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
 15073 % U+007B LEFT CURLY BRACKET; braceleft
 15074 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 15075 % U+007C VERTICAL LINE; *bar, verticalbar
 15076 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 15077 % U+007D RIGHT CURLY BRACKET; braceright
 15078 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 15079 % U+007E TILDE; asciitilde
 15080 \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
 15081 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 15082 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 15083 % U+00A2 CENT SIGN; cent
 15084 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 15085 % U+00A3 POUND SIGN; sterling
 15086 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 15087 % U+00A4 CURRENCY SIGN; currency
 15088 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 15089 % U+00A5 YEN SIGN; yen
 15090 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 15091 % U+00A6 BROKEN BAR; brokenbar
 15092 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 15093 % U+00A7 SECTION SIGN; section
 15094 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 15095 % U+00A8 DIAERESIS; dieresis
 15096 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 15097 % U+00A9 COPYRIGHT SIGN; copyright
 15098 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 15099 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 15100 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 15101 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 15102 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 15103 % U+00AC NOT SIGN; logicalnot
 15104 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 15105 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 15106 % U+00AE REGISTERED SIGN; registered
 15107 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 15108 % U+00AF MACRON; *macron, overscore
 15109 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 15110 % U+00B0 DEGREE SIGN; degree
 15111 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 15112 % U+00B1 PLUS-MINUS SIGN; plusminus
 15113 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 15114 % U+00B2 SUPERScript TWO; twosuperior
 15115 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 15116 % U+00B3 SUPERScript THREE; threesuperior

15117 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
15118 % U+00B4 ACUTE ACCENT; acute
15119 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15120 \DeclareTextCommand{\textasciacute}{PU}{\80\264}% U+00B4
15121 % U+00B5 MICRO SIGN; mu, mu1
15122 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15123 % U+00B6 PILCROW SIGN; paragraph
15124 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15125 % U+00B7 MIDDLE DOT; middot, *periodcentered
15126 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15127 % U+00B8 CEDILLA; cedilla
15128 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15129 % U+00B9 SUPERScript ONE; onesuperior
15130 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
15131 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15132 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15133 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
15134 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15135 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15136 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15137 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15138 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15139 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15140 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15141 % U+00BF INVERTED QUESTION MARK; questiondown
15142 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15143 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15144 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15145 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15146 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15147 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15148 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15149 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15150 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15151 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15152 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15153 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15154 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15155 % U+00C6 LATIN CAPITAL LETTER AE; AE
15156 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15157 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15158 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15159 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15160 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15161 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15162 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15163 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15164 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15165 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15166 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15167 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15168 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15169 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15170 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15171 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15172 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE

15173 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15174 \DeclareTextCompositeCommand{"}{PU}{I}{\80\317}% U+00CF
15175 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15176 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15177 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15178 \DeclareTextCompositeCommand{~}{PU}{N}{\80\321}% U+00D1
15179 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15180 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}% U+00D2
15181 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15182 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}% U+00D3
15183 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15184 \DeclareTextCompositeCommand{^}{PU}{O}{\80\324}% U+00D4
15185 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15186 \DeclareTextCompositeCommand{~}{PU}{O}{\80\325}% U+00D5
15187 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15188 \DeclareTextCompositeCommand{"}{PU}{O}{\80\326}% U+00D6
15189 % U+00D7 MULTIPLICATION SIGN; multiply
15190 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15191 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15192 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15193 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15194 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}% U+00D9
15195 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15196 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}% U+00DA
15197 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15198 \DeclareTextCompositeCommand{^}{PU}{U}{\80\333}% U+00DB
15199 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15200 \DeclareTextCompositeCommand{"}{PU}{U}{\80\334}% U+00DC
15201 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15202 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}% U+00DD
15203 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
15204 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15205 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15206 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15207 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15208 \DeclareTextCompositeCommand{'}{PU}{a}{\80\340}% U+00E0
15209 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15210 \DeclareTextCompositeCommand{'}{PU}{a}{\80\341}% U+00E1
15211 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15212 \DeclareTextCompositeCommand{^}{PU}{a}{\80\342}% U+00E2
15213 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15214 \DeclareTextCompositeCommand{~}{PU}{a}{\80\343}% U+00E3
15215 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15216 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15217 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15218 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15219 % U+00E6 LATIN SMALL LETTER AE; ae
15220 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15221 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15222 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15223 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15224 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}% U+00E8
15225 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15226 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}% U+00E9
15227 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15228 \DeclareTextCompositeCommand{^}{PU}{e}{\80\352}% U+00EA
15229 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis

