

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

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

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

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


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

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

backref.dtx “Back referencing from bibliographical citations”

nameref.dtx “Section name references in \LaTeX ”

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3 File hycheck.tex

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

```

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

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}
```

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a \LaTeX 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!

```

232 \RequirePackage{ltxcmds}[2010/03/09]
233 \RequirePackage{infwarerr}[2010/04/08]
234 \RequirePackage{keyval}[1997/11/10]
235 \RequirePackage{kvsetkeys}[2007/09/29]
236 \RequirePackage{pdfescape}[2007/11/11]
237 \RequirePackage{ifpdf}[2006/02/20]
238 \RequirePackage{ifvtex}
239 \RequirePackage{ifxetex}[2006/08/21]
240 \RequirePackage{hycolor}
241 \RequirePackage{letltxmacro}[2008/06/13]
242 \def\Hy@Error{\@PackageError{hyperref}}
243 \def\Hy@Warning{\@PackageWarning{hyperref}}
244 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
245 \def\Hy@Info{\@PackageInfo{hyperref}}
246 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
247 \def\Hy@Message#1{%
248   \GenericWarning{%
249     (hyperref)\@spaces\@spaces\@spaces\@spaces
250   }{%
251     Package hyperref Message: #1\ltx@gobble
252   }%
253 }

```

4.2 Checks with regular expressions

```

254 \ltx@ifundefined{pdfmatch}{%
255   \def\Hy@Match#1#2#3#4{%
256   }{%
257   \def\Hy@Match#1#2{%
258     \begingroup
259     \edef\~{\ltx@backslashchar\string~}%
260     \edef\.{\ltx@backslashchar.}%
261     \edef\{ {\ltx@backslashchar[]}%
262     \edef\${ {\ltx@backslashchar$}%
263     \edef\({ {\ltx@backslashchar(}%
264     \edef\){ {\ltx@backslashchar)}%
265     \edef\| {\ltx@backslashchar|}%

```

```

266 \edef\*{\ltx@backslashchar*}%
267 \edef\+{\ltx@backslashchar+}%
268 \edef\?{\ltx@backslashchar?}%
269 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
270 \edef\}\{\ltx@rightbracechar}%
271 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
272 \ifcase\pdfmatch{#2}{#1} %
273 \endgroup
274 \expandafter\ltx@secondoftwo
275 \or
276 \endgroup
277 \expandafter\ltx@firstoftwo
278 \else
279 \Hy@Warning{%
280   Internal error: Wrong pattern!\MessageBreak
281   --> #2 <--\MessageBreak
282   Pattern check ignored%
283 }%
284 \endgroup
285 \expandafter\ltx@firstoftwo
286 \fi
287 }%
288 }
289 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{-}%
290 \beginingroup
291 \lccode'0='\relax
292 \lowercase{\endgroup
293 \def\ltx@leftbracechar{0}%
294 }%
295 \beginingroup
296 \lccode'0='\relax
297 \lowercase{\endgroup
298 \def\ltx@rightbracechar{0}%
299 }%
300 }

```

4.3 Compatibility with format dumps

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

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

```

301 \ifundefined{AfterBeginDocument}{-}%
302 \def\AfterBeginDocument{\AtBeginDocument}%
303 }{-}%

```

`\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.

```

304 \def\Hy@AtBeginDocument{%
305 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
306 }

```

`\Hy@AtEndOfPackage`

```

307 \def\Hy@AtEndOfPackage{%
308   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
309 }

```

\Hy@AtBeginDocumentHook

```

310 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

311 \def\Hy@AtEndOfPackageHook{}

```

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

```

312 \AtEndOfPackage{%
313   \Hy@AtEndOfPackageHook
314   \let\Hy@AtEndOfPackageHook\@undefined
315   \AfterBeginDocument{%
316     \Hy@AtBeginDocumentHook}%
317   \let\Hy@AtBeginDocumentHook\@undefined
318   }%
319 }

```

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

```

320 \RequirePackage{kvoptions}[2009/07/21]

```

4.4 Switches

```

321 \newif\ifHy@typexml
322 \newif\ifHy@activeanchor
323 \newif\ifHy@backref
324 \newif\ifHy@bookmarks
325 \newif\ifHy@bookmarksnumbered
326 \newif\ifHy@bookmarksopen
327 \newif\ifHy@breaklinks
328 \newif\ifHy@centerwindow
329 \newif\ifHy@CJKbookmarks
330 \newif\ifHy@colorlinks
331 \newif\ifHy@draft
332 \let\Hy@finaltrue\Hy@draftfalse
333 \let\Hy@finalfalse\Hy@drafttrue
334 \newif\ifHy@escapeform
335 \newif\ifHy@figures
336 \newif\ifHy@fitwindow
337 \newif\ifHy@frenchlinks
338 \newif\ifHy@hyperfootnotes
339 \newif\ifHy@hyperindex
340 \newif\ifHy@hypertextnames
341 \newif\ifHy@implicit
342 \newif\ifHy@linktocpage
343 \newif\ifHy@localanchorname
344 \newif\ifHy@menubar
345 \newif\ifHy@naturalnames
346 \newif\ifHy@nesting
347 \newif\ifHy@newwindowset
348 \newif\ifHy@newwindow
349 \newif\ifHy@ocgcolorlinks
350 \newif\ifHy@pageanchor
351 \newif\ifHy@pagelabels

```

```

352 \newif\ifHy@pdfpagehidden
353 \newif\ifHy@pdfstring
354 \newif\ifHy@plainpages
355 \newif\ifHy@psize
356 \newif\ifHy@raiselinks
357 \newif\ifHy@seminarslides
358 \newif\ifHy@setpagesize
359 \newif\ifHy@texht
360 \newif\ifHy@toolbar
361 \newif\ifHy@unicode
362 \newif\ifHy@usetitle
363 \newif\ifHy@verbose
364 \newif\ifHy>windowui
365 \newif\ifHy@displaydoctitle
366 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

367 \Hy@backreffalse
368 \Hy@bookmarksnumberedfalse
369 \Hy@bookmarksopenfalse
370 \Hy@bookmarkstrue
371 \Hy@breaklinksfalse
372 \Hy@centerwindowfalse
373 \Hy@CJKbookmarksfalse
374 \Hy@escapeformfalse
375 \Hy@figuresfalse
376 \Hy@fitwindowfalse
377 \Hy@hyperfootnotetrue
378 \Hy@hyperindextrue
379 \Hy@hypertextnamestrue
380 \Hy@implicittrue
381 \Hy@linktocpagefalse
382 \Hy@localanchornamefalse
383 \Hy@menubartrue
384 \Hy@naturalnamesfalse
385 \Hy@nestingfalse
386 \Hy@newwindowsetfalse
387 \Hy@newwindowfalse
388 \Hy@pageanchortrue
389 \Hy@pagelabeltrue
390 \Hy@pdfpagehiddenfalse
391 \Hy@pdfstringfalse
392 \Hy@plainpagesfalse
393 \Hy@raiselinksfalse
394 \Hy@setpagesizetrue
395 \Hy@texhtfalse
396 \Hy@toolbartrue
397 \Hy@typexmlfalse
398 \Hy@unicodefalse
399 \Hy@usetitlefalse
400 \Hy@verbosefalse
401 \Hy>windowuitrue
402 \Hy@displaydoctitlefalse
403 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

404 \def\Hy@StepCount#1{\advance#1 by 1 }%
\Hy@GlobalStepCount
405 \def\Hy@GlobalStepCount#1{\global\advance#1 by 1 }%

406 \newdimen\@linkdim
407 \let\Hy@driver\@empty
408 \let\MaybeStopEarly\relax
409 \newcount\Hy@linkcounter
410 \newcount\Hy@pagecounter
411 \Hy@linkcounter0
412 \Hy@pagecounter0

```

5.1 Macros for recursions

`\Hy@ReturnAfterElseFi` The commands `\Hy@ReturnAfterElseFi` and `\Hy@ReturnAfterFi` avoid a too deep
`\Hy@ReturnAfterFi` \if-nesting especially for recursive macros.

```

413 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
414 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

415 \let\Hy@ReturnEnd\@empty
416 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
417 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

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

```

418 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
419 \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).

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

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

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

Example (T_EX):

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

\hypercalcbp
420 \begingroup\expandafter\expandafter\expandafter\endgroup
421 \expandafter\ifx\csname dimexpr\endcsname\relax
422   \def\hypercalcbpdef#1#2{%
423     \begingroup
424       \toks@{%
425         \HyCal@scan#2\hypercalcbp\@nil
426       \expandafter\endgroup
427       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
428     }%
429     \def\HyCal@scan#1\hypercalcbp#2\@nil{%
430       \toks@\expandafter{\the\toks@ #1}%
431       \ifx\\#2\\%
432         \else
433           \Hy@ReturnAfterFi{%
434             \HyCal@do#2\@nil
435           }%
436         \fi
437       }%
438       \def\HyCal@do#1#2\@nil{%
439         \@ifpackageloaded{calc}{}%
440         \Hy@Warning{%
441           For calculations \string\hypercalcbp\space needs\MessageBreak
442             package calc or e-TeX%
443         }%
444       }%
445       \setlength{\dimen@}{#1}%
446       \setlength{\dimen@}{0.99626401\dimen@}%
447       \edef\x{%
448         \toks@{%
449           \the\toks@
450           \strip@pt\dimen@
451         }%
452       }\x
453       \HyCal@scan#2\@nil
454     }%
455   \else
456     \def\hypercalcbp#1{%
457       \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
458     }%
459   \def\hypercalcbpdef{\def}%
460 \fi
```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in PDFDocEncoding, which is a superset of ISOLatin1 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 processed by \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
462 \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 PDI 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.

```
463 \escapechar'\%
```

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

```
464 \edef\0{\string\0}%
465 \edef\1{\string\1}%
466 \edef\2{\string\2}%
467 \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.

```
468 \ifHy@unicode
469 \edef\8{\string\8}%
470 \edef\9{\string\9}%
471 \fontencoding{PU}%
472 \HyPsd@UTFviii
473 \def\ifpdfstringunicode###1##2{##1}%
474 \else
475 \fontencoding{PD1}%
476 \def\ifpdfstringunicode###1##2{##2}%
477 \fi
478 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
479 \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).

```
480 \@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).

```
481 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
482 \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.

```

483 \let\{\textbraceleft
484 \let\}\textbraceright
485 \let\\\textbackslash
486 \let\#\textnumbersign
487 \let\$\textdollar
488 \let\%\textpercent
489 \let\&\textampersand
490 % \let\~\textasciitilde
491 \let\_ \textunderscore
492 \let\P\textparagraph
493 \let\ldots\textellipsis
494 \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.

```

495 \def\\{\pdfstringdefWarn\\}%
496 \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.

```

497 \def\TeX{\TeX}%
498 \def\LaTeX{\LaTeX}%
499 \def\LaTeXe{%
500   \LaTeX2%
501   \ifHy@unicode\textepsilon\else e\fi
502 }%
503 \def\eTeX{%
504   \ifHy@unicode\textepsilon\else e\fi
505   -\TeX%
506 }%
507 \def\SliTeX{\SliTeX}%
508 \def\MF{Metafont}%
509 \def\MP{Metapost}%

```

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

```

510 \let\fontencoding\@gobble
511 \let\fontfamily\@gobble
512 \let\fontseries\@gobble
513 \let\fontshape\@gobble
514 \let\fontsize\@gobbletwo
515 \let\selectfont\@empty
516 \let\usefont\@gobblefour
517 \let\emph\@firstofone
518 \let\textnormal\@firstofone
519 \let\textrm\@firstofone

```

```

520 \let\textsf\@firstofone
521 \let\texttt\@firstofone
522 \let\textbf\@firstofone
523 \let\textmd\@firstofone
524 \let\textit\@firstofone
525 \let\textsc\@firstofone
526 \let\textsl\@firstofone
527 \let\textup\@firstofone
528 \let\normalfont\@empty
529 \let\rmfamily\@empty
530 \let\sfamily\@empty
531 \let\ttfamily\@empty
532 \let\bfseries\@empty
533 \let\mdseries\@empty
534 \let\itshape\@empty
535 \let\scshape\@empty
536 \let\slshape\@empty
537 \let\upshape\@empty
538 \let\em\@empty
539 \let\rm\@empty
540 \let\Huge\@empty
541 \let\LARGE\@empty
542 \let\Large\@empty
543 \let\footnotesize\@empty
544 \let\huge\@empty
545 \let\large\@empty
546 \let\normalsize\@empty
547 \let\scriptsize\@empty
548 \let\small\@empty
549 \let\tiny\@empty
550 \let\mathversion\@gobble
551 \let\phantom\@gobble
552 \let\vphantom\@gobble
553 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

555 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
556 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

557 \let\textlatin\@firstofone
558 \ltx@ifundefined{language@group}{\@firstofone}%
559 \csname HyPsd@babel@{language@group}\endcsname
560 }%
561 \HyPsd@GreekPatch
562 \HyPsd@SpanishPatch
563 \HyPsd@RussianPatch
564 \HyPsd@BabelPatch
565 \let\@safe@activetrue\relax
566 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```
567 \let\cyr\relax
```

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

```
568 \let\es@roman\@Roman
```

Package german.

```
569 \let\glqq\textglqq
570 \let\grqq\textgrqq
571 \let\glq\textglq
572 \let\grq\textgrq
573 \let\flqq\textflqq
574 \let\frqq\textfrqq
575 \let\flq\textflq
576 \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}
```

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

AMS classes.

```
578 \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.

```
579 \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.

```
580 \let\label\@gobble
581 \let\index\@gobble
582 \let\glossary\@gobble
583 \let\href\HyPsd@href
584 \let\@mkboth\@gobbletwo
```

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

```
585 \let\ref\HyPsd@ref
586 \let\pageref\HyPsd@pageref
587 \let\nameref\HyPsd@nameref
588 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
589 \let\leavevmode\@empty
590 \let\mbox\@empty
```

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

```
591 \def\halign{\pdfstringdefWarn\halign\@gobble}%
592 \let\ignorespaces\HyPsd@ignorespaces
593 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
594 \HyPsd@CJKhook
```

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

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

```
595 \Hy@pdfstringtrue
596 \pdfstringdefPreHook
```

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

```
597 \HyPsd@LetUnexpandableSpace\space
598 \HyPsd@LetUnexpandableSpace\ %
599 \HyPsd@LetUnexpandableSpace~%
600 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
601 \ltx@ifundefined{@xspace}{%
602   \let\xspace\HyPsd@ITALCORR
603 }{%
604   \let\xspace\HyPsd@XSPACE
605 }%
606 \let\/\HyPsd@ITALCORR
607 \let\bgroup\/%
608 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
609 \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 expandable 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:

```
610 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
611 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
612 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
613 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

\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 \TeX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot be processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. \TeX 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 $\texttt{\texorpdfstring}$). 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 $\backslash\text{Generic}...$ 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, $\backslash\text{pdfstringdef}$ is slow enough).

```
615 \begingroup
616 \let\GenericError\@gobblefour
617 \let\GenericWarning\@gobbletwo
618 \let\GenericInfo\@gobbletwo
```

Package french. This fix only works, if $\backslash\text{GenericError}$ is disabled.

```
619 \ifx\nofrenchguillemets\@undefined
620 \else
621 \nofrenchguillemets
622 \fi
```

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

```
623 \let\Hy@temp\xdef
624 \let\def\HyPsd@DefCommand
625 \let\gdef\HyPsd@DefCommand
```

```

626 \let\edef\HyPsd@DefCommand
627 \let\xdef\HyPsd@DefCommand
628 \let\futurelet\HyPsd@LetCommand
629 \let\let\HyPsd@LetCommand
630 \Hy@temp#1{#2}%
631 \endgroup

```

6.2.3 Postprocessing

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

```

632 \ifx#1\@empty
633 \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 the following item takes into account, that makes makes things a litte more complicate:

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

```

634 \HyPsd@ProtectSpaces#1%
635 \let\HyPsd@String\@empty
636 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
637 \global\let#1\HyPsd@String

```

Check tokens. After removing the spaces and the grouping characters the string now should only consists 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 $\backslash\text{HyPsd@CheckCatcodes}$ the command $\backslash\text{HyPsd@RemoveMask}$ is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if $\backslash\text{HyPsd@CheckCatcodes}$ is called.

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

```

638 \let\HyPsd@SPACEOPTI\relax
639 {%
640 \let\HyPsd@String\@empty
641 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
642 \global\let#1\HyPsd@String
643 }%
644 \expandafter\HyPsd@RemoveMask\expandafter
645 | \expandafter\@empty#1\HyPsd@End#1%

```

\HyPsd@CheckCatcodes should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to 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.

```

646 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
647 \let\HyPsd@String\@empty
648 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
649 \global\let#1\HyPsd@String

```

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

```
650 \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.

```

651 \ifHy@unicode
652 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
653 \HyPsd@SPACEOPTI#1%
654 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
655 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
656 {\HyPsd@SPACEOPTI\80\273}#1%
657 \else
658 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
659 \expandafter\HyPsd@Subst\expandafter{%
660 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
661 \string\273}{\HyPsd@SPACEOPTI\273}#1%
662 \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.

```

663 \ifHy@unicode
664 \HyPsd@StringSubst{\}){\80\051}#1%
665 \HyPsd@Subst){\80\051}#1%
666 \let\HyPsd@empty\relax
667 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
668 {\HyPsd@empty\80\051}#1%
669 \else
670 \HyPsd@StringSubst{\}){\051}#1%
671 \HyPsd@Subst){\051}#1%
672 \let\HyPsd@empty\relax
673 \HyPsd@StringSubst{\051){\HyPsd@empty\string\})}#1%
674 \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`.

```

675 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
676 \ltx@ifundefined{xspace}{%
677 }{%
678 \let\HyPsd@xspace\relax
679 \expandafter\HyPsd@Subst\expandafter
680 {\HyPsd@XSPACE}\HyPsd@xspace#1%
681 \let\HyPsd@xspace\HyPsd@doxspace
682 }%
683 \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 6.781.

```

684 \HyPsd@Subst{---}\textemdash#1%
685 \HyPsd@Subst{--}\textendash#1%
686 % \HyPsd@Subst{fi}\textfi#1%
687 % \HyPsd@Subst{fl}\textfl#1%
688 \HyPsd@Subst{!'}\textexclamdown#1%
689 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

690 \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.

```

691 \ifHy@unicode
692 \HyPsd@StringSubst\(\textparenleft#1%
693 \HyPsd@Subst(\textparenleft#1%
694 \else
695 \HyPsd@StringSubst\({\050}#1%
696 \HyPsd@Subst({\050}#1%
697 \HyPsd@StringSubst{\050}{\string\{ }#1%
698 \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.

```

699 \ifHy@unicode
700 \edef\HyPsd@SPACEOPTI{\80\040}%
701 \else
702 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
703 \fi
704 \xdef#1{#1\@empty}%
705 \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.

```

706 \endgroup
707 \begingroup
708 \ifHy@unicode
709 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

710 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
711 \ltx@ifundefined{StringEncodingConvertTest}{%
712 }{%
713 \EdefUnescapeString\HyPsd@temp#1%
714 \ifxetex
715 \let\HyPsd@UnescapedString\HyPsd@temp
716 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
717 {utf16be}{ascii-print}{%
718 \EdefEscapeString\HyPsd@temp\HyPsd@temp
719 \global\let#1\HyPsd@temp
720 \HyPsd@EscapeTeX#1%
721 \Hy@unicodedefalse
722 }{%
723 \HyPsd@ToBigChars#1%
724 }%
725 \else
726 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
727 {utf16be}{pdfdoc}{%
728 \EdefEscapeString\HyPsd@temp\HyPsd@temp
729 \global\let#1\HyPsd@temp

```

```

730      \HyPsd@EscapeTeX#1%
731      \Hy@unicodedefalse
732    }%
733    \fi
734  }%
735  \fi
736  \fi
737  \HyPsd@XeTeXBigCharsfalse

```

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

```

738  \pdfstringdefPostHook#1%
739  \endgroup
740 }

```

`\Hy@pdfstringdef`

```

741 \def\Hy@pdfstringdef#1#2{%
742   \pdfstringdef\Hy@gtemp{#2}%
743   \let#1\Hy@gtemp
744 }

```

6.3 Encodings

6.3.1 XeTeX

```

745 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
746 \catcode\z@=12 %
747 \ifxetex
748   \expandafter\@firstofone
749 \else
750   \let\HyPsd@XeTeXBigCharstrue\@empty
751   \let\HyPsd@XeTeXBigCharsfalse\@empty
752   \expandafter\@gobble
753 \fi
754 {%
755   \newif\ifHyPsd@XeTeXBigChars
756   \def\HyPsd@XeTeXBigCharsfalse{%
757     \global\let\ifHyPsd@XeTeXBigChars\iffalse
758   }%
759   \def\HyPsd@XeTeXBigCharstrue{%
760     \global\let\ifHyPsd@XeTeXBigChars\iftrue
761   }%
762   \def\HyPsd@ToBigChars#1{%
763     \ifHyPsd@XeTeXBigChars
764       \edefEscapeHex\HyPsd@UnescapedString{%
765         \expandafter\@gobbletwo\HyPsd@UnescapedString
766       }%
767       \begingroup
768       \toks@{}%
769       \escapechar=92\relax
770       \let\x\HyPsd@ToBigChar
771       \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
772       \relax\relax\relax\relax\relax\relax\relax
773     \edef\x{%
774       \endgroup
775       \gdef\noexpand#1{\the\toks@}%
776     }%

```

```

777 \x
778 \fi
779 }%
780 \def\HyPsd@ToBigChar#1#2#3#4{%
781 \ifx\relax#1\relax
782 \let\x\relax
783 \else
784 \count@=#1#2#3#4\relax
785 \let\y\@empty
786 \lccode\z@=\count@
787 \ifnum\count@=40 % (
788 \let\y\@backslashchar
789 \else
790 \ifnum\count@=41 % )
791 \let\y\@backslashchar
792 \else
793 \ifnum\count@=92 % backslash
794 \let\y\@backslashchar
795 \else
796 \ifnum\count@=10 % newline
797 \edef\y##1{\string\n}%
798 \else
799 \ifnum\count@=13 % carriage return
800 \edef\y##1{\string\r}%
801 \fi
802 \fi
803 \fi
804 \fi
805 \fi
806 \lowercase{%
807 \toks@\expandafter{%
808 \the\expandafter\toks@
809 \y
810 ^^@%
811 }%
812 }%
813 \fi
814 \x
815 }%
816 }
817 \Hy@temp

```

6.3.2 Workaround for package linguex

```

818 \@ifpackageloaded{linguex}{%
819 \let\HyLinguex@OrgB\b
820 \let\HyLinguex@OrgC\c
821 \let\HyLinguex@OrgD\d
822 \def\HyLinguex@Restore{%
823 \let\b\HyLinguex@OrgB
824 \let\c\HyLinguex@OrgC
825 \let\d\HyLinguex@OrgD
826 }%
827 \Hy@AtEndOfPackage{%
828 \pdfstringdefDisableCommands{%
829 \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
830 \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
831 \ltx@ifundefined{oldd}{-}{\let\d\oldd}%

```

```

832 }%
833 }%
834 }{%
835 \let\HyLinguex@Restore\relax
836 }%

```

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.

```

837 \ifundefined{T@PD1}{%
838 \input{pd1enc.def}%
839 \HyLinguex@Restore
840 }{}
841 \DeclareFontFamily{PD1}{pdf}{}
842 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
843 \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.

```

844 \def\HyPsd@InitUnicode{%
845 \ifundefined{T@PU}{%
846 \input{puenc.def}%
847 \HyLinguex@Restore
848 }{}%
849 \DeclareFontFamily{PU}{pdf}{}%
850 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
851 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
852 \let\HyPsd@InitUnicode\relax
853 }

```

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 expandable 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.

```

854 \def\texorpdfstring{%
855 \ifHy@pdfstring
856 \expandafter\@secondoftwo
857 \else
858 \expandafter\@firstoftwo
859 \fi
860 }

```

6.4.2 Hooks for \pdfstringdef

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

```
861 \@ifundefined{pdfstringdefPreHook}{%
862   \let\pdfstringdefPreHook\@empty
863 }{}
864 \@ifundefined{pdfstringdefPostHook}{%
865   \let\pdfstringdefPostHook\@gobble
866 }{}
```

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

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

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

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

```
867 \def\pdfstringdefDisableCommands{%
868   \begingroup
869   \makeatletter
870   \HyPsd@DisableCommands
871 }
```

`\HyPsd@DisableCommands`

```
872 \long\def\HyPsd@DisableCommands#1{%
873   \toks0=\expandafter{\pdfstringdefPreHook}%
874   \toks1={#1}%
875   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
876   \endgroup
877 }
```

`\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`.

```
878 \def\pdfstringdefWarn#1{%
879   \expandafter\noexpand\csname<>-string#1\endcsname
880 }
```

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.

```
881 \begingroup
882 \catcode0=12 %
883 \def\x{\endgroup
884 \def\HyPsd@ignorespaces{%
885 \romannumeral\expandafter'\expandafter^^@%
886 \romannumeral'^^@%
887 }%
888 }%
889 \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`.

```
890 \def\HyPsd@BabelPatch{%
891 \let\HyOrg@languageshorthands\languageshorthands
892 \let\languageshorthands\HyPsd@LanguageShorthands
893 }
894 \RequirePackage{pdftexcmds}[2009/04/10]
895 \begingroup\expandafter\expandafter\expandafter\endgroup
896 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
897 \let\HyPsd@langshort@system\@empty
898 \def\HyPsd@LanguageShorthands#1{%
899 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
900 \HyPsd@langshort@system
901 \expandafter\@gobble
902 \else
903 \expandafter\@firstofone
904 \fi
905 {%
906 \HyOrg@languageshorthands{#1}%
907 }%
908 }%
909 \else
910 \def\HyPsd@LanguageShorthands#1{%
911 \ifnum\pdf@strcmp{#1}{system}=\z@
912 \expandafter\@gobble
913 \else
914 \expandafter\@firstofone
915 \fi
```

```

916   {%
917     \HyOrg@languageshorthands{#1}%
918   }%
919 }%
920 \fi
921 \def\Hy@temp{%
922   \@ifpackageloaded{babel}{%
923     \@ifpackagelater{babel}{2008/03/16}{%
924       \let\Hy@temp\@empty
925     }{%
926       \def\HyPsd@BabelPatch{%
927         \let\HyOrg@languageshorthands\languageshorthands
928       }%
929     }%
930   }{}%
931 }
932 \Hy@temp
933 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
934 \newif\ifHy@next

  Nothing to do for english.
935 \ltx@ifundefined{danish@sh@%sel}{%}{%
936   \def\HyPsd@babel@danish{%
937     \declare@shorthand{danish}{"}{|}%
938     \declare@shorthand{danish}{"}{~}{-}%
939   }%
940 }
941 \ltx@ifundefined{dutch@sh@%sel}{%}{%
942   \def\HyPsd@babel@dutch{%
943     \declare@shorthand{dutch}{"}{|}%
944     \declare@shorthand{dutch}{"}{~}{-}%
945   }%
946 }
947 \ltx@ifundefined{finnish@sh@%sel}{%}{%
948   \def\HyPsd@babel@finnish{%
949     \declare@shorthand{finnish}{"}{|}%
950   }%
951 }
952 \ltx@ifundefined{french@sh@%sel}{%}{%
953   \def\HyPsd@babel@frenchb{%
954     \def\guill@spacing{ }%
955   }%
956 }
957 \ltx@ifundefined{german@sh@%sel}{%}{%
958   \def\HyPsd@babel@german{%
959     \declare@shorthand{german}{"}{f}{f}%
960     \declare@shorthand{german}{"}{|}%
961     \declare@shorthand{german}{"}{~}{-}%
962   }%
963 }
964 \ltx@ifundefined{macedonian@sh@%sel}{%}{%
965   \def\HyPsd@babel@macedonian{%
966     \declare@shorthand{macedonian}{"}{|}%
967     \declare@shorthand{macedonian}{"}{~}{-}%
968   }%
969 }{}
970 \ltx@ifundefined{ngerman@sh@%sel}{%}{%

```

```

971 \def\HyPsd@babel@ngerman{%
972   \declare@shorthand{ngerman}{"}{|}%
973   \declare@shorthand{ngerman}{"}{~}{-}%
974 }%
975 }
976 \ltx@ifundefined{portuges@sh@"@sel}{%}{%
977   \def\HyPsd@babel@portuges{%
978     \declare@shorthand{portuges}{"}{|}%
979   }%
980 }
981 \ltx@ifundefined{russian@sh@"@sel}{%}{%
982   \def\HyPsd@babel@russian{%
983     \declare@shorthand{russian}{"}{|}%
984     \declare@shorthand{russian}{"}{~}{-}%
985   }%
986 }
987 \ltx@ifundefined{slovene@sh@"@sel}{%}{%
988   \def\HyPsd@babel@slovene{%
989     \declare@shorthand{slovene}{"}{|}%
990   }%
991 }

```

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

```

992 \ltx@ifundefined{spanish@sh@>@sel}{%}{%
993   \def\HyPsd@babel@spanish{%
994     \declare@shorthand{spanish}{<<}{\guillemotleft}%
995     \declare@shorthand{spanish}{>>}{\guillemotright}%
996     \declare@shorthand{spanish}{"}{=}{-}%
997     \declare@shorthand{spanish}{"}{~}{-}%
998     \declare@shorthand{spanish}{"}{!}{\textexclamdown}%
999     \declare@shorthand{spanish}{"}{?}{\textquestiondown}%
1000   }%
1001 }
1002 \ltx@ifundefined{swedish@sh@"@sel}{%}{%
1003   \def\HyPsd@babel@swedish{%
1004     \declare@shorthand{swedish}{"}{|}%
1005     \declare@shorthand{swedish}{"}{~}{-}%
1006   }%
1007 }
1008 \ltx@ifundefined{ukrainian@sh@"@sel}{%}{%
1009   \def\HyPsd@babel@ukrainian{%
1010     \declare@shorthand{ukrainian}{"}{|}%
1011     \declare@shorthand{ukrainian}{"}{~}{-}%
1012   }%
1013 }
1014 \ltx@ifundefined{usorbian@sh@"@sel}{%}{%
1015   \def\HyPsd@babel@usorbian{%
1016     \declare@shorthand{usorbian}{"}{f}{f}%
1017     \declare@shorthand{usorbian}{"}{|}%
1018   }%
1019 }
1020 \ltx@ifundefined{greek@sh@\string~@sel}{%}{%
1021   \let\HyPsd@GreekPatch\@empty
1022 }{%
1023   \def\HyPsd@GreekPatch{%
1024     \let\greeknumeral\HyPsd@greeknumeral
1025     \let\Greeknumeral\HyPsd@Greeknumeral
1026   }%

```

```

1027 }
1028 \def\HyPsd@greeknumeral#1{%
1029   \HyPsd@GreekNum\@firstoftwo{#1}%
1030 }
1031 \def\HyPsd@Greeknumeral#1{%
1032   \HyPsd@GreekNum\@secondoftwo{#1}%
1033 }
1034 \def\HyPsd@GreekNum#1#2{%
1035   \ifHy@unicode
1036     \ifnum#2<\@ne
1037       \@arabic{#2}%
1038     \else
1039       \ifnum#2<1000000 %
1040         \HyPsd@@GreekNum#1{#2}%
1041       \else
1042         \@arabic{#2}%
1043       \fi
1044     \fi
1045   \else
1046     \@arabic{#2}%
1047   \fi
1048 }
1049 \def\HyPsd@@GreekNum#1#2{%
1050   \ifnum#2<\@m
1051     \ifnum#2<10 %
1052       \expandafter\HyPsd@GreekNumI
1053       \expandafter\@gobble\expandafter#1\number#2%
1054     \else
1055       \ifnum#2<100 %
1056         \expandafter\HyPsd@GreekNumII
1057         \expandafter\@gobble\expandafter#1\number#2%
1058       \else
1059         \expandafter\HyPsd@GreekNumIII
1060         \expandafter\@gobble\expandafter#1\number#2%
1061       \fi
1062     \fi
1063   \ifnum#2>\z@
1064     \textnumeralsigngreek
1065   \fi
1066   \else
1067     \ifnum#2<\@M
1068       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1069     \else
1070       \ifnum#2<100000 %
1071         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1072       \else
1073         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1074       \fi
1075     \fi
1076   \fi
1077 }
1078 \def\HyPsd@GreekNumI#1#2#3{%
1079   #1{%
1080     \ifnum#3>\z@
1081       \textnumeralsignlowergreek
1082     \fi
1083   }%

```

```

1084 \expandafter#2%
1085 \ifcase#3 %
1086   {}{}%
1087   \or\textalpha\textAlpha
1088   \or\textbeta\textBeta
1089   \or\textgamma\textGamma
1090   \or\textdelta\textDelta
1091   \or\textepsilon\textEpsilon
1092   \or\textstigmagreek\textStigmagreek
1093   \or\textzeta\textZeta
1094   \or\texteta\textEta
1095   \or\texttheta\textTheta
1096   \else
1097     {}{}%
1098   \fi
1099 }
1100 \def\HyPsd@GreekNumII#1#2#3#4{%
1101   #1{%
1102     \ifnum#3>\z@
1103       \textnumeralsignlowergreek
1104     \fi
1105   }%
1106   \expandafter#2%
1107   \ifcase#3 %
1108     {}{}%
1109     \or\textiota\textIota
1110     \or\textkappa\textKappa
1111     \or\textlambda\textLambda
1112     \or\textmu\textMu
1113     \or\textnu\textNu
1114     \or\textxi\textXi
1115     \or\textomicron\textOmicron
1116     \or\textpi\textPi
1117     \or\textkoppagreek\textKoppagreek
1118     \else
1119       {}{}%
1120     \fi
1121   \HyPsd@GreekNumI#1#2#4%
1122 }
1123 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1124   #1{%
1125     \ifnum#3>\z@
1126       \textnumeralsignlowergreek
1127     \fi
1128   }%
1129   \expandafter#2%
1130   \ifcase#3 %
1131     {}{}%
1132     \or\textrho\textRho
1133     \or\textsigma\textSigma
1134     \or\texttau\textTau
1135     \or\textupsilon\textUpsilon
1136     \or\textphi\textPhi
1137     \or\textchi\textChi
1138     \or\textpsi\textPsi
1139     \or\textomega\textOmega
1140     \or\textsampigreek\textSampigreek

```

```

1141 \else
1142   {}{}%
1143 \fi
1144 \HyPsd@GreekNumII#1#2#4#5%
1145 }
1146 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1147   \HyPsd@GreekNumI\@firstofone#1#2%
1148   \HyPsd@@@GreekNum#1{#3#4#5}%
1149 }
1150 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1151   \HyPsd@GreekNumII\@firstofone#1#2#3%
1152   \HyPsd@@@GreekNum#1{#4#5#6}%
1153 }
1154 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1155   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1156   \HyPsd@@@GreekNum#1{#5#6#7}%
1157 }
1158 \def\HyPsd@SpanishPatch{%
1159   \ltx@ifundefined{es@save@dot}{%
1160     }{%
1161       \let\.\es@save@dot
1162     }%
1163 }

```

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

```

1164 \def\HyPsd@RussianPatch{%
1165   \ltx@ifundefined{russian@sh@"@-@}{%
1166     }{%
1167       \@namedef{russian@sh@"@-@}{-}%
1168     }%
1169 }

```

6.5.3 CJK patch

```

1170 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1171 \def\HyPsd@CJKhook{%
1172   \ltx@ifpackageloaded{CJK}{%
1173     \let\CJK@kern\relax
1174     \let\CJKkern\relax
1175     \let\CJK@CJK\relax
1176     \ifHy@CJKbookmarks
1177       \HyPsd@CJKhook@bookmarks
1178     \fi
1179     \HyPsd@CJKhook@unicode
1180   }{}%
1181 }

```

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 ($\geq 0x40$).

```

1182 \begingroup
1183 \catcode"7F=\active
1184 \toks@{%
1185 \let\CJK@ignorespaces\empty
1186 \def\CJK@char#1{\@gobbletwo}%
1187 \let\CJK@charx\@gobblefour
1188 \let\CJK@punctchar\@gobblefour
1189 \def\CJK@punctcharx#1{\@gobblefour}%
1190 \catcode"7F=\active
1191 \def^^7f#1^^7f#2^^7f{%
1192 \string #1\HyPsd@DecimalToOctal{#2}%
1193 }%
1194 % ... ?
1195 \ifHy@unicode
1196 \def\Hy@cjkpu{\80}%
1197 \else
1198 \let\Hy@cjkpu\@empty
1199 \fi
1200 \HyPsd@CJKActiveChars
1201 }%
1202 \count@=127 %
1203 \@whilenum\count@<255 \do{%
1204 \advance\count@ by 1 %
1205 \lccode'\~=\count@
1206 \lowercase{%
1207 \toks@\expandafter{\the\toks@ ~}%
1208 }%
1209 }%
1210 \toks@\expandafter{\the\toks@ !}%
1211 \xdef\HyPsd@CJKhook@bookmarks{%
1212 \the\toks@
1213 }%
1214 \endgroup

```

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

```

1215 \def\HyPsd@CJKActiveChars#1{%
1216 \ifx#1!%
1217 \let\HyPsd@CJKActiveChars\relax
1218 \else
1219 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1220 \fi
1221 \HyPsd@CJKActiveChars
1222 }

```

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

```

1223 \def\HyPsd@DecimalToOctal#1{%
1224 \ifcase #1 %
1225 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1226 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1227 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1228 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1229 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%

```

```

1230 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1231 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1232 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1233 \or @\or A\or B\or C\or D\or E\or F\or G%
1234 \or H\or I\or J\or K\or L\or M\or N\or O%
1235 \or P\or Q\or R\or S\or T\or U\or V\or W%
1236 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1237 \or \140\or a\or b\or c\or d\or e\or f\or g%
1238 \or h\or i\or j\or k\or l\or m\or n\or o%
1239 \or p\or q\or r\or s\or t\or u\or v\or w%
1240 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1241 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1242 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1243 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1244 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1245 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1246 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1247 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1248 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1249 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1250 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1251 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1252 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1253 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1254 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1255 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1256 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1257 \fi
1258 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1259 \def\HyPsd@CJKhook@unicode{%
1260 \let\Unicode\HyPsd@CJK@Unicode
1261 \let\CJKnumber\HyPsd@CJKnumber
1262 \let\CJKdigits\HyPsd@CJKdigits
1263 }

```

\HyPsd@CJK@Unicode

```

1264 \def\HyPsd@CJK@Unicode#1#2{%
1265 \ifnum#1<256 %
1266 \HyPsd@DecimalToOctalFirst{#1}%
1267 \HyPsd@DecimalToOctalSecond{#2}%
1268 \else
1269 \933%
1270 \expandafter\expandafter\expandafter\HyPsd@HighA
1271 \intcalcDiv{#1}{4}!%
1272 \933%
1273 \ifcase\intcalcMod{#1}{4} %
1274 4\or 5\or 6\or 7%
1275 \fi
1276 \HyPsd@DecimalToOctalSecond{#2}%
1277 \fi
1278 }

1279 \def\HyPsd@HighA#1!{%

```

```

1280 \expandafter\expandafter\expandafter\HyPsd@HighB
1281 \IntCalcDiv#1!64!!%
1282 \expandafter\expandafter\expandafter\HyPsd@HighD
1283 \IntCalcMod#1!64!!%
1284 }
1285 \def\HyPsd@HighB#1!{%
1286 \expandafter\expandafter\expandafter\HyPsd@HighC
1287 \IntCalcDec#1!!%
1288 }
1289 \def\HyPsd@HighC#1!{%
1290 \IntCalcDiv#1!4!%
1291 \@backslashchar
1292 \IntCalcMod#1!4!%
1293 }
1294 \def\HyPsd@HighD#1!{%
1295 \ifcase\IntCalcDiv#1!8! %
1296 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1297 \fi
1298 \ifcase\IntCalcMod#1!8! %
1299 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1300 \fi
1301 }
1302 \def\HyPsd@DecimalToOctalFirst#1{%
1303 \9%
1304 \ifcase#1 %
1305 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1306 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1307 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1308 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1309 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1310 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1311 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1312 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1313 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1314 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1315 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1316 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1317 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1318 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1319 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1320 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1321 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1322 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1323 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1324 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1325 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1326 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1327 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1328 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1329 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1330 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1331 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1332 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1333 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1334 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1335 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1336 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%

```

```

1337 \fi
1338 }
1339 \def\HyPsd@DecimalToOctalSecond#1{%
1340 \ifcase #1 %
1341 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1342 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1343 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1344 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1345 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1346 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1347 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1348 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1349 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1350 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1351 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1352 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1353 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1354 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1355 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1356 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1357 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1358 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1359 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1360 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1361 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1362 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1363 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1364 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1365 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1366 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1367 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1368 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1369 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1370 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1371 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1372 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1373 \fi
1374 }
1375 \def\HyPsd@CJKNumber#1{%
1376 \ifnum#1<\z@
1377 \CJK@minus
1378 \expandafter\HyPsd@@CJKNumber\expandafter{\number-\number#1}%
1379 \else
1380 \expandafter\HyPsd@@CJKNumber\expandafter{\number#1}%
1381 \fi
1382 }
1383 \def\HyPsd@@CJKNumber#1{%
1384 \ifcase#1 %
1385 \CJK@zero\or \CJK@one\or \CJK@two\or \CJK@three\or \CJK@four\or
1386 \CJK@five\or \CJK@six\or \CJK@seven\or \CJK@eight\or \CJK@nine\or
1387 \CJK@ten\or \CJK@ten\CJK@one\or \CJK@ten\CJK@two\or
1388 \CJK@ten\CJK@three\or \CJK@ten\CJK@four\or \CJK@ten\CJK@five\or
1389 \CJK@ten\CJK@six\or \CJK@ten\CJK@seven\or \CJK@ten\CJK@eight\or
1390 \CJK@ten\CJK@nine
1391 \else
1392 \ifnum#1<10000 %
1393 \HyPsd@CJKNumberFour#1!\@empty{20}%

```

```

1394 \empty
1395 \else
1396 \ifnum#1<100000000 %
1397 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1398 \IntCalcDiv#1!10000!%
1399 !\{20}%
1400 \CJK@tenthousand
1401 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1402 \IntCalcMod#1!10000!%
1403 !\CJK@zero{10}%
1404 \empty
1405 \else
1406 \expandafter\HyPsd@CJKnumberLarge
1407 \number\IntCalcDiv#1!100000000!\expandafter!%
1408 \number\IntCalcMod#1!100000000!!%
1409 \fi
1410 \fi
1411 \fi
1412 }
1413 \def\HyPsd@CJKnumberLarge#1!#2!{%
1414 \HyPsd@CJKnumberFour#1!\{20}%
1415 \CJK@hundredmillion
1416 \ifnum#2=\z@
1417 \else
1418 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1419 \IntCalcDiv#2!10000!%
1420 !\CJK@zero{10}%
1421 \CJK@tenthousand
1422 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1423 \IntCalcMod#2!10000!%
1424 !\CJK@zero{10}%
1425 \empty
1426 \fi
1427 }
1428 \def\HyPsd@CJKnumberFour#1!#2#3{%
1429 \ifnum#1=\z@
1430 \expandafter\@gobble
1431 \else
1432 \ifnum#1<1000 %
1433 #2%
1434 \HyPsd@CJKnumberThree#1!\{3}%
1435 \else
1436 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1437 \CJK@thousand
1438 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1439 \IntCalcMod#1!1000!%
1440 !\CJK@zero{10}%
1441 \fi
1442 \fi
1443 }
1444 \def\HyPsd@CJKnumberThree#1!#2#3{%
1445 \ifnum#1=\z@
1446 \else
1447 \ifnum#1<100 %
1448 #2%
1449 \HyPsd@CJKnumberTwo#1!\{3}%
1450 \else

```

```

1451 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1452 \CJK@hundred
1453 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1454 \IntCalcMod#1!100!%
1455 !\CJK@zero{10}%
1456 \fi
1457 \fi
1458 }
1459 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1460 \ifnum#1=\z@
1461 \else
1462 \ifnum#1<#3 %
1463 #2%
1464 \HyPsd@@CJKnumber{#1}%
1465 \else
1466 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1467 \CJK@ten
1468 \ifnum\IntCalcMod#1!10!=\z@
1469 \else
1470 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1471 \fi
1472 \fi
1473 \fi
1474 }
1475 \def\HyPsd@CJKdigits#1{%
1476 \ifx*#1\relax
1477 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1478 \else
1479 \HyPsd@@CJKdigits\CJK@null{#1}%
1480 \fi
1481 }
1482 \def\HyPsd@@CJKdigits#1#2{%
1483 \ifx\#2\%
1484 \else
1485 \HyPsd@@@CJKdigits#1#2\@nil
1486 \fi
1487 }%
1488 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1489 \HyPsd@CJKdigit#1{#2}%
1490 \ifx\#3\%
1491 \expandafter\@gobble
1492 \else
1493 \expandafter\@firstofone
1494 \fi
1495 {#3}%
1496 \HyPsd@@@CJKdigits#1#3\@nil
1497 }%
1498 }
1499 \def\HyPsd@CJKdigit#1#2{%
1500 \ifcase#2 %
1501 #1\or
1502 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1503 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1504 \fi
1505 }

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

1506 \def\HyPsd@inmathwarn#1#2{%
1507   \ifx#2\expandafter
1508     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1509       \HyPsd@GLYPHERR
1510       \expandafter\@gobble\string#1%
1511       >%
1512       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1513     \else
1514       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1515     \fi
1516   \else
1517     \expandafter#2%
1518   \fi
1519 }
1520 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
```

```
1521 \def\HyPsd@EndWithElse#1\else{\else}
```

\HyPsd@add@accent

```
1522 \def\HyPsd@add@accent#1#2{%
1523   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1524   #2%
1525 }%
```

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.

```
1526 \def\HyPsd@LetUnexpandableSpace#1{%
1527   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1528 }
```

\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.

```
1529 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.8 Marker for commands

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

```
1530 \edef\HyPsd@XSPACE{\string#\string X}
1531 \edef\HyPsd@ITALCORR{\string#\string I}
1532 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 \hspace fix

\HyPsd@hspace

```
1533 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1534 \def\HyPsd@@hspace#1*#2\END{%
1535   \ifx\#2\%
1536     \HyPsd@hspacetest{#1}%
1537   \else
1538     \expandafter\HyPsd@hspacetest
1539   \fi
1540 }
```

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

```
1541 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```

1542 \ltx@ifundefined{tocsection}{%
1543   \let\HyPsd@AMSclassfix\relax
1544 }{%
1545   \def\HyPsd@AMSclassfix{%
1546     \let\tocpart\HyPsd@tocsection
1547     \let\tocchapter\HyPsd@tocsection
1548     \let\tocappendix\HyPsd@tocsection
1549     \let\tocsection\HyPsd@tocsection
1550     \let\tocsubsection\HyPsd@tocsection
1551     \let\tocsubsubsection\HyPsd@tocsection
1552     \let\tocparagraph\HyPsd@tocsection
1553   }%
1554   \def\HyPsd@tocsection#1#2#3{%
1555     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1556     #3%
1557   }%
1558 }

```

6.5.11 Reference commands

`\HyPsd@href`

```

1559 \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.

```

1560 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1561 \def\HyPsd@@ref#1*#2\END{%
1562   \ifx\#2\%
1563     \HyPsd@@@ref{#1}%
1564   \else
1565     \expandafter\HyPsd@@@ref
1566   \fi
1567 }%

```

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

```

1568 \def\HyPsd@@@ref#1{%
1569   \expandafter\ifx\csname r@#1\endcsname\relax
1570     ??%
1571   \else
1572     \expandafter\expandafter\expandafter
1573     \@car\csname r@#1\endcsname\@nil
1574   \fi
1575 }

```

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

```

1576 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1577 \def\HyPsd@@pageref#1*#2\END{%
1578   \ifx\#2\%
1579     \HyPsd@@@pageref{#1}%
1580   \else

```

```

1581 \expandafter\HyPsd@@@pageref
1582 \fi
1583 }

```

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

```

1584 \def\HyPsd@@@pageref#1{%
1585 \expandafter\ifx\csname r@#1\endcsname\relax
1586 ??%
1587 \else
1588 \expandafter\expandafter\expandafter\expandafter
1589 \expandafter\expandafter\expandafter\@car
1590 \expandafter\expandafter\expandafter\@gobble
1591 \csname r@#1\endcsname{}\@nil
1592 \fi
1593 }

```

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

```

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

```

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

```

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

```

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

```

1602 \def\HyPsd@@@nameref#1{%
1603 \expandafter\ifx\csname r@#1\endcsname\relax
1604 ??%
1605 \else
1606 \expandafter\expandafter\expandafter\expandafter
1607 \expandafter\expandafter\expandafter\@car
1608 \expandafter\expandafter\expandafter\@gobbletwo
1609 \csname r@#1\endcsname{}\@nil
1610 \fi
1611 }

```

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

```

1612 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*END}

```

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

```

1613 \def\HyPsd@@autoref#1*#2END{%
1614 \ifx\#2\%
1615 \HyPsd@@@autoref{#1}%
1616 \else
1617 \expandafter\HyPsd@@@autoref
1618 \fi
1619 }

```

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

```

1620 \def\HyPsd@@@autoref#1{%

```

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

\HyPsd@@@autorefname

6.5.12 Redefining the defining commands

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.)

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand
1646 \begingroup
1647   \def\x#1#2{%
1648     \endgroup
1649     \let#1\def
1650     \def\HyPsd@DefCommand##1##2##{%
1651       #1%
1652       \expandafter\noexpand
1653       \csname\expandafter\@gobble\string##1\@empty\endcsname
1654       \@gobble
1655     }%
1656     \let#2\let
1657     \def\HyPsd@@LetCommand##1{%
1658       \expandafter\ifx\csname##1\expandafter\endcsname
1659         \csname iftrue\endcsname
1660         \pdfstringdefWarn\let
1661         \expandafter\@gobble
1662       \else
1663         \expandafter\ifx\csname##1\expandafter\endcsname
1664           \csname iffalse\endcsname
1665           \pdfstringdefWarn\let
1666           \expandafter\expandafter\expandafter\@gobble
1667         \else
1668           #2%
1669           \expandafter\noexpand
1670           \csname##1\expandafter\expandafter\expandafter\endcsname
1671         \fi
1672       \fi
1673     }%
1674   }%
1675   \expandafter\x\csname <def>-command\expandafter\endcsname
1676     \csname <let>-command\endcsname
1677   \def\HyPsd@LetCommand#1{%
1678     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1679     \expandafter\expandafter\expandafter{%
1680       \expandafter\@gobble\string#1\@empty
1681     }%
1682   }
```

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).

```

1683 \def\HyPsd@ifnextchar#1{%
1684   \pdfstringdefWarn#1%
1685   \expandafter\@gobbletwo\@gobble
1686 }

```

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.

```

1687 \def\HyPsd@protected@testopt#1{%
1688   \pdfstringdefWarn#1%
1689   \@gobbletwo
1690 }

```

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:

```

1691 \def\HyPsd@Warning#1{%
1692   \begingroup
1693   \def\space{ }%
1694   \Hy@Warning{#1}%
1695   \endgroup
1696 }

```

6.6.2 Protecting spaces

```

1697 \RequirePackage{etexcmds}[2007/09/09]
1698 \ifetex@unexpanded
1699   \expandafter\@secondoftwo
1700 \else
1701   \expandafter\@firstoftwo
1702 \fi
1703 {%

```

\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.

```

1704 \def\HyPsd@ProtectSpaces#1{%
1705   \iftrue
1706     \expandafter\HyPsd@@ProtectSpacesFi
1707     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1708   \fi
1709 }%

```

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

```

1710 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1711   \fi
1712   \ifx\scrollmode#2\scrollmode
1713     \HyPsd@RemoveMask#1\HyPsd@End#3%

```

```

1714 \else
1715 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1716 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1717 \fi
1718 }%

```

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.

```

1719 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1720 \toks@\expandafter{#1}%
1721 \xdef#2{\the\toks@}%
1722 }%

1723 }{%
1724 \let\HyPsd@fi\fi
1725 \def\HyPsd@ProtectSpaces#1{%
1726 \xdef#1{%
1727 \iftrue
1728 \expandafter\HyPsd@@ProtectSpacesFi
1729 \expandafter|\expandafter\@empty#1| %
1730 \HyPsd@fi
1731 }%
1732 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1733 }%
1734 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1735 \fi
1736 \etex@unexpanded{#1}%
1737 \ifx\scrollmode#2\scrollmode
1738 \else
1739 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1740 \HyPsd@fi
1741 }%
1742 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1743 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1744 }%
1745 }

```

6.6.3 Remove grouping braces

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

```

1746 \def\HyPsd@RemoveBraces#1{%
1747 \ifx\scrollmode#1\scrollmode
1748 \else
1749 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1750 \fi
1751 }

```

`\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 \Hy@ReturnAfterFi.

```

1752 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1753   \fi
1754   \def\Hy@temp@A{#1#2}%
1755   \def\Hy@temp@B{#3}%
1756   \ifx\Hy@temp@A\Hy@temp@B
1757     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1758       \HyPsd@String#1%
1759     }%
1760     \ifx\scrollmode#2\scrollmode
1761     \else
1762       \Hy@ReturnAfterFiFiEnd{%
1763         \HyPsd@RemoveBraces{#2}%
1764       }%
1765     \fi
1766   \else
1767     \def\Hy@temp@A{#1}%
1768     \HyPsd@AppendItalcrr\HyPsd@String
1769     \ifx\Hy@temp@A\@empty
1770       \Hy@ReturnAfterElseFiFiEnd{%
1771         \HyPsd@RemoveBraces{#2}%
1772       }%
1773     \else
1774       \HyPsd@ProtectSpaces\Hy@temp@A
1775       \HyPsd@AppendItalcrr\Hy@temp@A
1776       \Hy@ReturnAfterFiFiEnd{%
1777         \expandafter\HyPsd@RemoveBraces\expandafter
1778           {\Hy@temp@A#2}%
1779       }%
1780     \fi
1781   \fi
1782   \Hy@ReturnEnd
1783 }
```

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

```

1784 \def\HyPsd@AppendItalcrr#1{%
1785   \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1786 }
1787 \def\HyPsd@@AppendItalcrr#1#2{%
1788   \expandafter\def\expandafter#2\expandafter{#2#1}%
1789 }
```

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).

```

1790 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1791   \global\let\HyPsd@Rest\relax
1792   \ifcat\relax\noexpand#1\relax
1793     \ifx#1\protect
1794       \else
1795         \ifx#1\penalty
1796           \setbox\z@=\hbox{%
1797             \afterassignment\HyPsd@AfterCountRemove
1798             \count@=#2\HyPsd@end
1799           }%
1800         \else
1801           \ifx#1\kern
1802             \setbox\z@=\hbox{%
1803               \afterassignment\HyPsd@AfterDimenRemove
1804               \dimen@=#2\HyPsd@end
1805             }%
1806           \else
1807             \ifx#1\hskip
1808               \setbox\z@=\hbox{%
1809                 \afterassignment\HyPsd@AfterSkipRemove
1810                 \skip@=#2\HyPsd@end
1811               }%
1812             \else
1813               \HyPsd@CatcodeWarning{#1}%
1814             \fi
1815           \fi
1816         \fi
1817       \fi
1818     \else
1819       \ifcat#1A% letter
1820         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1821           \HyPsd@String#1%
1822         }%
1823       \else
1824         \ifcat#1 % SPACE
1825           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1826             \HyPsd@String\HyPsd@SPACEOPTI
1827           }%
1828         \else
1829           \ifcat$#1%
1830             \HyPsd@CatcodeWarning{math shift}%
1831           \else
1832             \ifcat&#1%
1833               \HyPsd@CatcodeWarning{alignment tab}%
1834             \else
1835               \ifcat^#1%
1836                 \HyPsd@CatcodeWarning{superscript}%
1837               \else
1838                 \ifcat_#1%
1839                   \HyPsd@CatcodeWarning{subscript}%
1840                 \else
1841                   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1842                     \HyPsd@String#1%
1843                   }%
1844                 \fi

```

```

1845         \fi
1846     \fi
1847 \fi
1848 \fi
1849 \fi
1850 \fi
1851 \ifx\HyPsd@Rest\relax
1852 \ifx\scrollmode#2\scrollmode
1853 \else
1854 \Hy@ReturnAfterFiFiEnd{%
1855 \HyPsd@CheckCatcodes#2\HyPsd@End
1856 }%
1857 \fi
1858 \else
1859 \ifx\HyPsd@Rest\@empty
1860 \else
1861 \Hy@ReturnAfterFiFiEnd{%
1862 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1863 }%
1864 \fi
1865 \fi
1866 \Hy@ReturnEnd
1867 }

```

Remove counts, dimens, skips.

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

```

1868 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1869 \gdef\HyPsd@Rest{#1}%
1870 }

```

\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.

```

1871 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1872 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1873 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1874 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1875 \else
1876 \ifdim\dimen@=\z@
1877 \else
1878 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1879 \fi
1880 \gdef\HyPsd@Rest{#1}%
1881 \fi
1882 }

```

\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).

```

1883 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1884 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1885 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1886 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1887 \else
1888 \ifdim\skip@=\z@

```

```

1889 \else
1890 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1891 \fi
1892 \gdef\HyPsd@Rest{#1}%
1893 \fi
1894 }

```

Catcode warnings.

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

```

1895 \def\HyPsd@CatcodeWarning#1{%
1896 \HyPsd@Warning{%
1897 Token not allowed in a PDF string (%)
1898 \ifHy@unicode
1899 Unicode%
1900 \else
1901 PDFDocEncoding%
1902 \fi
1903 }:%
1904 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1905 }%
1906 }
1907 \begingroup
1908 \catcode'\|=0 %
1909 \catcode'\|=12 %
1910 \gdef\HyPsd@RemoveCmdPrefix#1{%
1911 |expandafter\HyPsd@@RemoveCmdPrefix
1912 |string#1|@empty\<>-|@empty|@empty
1913 }%
1914 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1915 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1916 \def\HyPsd@RemoveSpaceWarning#1{%
1917 \HyPsd@Warning{%
1918 Token not allowed in a PDF string (%)
1919 \ifHy@unicode
1920 Unicode%
1921 \else
1922 PDFDocEncoding%
1923 \fi
1924 }:%
1925 \MessageBreak #1\MessageBreak
1926 removed%
1927 }%
1928 }

```

\HyPsd@ReplaceSpaceWarning

```

1929 \def\HyPsd@ReplaceSpaceWarning#1{%
1930 \HyPsd@Warning{%
1931 Token not allowed in a PDF string (%)
1932 \ifHy@unicode
1933 Unicode%
1934 \else
1935 PDFDocEncoding%
1936 \fi
1937 }:%

```

```

1938 \MessageBreak #1\MessageBreak
1939 replaced by space%
1940 }%
1941 }

```

6.6.5 Check for wrong glyphs

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

```

1942 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1943 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1944 \HyPsd@String#1%
1945 }%
1946 \ifx\#2\%
1947 \else
1948 \Hy@ReturnAfterFi{%
1949 \HyPsd@GlyphProcessWarning#2\@empty
1950 }%
1951 \fi
1952 }
1953 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1954 \HyPsd@@GlyphProcessWarning#1++>%
1955 \HyPsd@GlyphProcess#2\@empty
1956 }
1957 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1958 \ifx\#2\%
1959 \HyPsd@Warning{%
1960 Glyph not defined in %
1961 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1962 removing '@backslashchar#1'%
1963 }%
1964 \else
1965 \HyPsd@Warning{%
1966 Composite letter '@backslashchar#1+#2'\MessageBreak
1967 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1968 \MessageBreak
1969 removing '@backslashchar#1'%
1970 }%
1971 \fi
1972 }

```

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.

```

1973 \def\HyPsd@spaceopti#1{ % first space
1974 \ifx\HyPsd@spaceopti#1%
1975 \040%
1976 \else
1977 #1%
1978 \fi
1979 }%

```

6.6.6 Replacing tokens

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

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

1980 \def\HyPsd@Subst#1#2#3{%
1981   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1982     \fi
1983     ##1%
1984     \ifx\scrollmode##2\scrollmode
1985     \else
1986       #2%
1987       \HyPsd@@ReplaceFi##2\END
1988     \fi
1989   }%
1990 \xdef#3{%
1991   \iftrue
1992     \expandafter\HyPsd@@ReplaceFi#3#1\END
1993   \fi
1994 }%
1995 }
```

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

```
1996 \def\HyPsd@StringSubst#1{%
1997   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1998 }
```

`\HyPsd@EscapeTeX`

```
1999 \begingroup
2000 \lccode'\!='\%
2001 \lccode'\|='\%
2002 \lccode'\(=\'\%
2003 \lccode'\)='\%
2004 \lccode'0=\ltx@zero
2005 \lccode'1=\ltx@zero
2006 \lccode'3=\ltx@zero
2007 \lccode'4=\ltx@zero
2008 \lccode'5=\ltx@zero
2009 \lccode'7=\ltx@zero
2010 \lowercase{\endgroup
2011 \def\HyPsd@EscapeTeX#1{%
2012   \HyPsd@Subst!{|045}#1%
2013   \HyPsd@Subst{|173}#1%
2014   \HyPsd@Subst}{|175}#1%
2015 }%
2016 }
```

6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in $\mathrm{T}_{\mathrm{E}}\mathrm{X}$'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.

```

2017 \def\HyPsd@doxspace#1{%
2018   \ifx#1\relax\else
2019   \ifx#1.\else
2020   \ifx#1:\else
2021   \ifx#1,\else
2022   \ifx#1;\else
2023   \ifx#1!\else
2024   \ifx#1?\else
2025   \ifx#1/\else
2026   \ifx#1-\else
2027   \ifx#1'\else
2028   \HyPsd@SPACEOPTI
2029   \fi
2030   \fi
2031   \fi
2032   \fi
2033   \fi
2034   \fi
2035   \fi
2036   \fi
2037   \fi
2038   \fi
2039   #1%
2040 }%

```

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.

```

2041 \begingroup
2042   \catcode'\|=0 %
2043   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2044 |gdef\HyPsd@ConvertToUnicode#1{%
2045   |xdef#1{%
2046     |expandafter\HyPsd@DoConvert#1|@empty|@empty|@empty
2047   }%
2048   |ifx#1|@empty
2049   |else
2050     |xdef#1{%
2051       \376\377%
2052       #1%
2053     }%
2054     |fi
2055   }%

```

\HyPsd@DoConvert

```

2056 |gdef\HyPsd@DoConvert#1{%
2057   |ifx#1|@empty
2058   |else
2059     |Hy@ReturnAfterFi{%
2060       |ifx#1\%%
2061       \%%
2062     |expandafter\HyPsd@DoEscape

```

```

2063     |else
2064     |HyPsd@Char{#1}%
2065     |expandafter|HyPsd@DoConvert
2066     |fi
2067   }%
2068   |fi
2069 }%

```

\HyPsd@DoEscape

```

2070 |gdef|HyPsd@DoEscape#1{%
2071   |ifx#19%
2072   |expandafter|HyPsd@GetTwoBytes
2073   |else
2074   |Hy@ReturnAfterFi{%
2075   |ifx#18%
2076   00%
2077   |expandafter|HyPsd@GetTwoBytes
2078   |else
2079   #1%
2080   |expandafter|HyPsd@GetOneByte
2081   |fi
2082   }%
2083   |fi
2084 }%

```

\HyPsd@GetTwoBytes

```

2085 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2086   #1\#2#3#4%
2087   |HyPsd@DoConvert
2088   }%

```

\HyPsd@GetOneByte

```

2089 |gdef|HyPsd@GetOneByte#1#2{%
2090   #1#2%
2091   |HyPsd@DoConvert
2092   }%
2093 |endgroup

```

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

```

2094 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2095   \xdef#4{#4#1#2}%
2096   \HyPsd@@ConvertToUnicode#3\END#4%
2097 }

```

\HyPsd@Char

```

2098 \begingroup
2099   \catcode0=9 %
2100   \catcode'\^=7 %
2101   \catcode'\^^=12 %
2102   \def\x{^^^^0000}%
2103   \expandafter\endgroup
2104   \ifx\x\@empty
2105     \def\HyPsd@Char#1{%
2106       \ifnum'#1<128 %
2107         \@backslashchar 000#1%
2108       \else

```

```

2109 \ifnum'#1<65536 %
2110 \expandafter\HyPsd@CharTwoByte\number'#1!%
2111 \else
2112 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2113 \intcalcSub{'#1}{65536}!%
2114 \fi
2115 \fi
2116 }%
2117 \def\HyPsd@CharTwoByte#1!{%
2118 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2119 \IntCalcDiv#1!256!!%
2120 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2121 \IntCalcMod#1!256!!%
2122 }%
2123 \def\HyPsd@CharOctByte#1!{%
2124 \@backslashchar
2125 \IntCalcDiv#1!64!%
2126 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2127 \IntCalcMod#1!8!%
2128 }%
2129 \def\HyPsd@CharSurrogate#1!{%
2130 \@backslashchar 33%
2131 \IntCalcDiv#1!262144!%
2132 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2133 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2134 \@backslashchar 33%
2135 \expandafter\expandafter\expandafter\IntCalcAdd
2136 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2137 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2138 \IntCalcMod#1!256!!%
2139 }%
2140 \else
2141 \def\HyPsd@Char#1{%
2142 \@backslashchar 000#1%
2143 }%
2144 \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

2145 \begingroup\expandafter\expandafter\expandafter\endgroup
2146 \expandafter\ifx\csname numexpr\endcsname\relax
2147 \let\HyPsd@UTFviii\relax
2148 \else
2149 \begingroup
2150 \lccode'\~='^f4\relax
2151 \lowercase{\endgroup

```

```

2152 \def\HyPsd@UTFviii{%
2153   \let\UTFviii@two@octets\HyPsd@UTFviii@two
2154   \let\UTFviii@three@octets\HyPsd@UTFviii@three
2155   \let\UTFviii@four@octets\HyPsd@UTFviii@four
2156   \ifx~\HyPsd@UTFviii@ccxliv@undef
2157     \let~\HyPsd@UTFviii@ccxliv@def
2158   \fi
2159   \let~\unichar\HyPsd@unichar
2160 }%
2161 }%
2162 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2163 \edef\HyPsd@UTFviii@ccxliv@def{%
2164   \noexpand\UTFviii@four@octets\string ^^f4%
2165 }%

```

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.