15230 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15231 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15232 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
15233 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}% U+00EC
15234 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15235 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
15236 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}% U+00ED
15237 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15238 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE
15239 \DeclareTextCompositeCommand{^}{PU}{i}{\80\356}% U+00EE
15240 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15241 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15242 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15243 % U+00F0 LATIN SMALL LETTER ETH; eth
15244 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15245 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15246 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1
15247 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15248 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2
15249 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15250 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3
15251 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15252 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4
15253 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15254 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5
15255 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15256 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
15257 % U+00F7 DIVISION SIGN; divide
15258 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15259 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15260 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15261 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15262 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9
15263 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15264 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA
15265 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15266 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB
15267 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15268 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC
15269 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15270 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD
15271 % U+00FE LATIN SMALL LETTER THORN; thorn
15272 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
15273 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15274 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

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

15275 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
15276 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100
15277 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
15278 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101
15279 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
15280 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
15281 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
15282 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
15283 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek

15284 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
15285 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
15286 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15287 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15288 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15289 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15290 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
15291 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15292 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15293 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15294 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15295 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-
cent
15296 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15297 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15298 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15299 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15300 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15301 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15302 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15303 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15304 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15305 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15306 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15307 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15308 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15309 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
15310 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15311 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15312 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15313 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15314 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15315 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15316 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15317 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15318 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15319 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15320 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15321 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15322 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15323 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15324 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15325 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15326 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15327 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15328 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15329 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15330 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15331 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15332 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15333 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15334 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15335 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15336 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15337 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15338 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F