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

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

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

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

$$(5)$$

```

2166 \def\HyPsd@UTFviii@two#1#2{%
2167   \expandafter\HyPsd@UTFviii@@two
2168   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2169   \number'#1\expandafter| %
2170   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2171   \number'#2 \@nil
2172 }%
2173 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2174   \expandafter\8%
2175   \number\numexpr #1-48\expandafter\relax
2176   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2177   \number\numexpr #3-8*%
2178   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2179   \number\numexpr #4-8*#3\relax
2180 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2181 \def\HyPsd@UTFviii@three#1#2#3{%
2182   \expandafter\HyPsd@UTFviii@@three
2183   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %

```

```

2184 \number'#1\expandafter| %
2185 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2186 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2187 \number'#2\expandafter| %
2188 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2189 \number'#3 \@nil
2190 }%
2191 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2192 \expandafter\9%
2193 \number\numexpr #1-56\expandafter\relax
2194 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2195 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2196 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2197 \number\numexpr #6-16\expandafter\relax
2198 \number\numexpr #7-8*#6\relax
2199 }%

```

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

```

```

2200 \def\HyPsd@UTFviii@four#1#2{%
2201 \expandafter\HyPsd@@UTFviii@four\number
2202 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2203 \expandafter|\number
2204 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2205 }%
2206 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2207 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2208 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2209 \ifodd#2 %
2210 \number\numexpr(#2-1)/2\relax
2211 \else
2212 \number\numexpr#2/2\relax
2213 \fi
2214 \number\numexpr\ifodd#2 4+\fi
2215 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2216 \933%
2217 \expandafter\HyPsd@@@UTFviii@four\number
2218 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2219 }%
2220 \def\HyPsd@@@UTFviii@four#1|#2{%
2221 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2222 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2223 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2224 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2225 }%

```

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

```

2226 \def\HyPsd@unichar#1{%
2227 \ifHy@unicode
2228 \ifnum#1>"10FFFF %
2229 \HyPsd@UnicodeReplacementCharacter % illegal
2230 \else

```

2231 \ifnum#1>"FFFF %

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

2232 \expandafter\HyPsd@unichar\expandafter{%
2233 \number\dimexpr 55296+ %
2234 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2235 \relax\relax\relax
2236 }%

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

2237 \expandafter\HyPsd@unichar\expandafter{%
2238 \number\dimexpr#1-9216%
2239 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2240 \relax\relax\relax
2241 }%
2242 \else
2243 \ifnum#1>"7FF %
2244 \9%
2245 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2246 \number
2247 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2248 }%
2249 \else
2250 \8%
2251 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2252 \fi
2253 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2254 \number
2255 \numexpr#1-256*\number
2256 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2257 }%
2258 \fi
2259 \fi
2260 \else
2261 .% unsupported (Unicode -> PDF Doc Encoding)
2262 \fi
2263 }%
2264 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2265 \def\HyPsd@unichar@first@byte#1{%
2266 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2267 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2268 \number
2269 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2270 \relax\relax\relax
2271 }%
2272 }%
2273 \def\HyPsd@unichar@second@byte#1{%
2274 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2275 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2276 \number
2277 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2278 \relax\relax\relax
2279 }%
2280 }%
2281 \def\HyPsd@unichar@octtwo#1{%
2282 \number\dimexpr.125\dimexpr#1sp\relax\relax
2283 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2284 \relax\relax\relax

2285 }%

2286 \fi

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

2287 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%

2288 \ifx\@gobble#1%

2289 \else

2290 [Please insert \textbackslash PrerenderUnicode%

2291 \textbraceleft#1\textbraceright\space

2292 into preamble]%

2293 \fi

2294 }%

7 Support of other packages

7.1 Class memoir

2295 \@ifclassloaded{memoir}{%

2296 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%

2297 }{}

7.2 Package subfigure

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

2298 \@ifpackageloaded{subfigure}{%

2299 \ltx@ifundefined{sub@label}{%

2300 \Hy@hypertexnamesfalse

2301 }{%

2302 \renewcommand*{\sub@label}[1]{%

2303 \@bsphack

2304 \subfig@oldlabel{#1}%

2305 \if@filesw

2306 \begingroup

2307 \edef\@currentlabstr{%

2308 \expandafter\strip@prefix\meaning\@currentlabelname

2309 }%

2310 \protected@write\@auxout{}{%

2311 \string\newlabel{sub@#1}{%

2312 {\@nameuse{\@thesub\@capttype}}}%

2313 {\thepage}%

2314 {%

2315 \expandafter\strip@period\@currentlabstr

2316 \relax.\relax\@@@%

2317 }%

2318 {\@currentHref}%

2319 }}%

2320 }%

2321 }%

2322 \endgroup

2323 \fi

2324 \@esphack

2325 }%

2326 \@ifpackagelater{subfigure}{2002/03/26}{}{%

2327 \providecommand*{\toclevel@subfigure}{1}%

2328 \providecommand*{\toclevel@subtable}{1}%

2329 }%

```

2330 }%
2331 }{}

```

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:

```

2332 \ltx@ifundefined{XR@addURL}{%
2333 }{%

```

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.

```

2334 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2335 \def\XR@dURL#1#2#3#4#5\\{%
2336   {#1}{#2}%
2337   \if!#4!%
2338   \else
2339     {#3}{#4}{\XR@URL}%
2340   \fi
2341 }%
2342 }

2343 \def\Hy@true{true}
2344 \def\Hy@false{false}

```

Providing dummy definitions.

```

2345 \let\literals@out\@gobble
2346 \newcommand\pdfbookmark[3]{}
2347 \def\Acrobatmenu#1#2{\leavevmode#2}
2348 \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

```

2349 \let\HyperRaiseLinkHook\@empty
2350 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

2351 \newcount\Hy@SavedSpaceFactor
2352 \def\Hy@SaveSpaceFactor{%
2353   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2354 }
2355 \def\Hy@RestoreSpaceFactor{%
2356   \relax
2357   \ifhmode
2358     \ifnum\Hy@SavedSpaceFactor>\z@

```

```

2359 \spacefactor=\Hy@SavedSpaceFactor
2360 \fi
2361 \fi
2362 }
2363 \def\Hy@SaveSavedSpaceFactor{%
2364 \edef\Hy@RestoreSavedSpaceFactor{%
2365 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2366 }%
2367 }
2368 \def\Hy@raisedlink#1{%
2369 \ifvmode
2370 #1%
2371 \else
2372 \Hy@SaveSpaceFactor
2373 \penalty\@M
2374 \smash{%
2375 \begingroup
2376 \let\HyperRaiseLinkLength\@tempdima
2377 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2378 \HyperRaiseLinkHook
2379 \expandafter\endgroup
2380 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2381 \Hy@RestoreSpaceFactor
2382 #1%
2383 \Hy@SaveSpaceFactor
2384 }%
2385 }%
2386 \Hy@RestoreSpaceFactor
2387 \fi
2388 }

```

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

```

2389 \def\Hy@SaveLastskip{%
2390 \let\Hy@RestoreLastskip\relax
2391 \ifvmode
2392 \ifdim\lastskip=\z@
2393 \let\Hy@RestoreLastskip\nobreak
2394 \else
2395 \begingroup
2396 \skip@=-\lastskip
2397 \edef\x{%
2398 \endgroup
2399 \def\noexpand\Hy@RestoreLastskip{%
2400 \noexpand\ifvmode
2401 \noexpand\nobreak
2402 \vskip\the\skip@
2403 \vskip\the\lastskip\relax
2404 \noexpand\fi
2405 }%
2406 }%
2407 \x
2408 \fi
2409 \else
2410 \ifhmode
2411 \ifdim\lastskip=\z@
2412 \let\Hy@RestoreLastskip\nobreak
2413 \else

```

```

2414     \begingroup
2415     \skip@=-\lastskip
2416     \edef\x{%
2417         \endgroup
2418         \def\noexpand\Hy@RestoreLastskip{%
2419             \noexpand\ifhmode
2420                 \noexpand\nobreak
2421                 \hskip\the\skip@
2422                 \hskip\the\lastskip\relax
2423             \noexpand\fi
2424         }%
2425     }%
2426     \x
2427     \fi
2428     \fi
2429     \fi
2430 }%

```

9 Options

```

2431 \SetupKeyvalOptions{%
2432   family=Hyp,%
2433   prefix=HyOpt%
2434 }

```

9.1 Help macros

\Hy@boolkey

```

2435 \def\Hy@boolkey{@dblarg\Hy@boolkey}
2436 \def\Hy@boolkey[#1]#2#3{%
2437   \edef\Hy@tempa{#3}%
2438   \lowercase\expandafter{%
2439     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2440   }%
2441   \ifx\Hy@tempa\@empty
2442     \let\Hy@tempa\Hy@true
2443   \fi
2444   \ifx\Hy@tempa\Hy@true
2445     \else
2446       \ifx\Hy@tempa\Hy@false
2447         \else
2448           \let\Hy@tempa\relax
2449         \fi
2450       \fi
2451     \ifx\Hy@tempa\relax
2452       \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2453     \else
2454       \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2455       \csname Hy@#2\Hy@tempa\endcsname
2456     \fi
2457 }

```

\Hy@WarnOptionValue

```

2458 \def\Hy@WarnOptionValue#1#2#3{%
2459   \Hy@Warning{%
2460     Unexpected value ‘#1’\MessageBreak

```

```

2461   of option '#2' instead of\MessageBreak
2462   #3%
2463 }%
2464 }

```

\Hy@DisableOption

```

2465 \def\Hy@DisableOption#1{%
2466   \ifundefined{KV@Hyp@#1@default}{%
2467     \define@key{Hyp}{#1}%
2468   }{%
2469     \define@key{Hyp}{#1}[]%
2470   }%
2471   {\Hy@WarnOptionDisabled{#1}}%
2472 }

```

\Hy@WarnOptionDisabled

```

2473 \def\Hy@WarnOptionDisabled#1{%
2474   \Hy@Warning{%
2475     Option '#1' has already been used,\MessageBreak
2476     setting the option has no effect%
2477   }%
2478 }

```

\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.

```

2479 \def\Hy@CheckOptionValue#1#2#3{%
2480   \begingroup
2481   \edef\x{#1}%
2482   \@onelevel@sanitize\x
2483   \let\y=y%
2484   \def\do##1##2{%
2485     \def\z{##1}%
2486     \@onelevel@sanitize\z
2487     \ifx\x\z
2488       \let\y=n%
2489       \let\do\@gobbletwo
2490     \fi
2491   }%
2492   #3%
2493   \ifx\y y%
2494     \def\do##1##2{%
2495       *'##1'%
2496       \ifx\##2\\\else\space(##2)\fi
2497       \MessageBreak
2498     }%
2499     \Hy@Warning{%
2500       Values of option '#2':\MessageBreak
2501       #3%
2502       * An empty value disables the option.\MessageBreak
2503       Unknown value '\x'%
2504     }%
2505   \fi
2506   \endgroup
2507 }

```

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

```

2508 \def\Hy@DefNameKey#1{%
2509   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2510 }

```

\Hy@@DefNameKey #1: macro for value storage

#2: option name

#3: \do list with known values.

```

2511 \def\Hy@@DefNameKey#1#2#3{%
2512   \define@key{Hyp}{#2}{%
2513     \edef#1{##1}%
2514     \ifx#1\@empty
2515     \else
2516       \Hy@CheckOptionValue{##1}{#2}{#3}%
2517     \fi
2518   }%
2519   \let#1\@empty
2520 }

```

\Hy@UseNameKey

```

2521 \def\Hy@UseNameKey#1#2{%
2522   \ifx#2\@empty
2523   \else
2524     /#1/#2%
2525   \fi
2526 }

```

9.2 Defining the options

```

2527 \define@key{Hyp}{implicit}[true]{%
2528   \Hy@boolkey{implicit}{#1}%
2529 }
2530 \define@key{Hyp}{draft}[true]{%
2531   \Hy@boolkey{draft}{#1}%
2532 }
2533 \define@key{Hyp}{final}[true]{%
2534   \Hy@boolkey{final}{#1}%
2535 }
2536 \let\KV@Hyp@nolinks\KV@Hyp@draft
2537 \def\Hy@ObsoletePaperOption#1{%
2538   \Hy@WarningNoLine{%
2539     Option ‘#1’ is no longer used%
2540   }%
2541   \define@key{Hyp}{#1}[true]{}%
2542 }
2543 \def\Hy@temp#1{%
2544   \define@key{Hyp}{#1}[true]{%
2545     \Hy@ObsoletePaperOption{#1}%
2546   }%
2547 }
2548 \Hy@temp{a4paper}
2549 \Hy@temp{a5paper}
2550 \Hy@temp{b5paper}
2551 \Hy@temp{letterpaper}
2552 \Hy@temp{legalpaper}
2553 \Hy@temp{executivepaper}
2554 \define@key{Hyp}{setpagesize}[true]{%

```

```

2555 \Hy@boolkey{setpagesize}{#1}%
2556 }
2557 \define@key{Hyp}{debug}[true]{%
2558 \Hy@boolkey[debug]{verbose}{#1}%
2559 }
2560 \define@key{Hyp}{linktocpage}[true]{%
2561 \Hy@boolkey{linktocpage}{#1}%
2562 \ifHy@linktocpage
2563 \let\Hy@linktoc\Hy@linktoc@page
2564 \else
2565 \let\Hy@linktoc\Hy@linktoc@section
2566 \fi
2567 }
2568 \chardef\Hy@linktoc@none=0 %
2569 \chardef\Hy@linktoc@section=1 %
2570 \chardef\Hy@linktoc@page=2 %
2571 \chardef\Hy@linktoc@all=3 %
2572 \ifHy@linktocpage
2573 \let\Hy@linktoc\Hy@linktoc@page
2574 \else
2575 \let\Hy@linktoc\Hy@linktoc@section
2576 \fi
2577 \define@key{Hyp}{linktoc}{%
2578 \@ifundefined{Hy@linktoc@#1}{%
2579 \Hy@Warning{%
2580 Unexpected value '#1' of\MessageBreak
2581 option 'linktoc' instead of 'none',\MessageBreak
2582 'section', 'page' or 'all'%
2583 }%
2584 }{%
2585 \expandafter\let\expandafter\Hy@linktoc
2586 \csname Hy@linktoc@#1\endcsname
2587 }%
2588 }
2589 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2590 \let\XR@ext\relax
2591 \define@key{Hyp}{verbose}[true]{%
2592 \Hy@boolkey{verbose}{#1}%
2593 }
2594 \define@key{Hyp}{typexml}[true]{%
2595 \Hy@boolkey{typexml}{#1}%
2596 }

```

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.

```

2597 \define@key{Hyp}{raiselinks}[true]{%
2598 \Hy@boolkey{raiselinks}{#1}%
2599 }

```

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

```

2600 \def\Hy@setbreaklinks#1{%
2601 \csname breaklinks#1\endcsname
2602 }
2603 \def\Hy@breaklinks@unsupported{%
2604 \ifx\Hy@setbreaklinks\@gobble
2605 \ifHy@breaklinks

```

```

2606 \Hy@WarningNoLine{%
2607   You have enabled option 'breaklinks'.\MessageBreak
2608   But driver '\Hy@driver.def' does not support this.\MessageBreak
2609   Expect trouble with the link areas of broken links%
2610 }%
2611 \fi
2612 \fi
2613 }

```

```

2614 \define@key{Hyp}{breaklinks}[true]{%
2615   \Hy@boolkey{breaklinks}{#1}%
2616   \let\Hy@setbreaklinks\@gobble
2617 }

```

```

2618 \define@key{Hyp}{localanchorname}[true]{%
2619   \Hy@boolkey{localanchorname}{#1}%
2620 }

```

Determines whether an automatic anchor is put on each page

```

2621 \define@key{Hyp}{pageanchor}[true]{%
2622   \Hy@boolkey{pageanchor}{#1}%
2623 }

```

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.

```

2624 \define@key{Hyp}{plainpages}[true]{%
2625   \Hy@boolkey{plainpages}{#1}%
2626 }

```

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

```

2627 \define@key{Hyp}{naturalnames}[true]{%
2628   \Hy@boolkey{naturalnames}{#1}%
2629 }

```

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

```

2630 \define@key{Hyp}{hypertexnames}[true]{%
2631   \Hy@boolkey{hypertexnames}{#1}%
2632 }

```

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

```

2633 \define@key{Hyp}{nesting}[true]{%
2634   \Hy@boolkey{nesting}{#1}%
2635 }

```

```

2636 \define@key{Hyp}{unicode}[true]{%
2637   \Hy@boolkey{unicode}{#1}%
2638   \ifHy@unicode
2639     \def\HyPsd@pdfencoding{unicode}%
2640     \HyPsd@LoadUnicode
2641   \else
2642     \def\HyPsd@pdfencoding{pdfdoc}%
2643   \fi
2644 }
2645 \def\HyPsd@LoadUnicode{%
2646   \@ifundefined{T@PU}{%
2647     \input{puenc.def}%
2648     \HyLinguex@Restore
2649   }{}%
2650   \DeclareFontFamily{PU}{pdf}{}%
2651   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%

```

```

2652 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2653 \global\let\HyPsd@LoadUnicode\relax
2654 }
2655 \Hy@AtBeginDocument{%
2656 \ifx\HyPsd@LoadUnicode\relax
2657 \else
2658 \def\HyPsd@LoadUnicode{%
2659 \Hy@Error{%
2660 Unicode support for bookmarks is not available.\MessageBreak
2661 Activate unicode support by using one of the options.\MessageBreak
2662 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2663 in the preamble%
2664 } \@ehc
2665 \global\let\HyPsd@LoadUnicode\relax
2666 \global\Hy@unicodedefalse
2667 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2668 }%
2669 \fi
2670 }

2671 \define@key{Hyp}{pdfencoding}{%
2672 \edef\HyPsd@temp{#1}%
2673 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2674 \let\HyPsd@pdfencoding\HyPsd@temp
2675 \Hy@unicodedefalse
2676 \else
2677 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2678 \z@
2679 \else
2680 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2681 \z@
2682 \else
2683 \@ne
2684 \fi
2685 \fi
2686 \let\HyPsd@pdfencoding\HyPsd@temp
2687 \hypersetup{unicode}%
2688 \ifHy@unicode
2689 \def\HyPsd@pdfencoding{#1}%
2690 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2691 \HyPsd@LoadStringEncoding
2692 \fi
2693 \else
2694 \Hy@Warning{Cannot switch to unicode bookmarks}%
2695 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2696 \fi
2697 \else
2698 \@onelevel@sanitize\HyPsd@temp
2699 \Hy@Warning{%
2700 Values of option 'pdfencoding':.\MessageBreak
2701 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2702 Ignoring unknown value '\HyPsd@temp'%
2703 }%
2704 \fi
2705 \fi
2706 }
2707 \def\HyPsd@pdfencoding@auto{auto}
2708 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}

```

```

2709 \def\HyPsd@pdfencoding@unicode{unicode}
2710 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2711 \def\HyPsd@LoadStringEnc{%
2712   \RequirePackage{stringenc}[2009/12/15]%
2713   \let\HyPsd@LoadStringEnc\relax
2714 }
2715 \Hy@AtBeginDocument{%
2716   \ifpackageloaded{stringenc}{%
2717     \let\HyPsd@LoadStringEnc\relax
2718   }{%
2719     \def\HyPsd@LoadStringEnc{%
2720       \Hy@WarningNoLine{%
2721         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2722         in the preamble or load the package there%
2723       }%
2724     }%
2725   }%
2726 }

2727 \def\hypersetup{\kvsetkeys{Hyp}}

2728 \newif\ifHy@setpdfversion
2729 \define@key{Hyp}{pdfversion}{%
2730   \ifundefined{Hy@pdfversion@#1}{%
2731     \PackageWarning{hyperref}{%
2732       Unsupported PDF version ‘#1’\MessageBreak
2733       Valid values: 1.2 until 1.9%
2734     }%
2735   }{%
2736     \Hy@setpdfversiontrue
2737     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2738   }%
2739 }
2740 \@namedef{Hy@pdfversion@1.2}{2}%
2741 \@namedef{Hy@pdfversion@1.3}{3}%
2742 \@namedef{Hy@pdfversion@1.4}{4}%
2743 \@namedef{Hy@pdfversion@1.5}{5}%
2744 \@namedef{Hy@pdfversion@1.6}{6}%
2745 \@namedef{Hy@pdfversion@1.7}{7}%
2746 \@namedef{Hy@pdfversion@1.8}{8}%
2747 \@namedef{Hy@pdfversion@1.9}{9}%
2748 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2749 \newif\ifHy@DviMode
2750 \let\Hy@DviErrMsg\ltx@empty
2751 \ifpdf
2752   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2753 \else
2754   \ifxetex
2755     \def\Hy@DviErrMsg{XeTeX is running}%
2756   \else
2757     \ifvtex
2758       \ifvtexdvi
2759         \Hy@DviModetrue
2760       \else
2761         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2762       \fi

```

```

2763 \else
2764 \Hy@DviModetrue
2765 \fi
2766 \fi
2767 \fi
2768 \def\HyOpt@CheckDvi#1{%
2769 \ifHy@DviMode
2770 \expandafter\ltx@firstofone
2771 \else
2772 \Hy@Error{%
2773 Wrong DVI mode driver option '#1',\MessageBreak
2774 because \Hy@DviErrMsg
2775 }\@ehc
2776 \expandafter\ltx@gobble
2777 \fi
2778 }

2779 \DeclareVoidOption{tex4ht}{%
2780 \Hy@texhttrue
2781 \kvsetkeys{Hyp}{colorlinks=true}%
2782 \def\BeforeTeXIVht{\RequirePackage{color}}%
2783 \def\Hy@driver{htex4ht}%
2784 \def\MaybeStopEarly{%
2785 \Hy@Message{Stopped early}%
2786 \Hy@AtBeginDocument{%
2787 \PDF@FinishDoc
2788 \gdef\PDF@FinishDoc{}%
2789 }%
2790 \endinput
2791 }%
2792 }

2793 \DeclareVoidOption{pdftex}{%
2794 \ifpdf
2795 \def\Hy@driver{hpdftex}%
2796 \else
2797 \Hy@Error{%
2798 Wrong driver option 'pdftex',\MessageBreak
2799 because pdfTeX in PDF mode is not detected%
2800 }\@ehc
2801 \fi
2802 }

2803 \DeclareVoidOption{nativepdf}{%
2804 \HyOpt@CheckDvi{nativepdf}{%
2805 \def\Hy@driver{hdvips}%
2806 }%
2807 }

2808 \DeclareVoidOption{dvipdfm}{%
2809 \HyOpt@CheckDvi{dvipdfm}{%
2810 \def\Hy@driver{hdvipdfm}%
2811 }%
2812 }

2813 \DeclareVoidOption{dvipdfmx}{%
2814 \HyOpt@CheckDvi{dvipdfmx}{%
2815 \def\Hy@driver{hdvipdfm}%
2816 }%
2817 }

2818 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2819 \expandafter\ifx\csname if#1\expandafter\endcsname

```

```

2820         \csname iftrue\endcsname
2821     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2822 \else
2823     \chardef\SpecialDvipdfmxOutlineOpen\z@
2824 \fi
2825 }
2826 \DeclareVoidOption{xetex}{%
2827 \ifxetex
2828     \def\Hy@driver{hxetex}%
2829 \else
2830     \Hy@Error{%
2831         Wrong driver option 'xetex',\MessageBreak
2832         because XeTeX is not detected%
2833     }\@ehc
2834 \fi
2835 }
2836 \DeclareVoidOption{pdfmark}{%
2837 \HyOpt@CheckDvi{pdfmark}{%
2838     \def\Hy@driver{hdvips}%
2839 }%
2840 }
2841 \DeclareVoidOption{dvips}{%
2842 \HyOpt@CheckDvi{dvips}{%
2843     \def\Hy@driver{hdvips}%
2844 }%
2845 }
2846 \DeclareVoidOption{hypertex}{%
2847 \HyOpt@CheckDvi{hypertex}{%
2848     \def\Hy@driver{hypertex}%
2849 }%
2850 }
2851 \let\Hy@MaybeStopNow\relax
2852 \DeclareVoidOption{vtex}{%
2853 \ifvtex
2854     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2855     \def\Hy@driver{hvtex}%
2856 \else
2857     \ifnum\OpMode=10\relax
2858     \def\Hy@driver{hvtexhtm}%
2859     \def\MaybeStopEarly{%
2860         \Hy@Message{Stopped early}%
2861         \Hy@AtBeginDocument{%
2862             \PDF@FinishDoc
2863             \gdef\PDF@FinishDoc{}}%
2864         }%
2865     \endinput
2866     }%
2867 \else
2868     \Hy@Error{%
2869         Wrong driver option 'vtex',\MessageBreak
2870         because of wrong OpMode (\the\OpMode)%
2871     }\@ehc
2872 \fi
2873 \fi
2874 \else
2875     \Hy@Error{%
2876         Wrong driver option 'vtex',\MessageBreak

```

```

2877     because VTeX is not running%
2878   }\@ehc
2879 \fi
2880 }
2881 \DeclareVoidOption{vtxpdfmark}{%
2882   \ifvtex
2883     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2884     \def\Hy@driver{hvtexmrk}%
2885   \else
2886     \Hy@Error{%
2887       Wrong driver option 'vtxpdfmark',\MessageBreak
2888       because of wrong OpMode (\the\OpMode)%
2889     }\@ehc
2890   \fi
2891 \else
2892   \Hy@Error{%
2893     Wrong driver option 'vtxpdfmark',\MessageBreak
2894     because VTeX is not running%
2895   }\@ehc
2896 \fi
2897 }
2898 \DeclareVoidOption{dviwindo}{%
2899   \HyOpt@CheckDvi{dviwindo}{%
2900     \def\Hy@driver{hdviwind}%
2901     \kvsetkeys{Hyp}{colorlinks}%
2902     \PassOptionsToPackage{dviwindo}{color}%
2903   }%
2904 }
2905 \DeclareVoidOption{dvipsone}{%
2906   \HyOpt@CheckDvi{dvipsone}{%
2907     \def\Hy@driver{hdvipson}%
2908   }%
2909 }
2910 \DeclareVoidOption{textures}{%
2911   \HyOpt@CheckDvi{textures}{%
2912     \def\Hy@driver{htexture}%
2913   }%
2914 }
2915 \DeclareVoidOption{latex2html}{%
2916   \HyOpt@CheckDvi{latex2html}{%
2917     \Hy@AtBeginDocument{\@@@latextohtmlX}%
2918   }%
2919 }

```

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

```

2920 \DeclareVoidOption{ps2pdf}{%
2921   \HyOpt@CheckDvi{ps2pdf}{%
2922     \def\Hy@driver{hdvips}%
2923   }%
2924 }
2925 \let\HyOpt@DriverFallback\ltx@empty
2926 \define@key{Hyp}{driverfallback}{%
2927   \ifHy@DviMode
2928     \def\HyOpt@DriverFallback{#1}%
2929     \Hy@Match\HyOpt@DriverFallback{%
2930       ^(| dvipdfm| dvipdfmx| dvips| dvipsone| dviwindo| hypertext| ps2pdf| %
2931       latex2html| tex4ht)$%
2932     }{}{%

```

```

2933 \let\HyOpt@DriverFallback\ltx@empty
2934 }%
2935 \fi
2936 }

```

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.

```

2937 \define@key{Hyp}{hyperfigures}[true]{%
2938 \Hy@boolkey[hyperfigures]{figures}{#1}%
2939 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2940 \define@key{Hyp}{hyperfootnotes}[true]{%
2941 \Hy@boolkey[hyperfootnotes]{#1}%
2942 }

```

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

```

2943 \def\back@none{none}
2944 \def\back@section{section}
2945 \def\back@page{page}
2946 \def\back@slide{slide}
2947 \define@key{Hyp}{backref}[section]{%
2948 \lowercase{\def\Hy@tempa{#1}}%
2949 \ifx\Hy@tempa\@empty
2950 \let\Hy@tempa\back@section
2951 \fi
2952 \ifx\Hy@tempa\Hy@false
2953 \let\Hy@tempa\back@none
2954 \fi
2955 \ifx\Hy@tempa\back@slide
2956 \let\Hy@tempa\back@section
2957 \fi
2958 \ifx\Hy@tempa\back@page
2959 \PassOptionsToPackage{hyperpageref}{backref}%
2960 \Hy@backreftrue
2961 \else
2962 \ifx\Hy@tempa\back@section
2963 \PassOptionsToPackage{hyperref}{backref}%
2964 \Hy@backreftrue
2965 \else
2966 \ifx\Hy@tempa\back@none
2967 \Hy@backreffalse
2968 \else
2969 \Hy@WarnOptionValue{#1}{backref}{%
2970 'section', 'slide', 'page', 'none',\MessageBreak
2971 or 'false'}%
2972 \fi
2973 \fi
2974 \fi
2975 }
2976 \define@key{Hyp}{pagebackref}[true]{%
2977 \edef\Hy@tempa{#1}%
2978 \lowercase\expandafter{%
2979 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2980 }%
2981 \ifx\Hy@tempa\@empty

```

```

2982 \let\Hy@tempa\Hy@true
2983 \fi
2984 \ifx\Hy@tempa\Hy@true
2985 \PassOptionsToPackage{hyperpageref}{backref}%
2986 \Hy@backreftrue
2987 \else
2988 \ifx\Hy@tempa\Hy@false
2989 \Hy@backreffalse
2990 \else
2991 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2992 \fi
2993 \fi
2994 }

```

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

```

2995 \define@key{Hyp}{hyperindex}[true]{%
2996 \Hy@boolkey{hyperindex}{#1}%
2997 }

```

Configuration of encap char.

```

2998 \define@key{Hyp}{encap}[||]{%
2999 \def\HyInd@EncapChar{#1}%
3000 }

```

12 Language options

The `\autoref` feature depends on the language.

```

3001 \def\HyLang@afrikaans{%
3002 \def\equationautorefname{Vergelyking}%
3003 \def\footnoteautorefname{Voetnota}%
3004 \def\itemautorefname{Item}%
3005 \def\figureautorefname{Figuur}%
3006 \def\tableautorefname{Tabel}%
3007 \def\partautorefname{Deel}%
3008 \def\appendixautorefname{Bylae}%
3009 \def\chapterautorefname{Hoofstuk}%
3010 \def\sectionautorefname{Afdeling}%
3011 \def\subsectionautorefname{Subafdeling}%
3012 \def\subsubsectionautorefname{Subsubafdeling}%
3013 \def\paragraphautorefname{Paragraaf}%
3014 \def\subparagraphautorefname{Subparagraaf}%
3015 \def\FancyVerbLineautorefname{Lyn}%
3016 \def\theoremautorefname{Teorema}%
3017 \def\pageautorefname{Bladsy}%
3018 }
3019 \def\HyLang@english{%
3020 \def\equationautorefname{Equation}%
3021 \def\footnoteautorefname{footnote}%
3022 \def\itemautorefname{item}%
3023 \def\figureautorefname{Figure}%
3024 \def\tableautorefname{Table}%
3025 \def\partautorefname{Part}%
3026 \def\appendixautorefname{Appendix}%
3027 \def\chapterautorefname{chapter}%
3028 \def\sectionautorefname{section}%
3029 \def\subsectionautorefname{subsection}%

```

```

3030 \def\subsubsectionautorefname{subsubsection}%
3031 \def\paragraphautorefname{paragraph}%
3032 \def\subparagraphautorefname{subparagraph}%
3033 \def\FancyVerbLineautorefname{line}%
3034 \def\theoremautorefname{Theorem}%
3035 \def\pageautorefname{page}%
3036 }
3037 \def\HyLang@french{%
3038 \def\equationautorefname{'Equation}%
3039 \def\footnoteautorefname{note}%
3040 \def\itemautorefname{item}%
3041 \def\figureautorefname{Figure}%
3042 \def\tableautorefname{Tableau}%
3043 \def\partautorefname{Partie}%
3044 \def\appendixautorefname{Appendice}%
3045 \def\chapterautorefname{chapitre}%
3046 \def\sectionautorefname{section}%
3047 \def\subsectionautorefname{sous-section}%
3048 \def\subsubsectionautorefname{sous-sous-section}%
3049 \def\paragraphautorefname{paragraphe}%
3050 \def\subparagraphautorefname{sous-paragraphe}%
3051 \def\FancyVerbLineautorefname{ligne}%
3052 \def\theoremautorefname{Th\'eor\'eme}%
3053 \def\pageautorefname{page}%
3054 }
3055 \def\HyLang@german{%
3056 \def\equationautorefname{Gleichung}%
3057 \def\footnoteautorefname{Fu\ss note}%
3058 \def\itemautorefname{Punkt}%
3059 \def\figureautorefname{Abbildung}%
3060 \def\tableautorefname{Tabelle}%
3061 \def\partautorefname{Teil}%
3062 \def\appendixautorefname{Anhang}%
3063 \def\chapterautorefname{Kapitel}%
3064 \def\sectionautorefname{Abschnitt}%
3065 \def\subsectionautorefname{Unterabschnitt}%
3066 \def\subsubsectionautorefname{Unterunterabschnitt}%
3067 \def\paragraphautorefname{Absatz}%
3068 \def\subparagraphautorefname{Unterabsatz}%
3069 \def\FancyVerbLineautorefname{Zeile}%
3070 \def\theoremautorefname{Theorem}%
3071 \def\pageautorefname{Seite}%
3072 }
3073 \def\HyLang@italian{%
3074 \def\equationautorefname{Equazione}%
3075 \def\footnoteautorefname{nota}%
3076 \def\itemautorefname{punto}%
3077 \def\figureautorefname{Figura}%
3078 \def\tableautorefname{Tabella}%
3079 \def\partautorefname{Parte}%
3080 \def\appendixautorefname{Appendice}%
3081 \def\chapterautorefname{Capitolo}%
3082 \def\sectionautorefname{sezione}%
3083 \def\subsectionautorefname{sottosezione}%
3084 \def\subsubsectionautorefname{sottosottosezione}%
3085 \def\paragraphautorefname{paragrafo}%
3086 \def\subparagraphautorefname{sottoparagrafo}%

```

```

3087 \def\FancyVerbLineautorefname{linea}%
3088 \def\theoremautorefname{Teorema}%
3089 \def\pageautorefname{Pag.\@}%
3090 }
3091 \def\HyLang@magyar{%
3092 \def\equationautorefname{Egyenlet}%
3093 \def\footnoteautorefname{l\'abjegyzet}%
3094 \def\itemautorefname{Elem}%
3095 \def\figureautorefname{\'Abra}%
3096 \def\tableautorefname{T\'abl\'azat}%
3097 \def\partautorefname{R\'esz}%
3098 \def\appendixautorefname{F\'uggel\'ek}%
3099 \def\chapterautorefname{fejezet}%
3100 \def\sectionautorefname{szakasz}%
3101 \def\subsectionautorefname{alszakasz}%
3102 \def\subsubsectionautorefname{alalszakasz}%
3103 \def\paragraphautorefname{bekezd\'es}%
3104 \def\subparagraphautorefname{albekezd\'es}%
3105 \def\FancyVerbLineautorefname{sor}%
3106 \def\theoremautorefname{T\'etel}%
3107 \def\pageautorefname{oldal}%
3108 }
3109 \def\HyLang@portuges{%
3110 \def\equationautorefname{Equa\c c\~ao}%
3111 \def\footnoteautorefname{Nota de rodap\'e}%
3112 \def\itemautorefname{Item}%
3113 \def\figureautorefname{Figura}%
3114 \def\tableautorefname{Tabela}%
3115 \def\partautorefname{Parte}%
3116 \def\appendixautorefname{Ap\~endice}%
3117 \def\chapterautorefname{Cap\'itulo}%
3118 \def\sectionautorefname{Se\c c\~ao}%
3119 \def\subsectionautorefname{Subse\c c\~ao}%
3120 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3121 \def\paragraphautorefname{par\'agrafo}%
3122 \def\subparagraphautorefname{subpar\'agrafo}%
3123 \def\FancyVerbLineautorefname{linha}%
3124 \def\theoremautorefname{Teorema}%
3125 \def\pageautorefname{P\'agina}%
3126 }

```

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`.

```

3127 \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`?

```

3128 \def\equationautorefname{\cyr\cyrv\cyrery\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`.

```

3129 % \def\equationautorefname{%
3130 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3131 % }%

```

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

```

3132 \def\footnoteautorefname{%
3133   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3134 }%

```

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}”

```

3135 % \def\footnoteautorefname{%
3136 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrh\cyrn\cyro\cyre\ %
3137 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrrh\cyra\cyrn\cyri\cyre
3138 % }%

```

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

```

3139 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3140 % \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.

```

3141 \def\itemautorefname{\cyr\cyrp.}%
3142 % \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.

```

3143 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3144 \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.

```

3145 \def\partautorefname{\cyr\cyrrh.}%
3146 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3147 \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.

```

3148 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3149 % \def\appendixautorefname{%
3150 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
3151 % }%

```

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.

```

3152 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3153 \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.

```

3154 \def\paragraphautorefname{\cyr\cyrp.}%
3155 \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.

```
3156 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3157 % \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.

```
3158 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3159 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3160 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3161 % \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 . . .

```
3162 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3163 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3164 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3165 \def\pageautorefname{\cyr\cyrs.}%
3166 }
```

```
3167 \def\HyLang@spanish{%
3168 \def\equationautorefname{Ecuaci'on}%
3169 \def\footnoteautorefname{Nota a pie de p'agina}%
3170 \def\itemautorefname{Elemento}%
3171 \def\figureautorefname{Figura}%
3172 \def\tableautorefname{Tabla}%
3173 \def\partautorefname{Parte}%
3174 \def\appendixautorefname{Ap'endice}%
3175 \def\chapterautorefname{Cap'itulo}%
3176 \def\sectionautorefname{Secci'on}%
3177 \def\subsectionautorefname{Subsecci'on}%
3178 \def\subsubsectionautorefname{Subsubsecci'on}%
3179 \def\paragraphautorefname{P'arrafo}%
3180 \def\subparagraphautorefname{Subp'arrafo}%
3181 \def\FancyVerbLineautorefname{L'inea}%
3182 \def\theoremautorefname{Teorema}%
3183 \def\pageautorefname{P'agina}%
3184 }
```

```
3185 \def\HyLang@vietnamese{%
3186 \def\equationautorefname{Ph\uhorn{}}\ohorn{}}ng tr'inh}%
3187 \def\footnoteautorefname{Ch'u th'ich}%
3188 \def\itemautorefname{m\d{u}c}%
3189 \def\figureautorefname{H'inh}%
3190 \def\tableautorefname{B'h{a}ng}%
3191 \def\partautorefname{Ph'\acircumflex{n}}%
3192 \def\appendixautorefname{Ph\d{u} l\d{u}c}%

```

```

3193 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
3194 \def\sectionautorefname{m\du{c}}%
3195 \def\subsectionautorefname{m\du{c}}%
3196 \def\subsubsectionautorefname{m\du{c}}%
3197 \def\paragraphautorefname{\dj{}}\od{a}n}%
3198 \def\subparagraphautorefname{\dj{}}\od{a}n}%
3199 \def\FancyVerbLineautorefname{d\'ong}%
3200 \def\theoremautorefname{DJ{}}\di{nh l\'y}%
3201 \def\pageautorefname{Trang}%
3202 }

```

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

```

3203 \def\HyLang@addto#1#2{%
3204   #2%
3205   \@temptokena{#2}%
3206   \ifx#1\relax
3207     \let#1\@empty
3208   \fi
3209   \ifx#1\@undefined
3210     \edef#1{\the\@temptokena}%
3211   \else
3212     \toks@\expandafter{#1}%
3213     \edef#1{\the\toks@\the\@temptokena}%
3214   \fi
3215   \@temptokena{}\toks@\@temptokena
3216 }

3217 \def\HyLang@DeclareLang#1#2#3{%
3218   \ifpackagewith{babel}{#1}{%
3219     \expandafter\HyLang@addto
3220     \csname extras#1\expandafter\endcsname
3221     \csname HyLang@#2\endcsname
3222     \begingroup
3223     \edef\x{\endgroup
3224       #3%
3225     }%
3226     \x
3227     \@namedef{HyLang@#1@done}{}%
3228   }{%
3229     \begingroup
3230     \edef\x##1##2{%
3231       \noexpand\ifx##2\relax
3232         \errmessage{No definitions for language #2' found!}%
3233       \noexpand\fi
3234     \endgroup
3235     \noexpand\define@key{Hyp}{#1}[]{%
3236       \noexpand\@ifundefined{HyLang@#1@done}{%
3237         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3238         #3%
3239       \noexpand\@namedef{HyLang@#1@done}{}%
3240     }{%
3241     }%
3242   }%
3243   \expandafter\x\csname extras#1\expandafter\endcsname
3244     \csname HyLang@#2\endcsname
3245 }
3246 \HyLang@DeclareLang{english}{english}{}

```

```

3247 \HyLang@DeclareLang{UKenglish}{english}{}
3248 \HyLang@DeclareLang{british}{english}{}
3249 \HyLang@DeclareLang{USenglish}{english}{}
3250 \HyLang@DeclareLang{american}{english}{}
3251 \HyLang@DeclareLang{german}{german}{}
3252 \HyLang@DeclareLang{austrian}{german}{}
3253 \HyLang@DeclareLang{ngerman}{german}{}
3254 \HyLang@DeclareLang{naustrian}{german}{}
3255 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3256 \HyLang@DeclareLang{brazil}{portuges}{}
3257 \HyLang@DeclareLang{brazilian}{portuges}{}
3258 \HyLang@DeclareLang{portuguese}{portuges}{}
3259 \HyLang@DeclareLang{spanish}{spanish}{}
3260 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3261 \HyLang@DeclareLang{french}{french}{}
3262 \HyLang@DeclareLang{frenchb}{french}{}
3263 \HyLang@DeclareLang{français}{french}{}
3264 \HyLang@DeclareLang{acadian}{french}{}
3265 \HyLang@DeclareLang{canadien}{french}{}
3266 \HyLang@DeclareLang{italian}{italian}{}
3267 \HyLang@DeclareLang{magyar}{magyar}{}
3268 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3269 \DeclareVoidOption{vietnamese}{%
3270   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3271   \Hy@AtEndOfPackage{%
3272     \ifundefined{T@PU}{}{}%
3273     \input{puvnenc.def}%
3274   }%
3275 }%
3276 }
3277 \DeclareVoidOption{vietnam}{%
3278   \HyLang@addto\extravietnam\HyLang@vietnamese
3279   \Hy@AtEndOfPackage{%
3280     \ifundefined{T@PU}{}{}%
3281     \input{puvnenc.def}%
3282   }%
3283 }%
3284 }

```

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

```

3285 \DeclareVoidOption{arabic}{%
3286   \Hy@AtEndOfPackage{%
3287     \ifundefined{T@PU}{}{}%
3288     \input{puarenc.def}%
3289   }%
3290 }%
3291 }

```

13 Options to change appearance of links

Colouring links at the \LaTeX level is useful for debugging, perhaps.

```

3292 \define@key{Hyp}{colorlinks}[true]{%
3293   \Hy@boolkey{colorlinks}{#1}%
3294 }
3295 \define@key{Hyp}{ocgcolorlinks}[true]{%

```

```

3296 \Hy@boolkey{ocgcolorlinks}{#1}%
3297 }
3298 \Hy@AtBeginDocument{%
3299 \begingroup
3300 \ifundefined{OBJ@OCG@view}{%
3301 \ifHy@ocgcolorlinks
3302 \Hy@Warning{%
3303 Driver does not support 'ocgcolorlinks',\MessageBreak
3304 using 'colorlinks' instead%
3305 }%
3306 \fi
3307 }{}%
3308 \endgroup
3309 }
3310 \define@key{Hyp}{frenchlinks}[true]{%
3311 \Hy@boolkey{frenchlinks}{#1}%
3312 }

```

14 Bookmarking

```

3313 \begingroup\expandafter\expandafter\expandafter\endgroup
3314 \expandafter\ifx\csname chapter\endcsname\relax
3315 \def\toclevel@part{0}%
3316 \else
3317 \def\toclevel@part{-1}%
3318 \fi
3319 \def\toclevel@chapter{0}
3320 \def\toclevel@section{1}
3321 \def\toclevel@subsection{2}
3322 \def\toclevel@subsubsection{3}
3323 \def\toclevel@paragraph{4}
3324 \def\toclevel@subparagraph{5}
3325 \def\toclevel@figure{0}
3326 \def\toclevel@table{0}
3327 \ifpackageloaded{listings}{%
3328 \providecommand*\theHlstlisting{\thelstlisting}%
3329 \providecommand*\toclevel@lstlisting{0}%
3330 }{}
3331 \ifpackageloaded{listing}{%
3332 \providecommand*\theHlisting{\thelisting}%
3333 \providecommand*\toclevel@listing{0}%
3334 }{}

3335 \define@key{Hyp}{bookmarks}[true]{%
3336 \Hy@boolkey{bookmarks}{#1}%
3337 }

3338 \define@key{Hyp}{bookmarksopen}[true]{%
3339 \Hy@boolkey{bookmarksopen}{#1}%
3340 }

```

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.

```

3341 \let\Hy@bookmarksdepth\c@tocdepth
3342 \define@key{Hyp}{bookmarksdepth}[]{}%
3343 \begingroup
3344   \edef\x{#1}%
3345   \ifx\x\empty
3346     \global\let\Hy@bookmarksdepth\c@tocdepth
3347   \else
3348     \@ifundefined{toclevel@\x}{}%
3349     \onelevel@sanitize\x
3350     \edef\y{\expandafter\@car\x\@nil}%
3351     \ifcase 0\expandafter\ifx\y-1\fi
3352       \expandafter\ifnum\expandafter\y>47 %
3353       \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3354     \Hy@Warning{Unknown document division name (\x)}%
3355   \else
3356     \setbox\z@=\hbox{%
3357       \count@=\x
3358       \xdef\Hy@bookmarksdepth{\the\count@}%
3359     }%
3360   \fi
3361 }{}%
3362 \setbox\z@=\hbox{%
3363   \count@=\csname toclevel@\x\endcsname
3364   \xdef\Hy@bookmarksdepth{\the\count@}%
3365 }%
3366 }%
3367 \fi
3368 \endgroup
3369 }

```

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

```

3370 \define@key{Hyp}{bookmarksopenlevel}{}%
3371 \def\@bookmarksopenlevel{#1}%
3372 }
3373 \def\@bookmarksopenlevel{\maxdimen}
3374 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3375 \define@key{Hyp}{bookmarkstype}{}%
3376 \def\Hy@bookmarkstype{#1}%
3377 }
3378 \def\Hy@bookmarkstype{toc}

```

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

```

3379 \define@key{Hyp}{bookmarksnumbered}[true]{}%
3380 \Hy@boolkey{bookmarksnumbered}{#1}%
3381 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

3382 \define@key{Hyp}{CJKbookmarks}[true]{}%
3383 \Hy@boolkey{CJKbookmarks}{#1}%
3384 }

3385 \def\Hy@temp#1{}%
3386 \expandafter\Hy@@@temp\csname @#1color\endcsname{#1}%
3387 }

```

```

3388 \def\Hy@@temp#1#2#3{%
3389   \define@key{Hyp}{#2color}{%
3390     \HyColor@HyperrefColor{##1}#1%
3391   }%
3392   \def#1{#3}%
3393 }
3394 \Hy@temp{link}{red}
3395 \Hy@temp{anchor}{black}
3396 \Hy@temp{cite}{green}
3397 \Hy@temp{file}{cyan}
3398 \Hy@temp{url}{magenta}
3399 \Hy@temp{menu}{red}
3400 \Hy@temp{run}{\@filecolor}
3401 \define@key{Hyp}{pagecolor}{%
3402   \Hy@WarningPageColor
3403 }
3404 \def\Hy@WarningPageColor{%
3405   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3406   \global\let\Hy@WarningPageColor\relax
3407 }

3408 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3409 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3410 \let\@baseurl\@empty
3411 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3412 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3413 \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.

```

3414 \let\@pdfpagetransition\relax
3415 \define@key{Hyp}{pdfpagetransition}{%
3416   \def\@pdfpagetransition{#1}%
3417 }

```

`\@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.

```

3418 \let\@pdfpageduration\relax
3419 \define@key{Hyp}{pdfpageduration}{%
3420   \def\@pdfpageduration{#1}%
3421   \Hy@Match\@pdfpageduration{%
3422     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3423   }{%
3424     \Hy@Warning{%
3425       Invalid value '\@pdfpageduration'\MessageBreak
3426       of 'pdfpageduration'\MessageBreak
3427       is replaced by an empty value%
3428     }%
3429     \let\@pdfpageduration\ltx@empty
3430   }%
3431 }

```

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.

```

3432 \newif\ifHy@useHidKey
3433 \Hy@useHidKeyfalse
3434 \define@key{Hyp}{pdfpagehidden}[true]{%
3435   \Hy@boolkey{pdfpagehidden}{#1}%
3436   \ifHy@pdfpagehidden
3437     \global\Hy@useHidKeytrue
3438   \fi
3439 }

```

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).

```

3440 \def\Hy@ColorList{cite,file,link,menu,run,url}
3441 \@for\Hy@temp:=\Hy@ColorList\do{%
3442   \edef\Hy@temp{%
3443     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3444       \noexpand\HyColor@HyperrefBorderColor
3445       {##1}%
3446       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3447       {hyperref}%
3448       {\Hy@temp bordercolor}%
3449     }%
3450   }%
3451   \Hy@temp
3452 }
3453 \define@key{Hyp}{pagebordercolor}{%
3454   \Hy@WarningPageBorderColor
3455 }
3456 \def\Hy@WarningPageBorderColor{%
3457   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3458   \global\let\Hy@WarningPageBorderColor\relax
3459 }
3460 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3461 \Hy@DefNameKey{pdfhighlight}{%
3462   \do{/I}{Invert}%
3463   \do{/N}{None}%
3464   \do{/O}{Outline}%
3465   \do{/P}{Push}%
3466 }
3467 \define@key{Hyp}{pdfborder}{%
3468   \let\Hy@temp\@pdfborder
3469   \def\@pdfborder{#1}%
3470   \Hy@Match\@pdfborder{%
3471     ^\HyPat@NonNegativeReal/ %
3472     \HyPat@NonNegativeReal/ %
3473     \HyPat@NonNegativeReal/%
3474     ( ?[\HyPat@NonNegativeReal/(\HyPat@NonNegativeReal/)*])?$$%
3475   }{ }{%
3476     \Hy@Warning{%
3477       Invalid value '\@pdfborder'\MessageBreak

```

```

3478     for option 'pdfborder'.\MessageBreak
3479     Option setting is ignored%
3480 }%
3481 \let\@pdfborder\Hy@temp
3482 }%
3483 }
3484 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3485 \def\Hy@setpdfborder{%
3486 \ifx\@pdfborder\@empty
3487 \else
3488 /Border[\@pdfborder]%
3489 \fi
3490 \ifx\@pdfborderstyle\@empty
3491 \else
3492 /BS<<\@pdfborderstyle>>%
3493 \fi
3494 }
3495 \Hy@DefNameKey{pdfpagemode}{%
3496 \do{UseNone}{}%
3497 \do{UseOutlines}{}%
3498 \do{UseThumbs}{}%
3499 \do{FullScreen}{}%
3500 \do{UseOC}{PDF 1.5}%
3501 \do{UseAttachments}{PDF 1.6}%
3502 }
3503 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3504 \do{UseNone}{}%
3505 \do{UseOutlines}{}%
3506 \do{UseThumbs}{}%
3507 \do{FullScreen}{}%
3508 \do{UseOC}{PDF 1.5}%
3509 \do{UseAttachments}{PDF 1.6}%
3510 }
3511 \Hy@DefNameKey{pdfdirection}{%
3512 \do{L2R}{Left to right}%
3513 \do{R2L}{Right to left}%
3514 }
3515 \Hy@DefNameKey{pdfviewarea}{%
3516 \do{MediaBox}{}%
3517 \do{CropBox}{}%
3518 \do{BleedBox}{}%
3519 \do{TrimBox}{}%
3520 \do{ArtBox}{}%
3521 }
3522 \Hy@DefNameKey{pdfviewclip}{%
3523 \do{MediaBox}{}%
3524 \do{CropBox}{}%
3525 \do{BleedBox}{}%
3526 \do{TrimBox}{}%
3527 \do{ArtBox}{}%
3528 }
3529 \Hy@DefNameKey{pdfprintarea}{%
3530 \do{MediaBox}{}%
3531 \do{CropBox}{}%
3532 \do{BleedBox}{}%
3533 \do{TrimBox}{}%
3534 \do{ArtBox}{}%

```

```

3535 }
3536 \Hy@DefNameKey{pdfprintclip}{%
3537   \do{MediaBox}{}%
3538   \do{CropBox}{}%
3539   \do{BleedBox}{}%
3540   \do{TrimBox}{}%
3541   \do{ArtBox}{}%
3542 }
3543 \Hy@DefNameKey{pdfprintscaling}{%
3544   \do{AppDefault}{}%
3545   \do{None}{}%
3546 }
3547 \Hy@DefNameKey{pdfduplex}{%
3548   \do{Simplex}{}%
3549   \do{DuplexFlipShortEdge}{}%
3550   \do{DuplexFlipLongEdge}{}%
3551 }
3552 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3553   \do{true}{}%
3554   \do{false}{}%
3555 }
3556 \define@key{Hyp}{pdfprintpagerange}{%
3557   \def\@pdfprintpagerange{#1}%
3558 }
3559 \Hy@DefNameKey{pdfnumcopies}{%
3560   \do{2}{two copies}%
3561   \do{3}{three copies}%
3562   \do{4}{four copies}%
3563   \do{5}{five copies}%
3564 }
3565 \define@key{Hyp}{pdfusetitle}[true]{%
3566   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3567 }
3568 \def\HyXeTeX@CheckUnicode{%
3569   \ifxetex
3570     \ifHy@unicode
3571     \else
3572       \Hy@WarningNoLine{%
3573         XeTeX driver only supports unicode.\MessageBreak
3574         Enabling option 'unicode'%
3575       }%
3576       \kvsetkeys{Hyp}{unicode}%
3577     \fi
3578   \else
3579     \let\HyXeTeX@CheckUnicode\relax
3580   \fi
3581 }
3582 \def\HyPsd@PrerenderUnicode#1{%
3583   \begingroup
3584     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3585     \else
3586       \sbox0{%
3587         \let\GenericInfo\@gobbletwo
3588         \let\GenericWarning\@gobbletwo
3589         \let\GenericError\@gobblefour
3590         \PrerenderUnicode{#1}%
3591       }%

```

```

3592 \fi
3593 \endgroup
3594 }
3595 \define@key{Hyp}{pdftitle}{%
3596 \HyXeTeX@CheckUnicode
3597 \HyPsd@XeTeXBigCharstrue
3598 \HyPsd@PrerenderUnicode{#1}%
3599 \pdfstringdef\@pdftitle{#1}%
3600 }
3601 \define@key{Hyp}{pdfauthor}{%
3602 \HyXeTeX@CheckUnicode
3603 \HyPsd@XeTeXBigCharstrue
3604 \HyPsd@PrerenderUnicode{#1}%
3605 \pdfstringdef\@pdfauthor{#1}%
3606 }
3607 \define@key{Hyp}{pdfproducer}{%
3608 \HyXeTeX@CheckUnicode
3609 \HyPsd@XeTeXBigCharstrue
3610 \HyPsd@PrerenderUnicode{#1}%
3611 \pdfstringdef\@pdfproducer{#1}%
3612 }
3613 \define@key{Hyp}{pdfcreator}{%
3614 \HyXeTeX@CheckUnicode
3615 \HyPsd@XeTeXBigCharstrue
3616 \HyPsd@PrerenderUnicode{#1}%
3617 \pdfstringdef\@pdfcreator{#1}%
3618 }
3619 \define@key{Hyp}{pdfcreationdate}{%
3620 \begingroup
3621 \Hy@unicodedefalse
3622 \pdfstringdef\@pdfcreationdate{#1}%
3623 \endgroup
3624 }
3625 \define@key{Hyp}{pdfmoddate}{%
3626 \begingroup
3627 \Hy@unicodedefalse
3628 \pdfstringdef\@pdfmoddate{#1}%
3629 \endgroup
3630 }
3631 \define@key{Hyp}{pdfsubject}{%
3632 \HyXeTeX@CheckUnicode
3633 \HyPsd@XeTeXBigCharstrue
3634 \HyPsd@PrerenderUnicode{#1}%
3635 \pdfstringdef\@pdfsubject{#1}%
3636 }
3637 \define@key{Hyp}{pdfkeywords}{%
3638 \HyXeTeX@CheckUnicode
3639 \HyPsd@XeTeXBigCharstrue
3640 \HyPsd@PrerenderUnicode{#1}%
3641 \pdfstringdef\@pdfkeywords{#1}%
3642 }
3643 \define@key{Hyp}{pdftrapped}{%
3644 \lowercase{\edef\Hy@temp{#1}}%
3645 \ifx\Hy@temp\HyInfo@trapped@true
3646 \def\@pdftrapped{True}%
3647 \else
3648 \ifx\Hy@temp\HyInfo@trapped@false

```

```

3649 \def\@pdftrapped{False}%
3650 \else
3651 \ifx\Hy@temp\HyInfo@trapped@unknown
3652 \def\@pdftrapped{Unknown}%
3653 \else
3654 \ifx\Hy@temp\@empty
3655 \else
3656 \Hy@Warning{%
3657     Unsupported value '#1'\MessageBreak
3658     for option 'pdftrapped'%
3659 }%
3660 \fi
3661 \def\@pdftrapped{}%
3662 \fi
3663 \fi
3664 \fi
3665 }
3666 \def\HyInfo@trapped@true{true}
3667 \def\HyInfo@trapped@false{false}
3668 \def\HyInfo@trapped@unknown{unknown}
3669 \def\HyInfo@TrappedUnsupported{%
3670 \ifx\@pdftrapped\@empty
3671 \else
3672 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3673 \gdef\HyInfo@TrappedUnsupported{}%
3674 \fi
3675 }
3676 \define@key{Hyp}{pdfinfo}{%
3677 \kvsetkeys{pdfinfo}{#1}%
3678 }
3679 \def\Hy@temp#1{%
3680 \lowercase{\Hy@temp@A{#1}}{#1}%
3681 }
3682 \def\Hy@temp@A#1#2{%
3683 \define@key{pdfinfo}{#2}{%
3684 \hypersetup{pdf#1={##1}}%
3685 }%
3686 }
3687 \Hy@temp{Title}
3688 \Hy@temp{Author}
3689 \Hy@temp{Keywords}
3690 \Hy@temp{Subject}
3691 \Hy@temp{Creator}
3692 \Hy@temp{Producer}
3693 \Hy@temp{CreationDate}
3694 \Hy@temp{ModDate}
3695 \Hy@temp{Trapped}
3696 \newif\ifHyInfo@AddonUnsupported
3697 \kv@set@family@handler{pdfinfo}{%
3698 \HyInfo@AddonHandler{#1}{#2}%
3699 }
3700 \let\HyInfo@do\relax
3701 \def\HyInfo@AddonHandler#1#2{%
3702 \ifx\kv@value\relax
3703 \Hy@Warning{%
3704     Option 'pdfinfo': ignoring key '\kv@key' without value%
3705 }%

```

```

3706 \else
3707 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3708 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3709 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3710 \ifHyInfo@AddonUnsupported
3711 \Hy@Warning{%
3712 This driver does not support additional\MessageBreak
3713 information entries, therefore\MessageBreak
3714 '\kv@key' is ignored%
3715 }%
3716 \else
3717 \define@key{pdfinfo}{\HyInfo@Key}{%
3718 \HyXeTeX@CheckUnicode
3719 \HyPsd@XeTeXBigCharstrue
3720 \HyPsd@PrerenderUnicode{##1}%
3721 \pdfstringdef\HyInfo@Value{##1}%
3722 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3723 \HyInfo@Value
3724 }%
3725 \edef\HyInfo@AddonList{%
3726 \HyInfo@AddonList
3727 \HyInfo@do{\HyInfo@Key}%
3728 }%
3729 \kv@parse@normalized{%
3730 \HyInfo@Key={#2}%
3731 }{%
3732 \kv@processor@default{pdfinfo}%
3733 }%
3734 \fi
3735 \else
3736 \kv@parse@normalized{%
3737 \HyInfo@Key={#2}%
3738 }{%
3739 \kv@processor@default{pdfinfo}%
3740 }%
3741 \fi
3742 \fi
3743 }
3744 \def\HyInfo@GenerateAddons{%
3745 \ifHyInfo@AddonUnsupported
3746 \def\HyInfo@Addons{}%
3747 \else
3748 \begingroup
3749 \toks@{}%
3750 \def\HyInfo@do##1{%
3751 \EdefEscapeName\HyInfo@Key{##1}%
3752 \edef\x{%
3753 \toks@{%
3754 \the\toks@
3755 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3756 }%
3757 }%
3758 \x
3759 }%
3760 \HyInfo@AddonList
3761 \edef\x{\endgroup
3762 \def\noexpand\HyInfo@Addons{\the\toks@}%

```

```

3763 }%
3764 \x
3765 \fi
3766 }
3767 \def\HyInfo@AddonList{}

3768 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3769 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3770 \let\setpdfinkmargin\@gobble
3771 \def\calculate@pdfview#1 #2\{%
3772 \def\@pdfview{#1}%
3773 \ifx\#2\%
3774 \def\@pdfviewparams{ -32768}%
3775 \else
3776 \def\@pdfviewparams{ #2}%
3777 \fi
3778 }
3779 \begingroup\expandafter\expandafter\expandafter\endgroup
3780 \expandafter\ifx\csname numexpr\endcsname\relax
3781 \def\Hy@number#1{%
3782 \expandafter\@firstofone\expandafter{\number#1}%
3783 }%
3784 \else
3785 \def\Hy@number#1{%
3786 \the\numexpr#1\relax
3787 }%
3788 \fi
3789 \define@key{Hyp}{pdfstartpage}{%
3790 \ifx\#1\%
3791 \def\@pdfstartpage{}%
3792 \else
3793 \edef\@pdfstartpage{\Hy@number{#1}}%
3794 \fi
3795 }%
3796 \define@key{Hyp}{pdfstartview}{%
3797 \ifx\#1\%
3798 \def\@pdfstartview{}%
3799 \else
3800 \hypercalcbpdef\@pdfstartview{/#1}%
3801 \fi
3802 }
3803 \def\HyPat@NonNegativeReal/{%
3804 ([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)%
3805 }
3806 \define@key{Hyp}{pdfremotestartview}{%
3807 \ifx\#1\%
3808 \def\@pdfremotestartview{/Fit}%
3809 \else
3810 \hypercalcbpdef\@pdfremotestartview{#1}%
3811 \edef\@pdfremotestartview{\@pdfremotestartview}%
3812 \Hy@Match\@pdfremotestartview{%
3813 ^{XYZ}-(null|\HyPat@NonNegativeReal/)%
3814 -(null|\HyPat@NonNegativeReal/)%
3815 (null|\HyPat@NonNegativeReal/)|%
3816 Fit(|B|
3817 (H|V|BH|BV)(null|\HyPat@NonNegativeReal/)|%
3818 R\HyPat@NonNegativeReal/\HyPat@NonNegativeReal/%
3819 \HyPat@NonNegativeReal/\HyPat@NonNegativeReal/%

```