15339 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
 15340 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
 15341 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
 15342 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
 15343 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
 15344 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15345 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15346 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15347 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15348 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
 15349 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
 15350 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
 15351 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
 15352 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
 15353 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
 15354 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
 15355 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
 15356 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
 15357 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
 15358 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15359 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 15360 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
 15361 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
 15362 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
 15363 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15364 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
 15365 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
 15366 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
 15367 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
 15368 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15369 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
 15370 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
 15371 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
 15372 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
 15373 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15374 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
 15375 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
 15376 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 15377 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 15378 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 15379 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 15380 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 15381 % U+0133 LATIN SMALL LIGATURE IJ; ij
 15382 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 15383 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 15384 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 15385 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 15386 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15387 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15388 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 15389 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15390 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15391 \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`.

```

15392 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15393 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15394 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15395 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15396 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15397 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15398 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15399 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15400 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15401 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15402 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15403 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15404 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15405 \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.
15406 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
15407 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15408 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15409 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15410 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15411 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15412 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15413 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15414 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15415 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15416 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15417 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15418 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15419 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15420 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15421 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15422 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15423 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15424 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15425 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15426 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15427 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15428 % U+014A LATIN CAPITAL LETTER ENG; Eng
15429 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15430 % U+014B LATIN SMALL LETTER ENG; eng
15431 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15432 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15433 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15434 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15435 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15436 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15437 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15438 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve

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15439 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 15440 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
 15441 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 15442 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
 15443 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 15444 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 15445 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 15446 % U+0153 LATIN SMALL LIGATURE OE; oe
 15447 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
 15448 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 15449 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 15450 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 15451 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 15452 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
 15453 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 15454 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 15455 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 15456 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 15457 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 15458 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 15459 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 15460 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 15461 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 15462 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 15463 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
 15464 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
 15465 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
 15466 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
 15467 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
 15468 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
 15469 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
 15470 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
 15471 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
 15472 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 15473 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
 15474 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 15475 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
 15476 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
 15477 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
 15478 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
 15479 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
 15480 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
 15481 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
 15482 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
 15483 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
 15484 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
 15485 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
 15486 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
 15487 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
 15488 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 15489 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 15490 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 15491 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169

15492 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 15493 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 15494 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 15495 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 15496 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 15497 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 15498 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 15499 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
 15500 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15501 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15502 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15503 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 15504 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
 cute, Uhungarumlaut
 15505 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15506 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-
 cute, uhungarumlaut
 15507 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 15508 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15509 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15510 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15511 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15512 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15513 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15514 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15515 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15516 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15517 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15518 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15519 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15520 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15521 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15522 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15523 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15524 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15525 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15526 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15527 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15528 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15529 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15530 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15531 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15532 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15533 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15534 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15535 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

15536 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15537 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15538 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15539 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15540 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15541 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15542 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15543 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15544 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron

15545 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15546 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15547 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15548 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15549 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15550 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15551 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15552 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15553 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15554 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15555 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15556 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15557 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15558 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15559 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15560 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15561 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15562 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15563 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15564 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15565 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15566 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15567 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15568 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15569 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15570 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15571 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15572 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15573 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15574 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15575 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15576 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15577 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15578 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15579 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
15580 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15581 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15582 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15583 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15584 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15585 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15586 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslasha-
cute, Ostrokeacute
15587 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15588 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslasha-
cute, ostrokeacute
15589 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15590 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15591 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15592 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15593 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15594 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15595 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15596 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15597 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15598 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15599 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208

15600 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 15601 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15602 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 15603 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 15604 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 15605 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 15606 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 15607 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 15608 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15609 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15610 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15611 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15612 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15613 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15614 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15615 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15616 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15617 % U+021F LATIN SMALL LETTER H WITH CARON