```

3820    ))$%
3821  }{}{%
3822    \Hy@Warning{%
3823      Invalid value '\@pdfremotestartview'\MessageBreak
3824      of 'pdfremotestartview'\MessageBreak
3825      is replaced by 'Fit'%
3826    }%
3827    \let\@pdfremotestartview\@empty
3828  }%
3829  \ifx\@pdfremotestartview\@empty
3830    \def\@pdfremotestartview{/Fit}%
3831  \else
3832    \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3833  \fi
3834 \fi
3835 }
3836 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3837 \define@key{Hyp}{pdftoolbar}[true]{%
3838   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3839 }
3840 \define@key{Hyp}{pdfmenubar}[true]{%
3841   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3842 }
3843 \define@key{Hyp}{pdfwindowui}[true]{%
3844   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3845 }
3846 \define@key{Hyp}{pdffitwindow}[true]{%
3847   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3848 }
3849 \define@key{Hyp}{pdfcenterwindow}[true]{%
3850   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3851 }
3852 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3853   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3854 }
3855 \define@key{Hyp}{pdfa}[true]{%
3856   \Hy@boolkey[pdfa]{#1}%
3857 }
3858 \define@key{Hyp}{pdfnewwindow}[true]{%
3859   \def\Hy@temp{#1}%
3860   \ifx\Hy@temp\@empty
3861     \Hy@newwindowsetfalse
3862   \else
3863     \Hy@newwindowsettrue
3864     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3865   \fi
3866 }
3867 \def\Hy@SetNewWindow{%
3868   \ifHy@newwindowset
3869     /NewWindow %
3870   \ifHy@newwindow true\else false\fi
3871 \fi
3872 }
3873 \Hy@DefNameKey{pdfpagelayout}{%
3874   \do{SinglePage}{}%
3875   \do{OneColumn}{}%
3876   \do{TwoColumnLeft}{}%

```

```

3877 \do{TwoColumnRight}{}%
3878 \do{TwoPageLeft}{PDF 1.5}%
3879 \do{TwoPageRight}{PDF 1.5}%
3880 }
3881 \define@key{Hyp}{pdflang}{%
3882 \def\@pdflang{#1}%
3883 }
3884 \define@key{Hyp}{pdfpagelabels}[true]{%
3885 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3886 }
3887 \define@key{Hyp}{pdfescapeform}[true]{%
3888 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3889 }

```

Default values:

```

3890 \def\@linkbordercolor{1 0 0}
3891 \def\@urlbordercolor{0 1 1}
3892 \def\@menubordercolor{1 0 0}
3893 \def\@filebordercolor{0 .5 .5}
3894 \def\@runbordercolor{0 .7 .7}
3895 \def\@citebordercolor{0 1 0}
3896 \def\@pdfhighlight{/I}
3897 \def\@pdftitle{}
3898 \def\@pdfauthor{}
3899 \let\@pdfproducer\relax
3900 \def\@pdfcreator{LaTeX with hyperref package}
3901 \def\@pdfcreationdate{}
3902 \def\@pdfmoddate{}
3903 \def\@pdfsubject{}
3904 \def\@pdfkeywords{}
3905 \def\@pdftrapped{}
3906 \def\@pdfpagescrop{}
3907 \def\@pdfstartview{/Fit}
3908 \def\@pdfremotestartview{/Fit}
3909 \def\@pdfstartpage{1}
3910 \def\@pdfprintpagerange{}
3911 \def\@pdflang{}
3912 \let\PDF@SetupDoc\@empty
3913 \let\PDF@FinishDoc\@empty
3914 \let\phantomsection\@empty
3915 \let\special@paper\@empty
3916 \def\HyperDestNameFilter#1{#1}
3917 \Hy@AtBeginDocument{%
3918 \begingroup
3919 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3920 \dimen@=\x\relax
3921 \ifdim\dimen@>\z@
3922 \else
3923 \dimen@=11in\relax
3924 \Hy@WarningNoLine{%
3925 Height of page (\expandafter\string\x) %
3926 is invalid (\the\x),\MessageBreak
3927 using 11in%
3928 }%
3929 \fi
3930 \dimen@=0.99626401\dimen@
3931 \xdef\Hy@pageheight{\strip@pt\dimen@}%
3932 \endgroup

```

```

3933 }
3934 \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.

```

3935 \let\hyper@normalise\ExecuteOptions
3936 \let\ExecuteOptions\hypersetup
3937 \Hy@RestoreCatcodes
3938 \InputIfFileExists{hyperref.cfg}{-}{-}
3939 \Hy@SetCatcodes
3940 \let\ExecuteOptions\hyper@normalise
3941 \Hy@MaybeStopNow

```

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

```

3942 \SetupKeyvalOptions{family=Hyp}
3943 \DeclareLocalOptions{%
3944   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3945 }

```

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

```

3946 \@ifpackageloaded{tex4ht}{-%
3947   \@ifpackagewith{hyperref}{tex4ht}{-}{-%
3948     \PassOptionsToPackage{tex4ht}{hyperref}%
3949   }%
3950 }{}

3951 \let\ReadBookmarks\relax
3952 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

3953 \Hy@AtBeginDocument{%
3954   \ifHy@draft
3955     \let\hyper@@anchor\@gobble
3956     \gdef\hyper@link#1#2#3{#3}%
3957     \let\hyper@anchorstart\@gobble
3958     \let\hyper@anchorend\@empty
3959     \let\hyper@linkstart\@gobbletwo
3960     \let\hyper@linkend\@empty
3961     \def\hyper@linkurl#1#2{#1}%
3962     \def\hyper@linkfile#1#2#3{#1}%
3963     \def\hyper@link@{#1}#2#3{}%
3964     \def\Acrobatmenu#1#2{\leavevmode#2}%
3965     \let\PDF@SetupDoc\@empty
3966     \let\PDF@FinishDoc\@empty
3967     \let\@fifthoffive\@secondoftwo
3968     \let\@secondoffive\@secondoftwo
3969     \let\ReadBookmarks\relax
3970     \let\WriteBookmarks\relax
3971     \Hy@WarningNoLine{Draft mode on}%
3972   \fi
3973   \Hy@DisableOption{draft}%
3974   \Hy@DisableOption{nolinks}%
3975   \Hy@DisableOption{final}%
3976 }

```

15.1 PDF/A

```
3977 \Hy@DisableOption{pdfa}
3978 \ifHy@pdfa
3979 \kvsetkeys{Hyp}{pdfversion=1.4}%
3980 \def\Hy@Acrobatmenu#1#2{%
3981 \leavevmode
3982 \begingroup
3983 \edef\x{#1}%
3984 \@onelevel@sanitize\x
3985 \ifx\x\Hy@NextPage
3986 \let\y=Y%
3987 \else
3988 \ifx\x\Hy@PrevPage
3989 \let\y=Y%
3990 \else
3991 \ifx\x\Hy@FirstPage
3992 \let\y=Y%
3993 \else
3994 \ifx\x\Hy@LastPage
3995 \let\y=Y%
3996 \else
3997 \let\y=N%
3998 \fi
3999 \fi
4000 \fi
4001 \fi
4002 \expandafter\endgroup
4003 \ifx\y Y%
4004 \else
4005 \Hy@Error{%
4006 PDF/A: Named action '#1' is not permitted%
4007 }\@ehc
4008 {#2}%
4009 \expandafter\@gobble
4010 \fi
4011 }%
4012 \def\Hy@temp#1{%
4013 \expandafter\def\csname Hy@#1\endcsname{#1}%
4014 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4015 }%
4016 \Hy@temp{NextPage}%
4017 \Hy@temp{PrevPage}%
4018 \Hy@temp{FirstPage}%
4019 \Hy@temp{LastPage}%
4020 \else
4021 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4022 \fi
```

15.2 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.

```
4023 \Hy@nextfalse
4024 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4025 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4026 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4027 \ifHy@next
```

```

4028 \let\texttilde\~%
4029 \fi

4030 \def\Hy@wrapper@babel#1#2{%
4031 \begingroup
4032 \Hy@safe@activetrue
4033 \set@display@protect
4034 \edef\x{#2}%
4035 \@onelevel@sanitize\x
4036 \toks@{#1}%
4037 \edef\x{\endgroup\the\toks@{\x}}%
4038 \x
4039 }

4040 \def\Hy@WrapperDef#1{%
4041 \begingroup
4042 \escapechar=\m@ne
4043 \xdef\Hy@gtemp{%
4044 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4045 }%
4046 \endgroup
4047 \edef#1{%
4048 \noexpand\Hy@wrapper@babel
4049 \expandafter\noexpand\Hy@gtemp
4050 }%
4051 \expandafter\def\Hy@gtemp
4052 }

4053 \ifHy@figures
4054 \Hy@Info{Hyper figures ON}%
4055 \else
4056 \Hy@Info{Hyper figures OFF}%
4057 \fi

4058 \ifHy@nesting
4059 \Hy@Info{Link nesting ON}%
4060 \else
4061 \Hy@Info{Link nesting OFF}%
4062 \fi

4063 \ifHy@hyperindex
4064 \Hy@Info{Hyper index ON}%
4065 \else
4066 \Hy@Info{Hyper index OFF}%
4067 \fi

4068 \ifHy@plainpages
4069 \Hy@Info{Plain pages ON}%
4070 \else
4071 \Hy@Info{Plain pages OFF}%
4072 \fi

4073 \ifHy@backref
4074 \Hy@Info{Backreferencing ON}%
4075 \else
4076 \Hy@Info{Backreferencing OFF}%
4077 \fi

4078 \ifHy@typexml
4079 \Hy@AtEndOfPackage{%
4080 \RequirePackage{color}%
4081 \RequirePackage{nameref}%
4082 }%
4083 \fi
4084 \Hy@DisableOption{typexml}

```

```

4085 \ifHy@implicit
4086   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4087 \else
4088   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4089   \def\MaybeStopEarly{%
4090     \Hy@Message{Stopped early}%
4091     \Hy@AtBeginDocument{%
4092       \PDF@FinishDoc
4093       \gdef\PDF@FinishDoc{}}%
4094     }%
4095   \endinput
4096 }%
4097 \Hy@AtBeginDocument{%
4098   \let\autoref\ref
4099   \let\autopageref\pageref
4100   \ifx\@pdfpagemode\@empty
4101     \gdef\@pdfpagemode{UseNone}%
4102   \fi
4103   \global\Hy@backreffalse
4104 }%
4105 \Hy@AtEndOfPackage{%
4106   \global\let\ReadBookmarks\relax
4107   \global\let\WriteBookmarks\relax
4108 }%
4109 \fi
4110 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

4111 \Hy@AtEndOfPackage{%
4112   \@ifpackageloaded{tex4ht}{%
4113     \def\Hy@driver{htex4ht}%
4114     \Hy@texhttrue
4115   }{}%

```

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.

```

4116   \ifx\Hy@driver\@empty
4117   \else
4118     \def\Hy@temp{hpdtex}%
4119     \ifpdf
4120       \ifx\Hy@driver\Hy@temp
4121       \else
4122         \Hy@WarningNoLine{%
4123           Wrong driver ‘\Hy@driver.def’;\MessageBreak
4124           pdfTeX is running in PDF mode.\MessageBreak
4125           Forcing driver ‘\Hy@temp.def’%
4126         }%
4127         \let\Hy@driver\Hy@temp
4128       \fi
4129     \else
4130       \ifx\Hy@driver\Hy@temp
4131       \Hy@WarningNoLine{%
4132         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4133         pdfTeX is not running in PDF mode.\MessageBreak
4134         Using default driver%
4135       }%
4136       \let\Hy@driver\@empty

```

```

4137 \fi
4138 \fi
4139 \fi
4140 \ifx\Hy@driver\@empty
4141 \else
4142 \def\Hy@temp{hxtex}%
4143 \ifxetex
4144 \ifx\Hy@driver\Hy@temp
4145 \else
4146 \Hy@WarningNoLine{%
4147   Wrong driver '\Hy@driver.def';\MessageBreak
4148   XeTeX is running.\MessageBreak
4149   Forcing driver '\Hy@temp.def' for XeTeX%
4150 }%
4151 \let\Hy@driver\Hy@temp
4152 \fi
4153 \fi
4154 \fi
4155 \ifx\Hy@driver\@empty
4156 \else
4157 \def\Hy@temp{hvtexhtm}%
4158 \ifvtexhtml
4159 \ifx\Hy@driver\Hy@temp
4160 \else
4161 \Hy@WarningNoLine{%
4162   Wrong driver '\Hy@driver.def';\MessageBreak
4163   VTeX is running in HTML mode.\MessageBreak
4164   Forcing driver '\Hy@temp.def'%
4165 }%
4166 \let\Hy@driver\Hy@temp
4167 \fi
4168 \else
4169 \ifx\Hy@driver\Hy@temp
4170 \Hy@WarningNoLine{%
4171   Wrong driver '\Hy@driver.def';\MessageBreak
4172   VTeX is not running in HTML mode.\MessageBreak
4173   Using default driver%
4174 }%
4175 \let\Hy@driver\@empty
4176 \fi
4177 \fi
4178 \fi

```

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

```

4179 \def\HyOpt@DriverType{}%
4180 \ifx\Hy@driver\@empty
4181 \def\HyOpt@DriverType{ (autodetected)}%
4182 \providecommand*\Hy@defaultdriver{hypertex}%
4183 \ifpdf
4184 \def\Hy@driver{hpdfTeX}%
4185 \else
4186 \ifxetex
4187 \def\Hy@driver{hxtex}%
4188 \else
4189 \ifvtexhtml
4190 \def\Hy@driver{hvtexhtm}%
4191 \def\MaybeStopEarly{%
4192   \Hy@Message{Stopped early}%

```

```

4193     \Hy@AtBeginDocument{%
4194         \PDF@FinishDoc
4195         \gdef\PDF@FinishDoc{}%
4196     }%
4197     \endinput
4198 }%
4199 \else
4200     \ifvtexpdf
4201         \def\Hy@driver{hvtex}%
4202     \else
4203         \ifvtexps
4204             \def\Hy@driver{hvtex}%
4205         \else
4206             \ifx\HyOpt@DriverFallback\ltx@empty
4207                 \let\Hy@driver\Hy@defaultdriver
4208                 \def\HyOpt@DriverType{ (default)}%
4209             \else
4210                 \begingroup
4211                 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4212                 \edef\x{\endgroup
4213                     \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4214                 }%
4215                 \x
4216                 \ifx\Hy@driver\ltx@empty
4217                     \let\Hy@driver\Hy@defaultdriver
4218                     \def\HyOpt@DriverType{ (default)}%
4219                 \else
4220                     \def\HyOpt@DriverType{ (fallback)}%
4221                 \fi
4222             \fi
4223         \fi
4224     \fi
4225 \fi
4226 \fi
4227 \fi
4228 \ifx\Hy@driver\Hy@defaultdriver
4229     \def\Hy@temp{hdvwind}%
4230     \ifx\Hy@temp\Hy@driver
4231         \kvsetkeys{Hyp}{colorlinks}%
4232         \PassOptionsToPackage{dviwindo}{color}%
4233     \fi
4234 \fi
4235 \fi
4236 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4237 \input{\Hy@driver.def}%
4238 \let\@unprocessedoptions\relax
4239 \Hy@RestoreCatcodes
4240 \Hy@DisableOption{tex4ht}%
4241 \Hy@DisableOption{pdftex}%
4242 \Hy@DisableOption{nativepdf}%
4243 \Hy@DisableOption{dvipdfm}%
4244 \Hy@DisableOption{dvipdfmx}%
4245 \Hy@DisableOption{dvipdfmx-outline-open}%
4246 \Hy@DisableOption{pdfmark}%
4247 \Hy@DisableOption{dvips}%
4248 \Hy@DisableOption{hypertex}%
4249 \Hy@DisableOption{vtex}%

```

```

4250 \Hy@DisableOption{vtxpdfmark}%
4251 \Hy@DisableOption{dviwindo}%
4252 \Hy@DisableOption{dvipsone}%
4253 \Hy@DisableOption{textures}%
4254 \Hy@DisableOption{latex2html}%
4255 \Hy@DisableOption{ps2pdf}%
4256 \Hy@DisableOption{xetex}%
4257 \Hy@DisableOption{pdfversion}%
4258 }

```

Support for open outlines is enabled for Xe_T_E ≥ 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.

```

4259 \newif\ifHy@DvipdfmxOutlineOpen
4260 \ifxetex
4261 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4262 \else
4263 \Hy@DvipdfmxOutlineOpentrue
4264 \fi
4265 \fi
4266 \begingroup\expandafter\expandafter\expandafter\endgroup
4267 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4268 \else
4269 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4270 \Hy@DvipdfmxOutlineOpentrue
4271 \fi
4272 \fi

```

15.2.2 Bookmarks

```

4273 \def\WriteBookmarks{0}
4274 \def\@bookmarkopenstatus#1{%
4275 \ifHy@bookmarksopen

```

The purpose of the `\@firstofone-number-space-construct` is that no `\relax` will be inserted by $\text{T}_{\text{E}}\text{X}$ before the `\else`:

```

4276 \ifnum#1<\expandafter\@firstofone\expandafter
4277     {\number\@bookmarkopenlevel} % explicit space
4278 \else
4279     -%
4280 \fi
4281 \else
4282     -%
4283 \fi
4284 }
4285 \ifHy@bookmarks
4286 \Hy@Info{Bookmarks ON}%
4287 \ifx\@pdfpagemode\@empty
4288 \def\@pdfpagemode{UseOutlines}%
4289 \fi
4290 \else
4291 \def\@bookmarkopenstatus#1{%
4292 \Hy@Info{Bookmarks OFF}%
4293 \Hy@AtEndOfPackage{%
4294 \global\let\ReadBookmarks\relax
4295 \global\let\WriteBookmarks\relax
4296 }%
4297 \ifx\@pdfpagemode\@empty
4298 \def\@pdfpagemode{UseNone}%

```

```

4299 \fi
4300 \fi
4301 \Hy@DisableOption{bookmarks}

```

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

```

4302 \def\Hy@CatcodeWrapper#1{%
4303   \def\Hy@EndWrap{%
4304     \def\TMP@EnsureCode##1##2{%
4305       \edef\Hy@EndWrap{%
4306         \Hy@EndWrap
4307         \catcode##1 \the\catcode##1\relax
4308       }%
4309       \catcode##1 ##2\relax
4310     }%
4311     \TMP@EnsureCode{10}{12}% ^^J
4312     \TMP@EnsureCode{33}{12}% !
4313     \TMP@EnsureCode{34}{12}% "
4314     \TMP@EnsureCode{36}{3}% $ (math)
4315     \TMP@EnsureCode{38}{4}% & (alignment)
4316     \TMP@EnsureCode{39}{12}% '
4317     \TMP@EnsureCode{40}{12}% (
4318     \TMP@EnsureCode{41}{12}% )
4319     \TMP@EnsureCode{42}{12}% *
4320     \TMP@EnsureCode{43}{12}% +
4321     \TMP@EnsureCode{44}{12}% ,
4322     \TMP@EnsureCode{45}{12}% -
4323     \TMP@EnsureCode{46}{12}% .
4324     \TMP@EnsureCode{47}{12}% /
4325     \TMP@EnsureCode{58}{12}% :
4326     \TMP@EnsureCode{59}{12}% ;
4327     \TMP@EnsureCode{60}{12}% <
4328     \TMP@EnsureCode{61}{12}% =
4329     \TMP@EnsureCode{62}{12}% >
4330     \TMP@EnsureCode{63}{12}% ?
4331     \TMP@EnsureCode{91}{12}% [
4332     \TMP@EnsureCode{93}{12}% ]
4333     \TMP@EnsureCode{94}{7}% ^ (superscript)
4334     \TMP@EnsureCode{95}{8}% _ (subscript)
4335     \TMP@EnsureCode{96}{12}% '
4336     \TMP@EnsureCode{124}{12}% |
4337     \TMP@EnsureCode{126}{13}% ~ (active)
4338     ##1\relax
4339   \Hy@EndWrap
4340 }

```

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

```

4341 \Hy@AtBeginDocument{%
4342   \ifHy@ocgcolorlinks
4343     \kvsetkeys{Hyp}{colorlinks}%
4344     \ifHy@pdfa
4345       \Hy@Warning{%
4346         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4347         using 'colorlinks' instead of 'ocgcolorlinks'%
4348       }%
4349     \Hy@ocgcolorlinksfalse
4350   \fi
4351 \fi
4352 \ifHy@ocgcolorlinks

```

```

4353 \else
4354   \Hy@DisableOption{ocgcolorlinks}%
4355 \fi
4356 \ifHy@colorlinks
4357   \def\@pdfborder{0 0 0}%
4358   \let\@pdfborderstyle\@empty
4359   \ifHy@typexml
4360   \else
4361     \Hy@CatcodeWrapper{%
4362       \RequirePackage{color}%
4363     }%
4364   \fi
4365   \def\Hy@colorlink#1{%
4366     \begingroup
4367     \HyColor@UseColor#1%
4368   }%
4369   \def\Hy@endcolorlink{\endgroup}%
4370   \Hy@Info{Link coloring ON}%
4371 \else
4372   \ifHy@frenchlinks
4373     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4374     \def\Hy@endcolorlink{\endgroup}%
4375     \Hy@Info{French linking ON}%
4376   \else
4377     \def\Hy@colorlink#1{\begingroup}%
4378     \def\Hy@endcolorlink{\endgroup}%
4379     \Hy@Info{Link coloring OFF}%
4380   \fi
4381 \fi
4382 \Hy@DisableOption{colorlinks}%
4383 \Hy@DisableOption{frenchlinks}%
4384 \ifHy@texht
4385   \long\def\@firstoffive#1#2#3#4#5{#1}%
4386   \long\def\@secondoffive#1#2#3#4#5{#2}%
4387   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4388   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4389   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4390   \providecommand*\@safe@activetrue{}%
4391   \providecommand*\@safe@activesfalse{}%
4392   \def\T@ref#1{%
4393     \Hy@safe@activetrue
4394     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4395     \Hy@safe@activesfalse
4396   }%
4397   \def\T@pageref#1{%
4398     \Hy@safe@activetrue
4399     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4400     \Hy@safe@activesfalse
4401   }%
4402 \else
4403   \ifHy@typexml
4404   \else
4405     \Hy@CatcodeWrapper{%
4406       \RequirePackage{nameref}%
4407     }%
4408   \fi

```

```

4409 \fi
4410 \DeclareRobustCommand\ref{%
4411   \@ifstar\@refstar\T@ref
4412 }%
4413 \DeclareRobustCommand\pageref{%
4414   \@ifstar\@pagerefstar\T@pageref
4415 }%
4416 % \ifclassloaded{memoir}{}%
4417 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4418 %   \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4419 % }%
4420 % }\ltx@secondoftwo
4421 % {%
4422 %   \DeclareRobustCommand*{\nameref}{%
4423 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4424 %   }%
4425 % }{%
4426   \DeclareRobustCommand*{\nameref}{%
4427     \@ifstar\@namerefstar\T@nameref
4428   }%
4429 % }%
4430 }
4431 \Hy@AtBeginDocument{%
4432   \ifHy@texht
4433   \else
4434     \Hy@CatcodeWrapper{%
4435       \ReadBookmarks
4436     }%
4437   \fi
4438 }
4439 \ifHy@backref
4440   \RequirePackage{backref}%
4441 \else
4442   \let\Hy@backout\@gobble
4443 \fi
4444 \Hy@DisableOption{backref}
4445 \Hy@DisableOption{pagebackref}
4446 \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`.

```

4447 \begingroup
4448   \endlinechar=-1 %
4449   \catcode'\^^A=14 %
4450   \catcode'\^^M\active
4451   \catcode'\%\active
4452   \catcode'\#\active
4453   \catcode'\_\active
4454   \catcode'\$\active
4455   \catcode'\&\active

```

```

4456 \gdef\hyper@normalise{^^A
4457 \begingroup
4458 \catcode'\^^M\active
4459 \def^^M{ }^^A
4460 \catcode'\%\active
4461 \let%\@percentchar
4462 \let%\@percentchar
4463 \catcode'\#\active
4464 \def#{\hyper@hash}^^A
4465 \def\#{\hyper@hash}^^A
4466 \@makeother\&^^A
4467 \edef&{\string&}^^A
4468 \edef\&{\string&}^^A
4469 \edef\textunderscore{\string_}^^A
4470 \let_\textunderscore
4471 \catcode'\_\active
4472 \let_\textunderscore
4473 \let~\hyper@tilde
4474 \let\~\hyper@tilde
4475 \let\textasciitilde\hyper@tilde
4476 \let\\ \@backslashchar
4477 \edef${\string$}^^A
4478 \Hy@safe@activetrue
4479 \hyper@n@rmalise
4480 }^^A
4481 \catcode'\#=6 ^^A
4482 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4483 \gdef\hyper@n@rmalise#1#2{^^A
4484 \def\Hy@tempa{#2}^^A
4485 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4486 \Hy@ReturnAfterElseFi{^^A
4487 \hyper@@normalise{#1}^^A
4488 }^^A
4489 \else
4490 \Hy@ReturnAfterFi{^^A
4491 \hyper@@normalise{#1}{#2}^^A
4492 }^^A
4493 \fi
4494 }^^A
4495 \gdef\hyper@@normalise#1#2{^^A
4496 \edef\Hy@tempa{^^A
4497 \endgroup
4498 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4499 }^^A
4500 \Hy@tempa
4501 }^^A
4502 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4503 #1^^A
4504 \ifx\limits#2\limits
4505 \else
4506 \Hy@ReturnAfterFi{^^A
4507 \Hy@RemovePercentCr #2\@nil
4508 }^^A
4509 \fi
4510 }^^A
4511 \endgroup
4512 \providecommand*\hyper@chars{%

```

```

4513 \let\#\hyper@hash
4514 \let\%\@percentchar
4515 \Hy@safe@activetrue
4516 }

4517 \def\hyperlink#1#2{%
4518   \hyper@@link{#1}{#2}%
4519 }

4520 \def\Hy@VerboseLinkStart#1#2{%
4521   \ifHy@verbose
4522     \begingroup
4523       \Hy@safe@activetrue
4524       \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4525       \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4526       \xdef\Hy@VerboseGlobalTemp{%
4527         \Hy@VerboseGlobalTemp, %
4528         line \the\inputlineno
4529       }%
4530     \endgroup
4531     \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4532     \@onelevel@sanitize\Hy@VerboseLinkInfo
4533   \fi
4534 }

4535 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4536 \def\Hy@VerboseLinkStop{%
4537   \ifHy@verbose
4538     \begingroup
4539     \edef\x{\endgroup
4540       \write\m@ne{%
4541         Package 'hyperref' Info: %
4542         End of reference \Hy@VerboseLinkInfo.%
4543       }%
4544     }%
4545     \x
4546   \fi
4547 }

4548 \def\Hy@VerboseAnchor#1{%
4549   \ifHy@verbose
4550     \begingroup
4551       \Hy@safe@activetrue
4552       \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4553     \endgroup
4554   \fi
4555 }

4556 \def\Hy@AllowHyphens{%
4557   \relax
4558   \ifhmode
4559     \penalty\@M
4560     \hskip\z@skip
4561   \fi
4562 }

4563 \DeclareRobustCommand*\href{[1][]{%
4564   \begingroup
4565   \setkeys{href}{#1}%
4566   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4567 }

```

```

4568 \def\Hy@href#{%
4569   \hyper@normalise\href@
4570 }
4571 \begingroup
4572   \catcode'\$=6 %
4573   \catcode'\#=12 %
4574   \gdef\href$1{\expandafter\href@split$1##\}%
4575   \gdef\href@split$1#$2##$3\\$4{%
4576     \hyper@@link{$1}{$2}{$4}%
4577   \endgroup
4578 }%
4579 \endgroup

```

Option ‘page’.

```

4580 \define@key{href}{page}{%
4581   \def\Hy@href@page{#1}%
4582 }
4583 \let\Hy@href@page\@empty
4584 \newcount\c@Hy@tempcnt
4585 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4586 \def\Hy@MakeRemoteAction{%
4587   \ifx\Hy@href@page\@empty
4588     \def\Hy@href@page{0}%
4589   \else
4590     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4591     \ifnum\c@Hy@tempcnt<\@ne
4592       \Hy@Warning{%
4593         Invalid page number (\theHy@tempcnt)\MessageBreak
4594         for remote PDF file.\MessageBreak
4595         Using page 1%
4596       }%
4597     \def\Hy@href@page{0}%
4598   \else
4599     \global\advance\c@Hy@tempcnt\m@ne
4600     \edef\Hy@href@page{\theHy@tempcnt}%
4601   \fi
4602 }

```

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.

```

4603 \ifx\Hy@href@nextactionraw\@empty
4604 \else
4605   \Hy@newwindowsettrue
4606   \Hy@newwindowtrue
4607 \fi
4608 }

```

Option ‘pdfremotestartview’.

```

4609 \define@key{href}{pdfremotestartview}{%
4610   \setkeys{Hyp}{pdfremotestartview={#1}}%
4611 }

```

Option ‘pdfnewwindow’.

```

4612 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4613 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4614 \newif\ifHy@href@ismap
4615 \define@key{href}{ismap}[true]{%

```

```

4616 \ltx@ifundefined{Hy@href@ismap#1}{%
4617   \Hy@Error{%
4618     Invalid value (#1) for key 'ismap'.\MessageBreak
4619     Permitted values are 'true' or 'false'.\MessageBreak
4620     Ignoring 'ismap'%
4621   }\@ehc
4622 }{%
4623   \csname Hy@href@ismap#1\endcsname
4624 }%
4625 }

```

Option ‘nextactionraw’.

```

4626 \let\Hy@href@nextactionraw\@empty
4627 \define@key{href}{nextactionraw}{%
4628   \edef\Hy@href@nextactionraw{#1}%
4629   \ifx\Hy@href@nextactionraw\@empty
4630     \else
4631       \Hy@Match\Hy@href@nextactionraw{%
4632         ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|
4633         \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?)]$%
4634       }-}{%
4635         \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
4636         \Hy@href@nextactionraw\MessageBreak
4637         The action is discarded%
4638       }%
4639     }%
4640   \ifx\Hy@href@nextactionraw\@empty
4641     \else
4642       \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4643     \fi
4644   \fi
4645 }
4646 \def\HyPat@ObjRef/{.+}

```

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

```

4647 \RequirePackage{url}
4648 \let\HyOrg@url\url
4649 \def\Hurl{\begingroup \Url}
4650 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4651 \def\nolinkurl@#1{\Hurl{#1}}
4652 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4653 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4654 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4655 \providecommand\hyper@image[2]{#2}
4656 \def\hypertarget#1#2{%
4657   \ifHy@nesting
4658     \hyper@@anchor{#1}{#2}%
4659   \else
4660     \hyper@@anchor{#1}{\relax}#2%
4661   \fi
4662 }

```

\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.

```

4663 \DeclareRobustCommand*\hyperref\{%
4664   \ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4665 }
4666 \def\Hy@babelnormalise#1[#2]{%
4667   \begingroup
4668     \Hy@safe@activetrue
4669     \edef\Hy@tempa{%
4670       \endgroup
4671       \noexpand#1[#2]}%
4672   }%
4673   \Hy@tempa
4674 }
4675 \def\@hyperref{\hyper@normalise\@hyperref}
4676 \def\@hyperref#1#2#3{%
4677   \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4678   \expandafter\tryhyper@link\ref@one\{#1}%
4679 }
4680 \def\tryhyper@link#1\#2{%
4681   \hyper@@link{#2}{#1}%
4682 }
4683 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4684 \def\@hyperdef#1#2#3{%, category, name, text
4685   \ifx\#1\%
4686     \def\Hy@AnchorName{#2}%
4687   \else
4688     \def\Hy@AnchorName{#1.#2}%
4689   \fi
4690   \ifHy@nesting
4691     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4692   \else
4693     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4694   \fi
4695 }

```

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

```

4696 \def\label@hyperref[#1]{%
4697   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4698 }%
4699 \def\label@@hyperref#1#2#3{%
4700   \ifx#1\relax
4701     \protect\G@refundefinedtrue
4702     \@latex@warning{%
4703       Hyper reference ‘#2’ on page \thepage \space undefined%
4704     }%
4705     \hyper@@link{}{??}{#3}%
4706   \else
4707     \hyper@@link{\expandafter\@fifthoffive#1}%
4708     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4709   \fi
4710 }
4711 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4712                               % anchor text
4713   \@bsphack
4714   \ifx\#2\%
4715     \def\Hy@AnchorName{#3}%
4716   \else

```

```

4717 \def\Hy@AnchorName{#2.#3}%
4718 \fi
4719 \if@filesw
4720 \protected@write\@auxout{}\{-%
4721 \string\newlabel{#1}\{ }\{ }\{ \Hy@AnchorName\} \} %
4722 }%
4723 \fi
4724 \@esphack
4725 \ifHy@nesting
4726 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4727 \else
4728 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4729 \fi
4730 }

```

17 Underlying basic hypertext macros

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

```

4731 \def\hyper@@link{\let\Hy@reserved@a\relax
4732 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
4733 }
4734 \def\hyper@link@[#1]#2#3#4{%
4735 \begingroup
4736 \protected@edef\Hy@tempa{#2}%
4737 \Hy@safe@activetrue
4738 \edef\x{#3}%
4739 \ifx\Hy@tempa\@empty
4740 \toks0{\hyper@link{#1}}%
4741 \else
4742 \toks0{\expandafter\hyper@readexternallink#2\{ \{#1\}}%
4743 \fi
4744 \toks2{%
4745 \Hy@safe@activesfalse
4746 #4%
4747 }%
4748 \edef\Hy@tempa{\the\toks2}%
4749 \edef\x{\endgroup
4750 \ifx\Hy@tempa\@empty
4751 \noexpand\Hy@Warning{Suppressing empty link}%
4752 \else
4753 \the\toks0 {\x}{\the\toks2}}%
4754 \fi
4755 }%
4756 \x
4757 }

```

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.