 15618 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15619 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15620 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15621 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15622 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15623 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15624 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15625 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15626 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15627 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15628 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15629 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15630 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15631 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15632 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15633 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15634 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15635 % U+0237 LATIN SMALL LETTER DOTLESS J
 15636 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

15637 % U+02C7 CARON; caron
 15638 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15639 % U+02D8 BREVE; breve
 15640 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15641 % U+02D9 DOT ABOVE; dotaccent
 15642 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15643 % U+02DA RING ABOVE; ring
 15644 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15645 % U+02DB OGONEK; ogonek
 15646 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15647 % U+02DC SMALL TILDE; ilde, *tilde
 15648 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15649 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15650 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15651 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15652 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15653 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15654 % U+02F7 MODIFIER LETTER LOW TILDE

15655 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

15656 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15657 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
15658 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15659 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
15660 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15661 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
15662 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15663 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
15664 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
blecmb
15665 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

15666 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
15667 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
15668 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
15669 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
15670 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
15671 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
15672 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
15673 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
15674 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
15675 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
15676 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
15677 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
15678 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
crintonos
15679 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
15680 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
15681 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
15682 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
15683 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
15684 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
tadiesistonos
15685 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
15686 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
15687 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
15688 % U+0392 GREEK CAPITAL LETTER BETA; Beta
15689 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
15690 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
15691 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
15692 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
15693 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
15694 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
15695 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
15696 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
15697 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
15698 % U+0397 GREEK CAPITAL LETTER ETA; Eta
15699 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
15700 % U+0398 GREEK CAPITAL LETTER THETA; Theta
15701 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15702 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15703 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15704 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa

15705 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15706 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15707 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15708 % U+039C GREEK CAPITAL LETTER MU; Mu
15709 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15710 % U+039D GREEK CAPITAL LETTER NU; Nu
15711 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15712 % U+039E GREEK CAPITAL LETTER XI; Xi
15713 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15714 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15715 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15716 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15717 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15718 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15719 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15720 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15721 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15722 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15723 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15724 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15725 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15726 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15727 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15728 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15729 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15730 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15731 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15732 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15733 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15734 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15735 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15736 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
15737 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis
15738 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
15739 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15740 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC
15741 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
15742 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
15743 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15744 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
15745 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotonos
15746 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
15747 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis
15748 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0
15749 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15750 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15751 % U+03B2 GREEK SMALL LETTER BETA; beta
15752 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15753 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15754 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15755 % U+03B4 GREEK SMALL LETTER DELTA; delta
15756 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15757 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15758 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15759 % U+03B6 GREEK SMALL LETTER ZETA; zeta

15760 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15761 % U+03B7 GREEK SMALL LETTER ETA; eta
15762 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15763 % U+03B8 GREEK SMALL LETTER THETA; theta
15764 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15765 % U+03B9 GREEK SMALL LETTER IOTA; iota
15766 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15767 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15768 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15769 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15770 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15771 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15772 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15773 % U+03BD GREEK SMALL LETTER NU; nu
15774 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15775 % U+03BE GREEK SMALL LETTER XI; xi
15776 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15777 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15778 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15779 % U+03C0 GREEK SMALL LETTER PI; pi
15780 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15781 % U+03C1 GREEK SMALL LETTER RHO; rho
15782 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15783 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15784 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15785 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15786 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15787 % U+03C4 GREEK SMALL LETTER TAU; tau
15788 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15789 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15790 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15791 % U+03C6 GREEK SMALL LETTER PHI; phi
15792 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15793 % U+03C7 GREEK SMALL LETTER CHI; chi
15794 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15795 % U+03C8 GREEK SMALL LETTER PSI; psi
15796 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15797 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15798 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15799 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
15800 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
15801 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
15802 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
15803 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15804 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
15805 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15806 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15807 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
15808 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15809 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
15810 % U+03DA GREEK LETTER STIGMA; Stigmatreek
15811 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
15812 % U+03DB GREEK SMALL LETTER STIGMA
15813 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB
15814 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
15815 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC

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15816 % U+03DD GREEK SMALL LETTER DIGAMMA
15817 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
15818 % U+03DE GREEK LETTER KOPPA; Koppagreek
15819 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
15820 % U+03DF GREEK SMALL LETTER KOPPA
15821 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
15822 % U+03E0 GREEK LETTER SAMPI; Sampigreek
15823 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
15824 % U+03E1 GREEK SMALL LETTER SAMPI
15825 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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50.2.9 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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15826 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
15827 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
15828 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
15829 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
15830 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
15831 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15832 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15833 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15834 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
15835 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
15836 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15837 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15838 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
15839 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrrilic, *afii10055
15840 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15841 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
15842 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15843 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
15844 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15845 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15846 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15847 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15848 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15849 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15850 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15851 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15852 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15853 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
15854 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15855 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
15856 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
15857 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15858 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15859 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15860 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15861 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15862 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15863 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15864 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15865 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15866 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15867 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020

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15868 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15869 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15870 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15871 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15872 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15873 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15874 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15875 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15876 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15877 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15878 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15879 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15880 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15881 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15882 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15883 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15884 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15885 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15886 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15887 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15888 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15889 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15890 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15891 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15892 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15893 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15894 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15895 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15896 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15897 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15898 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15899 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15900 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15901 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15902 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15903 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15904 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15905 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15906 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15907 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15908 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15909 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15910 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15911 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15912 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15913 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15914 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15915 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15916 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15917 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15918 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15919 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15920 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15921 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15922 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15923 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15924 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049