```

4758 \def\hyper@readexternallink#1\{ \{#2#3#4{%
4759 \begingroup
4760 \let\\\relax

```

```

4761 \expandafter\endgroup
4762 \expandafter\@hyper@readexternallink#1\{\#2\}\{\#3\}\{\#4\}%
4763 }
4764 \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.

```

4765 \@hyper@readexternallink{\#2\}\{\#3\}\{\#4\}\#1::\{\#1\}%
4766 }

```

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

```

4767 \def\@pdftempwordfile{file}%
4768 \def\@pdftempwordrun{run}%
4769 \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:

```

4770 \ifx\\\#6\\\%
4771 \@hyper@linkfile file:\#7\\\{\#3\}\{\#2\}\{\#7\}%
4772 \else
4773 \ifx\\\#4\\\%
4774 \@hyper@linkfile file:\#7\\\{\#3\}\{\#2\}\{\#7\}%
4775 \else

```

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

```

4776 \def\@pdftempa{\#4}%
4777 \ifx\@pdftempa\@pdftempwordfile
4778 \@hyper@linkfile\#7\\\{\#3\}\{\#2\}\{\#7\}%
4779 \else

```

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

```

4780 \ifx\@pdftempa\@pdftempwordrun
4781 \ifHy@pdfa
4782 \Hy@Error{%
4783 PDF/A: Launch action is prohibited%
4784 }\@ehc
4785 \begingroup
4786 \leavevmode
4787 \#2%
4788 \endgroup
4789 \else
4790 \@hyper@launch\#7\\\{\#3\}\{\#2\}%
4791 \fi
4792 \else

```

otherwise its a URL

```
4793     \hyper@linkurl{#3}{#7\ifx\\#2\\else\hyper@hash#2\fi}%
4794     \fi
4795     \fi
4796     \fi
4797     \fi
4798 }
```

By default, turn run: into file:

```
4799 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
4800   \hyper@linkurl{#2}{%
4801     \Hy@linkfileprefix
4802     #1%
4803     \ifx\\#3\\%
4804     \else
4805       \hyper@hash
4806       #3%
4807     \fi
4808   }%
4809 }
```

D P Story <story@uakron.edu> pointed out that relative paths starting .. fell over.

Switched to using \filename@parse to solve this.

```
4810 \def\@hyper@linkfile file:#1\\#2#3#4{%
4811   %file url,link string, name, original uri
4812   \filename@parse{#1}%
4813   \ifx\filename@ext\relax
4814     \edef\filename@ext{\XR@ext}%
4815   \fi
4816   \def\use@file{\filename@area\filename@base.\filename@ext}%
4817   \Hy@ifStringEndsWith\filename@ext\XR@ext{%
4818     \hyper@linkfile{#2}{\use@file}{#3}%
4819   }{%
4820     \ifx\@baseurl\@empty
4821       \hyper@linkurl{#2}{%
4822         #4\ifx\\#3\\else\hyper@hash#3\fi
4823       }%
4824     \else
4825       \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
4826     \fi
4827   }%
4828 }

4829 \def\Hy@ifStringEndsWith#1#2{%
4830   \begingroup
4831     \edef\x{#1}%
4832     \@onelevel@sanitize\x
4833     \edef\x{.\x$}%
4834     \edef\y{#2}%
4835     \@onelevel@sanitize\y
4836     \edef\y{.\y$}%
4837     \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4838       \endgroup
4839       \ifx\relax##2\relax
4840         \expandafter\ltx@secondoftwo
4841       \else
4842         \expandafter\ltx@firstoftwo
4843       \fi
4844     }%
```

```

4845 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4846 }

4847 \def\Hy@StringLocalhost{localhost}
4848 \@onelevel@sanitize\Hy@StringLocalhost
4849 \def\Hy@CleanupFile#1{%
4850   \edef#1{#1}%
4851   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
4852 }
4853 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4854   \begingroup
4855     \toks@{\endgroup}%
4856     \def\x{#1}%
4857     \ifx\x\@empty
4858       \def\x{#2}%
4859     \ifx\x\@empty
4860       \toks@{\endgroup\def#5{/#3}}%
4861     \else
4862       \@onelevel@sanitize\x
4863       \ifx\x\Hy@StringLocalhost
4864         \toks@{\endgroup\def#5{/#3}}%
4865       \fi
4866     \fi
4867   \fi
4868   \the\toks@
4869 }

```

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.

```

4870 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4871 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4872   \ifx\#1\%
4873     #2\Hy@Warning{Ignoring empty anchor}%
4874   \else
4875     \def\anchor@spot{#2#3}%
4876     \let\put@me@back\@empty
4877     \ifx\relax#2\relax
4878     \else
4879       \ifHy@nesting
4880       \else
4881         \ifcat a\noexpand#2\relax
4882         \else
4883           \ifcat 0\noexpand#2 \relax
4884           \else
4885             \typeout{Anchor start is not alphanumeric %
4886               on input line\the\inputlineno%
4887             }%
4888             \let\anchor@spot\@empty
4889             \def\put@me@back{#2#3}%
4890           \fi
4891         \fi
4892       \fi
4893     \fi

```

```

4894 \ifHy@activeanchor
4895   \anchor@spot
4896 \else
4897   \hyper@anchor{#1}%
4898 \fi
4899 \expandafter\put@me@back
4900 \fi
4901 \let\anchor@spot\@empty
4902 }
4903 \def\anchor@spot{}

```

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.

```

4904 \let\htmladdimg\hyperimage
4905 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4906 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4907 \def\htmlref#1#2{% anchor text, label
4908   \label@hyperref[{#2}]{#1}%
4909 }

```

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.

```

4910 \def\@latextohtmlX{%
4911   \let\hhyperref\hyperref
4912   \def\hyperref##1##2##3##4{% anchor text for HTML
4913     % text to print before label in print
4914     % label
4915     % post-label text in print
4916     ##2\ref{##4}##3%
4917   }%
4918 }

```

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.

```

4919 \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
4920 \def\HyField@NewFlag#1#2{%
4921 \lowercase{\HyField@NewOption{#2}}}%
4922 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4923 }
```

```
\HyField@NewFlagOnly
4924 \def\HyField@NewFlagOnly#1#2{%
4925 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4926 }
```

```
\HyField@NewOption #1: option name
4927 \def\HyField@NewOption#1{%
4928 \expandafter\newif\csname ifFld@#1\endcsname
4929 \define@key{Field}{#1}[true]{%
4930 \lowercase{\Field@boolkey{##1}}{#1}%
4931 }%
4932 }
```

\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
4933 \def\HyField@NewBitsetFlag#1#2#3#4{%
4934 \begingroup
4935 \count@=#4\relax
4936 \advance\count@\m@ne
4937 \def\x##1{%
4938 \endgroup
4939 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4940 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4941 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4942 (\number#4) #2%
4943 }%
4944 \else
4945 \expandafter\edef\csname HyField@#3@##1\endcsname{%
4946 \csname HyField@#3@##1\endcsname
4947 /#2%
4948 }%
4949 \fi
4950 }%
4951 \expandafter\x\expandafter{\the\count@}%
4952 }
```

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

```
4953 \def\HyField@UseFlag#1#2{%
4954 \lowercase{\HyField@UseFlag{#2}}{#1}%
4955 }
```

\HyField@@UseFlag

```
4956 \def\HyField@@UseFlag#1#2{%
4957   \bitsetSetValue{HyField@#2}{%
4958     \csname HyField@#2@#1\endcsname
4959   }{%
4960     \csname ifFld@#1\endcsname 1\else 0\fi
4961   }%
4962 }
```

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

```
4963 \def\HyField@SetFlag#1#2{%
4964   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4965 }
```

\HyField@@SetFlag

```
4966 \def\HyField@@SetFlag#1#2{%
4967   \bitsetSetValue{HyField@#2}{%
4968     \csname HyField@#2@#1\endcsname
4969   }{1}%
4970 }
```

\HyField@PrintFlags

```
4971 \def\HyField@PrintFlags#1#2{%
4972   \ifHy@verbose
4973     \begingroup
4974       \let\Hy@temp\@empty
4975       \let\MessageBreak\relax
4976       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4977       \bitsetGetSetBitList{HyField@#1}\do{%
4978         \edef\Hy@temp{%
4979           \Hy@temp
4980           \csname HyField@#1@\x\endcsname\MessageBreak
4981         }%
4982       }%
4983     \edef\x{\endgroup
4984       \noexpand\Hy@Info{%
4985         Field flags: %
4986         \expandafter\ifx\@car#1\@nil S\else/\fi
4987         #1 %
4988         \bitsetGetDec{HyField@#1} %
4989         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4990         \Hy@temp
4991         for #2%
4992       }%
4993     }\x
4994   \fi
4995 }
```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
4996 \HyField@NewFlag{Ff}{ReadOnly}{1}
4997 \HyField@NewFlag{Ff}{Required}{2}
4998 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
4999 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5000 \HyField@NewFlag{Ff}{Radio}{16}
5001 \HyField@NewFlag{Ff}{Pushbutton}{17}
5002 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5003 \HyField@NewFlag{Ff}{Multiline}{13}
5004 \HyField@NewFlag{Ff}{Password}{14}
5005 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5006 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5007 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5008 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5009 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
5010 \HyField@NewFlag{Ff}{Combo}{18}
5011 \HyField@NewFlag{Ff}{Edit}{19}
5012 \HyField@NewFlag{Ff}{Sort}{20}
5013 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5014 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5015 \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.

```
5016 \newif\ifFld@popdown
5017 \define@key{Field}{popdown}[true]{%
5018   \lowercase{\Field@boolkey{#1}}{popdown}%
5019 }
```

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.

```
5020 \HyField@NewFlag{F}{Invisible}{1}
5021 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5022 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5023 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5024 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5025 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5026 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5027 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5028 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5029 \ifHy@pdfa
5030   \def\HyField@PDFAFldWarning#1#2{%
5031     \Hy@Warning{%
5032       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5033       be set to ‘#2’%
5034     }%
5035   }%
5036   \Fld@invisiblefalse
5037   \def\Fld@invisibletrue{%
5038     \HyField@PDFAFldWarning{invisible}{false}%
5039   }%
5040   \Fld@hiddenfalse
5041   \def\Fld@hiddentrue{%
```

```

5042 \HyField@PDFAFIagWarning{hidden}{false}%
5043 }%
5044 \Fld@printrtrue
5045 \def\Fld@printfalse{%
5046 \HyField@PDFAFIagWarning{print}{true}%
5047 }%
5048 \Fld@nozoomtrue
5049 \def\Fld@nozoomfalse{%
5050 \HyField@PDFAFIagWarning{nozoom}{true}%
5051 }%
5052 \Fld@norotatetrue
5053 \def\Fld@norotatefalse{%
5054 \HyField@PDFAFIagWarning{norotate}{true}%
5055 }%
5056 \Fld@noviewfalse
5057 \def\Fld@noviewtrue{%
5058 \HyField@PDFAFIagWarning{noview}{false}%
5059 }%
5060 \fi

```

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

```

5061 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5062 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5063 \HyField@NewFlag{Submit}{GetMethod}{4}
5064 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5065 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5066 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5067 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5068 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5069 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5070 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5071 \HyField@NewFlag{Submit}{ExclFKey}{12}
5072 \HyField@NewFlag{Submit}{EmbedForm}{14}

5073 \define@key{Field}{export}{%
5074 \lowercase{\def\Hy@temp{#1}}%
5075 \@ifundefined{Fld@export@Hy@temp}{%
5076 \@onelevel@sanitize\Hy@temp
5077 \Hy@Error{%
5078 Unknown export format '\Hy@temp'.\MessageBreak
5079 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5080 }\@ehc
5081 }{%
5082 \let\Fld@export\Hy@temp
5083 }%
5084 }
5085 \def\Fld@export{fdf}
5086 \@namedef{Fld@export@fdf}{0}%
5087 \@namedef{Fld@export@html}{1}%
5088 \@namedef{Fld@export@xfdf}{2}%
5089 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5090 \def\HyField@FlagsSubmit{%
5091 \bitsetReset{HyField@Submit}%
5092 \ifcase\@nameuse{Fld@export@Fld@export} %

```

```

5093 % FDF
5094 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5095 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5096 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5097 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5098 \HyField@UseFlag{Submit}{CanonicalFormat}%
5099 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5100 \HyField@UseFlag{Submit}{ExclFKey}%
5101 \HyField@UseFlag{Submit}{EmbedForm}%
5102 \or % HTML
5103 \HyField@SetFlag{Submit}{ExportFormat}%
5104 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5105 \HyField@UseFlag{Submit}{GetMethod}%
5106 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5107 \HyField@UseFlag{Submit}{CanonicalFormat}%
5108 \or % XFDF
5109 \HyField@SetFlag{Submit}{XFDF}%
5110 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5111 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5112 \HyField@UseFlag{Submit}{CanonicalFormat}%
5113 \or % PDF
5114 \HyField@SetFlag{Submit}{SubmitPDF}%
5115 \HyField@UseFlag{Submit}{GetMethod}%
5116 \fi
5117 \HyField@PrintFlags{Submit}{submit button field}%
5118 \bitsetIsEmpty{HyField@Submit}{%
5119 \def\Fld@submitflags{%
5120 }{%
5121 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
5122 }%
5123 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5124 \def\HyField@FlagsAnnot#1{%
5125 \bitsetReset{HyField@F}%
5126 \HyField@UseFlag{F}{Invisible}%
5127 \HyField@UseFlag{F}{Hidden}%
5128 \HyField@UseFlag{F}{Print}%
5129 \HyField@UseFlag{F}{NoZoom}%
5130 \HyField@UseFlag{F}{NoRotate}%
5131 \HyField@UseFlag{F}{NoView}%
5132 \HyField@UseFlag{F}{Locked}%
5133 \HyField@UseFlag{F}{ToggleNoView}%
5134 \HyField@UseFlag{F}{LockedContents}%
5135 \HyField@PrintFlags{F}{#1}%
5136 \bitsetIsEmpty{HyField@F}{%
5137 \def\Fld@annotflags{%
5138 }{%
5139 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5140 }%
5141 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
5142 \def\HyField@FlagsPushButton{%
5143   \HyField@FlagsAnnot{push button field}%
5144   \bitsetReset{HyField@Ff}%
5145   \HyField@UseFlag{Ff}{ReadOnly}%
5146   \HyField@UseFlag{Ff}{Required}%
5147   \HyField@UseFlag{Ff}{NoExport}%
5148   \HyField@SetFlag{Ff}{Pushbutton}%
5149   \HyField@PrintFlags{Ff}{push button field}%
5150   \bitsetIsEmpty{HyField@Ff}{%
5151     \def\Fld@flags{%
5152     }{%
5153       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5154   }%
5155 }
```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
5156 \def\HyField@FlagsCheckBox{%
5157   \HyField@FlagsAnnot{check box field}%
5158   \bitsetReset{HyField@Ff}%
5159   \HyField@UseFlag{Ff}{ReadOnly}%
5160   \HyField@UseFlag{Ff}{Required}%
5161   \HyField@UseFlag{Ff}{NoExport}%
5162   \HyField@PrintFlags{Ff}{check box field}%
5163   \bitsetIsEmpty{HyField@Ff}{%
5164     \def\Fld@flags{%
5165     }{%
5166       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5167   }%
5168 }
```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
5169 \def\HyField@FlagsRadioButton{%
5170   \HyField@FlagsAnnot{radio button field}%
5171   \bitsetReset{HyField@Ff}%
5172   \HyField@UseFlag{Ff}{ReadOnly}%
5173   \HyField@UseFlag{Ff}{Required}%
5174   \HyField@UseFlag{Ff}{NoExport}%
5175   \HyField@UseFlag{Ff}{NoToggleToOff}%
5176   \HyField@SetFlag{Ff}{Radio}%
5177   \HyField@UseFlag{Ff}{RadiosInUnison}%
5178   \HyField@PrintFlags{Ff}{radio button field}%
5179   \bitsetIsEmpty{HyField@Ff}{%
5180     \def\Fld@flags{%
5181     }{%
5182       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5183   }%
5184 }
```

19.1.7 Text fields

\HyField@FlagsText

```
5185 \def\HyField@FlagsText{%
5186   \HyField@FlagsAnnot{text field}%
5187   \bitsetReset{HyField@Ff}%
5188   \HyField@UseFlag{Ff}{ReadOnly}%
5189   \HyField@UseFlag{Ff}{Required}%
5190   \HyField@UseFlag{Ff}{NoExport}%
5191   \HyField@UseFlag{Ff}{Multiline}%
5192   \HyField@UseFlag{Ff}{Password}%
5193   \HyField@UseFlag{Ff}{FileSelect}%
5194   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5195   \HyField@UseFlag{Ff}{DoNotScroll}%
5196   \ifFld@comb
5197     \ifcase0\ifFld@multiline
5198       \else\ifFld@password
5199       \else\ifFld@fileselect
5200       \else 1\fi\fi\fi\relax
5201     \Hy@Error{%
5202       Field option 'comb' cannot used together with\MessageBreak
5203       'multiline', 'password', or 'fileselect'%
5204     }\@ehc
5205   \else
5206     \HyField@UseFlag{Ff}{Comb}%
5207   \fi
5208 \fi
5209 \HyField@UseFlag{Ff}{RichText}%
5210 \HyField@PrintFlags{Ff}{text field}%
5211 \bitsetIsEmpty{HyField@Ff}{%
5212   \def\Fld@flags{%
5213   }{%
5214   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5215 }%
5216 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
5217 \def\HyField@FlagsChoice{%
5218   \HyField@FlagsAnnot{choice field}%
5219   \bitsetReset{HyField@Ff}%
5220   \HyField@UseFlag{Ff}{ReadOnly}%
5221   \HyField@UseFlag{Ff}{Required}%
5222   \HyField@UseFlag{Ff}{NoExport}%
5223   \HyField@UseFlag{Ff}{Combo}%
5224   \ifFld@combo
5225     \HyField@UseFlag{Ff}{Edit}%
5226   \fi
5227   \HyField@UseFlag{Ff}{Sort}%
5228   \HyField@UseFlag{Ff}{MultiSelect}%
5229   \ifFld@combo
5230     \ifFld@edit
5231       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5232     \fi
5233   \fi
5234   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```

```

5235 \HyField@PrintFlags{Ff}{choice field}%
5236 \bitsetIsEmpty{HyField@Ff}{%
5237   \def\Fld@flags{%
5238   }{%
5239   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5240   }%
5241 }

```

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.

```

5242 \def\HyField@PDFChoices#1{%
5243   \begingroup
5244   \gdef\Fld@choices{%
5245   \def\HyTmp@optlist{%
5246   \let\HyTmp@optitem\relax
5247   \count@=0 %
5248   \kv@parse{#1}{%
5249     \Hy@pdfstringdef\kv@key\kv@key
5250     \ifx\kv@value\relax
5251       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5252       \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5253       \else
5254       \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5255       \fi
5256     \else
5257     \Hy@pdfstringdef\kv@value\kv@value
5258     \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5259     \fi
5260   \edef\HyTmp@optlist{%
5261     \HyTmp@optlist
5262     \HyTmp@optitem{\the\count@}{\kv@key}0%
5263   }%
5264   \advance\count@ by 1 %
5265   \@gobbletwo
5266   }%
5267   \xdef\Fld@choices{/Opt[\Fld@choices]}%
5268   \ifFld@multiselect
5269     \HyField@@PDFChoices{DV}\Fld@default
5270     \HyField@@PDFChoices{V}\Fld@value
5271   \else
5272     \ifx\Fld@default\relax
5273     \else
5274     \pdfstringdef\Hy@gtemp\Fld@default
5275     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5276     \fi
5277     \ifx\Fld@value\relax
5278     \else
5279     \pdfstringdef\Hy@gtemp\Fld@value
5280     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5281     \fi
5282   \fi
5283   \endgroup
5284 }

```

\HyField@@PDFChoices

```
5285 \def\HyField@@PDFChoices#1#2{%
5286   \ifx#2\relax
5287   \else
5288     \count@=0 %
5289     \def\HyTmp@optitem##1##2##3{%
5290       \def\HyTmp@key{##2}%
5291       \ifx\HyTmp@key\Hy@gtemp
5292         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5293           \HyTmp@optlist
5294           \HyTmp@optitem{##1}{##2}1%
5295         }%
5296         \let\HyTmp@found=Y%
5297       \else
5298         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5299           \HyTmp@optlist
5300           \HyTmp@optitem{##1}{##2}##3%
5301         }%
5302       \fi
5303     }%
5304     \expandafter\comma@parse\expandafter{#2}{%
5305       \pdfstringdef\Hy@gtemp\comma@entry
5306       \let\HyTmp@found=N %
5307       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5308       \HyTmp@optlist
5309       \ifx\HyTmp@found Y%
5310         \advance\count@ by 1 %
5311       \else
5312         \@onelevel@sanitize\comma@entry
5313         \PackageWarning{hyperref}{%
5314           \string\ChoiceBox: Ignoring value '\comma@entry',%
5315           \MessageBreak
5316           it cannot be found in the choices%
5317         }%
5318       \fi
5319       \@gobble
5320     }%
5321     \def\HyTmp@optitem##1##2##3{%
5322       \ifnum##3=1 %
5323         (##2)%
5324       \fi
5325     }%
5326     \ifcase\count@
5327     \or
5328       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5329     \else
5330       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5331       \ifx#1V%
5332         \def\HyTmp@optitem##1##2##3{%
5333           \ifnum##3=1 %
5334             \@firstofone{ ##1}%
5335           \fi
5336         }%
5337         \edef\HyTmp@optlist{\HyTmp@optlist}%
5338         \xdef\Fld@choices{%
5339           \Fld@choices
5340           /I[\expandafter\@firstofone\HyTmp@optlist]%

```

```

5341     }%
5342     \fi
5343     \fi
5344     \fi
5345 }

```

19.3 Forms

\HyField@SetKeys

```

5346 \def\HyField@SetKeys{%
5347   \kvsetkeys{Field}%
5348 }

5349 \newif\ifFld@checked
5350 \newif\ifFld@disabled
5351 \Fld@checkedfalse
5352 \Fld@disabledfalse
5353 \newcount\Fld@menulength
5354 \newdimen\Fld@Width
5355 \newdimen\Fld@charsize
5356 \Fld@charsize=10\p@
5357 \def\Fld@maxlen{0}
5358 \def\Fld@align{0}
5359 \def\Fld@color{0 0 0 rg}
5360 \def\Fld@bcolor{1 1 1}
5361 \def\Fld@bordercolor{1 0 0}
5362 \def\Fld@bordersep{1\p@}
5363 \def\Fld@borderwidth{1}
5364 \def\Fld@borderstyle{S}
5365 \def\Fld@cbsymbol{4}
5366 \def\Fld@radiosymbol{H}
5367 \def\Fld@rotation{0}
5368 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5369 \def\endForm{\@endForm}
5370 \newif\ifForm@html
5371 \Form@htmlfalse
5372 \def\Form@boolkey#1#2{%
5373   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5374 }
5375 \define@key{Form}{action}{%
5376   \hyper@normalise\Hy@DefFormAction{#1}%
5377 }
5378 \def\Hy@DefFormAction{\def\Form@action}
5379 \def\enc@html{html}
5380 \define@key{Form}{encoding}{%
5381   \def\Hy@tempa{#1}%
5382   \ifx\Hy@tempa\enc@html
5383     \Form@htmltrue
5384     \def\Fld@export{html}%
5385   \else
5386     \Hy@Warning{%
5387       Form 'encoding' key with \MessageBreak
5388       unknown value '#1'%
5389     }%
5390     \Form@htmlfalse
5391   \fi
5392 }

```

```

5393 \define@key{Form}{method}{%
5394   \lowercase{\def\Hy@temp{#1}}%
5395   \@ifundefined{Form@method@\Hy@temp}{%
5396     \@onelevel@sanitize\Hy@temp
5397     \Hy@Error{%
5398       Unknown method '\Hy@temp'.\MessageBreak
5399       Known values are 'post' and 'get'%
5400     }\@ehc
5401   }{%
5402     \let\Form@method\Hy@temp
5403     \ifcase\@nameuse{Form@method@\Hy@temp} %
5404       \Fld@getmethodfalse
5405     \else
5406       \Fld@getmethodtrue
5407     \fi
5408   }%
5409 }
5410 \def\Form@method{}
5411 \@namedef{Form@method@post}{0}
5412 \@namedef{Form@method@get}{1}
5413 \def\Fld@boolkey#1#2{%
5414   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5415 }
5416 \ifHy@texht
5417   \newtoks\Fld@toks
5418   \Fld@toks={ }%
5419   \def\Fld@addtoks#1#2{%
5420     \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
5421     \@processme
5422   }%
5423 \else
5424   \def\Hy@WarnHTMLFieldOption#1{%
5425     \Hy@Warning{%
5426       HTML field option '#1'\MessageBreak
5427       is ignored%
5428     }%
5429   }%
5430 \fi
5431 \def\Fld@checkequals#1=#2=#3\{\%
5432   \def\@currDisplay{#1}%
5433   \ifx\#2\%
5434     \def\@currValue{#1}%
5435   \else
5436     \def\@currValue{#2}%
5437   \fi
5438 }
5439 \define@key{Field}{loc}{%
5440   \def\Fld@loc{#1}%
5441 }
5442 \define@key{Field}{checked}[true]{%
5443   \lowercase{\Field@boolkey{#1}}{checked}%
5444 }
5445 \define@key{Field}{disabled}[true]{%
5446   \lowercase{\Field@boolkey{#1}}{disabled}%
5447 }
5448 \ifHy@texht
5449   \define@key{Field}{accesskey}{%

```

```

5450 \Field@addtoks{accesskey}{#1}%
5451 }%
5452 \define@key{Field}{tabkey}{%
5453 \Field@addtoks{tabkey}{#1}%
5454 }%
5455 \else
5456 \define@key{Field}{accesskey}{%
5457 \Hy@WarnHTMLFieldOption{accesskey}%
5458 }%
5459 \define@key{Field}{tabkey}{%
5460 \Hy@WarnHTMLFieldOption{tabkey}%
5461 }%
5462 \fi
5463 \define@key{Field}{name}{%
5464 \def\Fld@name{#1}%
5465 }
5466 \define@key{Field}{width}{%
5467 \def\Fld@width{#1}%
5468 \Field@Width#1\setbox0=\hbox{m}%
5469 }
5470 \define@key{Field}{maxlen}{%
5471 \def\Fld@maxlen{#1}%
5472 }
5473 \define@key{Field}{menulength}{%
5474 \Fld@menulength=#1\relax
5475 }
5476 \define@key{Field}{height}{%
5477 \def\Fld@height{#1}%
5478 }
5479 \define@key{Field}{charsize}{%
5480 \Fld@charsize#1%
5481 }
5482 \define@key{Field}{borderwidth}{%
5483 \def\Fld@borderwidth{#1}%
5484 }
5485 \define@key{Field}{borderstyle}{%
5486 \def\Fld@borderstyle{#1}%
5487 }
5488 \define@key{Field}{bordersep}{%
5489 \def\Fld@bordersep{#1}%
5490 }
5491 \define@key{Field}{default}{%
5492 \def\Fld@default{#1}%
5493 }
5494 \define@key{Field}{align}{%
5495 \def\Fld@align{#1}%
5496 }
5497 \define@key{Field}{value}{%
5498 \def\Fld@value{#1}%
5499 }
5500 \define@key{Field}{checkboxsymbol}{%
5501 \Fld@DingDef\Fld@cbsymbol{#1}%
5502 }
5503 \define@key{Field}{radiosymbol}{%
5504 \Fld@DingDef\Fld@radiosymbol{#1}%
5505 }
5506 \def\Fld@DingDef#1#2{%

```

```

5507 \def\Fld@temp{ }%
5508 \Fld@@DingDef#2\ding{ }\@nil
5509 \let#1\Fld@temp
5510 }
5511 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5512 \expandafter\def\expandafter\Fld@temp\expandafter{%
5513   \Fld@temp
5514   #1%
5515 }%
5516 \ifx\#3\%
5517 \expandafter\@gobble
5518 \else
5519 \begingroup
5520 \lccode'0=#2\relax
5521 \lowercase\endgroup
5522 \expandafter\def\expandafter\Fld@temp\expandafter{%
5523   \Fld@temp
5524   0%
5525 }%
5526 }%
5527 \expandafter\@firstofone
5528 \fi
5529 {%
5530 \Fld@@DingDef#3\@nil
5531 }%
5532 }

5533 \define@key{Field}{rotation}{%
5534 \def\Fld@rotation{#1}%
5535 }

5536 \define@key{Field}{backgroundcolor}{%
5537 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5538 }
5539 \define@key{Field}{bordercolor}{%
5540 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5541 }
5542 \define@key{Field}{color}{%
5543 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5544 }

5545 \def\Fld@onclick@code{}
5546 \def\Fld@format@code{}
5547 \def\Fld@validate@code{}
5548 \def\Fld@calculate@code{}
5549 \def\Fld@keystroke@code{}
5550 \def\Fld@onfocus@code{}
5551 \def\Fld@onblur@code{}
5552 \def\Fld@onmousedown@code{}
5553 \def\Fld@onmouseup@code{}
5554 \def\Fld@onenter@code{}
5555 \def\Fld@onexit@code{}
5556 \def\Fld@temp#1{%
5557 \expandafter\Fld@@temp\csname Fld@#1@code\endcsname{#1}%
5558 }
5559 \def\Fld@@temp#1#2{%
5560 \ifHy@pdfa
5561 \define@key{Field}{#2}{%
5562 \Hy@Error{%

```

```

5563     PDF/A: Additional action '#2' is prohibited%
5564   }\@ehc
5565  }%
5566 \else
5567   \define@key{Field}{#2}{%
5568     \def#1{##1}%
5569   }%
5570 \fi
5571 }
5572 \Hy@temp{keystroke}
5573 \Hy@temp{format}
5574 \Hy@temp{validate}
5575 \Hy@temp{calculate}
5576 \Hy@temp{onfocus}
5577 \Hy@temp{onblur}
5578 \Hy@temp{onenter}
5579 \Hy@temp{onexit}
5580 \ifHy@texht
5581   \def\Hy@temp#1{%
5582     \define@key{Field}{#1}{%
5583       \Field@addtoks{#1}{##1}%
5584     }%
5585   }%
5586 \else
5587   \def\Hy@temp#1{%
5588     \define@key{Field}{#1}{%
5589       \Hy@WarnHTMLFieldOption{#1}%
5590     }%
5591   }%
5592 \fi
5593 \Hy@temp{ondblclick}
5594 \Hy@temp{onmousedown}
5595 \Hy@temp{onmouseup}
5596 \Hy@temp{onmouseover}
5597 \Hy@temp{onmousemove}
5598 \Hy@temp{onmouseout}
5599 \Hy@temp{onkeydown}
5600 \Hy@temp{onkeyup}
5601 \Hy@temp{onselect}
5602 \Hy@temp{onchange}
5603 \Hy@temp{onkeypress}
5604 \ifHy@texht
5605   \define@key{Field}{onclick}{%
5606     \Field@addtoks{onclick}{#1}%
5607   }%
5608 \else
5609   \ifHy@pdfa
5610     \define@key{Field}{onclick}{%
5611       \Hy@Error{%
5612         PDF/A: Action 'onclick' is prohibited%
5613       }\@ehc
5614     }%
5615   \else
5616     \define@key{Field}{onclick}{%
5617       \def\Fld@onclick@code{#1}%
5618     }%
5619   \fi

```

```

5620 \fi
5621 \DeclareRobustCommand\TextField{%
5622   \@ifnextchar[{\@TextField}{\@TextField[]}%
5623 }
5624 \DeclareRobustCommand\ChoiceMenu{%
5625   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5626 }
5627 \DeclareRobustCommand\CheckBox{%
5628   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5629 }
5630 \DeclareRobustCommand\PushButton{%
5631   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5632 }
5633 \DeclareRobustCommand\Gauge{%
5634   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5635 }
5636 \DeclareRobustCommand\Submit{%
5637   \@ifnextchar[{\@Submit}{\@Submit[]}%
5638 }
5639 \DeclareRobustCommand\Reset{%
5640   \@ifnextchar[{\@Reset}{\@Reset[]}%
5641 }
5642 \def\LayoutTextField#1#2{% label, field
5643   #1 #2%
5644 }
5645 \def\LayoutChoiceField#1#2{% label, field
5646   #1 #2%
5647 }
5648 \def\LayoutCheckField#1#2{% label, field
5649   #1 #2%
5650 }
5651 \def\LayoutPushButtonField#1{% button
5652   #1%
5653 }
5654 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5655 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5656 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5657 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5658 \def\MakeButtonField#1{%
5659   \sbox0{%
5660     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5661   }%
5662   \@tempdima\ht0 %
5663   \advance\@tempdima by \Fld@borderwidth bp %
5664   \advance\@tempdima by \Fld@borderwidth bp %
5665   \ht0\@tempdima
5666   \@tempdima\dp0 %
5667   \advance\@tempdima by \Fld@borderwidth bp %
5668   \advance\@tempdima by \Fld@borderwidth bp %
5669   \dp0\@tempdima
5670   \box0\relax
5671 }
5672 \def\DefaultHeightofSubmit{14pt}
5673 \def\DefaultWidthofSubmit{2cm}
5674 \def\DefaultHeightofReset{14pt}
5675 \def\DefaultWidthofReset{2cm}
5676 \def\DefaultHeightofCheckBox{\baselineskip}

```

```

5677 \def\DefaultWidthofCheckBox{\baselineskip}
5678 \def\DefaultHeightofChoiceMenu{\baselineskip}
5679 \def\DefaultWidthofChoiceMenu{\baselineskip}
5680 \def\DefaultHeightofText{\baselineskip}
5681 \def\DefaultHeightofTextMultiline{4\baselineskip}
5682 \def\DefaultWidthofText{3cm}
5683 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5684 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5685 \def\DefaultOptionsofPushButton{print}
5686 \def\DefaultOptionsofCheckBox{print}
5687 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5688 \def\DefaultOptionsofListBox{print}
5689 \def\DefaultOptionsofComboBox{print,edit,sort}
5690 \def\DefaultOptionsofPopdownBox{print}
5691 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5692 \ifHy@figures
5693 \Hy@Info{Hyper figures ON}%
5694 \else
5695 \Hy@Info{Hyper figures OFF}%
5696 \fi
5697 \ifHy@nesting
5698 \Hy@Info{Link nesting ON}%
5699 \else
5700 \Hy@Info{Link nesting OFF}%
5701 \fi
5702 \ifHy@hyperindex
5703 \Hy@Info{Hyper index ON}%
5704 \else
5705 \Hy@Info{Hyper index OFF}%
5706 \fi
5707 \ifHy@backref
5708 \Hy@Info{backreferencing ON}%
5709 \else
5710 \Hy@Info{backreferencing OFF}%
5711 \fi
5712 \ifHy@colorlinks
5713 \Hy@Info{Link coloring ON}%
5714 \else
5715 \Hy@Info{Link coloring OFF}%
5716 \fi
5717 \ifHy@ocgcolorlinks
5718 \Hy@Info{Link coloring with OCG ON}%
5719 \else
5720 \Hy@Info{Link coloring with OCG OFF}%
5721 \fi
5722 \ifHy@pdfa
5723 \Hy@Info{PDF/A mode ON}%
5724 \else
5725 \Hy@Info{PDF/A mode OFF}%
5726 \fi

```

21 Low-level utility macros

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

```
5727 \edef\hyper@hash{\string#}  
5728 \edef\hyper@tilde{\string~}  
5729 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
5730 \def\@currentHref{Doc-Start}  
5731 \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.

```
5732 \Hy@AtBeginDocument{%  
5733   \Hy@pdfstringtrue  
5734   \PDF@SetupDoc  
5735   \let\PDF@SetupDoc\@empty  
5736   \Hy@DisableOption{pdfpagescrop}%  
5737   \Hy@DisableOption{pdfpagemode}%  
5738   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
5739   \Hy@DisableOption{pdfdirection}%  
5740   \Hy@DisableOption{pdfviewarea}%  
5741   \Hy@DisableOption{pdfviewclip}%  
5742   \Hy@DisableOption{pdfprintarea}%  
5743   \Hy@DisableOption{pdfprintclip}%  
5744   \Hy@DisableOption{pdfprintscaling}%  
5745   \Hy@DisableOption{pdfduplex}%  
5746   \Hy@DisableOption{pdfpicktraybypdfsize}%  
5747   \Hy@DisableOption{pdfprintpagerange}%  
5748   \Hy@DisableOption{pdfnumcopies}%  
5749   \Hy@DisableOption{pdfstartview}%  
5750   \Hy@DisableOption{pdfstartpage}%  
5751   \Hy@DisableOption{pdftoolbar}%  
5752   \Hy@DisableOption{pdfmenubar}%  
5753   \Hy@DisableOption{pdfwindowui}%  
5754   \Hy@DisableOption{pdfitwindow}%  
5755   \Hy@DisableOption{pdfcenterwindow}%  
5756   \Hy@DisableOption{pdfdisplaydoctitle}%  
5757   \Hy@DisableOption{pdfpagelayout}%  
5758   \Hy@DisableOption{pdflang}%  
5759   \Hy@DisableOption{baseurl}%  
5760   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
5761   \Hy@pdfstringfalse  
5762 }
```

Ignore star from referencing macros:

```
5763 \LetLtxMacro\NoHy@OrgRef\ref  
5764 \DeclareRobustCommand*\ref{%  
5765   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
5766 }  
5767 \LetLtxMacro\NoHy@OrgPageRef\pageref  
5768 \DeclareRobustCommand*\pageref{%  
5769   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
5770 }
```

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 hyperref functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```
5771 \def\NoHyper{%
5772   \def\hyper@link@{##1}##2##3##4{##4}%
5773   \def\hyper@@anchor##1{%
5774     \global\let\hyper@livelink\hyper@link
5775     \gdef\hyper@link##1##2##3{##3}%
5776     \def\hyper@anchor##1{%
5777       \def\hyper@anchorstart##1{%
5778         \let\hyper@anchorend\@empty
5779         \def\hyper@linkstart##1##2{%
5780           \let\hyper@linkend\@empty
5781           \def\hyper@linkurl##1##2{##1}%
5782           \def\hyper@linkfile##1##2##3{##1}%
5783           \def\hyper@link@{##1}##2##3{%
5784             \let\Hy@backout\@gobble
5785         }
5786       \def\stop@hyper{%
5787         \def\hyper@link@{##1}##2##3##4{##4}%
5788         \let\Hy@backout\@gobble
5789         \def\hyper@@anchor##1{%
5790           \def\hyper@link##1##2##3{##3}%
5791           \def\hyper@anchor##1{%
5792             \def\hyper@anchorstart##1{%
5793               \let\hyper@anchorend\@empty
5794               \def\hyper@linkstart##1##2{%
5795                 \let\hyper@linkend\@empty
5796                 \def\hyper@linkurl##1##2{##1}%
5797                 \def\hyper@linkfile##1##2##3{##1}%
5798                 \def\hyper@link@{##1}##2##3{%
5799               }
5800             \def\endNoHyper{%
5801               \global\let\hyper@link\hyper@livelink
5802             }
5803           }
5804         }
5805       }
5806     }
5807   }
5808 }
5809 \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:

```
5804 (*nohyperref)
5805 \RequirePackage{letltxmacro}[2008/06/13]
5806 \let\hyper@@anchor\@gobble
5807 \def\hyper@link##1##2##3{##3}%
5808 \let\hyper@anchorstart\@gobble
5809 \let\hyper@anchorend\@empty
5810 \let\hyper@linkstart\@gobbletwo
```

```

5811 \let\hyper@linkend\@empty
5812 \def\hyper@linkurl#1#2{#1}%
5813 \def\hyper@linkfile#1#2#3{#1}%
5814 \def\hyper@link@{#1}#2#3{}%
5815 \let\PDF@SetupDoc\@empty
5816 \let\PDF@FinishDoc\@empty
5817 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5818 \def\Acrobatmenu#1#2{\leavevmode#2}
5819 \let\pdfstringdefDisableCommands\@gobbletwo
5820 \let\texorpdfstring\@firstoftwo
5821 \let\pdfbookmark\@undefined
5822 \newcommand\pdfbookmark[3]{}{}
5823 \let\phantomsection\@empty
5824 \let\hypersetup\@gobble
5825 \let\hyperbaseurl\@gobble
5826 \newcommand*{\href}[3]{}{#3}
5827 \let\hyperdef\@gobbletwo
5828 \let\hyperlink\@gobble
5829 \let\hypertarget\@gobble
5830 \def\hyperref{%
5831   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5832 }
5833 \long\def\@gobbleopt[#1]{}
5834 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5835 \LetLtxMacro\NoHy@OrgRef\ref
5836 \DeclareRobustCommand*\ref}{%
5837   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5838 }
5839 \LetLtxMacro\NoHy@OrgPageRef\pageref
5840 \DeclareRobustCommand*\pageref}{%
5841   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5842 }
5843 \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}

```

5844 (*package)
5845 \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.

```

5846 \if@filesw
5847   \ifHy@typexml
5848     \immediate\closeout\@mainaux
5849     \immediate\openout\@mainaux\jobname.aux\relax
5850     \immediate\write\@auxout{<relaxxml>\relax}%
5851   \fi
5852   \immediate\write\@auxout{%
5853     \string\providecommand\string\HyperFirstAtBeginDocument{%

```

```

5854 \string\AtBeginDocument}^^J%
5855 \string\HyperFirstAtBeginDocument{%
5856 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5857 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5858 \string\gdef\string\contentsline%
5859 \string#1\string#2\string#3\string#4{%
5860 \string\oldcontentsline%
5861 {\string#1}{\string#2}{\string#3}}^^J%
5862 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5863 \string\gdef\string\newlabel\string#1\string#2{%
5864 \string\newlabelxx{\string#1}\string#2}^^J%
5865 \string\gdef\string\newlabelxx%
5866 \string#1\string#2\string#3\string#4\string#5\string#6{%
5867 \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.

```

5868 \string\AtEndDocument{%
5869 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5870 \string\let\string\contentsline\string\oldcontentsline^^J%
5871 \string\let\string\newlabel\string\oldnewlabel^^J%
5872 \string\fi%
5873 }^^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.

```

5874 \string\fi%
5875 }^^J%
5876 \string\global\string\let\string\hyper@last\relax^^J%
5877 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
5878 }%
5879 \fi
5880 \def\HyperFirstAtBeginDocument#1{#1}%

```

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.

```

5881 \ifx\hyper@last\@undefined
5882 \def\@starttoc#1{%
5883 \begingroup
5884 \makeatletter
5885 \IfFileExists{\jobname.#1}{%
5886 \Hy@WarningNoLine{%
5887 old #1 file detected, not used; run LaTeX again%
5888 }%
5889 }{}%
5890 \if@filesw
5891 \expandafter\newwrite\csname tf@#1\endcsname
5892 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5893 \fi
5894 \@nobreakfalse
5895 \endgroup
5896 }%
5897 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}}%
5898 \fi
5899 }

```

25 Title strings

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

```

5900 \ifHy@usetitle
5901   \let\HyOrg@title\title
5902   \let\HyOrg@author\author
5903   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5904   \def\Hy@scanopttitle[#1]{%
5905     \gdef\Hy@title{#1}%
5906     \HyOrg@title{#1}%
5907   }%
5908   \def\Hy@scantitle#1{%
5909     \gdef\Hy@title{#1}%
5910     \HyOrg@title{#1}%
5911   }%
5912   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5913   \def\Hy@scanoptauthor[#1]{%
5914     \gdef\Hy@author{#1}%
5915     \HyOrg@author{#1}%
5916   }%
5917   \def\Hy@scanauthor#1{%
5918     \gdef\Hy@author{#1}%
5919     \HyOrg@author{#1}%
5920   }%

```

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

```

5921 \begingroup
5922   \def\process@me#1\@nil#2{%
5923     \expandafter\let\expandafter\x\csname @#2\endcsname
5924     \edef\y{\expandafter\strip@prefix\meaning\x}%
5925     \def\c##1##2\@nil{%
5926       \ifx\\##1\\%
5927         \else
5928           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5929             \expandafter{x}%
5930         \fi
5931       }%
5932     \expandafter\c\y\relax#1\@nil
5933   }%
5934   \expandafter\process@me\string\@latex@\@nil{title}%
5935   \expandafter\process@me\string\@latex@\@nil{author}%
5936 \endgroup
5937 \fi
5938 \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.

```

5939 \def\Hy@UseMaketitleString#1{%

```

```

5940 \ltx@ifundefined{Hy@#1}{ }{%
5941   \begingroup
5942     \let\Hy@saved@hook\pdfstringdefPreHook
5943     \pdfstringdefDisableCommands{%
5944       \expandafter\let\expandafter\\csname Hy@newline@#1\endcsname
5945       \let\newline\\%
5946     }%
5947     \expandafter\ifx\csname @pdf#1\endcsname\@empty
5948       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5949         \csname Hy@#1\endcsname\@empty
5950       }%
5951     \fi
5952     \global\let\pdfstringdefPreHook\Hy@saved@hook
5953   \endgroup
5954 }%
5955 }
5956 \def\Hy@newline@title#1{ #1}
5957 \def\Hy@newline@author#1{, #1}
5958 \def\Hy@UseMaketitleInfos{%
5959   \Hy@UseMaketitleString{title}%
5960   \Hy@UseMaketitleString{author}%
5961 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

5962 \RequirePackage{atbegshi}[2007/09/09]
5963 \def\Hy@EveryPageHook{}
5964 \def\Hy@EveryPageBoxHook{}
5965 \def\Hy@FirstPageHook{}
5966 \AtBeginShipout{%
5967   \Hy@EveryPageHook
5968   \ifx\Hy@EveryPageBoxHook\@empty
5969     \else
5970       \setbox\AtBeginShipoutBox=\vbox{%
5971         \offinterlineskip
5972         \Hy@EveryPageBoxHook
5973         \box\AtBeginShipoutBox
5974       }%
5975     \fi
5976 }
5977 \AtBeginShipoutFirst{%
5978   \Hy@FirstPageHook
5979 }
5980 \g@addto@macro\Hy@FirstPageHook{%
5981   \PDF@FinishDoc
5982   \gdef\PDF@FinishDoc{}%
5983 }

```

27.1 PDF /PageLabels

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

```

5984 \ifHy@pagelabels
5985   \begingroup\expandafter\expandafter\expandafter\endgroup
5986   \expandafter\ifx\csname thepage\endcsname\relax
5987     \Hy@pagelabelsfalse
5988     \Hy@WarningNoLine{%
5989       Option 'pdfpagelabels' is turned off\MessageBreak
5990       because \string\thepage\space is undefined%
5991     }%
5992     \csname fi\endcsname
5993     \csname iffalse\expandafter\endcsname
5994   \fi

```

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

```

5995 \def\thispdfpagelabel#1{%
5996   \gdef\HyPL@thisLabel{#1}%
5997 }%
5998 \global\let\HyPL@thisLabel\relax

```

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

```

5999 \def\HyPL@Labels{}%

```

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

```

6000 \newcount\Hy@abspage
6001 \Hy@abspage=0 %

```

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

```

6002 \def\HyPL@LastType{init}%
6003 \def\HyPL@LastNumber{0}%
6004 \def\HyPL@LastPrefix{}%

```

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

```

6005 \def\HyPL@arabic{D}%
6006 \def\HyPL@Roman{R}%
6007 \def\HyPL@roman{r}%
6008 \def\HyPL@Alph{A}%
6009 \def\HyPL@alph{a}%

```

`\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.

```

6010 \def\HyPL@EveryPage{%
6011   \begingroup
6012   \ifx\HyPL@thisLabel\relax
6013     \let\HyPL@page\thepage
6014   \else
6015     \let\HyPL@page\HyPL@thisLabel
6016     \global\let\HyPL@thisLabel\relax
6017   \fi
6018   \let\HyPL@Type\relax
6019   \ifnum\the\c@page>0 %
6020     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6021   \fi
6022   \let\Hy@temp Y%
6023   \ifx\HyPL@Type\HyPL@LastType
6024   \else
6025     \let\Hy@temp N%
6026   \fi

```

```

6027 \ifx\HyPL@Type\relax
6028 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6029 \else
6030 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6031 \fi
6032 \ifx\HyPL@Prefix\HyPL@LastPrefix
6033 \else
6034 \let\Hy@temp N%
6035 \fi
6036 \if Y\Hy@temp
6037 \advance\c@page by -1 %
6038 \ifnum\HyPL@LastNumber=\the\c@page\relax
6039 \else
6040 \let\Hy@temp N%
6041 \fi
6042 \Hy@StepCount\c@page
6043 \fi
6044 \if N\Hy@temp
6045 \ifx\HyPL@Type\relax
6046 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6047 \else
6048 \HyPL@StorePageLabel{%
6049 \ifx\HyPL@Prefix@empty
6050 \else
6051 /P(\HyPL@Prefix)%
6052 \fi
6053 /S/\csname HyPL\HyPL@Type\endcsname
6054 \ifnum\the\c@page=1 %
6055 \else
6056 \space/St \the\c@page
6057 \fi
6058 }%
6059 \fi
6060 \fi
6061 \xdef\HyPL@LastNumber{\the\c@page}%
6062 \global\let\HyPL@LastType\HyPL@Type
6063 \global\let\HyPL@LastPrefix\HyPL@Prefix
6064 \endgroup
6065 \Hy@GlobalStepCount\Hy@abspage
6066 }%

```

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

```

6067 \def\HyPL@CheckThePage#1\@nil{%
6068 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6069 }%

```

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

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

```

6070 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6071 \def\Hy@tempa{#4}%
6072 \def\Hy@tempb{\csname\endcsname\c@page}%
6073 \ifx\Hy@tempa\Hy@tempb
6074 \expandafter\ifx\csname HyPL#3\endcsname\relax
6075 \else

```

```

6076     \def\HyPL@Type{#3}%
6077     \def\HyPL@Prefix{#2}%
6078     \fi
6079   \else
6080     \begingroup
6081     \let\Hy@next\endgroup
6082     \let\HyPL@found\@undefined
6083     \def\arabic{\HyPL@Format{arabic}}%
6084     \def\Roman{\HyPL@Format{Roman}}%
6085     \def\roman{\HyPL@Format{roman}}%
6086     \def\Alph{\HyPL@Format{Alph}}%
6087     \def\alph{\HyPL@Format{alph}}%
6088     \protected@edef\Hy@temp{#1}%
6089     \ifx\HyPL@found\relax
6090       \toks@{\expandafter{\Hy@temp}}%
6091       \edef\Hy@next{\endgroup
6092         \noexpand\HyPL@@@CheckThePage\the\toks@
6093         \noexpand\HyPL@found\relax\noexpand\@nil
6094       }%
6095     \fi
6096     \Hy@next
6097   \fi
6098 }%

```

`\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`.

```

6099 \def\HyPL@Format#1#2{%
6100   \ifx\HyPL@found\@undefined
6101     \expandafter\ifx\csname c@#2\endcsname\c@page
6102       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6103     \else
6104       \expandafter\noexpand\csname#1\endcsname{#2}%
6105     \fi
6106   \else
6107     \expandafter\noexpand\csname#1\endcsname{#2}%
6108   \fi
6109 }%

```

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

```

6110 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6111   \def\Hy@tempa{#3}%
6112   \def\Hy@tempb{\HyPL@found\relax}%
6113   \ifx\Hy@tempa\Hy@tempb
6114     \def\HyPL@Type{#2}%
6115     \def\HyPL@Prefix{#1}%
6116   \fi
6117 }%

```

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

```

6118 \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`.

```

6119 \def\HyPL@Useless{0<</S/D>>}%
6120 \@onelevel@sanitize\HyPL@Useless

```

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

```

6121 \def\HyPL@SetPageLabels{%
6122   \@onelevel@sanitize\HyPL@Labels
6123   \ifx\HyPL@Labels\empty
6124   \else
6125     \ifx\HyPL@Labels\HyPL@Useless
6126     \else
6127       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6128     \fi
6129   \fi
6130 }%

6131 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6132 \fi

Option 'pdfpagelabels' has been used and is now disabled.
6133 \Hy@DisableOption{pdfpagelabels}
6134 \</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`

```

6135 \pdfTeX\let\Hy@PutCatalog\pdfcatalog

```

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.

```

6136 \*vTeX
6137 \providecommand*{\XR@ext}{pdf}
6138 \edef\Hy@VTeXversion{%
6139   \ifx\VTeXversion\undefined
6140     \z@
6141   \else
6142     \ifx\VTeXversion\relax
6143       \z@
6144     \else
6145       \VTeXversion
6146     \fi
6147   \fi
6148 }
6149 \begingroup
6150 \ifnum\Hy@VTeXversion<660 %
6151   \gdef\Hy@PutCatalog#1{%
6152     \Hy@WarningNoLine{%
6153       VTeX 6.59g or above required for pdfpagelabels%
6154     }%
6155   }%
6156 \else
6157   \gdef\Hy@PutCatalog#1{%
6158     \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6159   }%
6160   \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%

```

```

6161 \ifx\#2\%
6162 \else
6163 \immediate\special{!pdfpagelabels #2}%
6164 \fi
6165 }%
6166 \fi
6167 \endgroup
6168 \</vtx>

6169 <*pdfTeX | vTeX>

```

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

```

6170 \ifHy@pagelabels
6171 \def\HyPL@StorePageLabel#1{%
6172 \toks@{\expandafter{\HyPL@Labels}}%
6173 \xdef\HyPL@Labels{%
6174 \the\toks@
6175 \the\Hy@abspage<<#1>>%
6176 }%
6177 }%

```

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.

```

6178 \RequirePackage{atveryend}[2009/12/07]%
6179 \AtVeryEndDocument{%
6180 \HyPL@SetPageLabels
6181 }%

6182 \fi
6183 \</pdfTeX | vTeX>

```

27.1.2 xetex

```

6184 <*xetex>
6185 \HyPsd@LoadUnicode
6186 \Hy@unicodetrue
6187 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6188 \else
6189 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6190 \fi
6191 \HyPsd@LoadStringEncoding
6192 \define@key{Hyp}{unicode}[true]{%
6193 \Hy@boolkey{unicode}{#1}%
6194 \ifHy@unicode
6195 \else
6196 \Hy@Warning{%
6197 XeTeX driver only supports 'unicode=true'.\MessageBreak
6198 Ignoring option setting 'unicode=false'%
6199 }%
6200 \Hy@unicodetrue
6201 \fi
6202 }
6203 \define@key{Hyp}{pdfencoding}{%
6204 \edef\HyPsd@temp{#1}%
6205 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6206 \let\HyPsd@pdfencoding\HyPsd@temp
6207 \else

```

```

6208 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6209 \let\HyPsd@pdfencoding\HyPsd@temp
6210 \else
6211 \Hy@Warning{%
6212 XeTeX driver only supports\MessageBreak
6213 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6214 setting 'pdfencoding=\HyPsd@temp'%
6215 }%
6216 \fi
6217 \fi
6218 }
6219 \let\HyXeTeX@CheckUnicode\relax
6220 \xetex

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6221 <*pdfmarkbase>
6222 \begingroup
6223 \@ifundefined{headerps@out}{%}{%
6224 \toks@\expandafter{\Hy@FirstPageHook}%
6225 \xdef\Hy@FirstPageHook{%
6226 \noexpand\headerps@out{%
6227 systemdict /pdfmark known%
6228 {%
6229 userdict /?pdfmark systemdict /exec get put%
6230 }{%
6231 userdict /?pdfmark systemdict /pop get put %
6232 userdict /pdfmark systemdict /cleartomark get put%
6233 }%
6234 ifelse%
6235 }%
6236 \the\toks@
6237 }%
6238 }%
6239 \endgroup
6240 </pdfmarkbase>

\Hy@PutCatalog

6241 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6242 <*pdfmarkbase>
6243 \def\Hy@PutCatalog#1{%
6244 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6245 }
6246 </pdfmarkbase>

6247 <*pdfmarkbase | dvipdfm | xetex>
6248 \ifHy@pagelabels

```

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

```

6249 \def\HyPL@StorePageLabel#1{%
6250 \if@filesw
6251 \begingroup
6252 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6253 \immediate\write\@mainaux{%
6254 \string\HyPL@Entry{\Hy@tempa}%
6255 }%
6256 \endgroup
6257 \fi
6258 }%

```

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.

```

6259 \Hy@AtBeginDocument{%
6260   \if@files
6261     \immediate\write\@mainaux{%
6262       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6263     }%
6264   \fi
6265   \ifx\HyPL@Labels\@empty
6266     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6267   \else
6268     \HyPL@SetPageLabels
6269   \fi
6270   \let\HyPL@Entry\@gobble
6271 }%
```

`\HyPL@Entry`

```

6272 \def\HyPL@Entry#1{%
6273   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6274     \HyPL@Labels
6275     #1%
6276   }%
6277 }%

6278 \fi
6279 </pdfmarkbase | dvipdfm | xetex>
6280 <*package>
6281 \MaybeStopEarly
```

28 Automated L^AT_EX hypertext cross-references

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

```

6282 \def\Hy@CounterExists#1{%
6283   \begingroup\expandafter\expandafter\expandafter\endgroup
6284   \expandafter\ifx\csname c@#1\endcsname\relax
6285     \expandafter\@gobble
6286   \else
6287     \begingroup\expandafter\expandafter\expandafter\endgroup
6288     \expandafter\ifx\csname the#1\endcsname\relax
```

```

6289 \expandafter\expandafter\expandafter\@gobble
6290 \else
6291 \expandafter\expandafter\expandafter\@firstofone
6292 \fi
6293 \fi
6294 }
6295 \Hy@CounterExists{section}{%
6296 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6297 }
6298 \Hy@CounterExists{part}{%
6299 \newcommand\theHpart{\arabic{part}}}%
6300 }
6301 \ltx@ifundefined{thechapter}{%
6302 \newcommand\theHsection {\arabic{section}}}%
6303 \newcommand\theHfigure {\arabic{figure}}}%
6304 \newcommand\theHtable {\arabic{table}}}%
6305 }{%
6306 \newcommand\theHchapter {\arabic{chapter}}}%
6307 \newcommand\theHfigure {\theHchapter.\arabic{figure}}}%
6308 \newcommand\theHtable {\theHchapter.\arabic{table}}}%
6309 \newcommand\theHsection {\theHchapter.\arabic{section}}}%
6310 }
6311 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
6312 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6313 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6314 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6315 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
6316 \newcommand\theHthm {\theHsection.\arabic{thm}}

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But \item occurs inside \trivlist, so check if its a real \item before incrementing counters.

```

6317 \let\H@item\item
6318 \newcounter{Item}
6319 \def\theHItem{\arabic{Item}}
6320 \def\item{%
6321 \@hyper@itemfalse
6322 \if@nmbrlist\@hyper@itemtrue\fi
6323 \H@item
6324 }
6325 \newcommand\theHenumi {\theHItem}
6326 \newcommand\theHenumii {\theHItem}
6327 \newcommand\theHenumiii {\theHItem}
6328 \newcommand\theHenumiv {\theHItem}
6329 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6330 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6331 \let\theHHmpfootnote\theHHfootnote

```

Tanmoy asked for this default handling of undefined \theH<name> situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like \arabic{name}. We take the latter course, slightly worriedly.

```

6332 \let\H@refstepcounter\refstepcounter
6333 \edef\name@of@eq{equation}%
6334 \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.

```

6335 \newif\if@hyper@item
6336 \newif\if@skiphyperref
6337 \@hyper@itemfalse
6338 \@skiphyperreffalse
6339 \def\refstepcounter#1{%
6340   \ifHy@pdfstring
6341   \else
6342     \H@refstepcounter{#1}%
6343     \edef\This@name{#1}%
6344     \ifx\This@name\name@of@slide
6345     \else
6346       \if@skiphyperref
6347       \else
6348         \if@hyper@item
6349         \stepcounter{Item}%
6350         \hyper@refstepcounter{Item}%
6351         \@hyper@itemfalse
6352       \else
6353         \hyper@refstepcounter{#1}%
6354       \fi
6355     \fi
6356   \fi
6357 \fi
6358 }
6359 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```

6360 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6361 \def\hyper@refstepcounter#1{%
6362   \edef\This@name{#1}%
6363   \ifx\This@name\name@of@eq
6364     \@ifundefined{theHequation}{%
6365       \make@stripped@name{\theequation}%
6366       \let\theHequation\newname
6367     }{}%
6368   \fi
6369   \@ifundefined{theH#1}{%
6370     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6371   }{}%
6372   \hyper@makecurrent{#1}%
6373   \ifmeasuring@
6374   \else
6375     \Hy@raisedlink{%
6376       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6377     }%
6378   \fi
6379 }

```

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`.