15925 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15926 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15927 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15928 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15929 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15930 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15931 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15932 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15933 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15934 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15935 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15936 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15937 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15938 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15939 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
15940 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15941 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15942 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15943 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15944 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15945 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15946 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15947 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15948 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15949 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15950 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
15951 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15952 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15953 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15954 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15955 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15956 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15957 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15958 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15959 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15960 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15961 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15962 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
15963 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15964 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15965 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15966 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
15967 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15968 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15969 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15970 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15971 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15972 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15973 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15974 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15975 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15976 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15977 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15978 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15979 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
lic
15980 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A

15981 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 15982 \DeclareTextCommand{\cyrrery}{PU}{\84\113}% U+044B
 15983 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 15984 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
 15985 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 15986 \DeclareTextCommand{\cyrrerev}{PU}{\84\115}% U+044D
 15987 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 15988 \DeclareTextCommand{\cyrriu}{PU}{\84\116}% U+044E
 15989 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 15990 \DeclareTextCommand{\cyrria}{PU}{\84\117}% U+044F
 15991 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 15992 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
 15993 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 15994 \DeclareTextCommand{\cyrrio}{PU}{\84\121}% U+0451
 15995 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 15996 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 15997 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 15998 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 15999 \DeclareTextCompositeCommand{\'}{PU}{\cyrj}{\84\123}% U+0453
 16000 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16001 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 16002 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16003 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 16004 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
 16005 \DeclareTextCommand{\cyrri}{PU}{\84\126}% U+0456
 16006 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16007 \DeclareTextCommand{\cyrri}{PU}{\84\127}% U+0457
 16008 \DeclareTextCompositeCommand{\"}{PU}{\cyrri}{\84\127}% U+0457
 16009 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16010 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 16011 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16012 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
 16013 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16014 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 16015 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16016 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 16017 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16018 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 16019 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16020 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
 16021 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16022 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 16023 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 16024 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16025 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 16026 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16027 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16028 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
 16029 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 16030 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 16031 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 16032 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 16033 \DeclareTextCommand{\cyrjat}{PU}{\84\143}% U+0463
 16034 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 16035 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 16036 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic

16037 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
16038 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
16039 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
16040 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
16041 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
16042 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-
otifiedcyrillic
16043 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
16044 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
fiedcyrillic
16045 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
16046 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
16047 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
16048 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
16049 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
16050 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
16051 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
16052 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
cyrillic
16053 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
16054 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
16055 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
16056 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
16057 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
16058 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
16059 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
16060 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
16061 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
16062 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
16063 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
16064 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
16065 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
16066 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
16067 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
16068 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
16069 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
16070 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; Izhitsadblgravecyrillic
16071 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
16072 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
CENT; izhitsadblgravecyrillic
16073 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
16074 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
16075 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
16076 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
16077 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
16078 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
lic
16079 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
16080 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
16081 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
16082 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatit-
locyrillic
16083 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
16084 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
cyrillic

16085 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16086 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16087 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16088 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16089 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16090 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16091 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16092 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16093 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16094 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16095 \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
 16096 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16097 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16098 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16099 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16100 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16101 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16102 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16103 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16104 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16105 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16106 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16107 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16108 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 16109 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16110 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 16111 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16112 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 16113 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16114 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16115 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16116 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 16117 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16118 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 16119 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16120 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 16121 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16122 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 16123 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497

16124 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
16125 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
16126 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
16127 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
16128 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
16129 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
16130 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
16131 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
16132 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
16133 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
16134 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
16135 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
16136 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic
16137 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
16138 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
16139 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
16140 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
16141 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
16142 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
16143 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
16144 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
16145 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
16146 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
16147 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
16148 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
16149 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
16150 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
16151 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
16152 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
16153 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
16154 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
16155 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
16156 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
16157 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
16158 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
16159 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
16160 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
16161 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
16162 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
16163 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
16164 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
16165 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
16166 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
16167 \DeclareTextCompositeCommand{\k}{PU}{\cys}{\84\253}% U+04AB

16168 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
16169 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
16170 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
16171 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD
16172 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
16173 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
16174 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
16175 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
16176 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
16177 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
16178 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
16179 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
16180 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
16181 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
16182 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
16183 \DeclareTextCommand{\cyrhddsc}{PU}{\84\263}% U+04B3
16184 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
16185 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
16186 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
16187 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
16188 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
16189 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
16190 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
16191 \DeclareTextCommand{\cyrchrddsc}{PU}{\84\267}% U+04B7
16192 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chevverticalstrokecyrillic
16193 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
16194 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chevverticalstrokecyrillic
16195 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
16196 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
16197 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
16198 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
16199 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
16200 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
16201 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
16202 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
16203 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
16204 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
16205 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
16206 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
16207 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
16208 \DeclareTextCommand{\cyrabhchddsc}{PU}{\84\277}% U+04BF
16209 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16210 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic

16211 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16212 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
16213 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16214 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
16215 \DeclareTextCompositeCommand{\U}{PU}{\cyrrzh}{\84\302}% U+04C2
16216 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16217 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16218 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16219 \DeclareTextCommand{\cyrrkhk}{PU}{\84\304}% U+04C4
16220 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
16221 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16222 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16223 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6
16224 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16225 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16226 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16227 \DeclareTextCommand{\cyrrnhk}{PU}{\84\310}% U+04C8
16228 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
siancyrillic
16229 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16230 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
16231 \DeclareTextCommand{\cyrrchldsc}{PU}{\84\314}% U+04CC
16232 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16233 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16234 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16235 \DeclareTextCommand{\cyrrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
16236 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
16237 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16238 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
16239 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16240 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
lic
16241 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
16242 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
16243 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
16244 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
16245 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16246 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
16247 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16248 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
16249 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16250 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
16251 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16252 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
16253 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16254 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
16255 \DeclareTextCommand{\cyrrschwa}{PU}{\84\331}% U+04D9
16256 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
siscyrillic
16257 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16258 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
siscyrillic
16259 \DeclareTextCompositeCommand{\U}{PU}{\cyrrschwa}{\84\333}% U+04DB
16260 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
siscyrillic

16261 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
16262 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic
16263 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
16264 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic
16265 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
16266 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic
16267 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
16268 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
16269 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16270 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-cyrillic
16271 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16272 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
16273 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2
16274 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
16275 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3
16276 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis-cyrillic
16277 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
16278 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis-cyrillic
16279 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
16280 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis-cyrillic
16281 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
16282 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis-cyrillic
16283 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
16284 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
16285 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
16286 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
16287 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
16288 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresis-cyrillic
16289 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
16290 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresis-cyrillic
16291 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
16292 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
16293 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
16294 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
16295 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
16296 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
16297 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE
16298 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
16299 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF
16300 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis-cyrillic
16301 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
16302 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis-cyrillic
16303 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
16304 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
16305 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
16306 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic

16307 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 16308 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 16309 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
 16310 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 16311 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
 16312 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16313 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16314 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 16315 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16316 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 16317 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
 16318 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 16319 \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
 16320 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16321 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16322 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16323 \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

16324 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 16325 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

16326 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16327 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 16328 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16329 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 16330 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 16331 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 16332 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 16333 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 16334 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 16335 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 16336 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 16337 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 16338 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 16339 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 16340 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 16341 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 16342 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 16343 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 16344 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 16345 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 16346 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 16347 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E

16348 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
16349 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
16350 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
16351 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
16352 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
16353 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
16354 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
16355 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
16356 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
16357 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
16358 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
16359 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
16360 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
16361 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
16362 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
16363 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
16364 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
16365 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
16366 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
16367 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
16368 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
16369 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
16370 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
16371 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
16372 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
16373 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
16374 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
16375 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
16376 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
16377 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
16378 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
16379 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
16380 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
16381 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
16382 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
16383 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
16384 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
16385 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
16386 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
16387 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
16388 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
16389 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
16390 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
16391 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
16392 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
16393 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
16394 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
16395 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
16396 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
16397 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
16398 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
16399 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
16400 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
16401 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
16402 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
16403 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
16404 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent

16405 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
16406 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
16407 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
16408 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
16409 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
16410 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
16411 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
16412 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
16413 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
16414 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
16415 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
16416 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
16417 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
16418 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
16419 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
16420 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
16421 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
16422 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
16423 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
16424 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
16425 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
16426 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
16427 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82
16428 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
16429 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83
16430 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
16431 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
16432 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
16433 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
16434 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
16435 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
16436 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
16437 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
16438 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
16439 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
16440 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
16441 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
16442 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
16443 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
16444 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
16445 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
16446 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
16447 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
16448 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
16449 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
16450 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
16451 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
16452 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
16453 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
16454 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
16455 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
16456 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
16457 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
16458 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
16459 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
16460 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
16461 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97

16462 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 16463 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 16464 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 16465 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 16466 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-
 accent
 16467 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
 16468 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 16469 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 16470 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 16471 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 16472 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 16473 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 16474 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 16475 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 16476 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 16477 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 16478 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 16479 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

16480 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 16481 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 16482 % U+2013 EN DASH; endash
 16483 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 16484 % U+2014 EM DASH; emdash
 16485 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 16486 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 16487 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 16488 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 16489 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 16490 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 16491 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 16492 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 16493 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 16494 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 16495 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 16496 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 16497 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 16498 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 16499 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 16500 % U+2020 DAGGER; dagger
 16501 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 16502 % U+2021 DOUBLE DAGGER; daggerdbl
 16503 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 16504 % U+2022 BULLET; bullet
 16505 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 16506 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 16507 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 16508 % U+2030 PER MILLE SIGN; perthousand
 16509 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 16510 % U+2031 PER TEN THOUSAND SIGN
 16511 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 16512 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 16513 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039

16514 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guiltingright
16515 \DeclareTextCommand{\guiltingright}{PU}{\9040\072}% U+203A
16516 % U+203B REFERENCE MARK; referencemark
16517 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
16518 % U+203D INTERROBANG
16519 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
16520 % U+2044 FRACTION SLASH; fraction
16521 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
16522 % U+2045 LEFT SQUARE BRACKET WITH QUILL
16523 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
16524 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
16525 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
16526 % U+2052 COMMERCIAL MINUS SIGN
16527 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

16528 % U+2070 SUPERSCRIPT ZERO; zerosuperior
16529 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
16530 % U+2074 SUPERSCRIPT FOUR; foursuperior
16531 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
16532 % U+2075 SUPERSCRIPT FIVE; fivesuperior
16533 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
16534 % U+2076 SUPERSCRIPT SIX; sixsuperior
16535 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
16536 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
16537 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
16538 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
16539 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
16540 % U+2079 SUPERSCRIPT NINE; ninesuperior
16541 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
16542 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
16543 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
16544 % U+207B SUPERSCRIPT MINUS
16545 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
16546 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
16547 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
16548 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
16549 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
16550 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
16551 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
16552 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
16553 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
16554 % U+2080 SUBSCRIPT ZERO; zeroinferior
16555 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
16556 % U+2081 SUBSCRIPT ONE; oneinferior
16557 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
16558 % U+2082 SUBSCRIPT TWO; twoinferior
16559 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
16560 % U+2083 SUBSCRIPT THREE; threeinferior
16561 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
16562 % U+2084 SUBSCRIPT FOUR; fourinferior
16563 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
16564 % U+2085 SUBSCRIPT FIVE; fiveinferior
16565 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
16566 % U+2086 SUBSCRIPT SIX; sixinferior
16567 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086

16568 % U+2087 SUBSCRIPT SEVEN; seveninferior
16569 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
16570 % U+2088 SUBSCRIPT EIGHT; eightinferior
16571 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
16572 % U+2089 SUBSCRIPT NINE; nineinferior
16573 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
16574 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
16575 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
16576 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
16577 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

16578 % U+20A1 COLON SIGN; *colonmonetary, colonsign
16579 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
16580 % U+20A4 LIRA SIGN; afi08941, *lira
16581 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
16582 % U+20A6 NAIRA SIGN
16583 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
16584 % U+20A7 PESETA SIGN; peseta
16585 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
16586 % U+20A9 WON SIGN; won
16587 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
16588 % U+20AB DONG SIGN; dong
16589 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
16590 % U+20AC EURO SIGN; *Euro, euro
16591 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
16592 % U+20B1 PESO SIGN
16593 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
16594 % U+20B2 GUARANI SIGN
16595 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

16596 % U+2103 DEGREE CELSIUS; centigrade
16597 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
16598 % U+2116 NUMERO SIGN; *afi61352, numero
16599 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
16600 % U+2117 SOUND RECORDING COPYRIGHT
16601 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
16602 % U+211E PRESCRIPTION TAKE; prescription
16603 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
16604 % U+2120 SERVICE MARK
16605 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
16606 % U+2122 TRADE MARK SIGN; trademark
16607 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
16608 % U+2126 OHM SIGN; Ohm, Omega
16609 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
16610 % U+2127 INVERTED OHM SIGN
16611 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
16612 % U+212B ANGSTROM SIGN; angstrom
16613 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
16614 % U+212E ESTIMATED SYMBOL; estimated
16615 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
16616 % U+2135 ALEF SYMBOL; aleph
16617 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16618 % U+2190 LEFTWARDS ARROW; arrowleft

16619 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 16620 % U+2191 UPWARDS ARROW; arrowup
 16621 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16622 % U+2192 RIGHTWARDS ARROW; arrowright
 16623 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16624 % U+2193 DOWNWARDS ARROW; arrowdown
 16625 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

16626 % U+2212 MINUS SIGN; minus
 16627 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16628 % U+221A SQUARE ROOT; radical
 16629 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

16630 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16631 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16632 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16633 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

16634 % U+2422 BLANK SYMBOL
 16635 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16636 % U+2423 OPEN BOX; blank
 16637 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

16638 % U+2460 CIRCLED DIGIT ONE; onecircle
 16639 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 16640 % U+2461 CIRCLED DIGIT TWO; twocircle
 16641 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 16642 % U+2462 CIRCLED DIGIT THREE; threecircle
 16643 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 16644 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16645 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 16646 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16647 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16648 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16649 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16650 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 16651 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16652 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16653 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16654 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16655 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16656 % U+2469 CIRCLED NUMBER TEN; tencircle
 16657 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16658 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16659 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16660 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16661 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16662 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16663 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16664 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16665 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16666 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16667 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E

16668 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16669 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16670 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16671 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16672 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16673 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16674 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16675 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16676 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16677 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16678 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 16679 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 16680 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 16681 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 16682 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16683 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16684 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16685 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16686 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16687 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16688 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16689 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16690 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16691 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16692 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16693 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16694 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16695 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16696 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16697 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16698 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16699 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16700 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16701 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16702 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16703 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16704 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16705 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16706 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16707 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16708 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16709 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16710 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16711 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16712 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16713 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16714 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16715 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16716 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16717 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16718 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16719 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16720 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16721 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16722 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16723 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16724 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle

16725 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16726 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16727 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16728 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16729 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16730 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16731 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16732 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16733 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16734 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16735 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16736 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16737 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16738 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
16739 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16740 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16741 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16742 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16743 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16744 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16745 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16746 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16747 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16748 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16749 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16750 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16751 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16752 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16753 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16754 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16755 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16756 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16757 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16758 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16759 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
16760 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16761 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16762 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16763 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16764 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16765 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16766 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16767 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16768 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16769 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16770 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16771 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16772 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16773 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16774 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16775 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16776 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16777 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16778 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16779 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16780 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16781 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9

```

16782 % U+24EA CIRCLED DIGIT ZERO
16783 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

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

```

16784 % U+25E6 WHITE BULLET; *openbullet, whitebullet
16785 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
16786 % U+25EF LARGE CIRCLE; largecircle
16787 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

```

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

```

16788 % U+266A EIGHTH NOTE; musicalnote
16789 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
16790 % U+26AD MARRIAGE SYMBOL
16791 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
16792 % U+26AE DIVORCE SYMBOL
16793 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

```

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

```

16794 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
16795 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
16796 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
16797 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

```

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

```

16798 % U+FB01 LATIN SMALL LIGATURE FI; fi
16799 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
16800 % U+FB02 LATIN SMALL LIGATURE FL; fl
16801 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

```

16802 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

16803 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16804 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16805 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16806 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16807 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16808 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16809 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16810 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

16811 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16812 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16813 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16814 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16815 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16816 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

16817 <*puvnenc>

```

16818 \DeclareTextCommand{\abreve}{PU}{\81\003}
16819 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16820 \DeclareTextCommand{\dj}{PU}{\81\021}
16821 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16822 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16823 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16824 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16825 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16826 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16827 \DeclareTextCommand{\DJ}{PU}{\81\020}
16828 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16829 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16830 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16831 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16832 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16833 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16834 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16835 \DeclareTextCompositeCommand{h}{PU}{a}{\9036\243}
16836 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16837 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16838 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16839 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16840 \DeclareTextCompositeCommand{h}{PU}{\abreve}{\9036\263}
16841 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16842 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16843 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16844 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16845 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
16846 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16847 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16848 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16849 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16850 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
16851 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16852 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16853 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16854 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16855 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
16856 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16857 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16858 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16859 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16860 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
16861 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16862 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16863 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16864 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16865 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
16866 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16867 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16868 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16869 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16870 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
16871 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16872 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16873 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16874 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}

16875 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16876 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16877 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16878 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16879 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16880 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16881 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16882 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16883 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16884 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16885 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16886 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16887 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16888 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16889 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16890 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16891 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16892 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16893 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16894 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16895 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16896 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16897 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16898 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16899 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16900 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16901 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
16902 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16903 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
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16951 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
16952 </p>puvnenc)

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50.4 PU encoding, additions for Arabi

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16953 (*puarenc)
16954 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16955 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16956 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16957 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16958 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARA-
BIC LETTER ALEF WITH HAMZA BELOW
16959 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16960 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16961 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16962 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16963 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16964 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16965 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16966 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LET-
TER HAH
16967 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LET-
TER KHAH
16968 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL
16969 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LET-
TER THAL
16970 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH
16971 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN

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16972 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LET-
TER SEEN
16973 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
TER SHEEN
16974 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD
16975 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD
16976 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH
16977 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH
16978 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN
16979 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-
TER GHAIN
16980 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL
16981 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH
16982 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF
16983 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF
16984 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM
16985 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-
TER MEEM
16986 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON
16987 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH
16988 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LET-
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16989 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-
TER ALEF MAKSURA
16990 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH
16991 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN
16992 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN
16993 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KAS-
RATAN
16994 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA
16995 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA
16996 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA
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TER TCHEH
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17002 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
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17007 (/puarenc)

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51 End of file hycheck.tex

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17008 \<check>
17009 \typeout{}
17010 \begin{document}
17011 \end{document}

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17012 </check>

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