```

6380 \begingroup\expandafter\expandafter\expandafter\endgroup
6381 \expandafter\ifx\csname chapter\endcsname\relax
6382   \def\Hy@chapterstring{section}%
6383 \else
6384   \def\Hy@chapterstring{chapter}%
6385 \fi
6386 \def\Hy@appendixstring{appendix}
6387 \def\Hy@chapapp{\Hy@chapterstring}
6388 \let\HyOrg@appendix\appendix
6389 \def\appendix{%
6390   \ltx@ifundefined{chapter}%
6391     {\gdef\theHsection{\Alph{section}}}%
6392     {\gdef\theHchapter{\Alph{chapter}}}%
6393   \xdef\Hy@chapapp{\Hy@appendixstring}%
6394   \HyOrg@appendix
6395 }

```

\Hy@Test@alph

```

6396 \def\Hy@Test@alph#1{%
6397   \ifcase#1\or
6398     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6399     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6400     u\or v\or w\or x\or y\or z%
6401   \else
6402     \@ctrerr
6403   \fi
6404 }

```

\Hy@Test@Alph

```

6405 \def\Hy@Test@Alph#1{%
6406   \ifcase#1\or
6407     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6408     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6409     U\or V\or W\or X\or Y\or Z%
6410   \else
6411     \@ctrerr
6412   \fi
6413 }

```

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

```

6414 \def\hyper@makecurrent#1{%
6415   \begingroup
6416     \edef\Hy@param{#1}%
6417     \ifx\Hy@param\Hy@chapterstring
6418       \let\Hy@param\Hy@chapapp
6419     \fi
6420     \ifHy@hypertexnames
6421       \let\@number\@firstofone
6422       \def\@fnsymbol##1{\fnsymbol\number##1}%
6423       \ifx\@alph\Hy@Test@alph
6424         \else
6425           \def\@alph{alph\number}%
6426         \fi
6427       \ifx\@Alph\Hy@Test@Alph
6428         \else
6429           \def\@Alph{Alph\number}%

```

```

6430 \fi
6431 \ifHy@naturalnames
6432 \let\textlatin\@firstofone
6433 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6434 \else
6435 \xdef\HyperGlobalCurrentHref{%
6436 \csname
6437 the%
6438 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6439 #1%
6440 \endcsname
6441 }%
6442 \fi
6443 \xdef\HyperGlobalCurrentHref{%
6444 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6445 }%
6446 \else
6447 \Hy@GlobalStepCount\Hy@linkcounter
6448 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6449 \fi
6450 \endgroup
6451 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6452 \ifHy@localanchorname
6453 \let\@currentHref\HyperLocalCurrentHref
6454 \else
6455 \global\let\@currentHref\HyperGlobalCurrentHref
6456 \fi
6457 }

```

\Hy@MakeCurrentHref

```

6458 \def\Hy@MakeCurrentHref#1{%
6459 \edef\HyperLocalCurrentHref{#1}%
6460 \@onelevel@sanitize\HyperLocalCurrentHref
6461 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6462 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6463 \ifHy@localanchorname
6464 \let\@currentHref\HyperLocalCurrentHref
6465 \else
6466 \global\let\@currentHref\HyperGlobalCurrentHref
6467 \fi
6468 }

```

\Hy@MakeCurrentHrefAuto

```

6469 \def\Hy@MakeCurrentHrefAuto#1{%
6470 \Hy@GlobalStepCount\Hy@linkcounter
6471 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6472 }

```

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

```

6473 \def\@currentHlabel{\@currentHref}

6474 \ifpackageloaded{fancyvrb}{%
6475 \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
6476 \def\FV@StepLineNo{%
6477 \FV@SetLineNo
6478 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6479 \FV@StepLineNo

```

```

6480 }%
6481 }%
6482 }{}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

6483 \Hy@AtBeginDocument{%
6484   \ifclassloaded{revtex4}{%
6485     \@namedef{ver@lastpage.sty}{1994/06/25}%
6486   }{}%
6487   \@ifpackageloaded{lastpage}{%
6488     \ifHy@pageanchor
6489     \else
6490       \Hy@WarningNoLine{%
6491         The \string\pageref{LastPage} link doesn't work\MessageBreak
6492         with disabled option 'pageanchor'%
6493       }%
6494     \fi
6495   \def\lastpage@putlabel{%
6496     \addtocounter{page}{-1}%
6497     \if@filesw
6498       \begingroup
6499         \let\@number\@firstofone
6500         \ifHy@pageanchor
6501           \ifHy@hypertextnames
6502             \ifHy@plainpages
6503               \def\Hy@temp{\arabic{page}}%
6504             \else
6505               \Hy@unicodefalse
6506               \pdfstringdef\Hy@temp{\thepage}%
6507             \fi
6508           \else
6509             \def\Hy@temp{\the\Hy@pagecounter}%
6510           \fi
6511         \fi
6512         \immediate\write\@auxout{%
6513           \string\newlabel
6514           {LastPage}{}{\thepage}{}{%
6515             \ifHy@pageanchor page.\Hy@temp\fi}{}%
6516         }%
6517       \endgroup
6518     \fi
6519     \addtocounter{page}{1}%
6520   }%
6521   \@ifclassloaded{revtex4}{%
6522     \begingroup
6523     \toks@\expandafter{\lastpage@putlabel}%

```

```

6524 \edef\x{\endgroup
6525 \def\noexpand\lastpage@putlabel{%
6526 \noexpand\stepcounter{page}%
6527 \the\toks@
6528 \noexpand\addtocounter{page}\noexpand\m@ne
6529 }%
6530 }%
6531 \x
6532 }{}%
6533 }{}%
6534 }
6535 \</package>
6536 \<*check>
6537 \checkpackage{lastpage}[1994/06/25]
6538 \checkcommand\def\lastpage@putlabel{%
6539 \addtocounter{page}{-1}%
6540 \immediate\write\@auxout{%
6541 \string\newlabel{LastPage}{{}\{thepage}}}%
6542 }%
6543 \addtocounter{page}{1}%
6544 }
6545 \</check>
6546 \<*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.

```

6547 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
6548 \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:

```

6549 \@ifpackageloaded{titlesec}{%
6550 \def\ttl@Hy@steplink#1{%
6551 \Hy@MakeCurrentHrefAuto{#1*}%
6552 \edef\ttl@Hy@saveanchor{%
6553 \noexpand\Hy@raisedlink{%
6554 \noexpand\hyper@anchorstart{\@currentHref}%
6555 \noexpand\hyper@anchorend
6556 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6557 \noexpand\ttl@Hy@PatchSaveWrite
6558 }%
6559 }%
6560 }%
6561 \def\ttl@Hy@PatchSaveWrite{%
6562 \begingroup
6563 \toks@\expandafter{\ttl@savewrite}%
6564 \edef\x{\endgroup
6565 \def\noexpand\ttl@savewrite{%
6566 \let\noexpand\@currentHref

```

```

6567         \noexpand\ttl@Hy@SavedCurrentHref
6568         \the\toks@
6569     }%
6570 }%
6571 \x
6572 }%
6573 \def\ttl@Hy@refstepcounter#1{%
6574     \let\ttl@b\Hy@raisedlink
6575     \def\Hy@raisedlink##1{%
6576         \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6577     }%
6578     \refstepcounter{#1}%
6579     \let\Hy@raisedlink\ttl@b
6580 }%
6581 }{}

```

Package titletoc support:

```

6582 \@ifpackageloaded{titletoc}{%
6583     \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6584 }{}

```

32 Package varioref support

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

```

6585 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
6586 \@ifpackageloaded{varioref}{%
6587     \def\vref@pagenum#1#2{%
6588         \@ifundefined{r@#2}{%
6589             \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6590         }{}%
6591         \edef#1{\getpagerefnumber{#2}}%
6592     }%
6593 }{}

```

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

```

6594 \def\Hy@varioref@refstepcounter#1{%
6595     \stepcounter{#1}%
6596     \protected@edef\@currentlabel{%
6597         \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6598     }%
6599 }
6600 \AtBeginDocument{%
6601     \ifx\refstepcounter\Hy@varioref@refstepcounter
6602         \let\H@refstepcounter\refstepcounter
6603         \let\refstepcounter\Hy@saved@refstepcounter
6604     \fi
6605 }

```

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

```

6606 \ifpackageloaded{longtable}{%
6607   \begingroup
6608     \def\y{\LT@array}%
6609     \@ifundefined{scr@LT@array}{%
6610       \ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6611     }\def\y{\scr@LT@array}%
6612     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6613       \expandafter\endgroup
6614       \expandafter\def\y[#1]##2{%
6615         \H@refstepcounter{#1}%
6616         \hyper@makecurrent{table}%
6617         \let\Hy@LT@currentHref\@currentHref
6618         #2\@sharp###4%
6619       }%
6620     }%
6621     \expandafter\expandafter\expandafter\x\y{#1}{#2}\@nil

```

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

```

6622 \begingroup
6623   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6624     \endgroup
6625     \def\LT@start{%
6626       #1%
6627       \ifvoid\LT@foot#2\fi
6628       \let\@currentHref\Hy@LT@currentHref
6629       \Hy@raisedlink{%
6630         \hyper@anchorstart{\@currentHref}\hyper@anchorend
6631       }%
6632       #3%
6633     }%
6634   }%
6635   \expandafter\x\LT@start\@nil
6636 }{}

```

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.

```

6637 \let\new@refstepcounter\refstepcounter
6638 \let\H@equation\equation
6639 \let\H@endequation\endequation
6640 \@ifpackageloaded{amsmath}{%
6641   \long\def\Hy@temp{%
6642     \incr@eqnum
6643     \mathdisplay@push
6644     \st@rredfalse \global\@eqnswtrue
6645     \mathdisplay{equation}%
6646   }%
6647   \ifx\Hy@temp\equation
6648     \expandafter\ifx\cename if@fleqn\expandafter\endcsname

```

```

6649         \csname iftrue\endcsname
6650     \else
6651         \long\def\equation{%
6652             \mathdisplay@push
6653             \st@rredfalse \global\@eqnswtrue
6654             \mathdisplay{equation}%
6655             \incr@eqnum
6656         }%
6657     \fi
6658 \fi
6659 }{%
6660 \def\equation{%
6661     \let\refstepcounter\H@refstepcounter
6662     \H@equation
6663     \@ifundefined{theHequation}{%
6664         \make@stripped@name{\theequation}%
6665         \let\theHequation\newname
6666     }{%
6667         \hyper@makecurrent{equation}%
6668         \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6669         \let\refstepcounter\new@refstepcounter
6670     }%
6671     \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6672 }

```

My goodness, why can't \LaTeX 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.

```

6673 \newif\if@eqnstar
6674 \@eqnstarfalse
6675 \let\H@eqnarray\eqnarray
6676 \let\H@endeqnarray\endeqnarray
6677 \def\eqnarray{%
6678     \let\Hy@reserved@a\relax
6679     \def\@currentHref{}%
6680     \H@eqnarray
6681     \if@eqnstar
6682     \else
6683         \ifx\@currentHref\%
6684         \else
6685             \@ifundefined{theHequation}{%
6686                 \make@stripped@name{\theequation}%
6687                 \let\theHequation\newname
6688             }{%
6689                 \hyper@makecurrent{equation}%
6690                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6691             }%
6692         \fi
6693     }
6694 \def\endeqnarray{%
6695     \H@endeqnarray
6696 }

```

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.

```

6697 \@namedef{eqnarray*}{%

```

```

6698 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6699 }
6700 \@namedef{endeqnarray*}{%
6701 \nonumber\endeqnarray\@eqnstarfalse
6702 }

```

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

```

6703 \ltx@ifundefined{subeqnarray}{%}{%
6704 \let\H@subeqnarray\subeqnarray
6705 \let\H@endsubeqnarray\endsubeqnarray
6706 \def\subeqnarray{%
6707 \let\Hy@reserved@a\relax
6708 \H@subeqnarray
6709 \@ifundefined{theHequation}{%
6710 \make@stripped@name{\theequation}%
6711 \let\theHequation\newname
6712 }{}%
6713 \hyper@makecurrent{equation}%
6714 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6715 }%
6716 \def\endsubeqnarray{%
6717 \H@endsubeqnarray
6718 }%
6719 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6720 }

```

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

```

6721 \def\make@stripped@name#1{%
6722 \begingroup
6723 \escapechar\m@ne
6724 \global\let\newname\@empty
6725 \protected@edef\Hy@tempa{#1}%
6726 \edef\@tempb{%
6727 \noexpand\@tfor\noexpand\Hy@tempa:=%
6728 \expandafter\strip@prefix\meaning\Hy@tempa
6729 }%
6730 \@tempb\do{%
6731 \if\Hy@tempa\else
6732 \if\Hy@tempa\else
6733 \xdef\newname{\newname\Hy@tempa}%
6734 \fi
6735 \fi
6736 }%
6737 \endgroup
6738 }

```

Support for amsmath's subequations:

```

6739 \begingroup\expandafter\expandafter\expandafter\endgroup
6740 \expandafter\ifx\csname subequations\endcsname\relax
6741 \else
6742 \let\HyOrg@subequations\subequations
6743 \def\subequations{%
6744 \stepcounter{equation}%
6745 \protected@edef\theHparentequation{%
6746 \@ifundefined{theHequation}\theequation\theHequation
6747 }%
6748 \addtocounter{equation}{-1}%
6749 \HyOrg@subequations

```

```

6750 \def\theHequation{\theHparentequation\alph{equation}}%
6751 \ignorespaces
6752 }%
6753 \fi

```

Support for package amsthm (Daniel Müllner):

```

6754 \ifpackageloaded{amsthm}{%
6755 \def\@thm#1#2#3{%
6756 \ifhmode
6757 \unskip\unskip\par
6758 \fi
6759 \normalfont
6760 \trivlist
6761 \let\thmheadnl\relax
6762 \let\thm@swap\@gobble
6763 \thm@notefont{\fontseries\mddefault\upshape}%
6764 \thm@headpunct{.}% add period after heading
6765 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6766 \thm@space@setup
6767 #1% style overrides
6768 \@topsep \thm@preskip % used by thm head
6769 \@topsepadd \thm@postskip % used by \@endparentv
6770 \def\dth@counter{#2}%
6771 \ifx\@empty\dth@counter
6772 \def\@tempa{%
6773 \oparg{\@begintheorem{#3}{}}[]%
6774 }%
6775 \else
6776 \H@refstepcounter{#2}%
6777 \hyper@makecurrent{#2}%
6778 \let\Hy@dth@currentHref\@currentHref
6779 \def\@tempa{%
6780 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6781 }%
6782 \fi
6783 \@tempa
6784 }%
6785 \dth@everypar={%
6786 \@minipagefalse
6787 \global\@newlistfalse
6788 \@noparitemfalse
6789 \if@inlabel
6790 \global\@inlabelfalse
6791 \begingroup
6792 \setbox\z@\lastbox
6793 \ifvoid\z@
6794 \kern-\itemindent
6795 \fi
6796 \endgroup
6797 \ifx\@empty\dth@counter
6798 \else
6799 \Hy@raisedlink{%
6800 \hyper@anchorstart{%
6801 \ltx@ifundefined{Hy@dth@currentHref}%
6802 \@currentHref\Hy@dth@currentHref
6803 }\hyper@anchorend
6804 }%
6805 \fi

```

```

6806 \unhbox\@labels
6807 \fi
6808 \if@nobreak
6809 \clubpenalty\clubpenalty\@M
6810 \else
6811 \clubpenalty\clubpenalty \everypar{}%
6812 \fi
6813 }%
6814 }{}

```

35 Footnotes

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

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

```

6815 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6816 \ifHy@hyperfootnotes
6817 \newcounter{Hfootnote}%
6818 \let\H@@footnotetext\@footnotetext
6819 \let\H@@footnotemark\@footnotemark
6820 \def\@xfootnotenext[#1]{%
6821 \begingroup
6822 \cename c@\@mpfn\endcename #1\relax
6823 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6824 \endgroup
6825 \ifx\@footnotetext\@mpfootnotetext
6826 \expandafter\H@@mpfootnotetext
6827 \else
6828 \expandafter\H@@footnotetext
6829 \fi
6830 }%
6831 \def\@xfootnotemark[#1]{%
6832 \begingroup
6833 \c@footnote #1\relax
6834 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6835 \endgroup
6836 \H@@footnotemark
6837 }%
6838 \let\H@@mpfootnotetext\@mpfootnotetext
6839 \long\def\@mpfootnotetext#1{%
6840 \H@@mpfootnotetext{%
6841 \ifHy@nesting
6842 \expandafter\hyper@@anchor\expandafter{%
6843 \Hy@footnote@currentHref
6844 }{#1}%
6845 \else
6846 \Hy@raisedlink{%
6847 \expandafter\hyper@@anchor\expandafter{%
6848 \Hy@footnote@currentHref
6849 }{\relax}%
6850 }#1%
6851 \fi
6852 }%
6853 }%

```

```

6854 \long\def\@footnotetext#1{%
6855   \H@@footnotetext{%
6856     \ifHy@nesting
6857       \expandafter\hyper@@anchor\expandafter{%
6858         \Hy@footnote@currentHref
6859       }{#1}%
6860     \else
6861       \Hy@raisedlink{%
6862         \expandafter\hyper@@anchor\expandafter{%
6863           \Hy@footnote@currentHref
6864         }{\relax}%
6865       }%
6866       \let\@currentHref\Hy@footnote@currentHref
6867       \let\@currentlabelname\@empty
6868       #1%
6869     \fi
6870   }%
6871 }%

```

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.

```

6872 \def\@footnotemark{%
6873   \leavevmode
6874   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6875   \stepcounter{Hfootnote}%
6876   \global\let\Hy@saved@currentHref\@currentHref
6877   \hyper@makecurrent{Hfootnote}%
6878   \global\let\Hy@footnote@currentHref\@currentHref
6879   \global\let\@currentHref\Hy@saved@currentHref
6880   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6881   \@makefnmark
6882   \hyper@linkend
6883   \ifhmode\spacefactor\x@sf\fi
6884   \relax
6885 }%

```

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

```

6886 \@ifpackageloaded{longtable}{%
6887   \CheckCommand*\LT@p@ftntext}[1]{%
6888     \edef\@tempa{%
6889       \the\LT@p@ftn
6890       \noexpand\footnotetext[\the\c@footnote]%
6891     }%
6892     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6893   }%
6894   \long\def\LT@p@ftntext#1{%
6895     \edef\@tempa{%
6896       \the\LT@p@ftn
6897       \begingroup
6898       \noexpand\c@footnote=\the\c@footnote\relax
6899       \noexpand\protected@xdef
6900       \noexpand\@thefnmark{\noexpand\thempfn}%
6901       \noexpand\protected@xdef\noexpand\@thefnmark{%

```

```

6902     \noexpand\thempfn
6903   }%
6904   \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6905   \expandafter{%
6906     \Hy@footnote@currentHref
6907   }%
6908 }%
6909 \global\LT@p@ftn\expandafter{%
6910   \@tempa{#1}%
6911   \endgroup
6912 }%
6913 }%
6914 \long\def\Hy@LT@footnotetext#1#2{%
6915   \H@@@footnotetext{%
6916     \ifHy@nesting
6917       \hyper@@anchor{#1}{#2}%
6918     \else
6919       \Hy@raisedlink{%
6920         \hyper@@anchor{#1}{\relax}%
6921       }%
6922       \def\@currentHref{#1}%
6923       \let\@currentlabelname\@empty
6924       #2%
6925     \fi
6926   }%
6927 }%
6928 }{}%

```

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

```

6929 \ifpackageloaded{fancyvrb}{%
6930   \def\V@@@footnotetext{%
6931     \insert\footins\bgroup
6932     \csname reset@font\endcsname
6933     \footnotesize
6934     \interlinepenalty\interfootnotelinepenalty
6935     \splittopskip\footnotesep
6936     \splitmaxdepth\dp\strutbox
6937     \floatingpenalty \@MM
6938     \hsize\columnwidth
6939     \@parboxrestore
6940     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6941     \@makefnmark{}%
6942     \rule{\z@}{\footnotesep}%
6943     \bgroup
6944     \aftergroup\V@@@footnotetext
6945     \Hy@raisedlink{%
6946       \expandafter\hyper@@anchor\expandafter{%
6947         \Hy@footnote@currentHref
6948       }\relax}%
6949   }%
6950   \let\@currentHref\Hy@footnote@currentHref
6951   \let\@currentlabelname\@empty
6952   \ignorespaces
6953 }%
6954 }{}%

```

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

```

6955 \def\Hy@temp#1{%
6956   \begingroup
6957     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6958   \endgroup
6959   \@footnotemark
6960 }%
6961 \ifx\Hy@temp\footref
6962   \def\footref#1{%
6963     \begingroup
6964       \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6965     \endgroup
6966     \H@@@footnotemark
6967   }%
6968 \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.

```

6969 \let\HyOrg@maketitle\maketitle
6970 \def\maketitle{%
6971   \let\Hy@saved@footnotemark\@footnotemark
6972   \let\Hy@saved@footnotetext\@footnotetext
6973   \let\@footnotemark\H@@@footnotemark
6974   \let\@footnotetext\H@@@footnotetext
6975   \@ifnextchar[\Hy@maketitle@optarg{% ]
6976     \HyOrg@maketitle
6977     \Hy@maketitle@end
6978   }%
6979 }%
6980 \def\Hy@maketitle@optarg[#1]{%
6981   \HyOrg@maketitle[{#1}]%
6982   \Hy@maketitle@end
6983 }%
6984 \def\Hy@maketitle@end{%
6985   \ifx\@footnotemark\H@@@footnotemark
6986     \let\@footnotemark\Hy@saved@footnotemark
6987   \fi
6988   \ifx\@footnotetext\H@@@footnotetext
6989     \let\@footnotetext\Hy@saved@footnotetext
6990   \fi
6991 }%

```

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

```

6992 \def\realfootnote{%
6993   \@ifnextchar[\@xfootnote{%
6994     \stepcounter{\@mpfn}%
6995     \protected@xdef\@thefnmark{\thempfn}%
6996     \H@@@footnotemark\H@@@footnotetext
6997   }%
6998 }%

6999 \fi
7000 \Hy@DisableOption{hyperfootnotes}

7001 </package>
7002 <*check>
7003 \checklatex
7004 \checkcommand\def\@xfootnotenext[#1]{%
7005   \begingroup

```

```

7006 \csname c@\@mpfn\endcsname #1\relax
7007 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7008 \endgroup
7009 \@footnotetext
7010 }
7011 \checkcommand\def\@xfootnotemark[#1]{%
7012 \begingroup
7013 \c@footnote #1\relax
7014 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7015 \endgroup
7016 \@footnotemark
7017 }
7018 \checkcommand\def\@footnotemark{%
7019 \leavevmode
7020 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7021 \@makefnmark
7022 \ifhmode\spacefactor\@x@sf\fi
7023 \relax
7024 }
7025 \</check>
7026 \<*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.

```

7027 \def\caption{%
7028 \ifx\@capttype\@undefined
7029 \latex@error{\noexpand\caption outside float}\@ehd
7030 \expandafter\@gobble
7031 \else
7032 \H@refstepcounter\@capttype
7033 \let\Hy@tempa\@caption
7034 \ifundefined{float@caption}{%
7035 }{%
7036 \expandafter\ifx\csname @float@c@\@capttype\endcsname
7037 \float@caption
7038 \let\Hy@tempa\Hy@float@caption
7039 \fi
7040 }%
7041 \expandafter\@firstofone
7042 \fi
7043 {\@dblarg{\Hy@tempa\@capttype}}%
7044 }
7045 \long\def\@caption#1[#2]#3{%
7046 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7047 \csname iftrue\endcsname
7048 \global\let\@currentHref\hc@currentHref
7049 \else
7050 \hyper@makecurrent{\@capttype}%
7051 \fi
7052 \ifundefined{NR@getttitle}{%
7053 \def\@currentlabelname{#2}%
7054 }{%
7055 \NR@getttitle{#2}%
7056 }%

```

```

7057 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7058   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7059 }%
7060 \begingroup
7061   \@parboxrestore
7062   \if@minipage
7063     \setminipage
7064   \fi
7065   \normalsize
7066   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7067     \csname iftrue\endcsname
7068     \global\@capstartfalse
7069     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7070   \else
7071     \makecaption{\csname fnum@#1\endcsname}{%
7072       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7073   \ifHy@nesting
7074     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7075   \else
7076     \Hy@raisedlink{%
7077       \expandafter\hyper@@anchor\expandafter{%
7078         \@currentHref
7079       }\relax}%
7080     }%
7081     #3%
7082   \fi
7083 }%
7084 \fi
7085 \par
7086 \endgroup
7087 }

```

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.

```

7088 \let\Hy@float@caption\@caption
7089 \ifpackageloaded{float}{%
7090   \def\Hy@float@caption{%
7091     \ifx\Hy@float@currentHref\@undefined
7092       \hyper@makecurrent{\@capttype}%
7093       \global\let\Hy@float@currentHref\@currentHref
7094     \else
7095       \let\@currentHref\Hy@float@currentHref
7096     \fi
7097     \float@caption
7098   }%
7099   \let\HyOrg@float@makebox\float@makebox
7100   \renewcommand{\float@makebox}[1]{%
7101     \HyOrg@float@makebox{%
7102       #1\relax
7103       \ifx\Hy@float@currentHref\@undefined
7104         \else
7105           \expandafter\hyper@@anchor\expandafter{%
7106             \Hy@float@currentHref
7107           }\relax}%
7108       \global\let\Hy@float@currentHref\@undefined
7109     \fi

```

```

7110 }%
7111 }%
7112 {}

7113 </package>
7114 <*check>
7115 \checklatex[1999/06/01 - 2000/06/01]
7116 \checkcommand\def\caption{%
7117   \ifx\@capttype\@undefined
7118     \@latex@error{\noexpand\caption outside float}\@ehd
7119     \expandafter\@gobble
7120   \else
7121     \refstepcounter\@capttype
7122     \expandafter\@firstofone
7123   \fi
7124   {\@dblarg{\@caption\@capttype}}}%
7125 }
7126 \checkcommand\long\def\@caption#1[#2]#3{%
7127   \par
7128   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7129     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
7130   }%
7131   \begingroup
7132     \@parboxrestore
7133     \if@minipage
7134       \setminipage
7135     \fi
7136     \normalsize
7137     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7138   \endgroup
7139 }
7140 </check>
7141 <*package>

```

37 Bibliographic references

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

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

```

7142 \def\hyper@natlinkstart#1{%
7143   \Hy@backout{#1}%
7144   \hyper@linkstart{cite}{cite.#1}%
7145   \def\hyper@nat@current{#1}%
7146 }
7147 \def\hyper@natlinkend{%
7148   \hyper@linkend
7149 }
7150 \def\hyper@natlinkbreak#1#2{%
7151   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7152 }
7153 \def\hyper@natanchorstart#1{%

```

```

7154 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7155 }
7156 \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.

```

7157 \ltx@ifundefined{NAT@parse}{%
7158   \providecommand*\@extra@binfo{}%
7159   \providecommand*\@extra@b@citeb{}%
7160   \def\bibcite#1#2{%
7161     \@newl@bel{b}{#1}\@extra@binfo}{%
7162     \hyper@link[cite]{#1}\@extra@b@citeb}{#2}%
7163   }%
7164 }%
7165 \gdef\@extra@binfo{}%

```

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

```

7166 \let\Hy@bibcite\bibcite
7167 \begingroup
7168   \ifundefined{bbl@cite@choice}{}{%
7169     \g@addto@macro\bbl@cite@choice{%
7170       \let\bibcite\Hy@bibcite
7171     }%
7172   }%
7173 \endgroup

```

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

```

7174 \providecommand*\@BIBLABEL{\@biblabel}%
7175 \def\@lbibitem[#1]#2{%
7176   \@skiphyperreftrue
7177   \H@item[%
7178     \ifx\Hy@raisedlink\@empty
7179       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7180       \@BIBLABEL{#1}%
7181       \hyper@anchorend
7182     \else
7183       \Hy@raisedlink{%
7184         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7185       }%
7186       \@BIBLABEL{#1}%
7187     \fi
7188     \hfill
7189   ]%
7190   \@skiphyperreffalse
7191   \if@filesw
7192     \begingroup
7193       \let\protect\noexpand
7194       \immediate\write\@auxout{%
7195         \string\bibcite{#2}{#1}%
7196       }%
7197     \endgroup
7198   \fi
7199   \ignorespaces
7200 }%

```

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

```

7201 \def\@bibitem#1{%
7202   \@skiphyperreftrue\H@item\@skiphyperreffalse
7203   \Hy@raisedlink{%
7204     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7205   }%
7206   \if@filesw
7207     \begingroup
7208     \let\protect\noexpand
7209     \immediate\write\@auxout{%
7210       \string\bibcite{#1}{\the\value{\@listctr}}}%
7211     }%
7212   \endgroup
7213   \fi
7214   \ignorespaces
7215 }%
7216 }{}

7217 </package>
7218 <*check>
7219 \checklatex
7220 \checkcommand\def\@lbibitem[#1]#2{%
7221   \item[\@biblabel{#1}\hfill]%
7222   \if@filesw
7223     {%
7224       \let\protect\noexpand
7225       \immediate\write\@auxout{%
7226         \string\bibcite{#2}{#1}%
7227       }%
7228     }%
7229   \fi
7230   \ignorespaces
7231 }
7232 \checkcommand\def\@bibitem#1{%
7233   \item
7234   \if@filesw
7235     \immediate\write\@auxout{%
7236       \string\bibcite{#1}{\the\value{\@listctr}}}%
7237     }%
7238   \fi
7239   \ignorespaces
7240 }
7241 </check>
7242 <*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.

```

7243 \ifclassloaded{revtex}{%
7244   \Hy@Info{*** compatibility with revtex **** }%
7245   \def\revtex@checking#1#2{%
7246     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7247     \expandafter\def\csname b@#1\endcsname{#2}%
7248     \@SetMaxRnhelLabel{#1}%
7249     \expandafter\let\csname b@#1\endcsname\T@temp
7250   }%

```

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

```

7251 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
7252 \providecommand*{\@extra@b@citeb}{}%
7253 \def\CITEX[#1]#2{%
7254   \let\@citea\@empty
7255   \leavevmode
7256   \unskip
7257   $^{}%
7258   \scriptstyle
7259   \@CITE{%
7260     \@for\@citeb:=#2\do{%
7261       \@citea
7262       \def\@citea{,\penalty\@m\ }%
7263       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7264       \if@filesw
7265         \immediate\write\@auxout{\string\citation{\@citeb}}%
7266       \fi
7267       \ifundefined{b@\@citeb\extra@b@citeb}{%
7268         \mbox{\reset@font\bfseries ?}%
7269         \G@refundefinedtrue
7270         \@latex@warning{%
7271           Citation '\@citeb' on page \thepage \space undefined%
7272         }%
7273       }{%
7274         {\csname b@\@citeb\extra@b@citeb\endcsname}%
7275       }%
7276     }%
7277   }{#1}%
7278 }$%
7279 }%

```

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

```

7280 \def\citex[#1]#2{%
7281   \let\@citea\@empty
7282   \@cite{%
7283     \@for\@citeb:=#2\do{%
7284       \@citea
7285       \def\@citea{,\penalty\@m\ }%
7286       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7287       \if@filesw
7288         \immediate\write\@auxout{\string\citation{\@citeb}}%
7289       \fi
7290       \ifundefined{b@\@citeb\extra@b@citeb}{%
7291         \mbox{\reset@font\bfseries ?}%
7292         \G@refundefinedtrue
7293         \@latex@warning{%
7294           Citation '\@citeb' on page \thepage \space undefined%
7295         }%
7296       }{%
7297         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
7298       }%
7299     }%
7300   }{#1}%
7301 }%
7302 }{}

```

37.1 Package harvard

Override Peter Williams' Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to `\begin{document}`, because if `harvard.sty` is loaded and `html.sty` is present and detects pdf \TeX , then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7303 \ifpackageloaded{harvard}{%
7304   \Hy@AtBeginDocument{%
7305     \Hy@Info{*** compatibility with harvard **** }%
7306     \Hy@raiselinksfalse
7307     \def\harvardcite#1#2#3#4{%
7308       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
7309       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
7310       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
7311       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7312     }%
7313     \def\HAR@citetoaux#1{%
7314       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7315       \ifHy@backref
7316         \ifx\@empty\@currentlabel
7317         \else
7318           \@bsphack
7319           \if@filesw
7320             \protected@write\@auxout{}{%
7321               \string\@writefile{brf}{%
7322                 \string\backcite{#1}{%
7323                   {\thepage}{\@currentlabel}{\@currentHref}%
7324                 }%
7325               }%
7326             }%
7327           \fi
7328           \@esphack
7329         \fi
7330       \fi
7331     }%
7332     \def\harvarditem{%
7333       \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7334     }%
7335     \def\@harvarditem[#1]#2#3#4#5\par{%
7336       \item[]%
7337       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7338       \if@filesw
7339         \begingroup
7340           \def\protect##1{\string ##1\space}%
7341           \ifthenelse{\equal{#1}{\null}}{%
7342             {\def\next{{#4}{#2}{#3}}}%
7343             {\def\next{{#4}{#2}{#1}{#3}}}%
7344           \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7345         \endgroup
7346       \fi
7347       \protect\hspace*{-\labelwidth}%
7348       \protect\hspace*{-\labelsep}%
7349       \ignorespaces
7350     #5%
7351     \ifHy@backref

```

```

7352     \newblock
7353     \backref{\csname br@#4\endcsname}%
7354     \fi
7355     \par
7356 }%

```

\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:

```

7357 \long\def\HAR@checkcitations#1#2#3#4{%
7358   \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7359   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7360     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7361     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7362       \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7363       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7364         \else
7365           \@tempswatrue
7366         \fi
7367       \else
7368         \@tempswatrue
7369       \fi
7370     \else
7371       \@tempswatrue
7372     \fi
7373   }%
7374 }%

7375 }{}

```

37.2 Package chicago

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

```

7376 \@ifpackageloaded{chicago}{%

```

\citeN

```

7377 \def\citeN{%
7378   \def\@citesep{-1000}%
7379   \def\@cite##1##2{##1}%
7380   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7381   \@citedata@opt
7382 }%

```

\shortciteN

```

7383 \def\shortciteN{%
7384   \def\@citesep{-1000}%
7385   \def\@cite##1##2{##1}%
7386   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7387   \@citedata@opt
7388 }%

```

\@citedata@opt

```

7389 \def\@citedata@opt{%
7390   \let\@cite@opt\@empty
7391   \@ifnextchar {%
7392     \@tempswatrue

```

```

7393 \citedatax@opt
7394 }{%
7395 \@tempwafalse
7396 \citedatax[]%
7397 }%
7398 }%

```

\citedatax@opt

```

7399 \def\citedatax@opt[#1]{%
7400 \def\cite@opt{, #1}%
7401 \citedatax[{#1}]%
7402 }%

7403 }{}

```

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.

```

7404 \def\Hy@EveryPageAnchor{%
7405 \Hy@DistillerDestFix
7406 \ifHy@pageanchor
7407 \ifHy@hypertextnames
7408 \ifHy@plainpages
7409 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7410 \else
7411 \begingroup
7412 \let\@number\@firstofone
7413 \Hy@unicodfalse
7414 \pdfstringdef\@theH@page{\thepage}%
7415 \endgroup
7416 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@theH@page}}%
7417 \fi
7418 \else
7419 \Hy@GlobalStepCount\Hy@pagecounter
7420 \def\Hy@TempPageAnchor{%
7421 \hyper@@anchor{page.\the\Hy@pagecounter}%
7422 }%
7423 \fi
7424 \vbox to 0pt{%
7425 \kern\voffset
7426 \kern\topmargin
7427 \kern-1bp\relax
7428 \hbox to 0pt{%
7429 \kern\hoffset
7430 \kern\ifodd\value{page}%
7431 \oddsidemargin
7432 \else
7433 \evensidemargin
7434 \fi
7435 \kern-1bp\relax
7436 \Hy@TempPageAnchor\relax

```

```

7437     \hss
7438   }%
7439   \vss
7440 }%
7441 \fi
7442 }
7443 \g@addto@macro\Hy@EveryPageBoxHook{%
7444   \Hy@EveryPageAnchor
7445 }

```

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.

```

7446 \def\addcontentsline#1#2#3{% toc extension, type, tag
7447   \begingroup
7448     \let\label\@gobble
7449     \ifx\@currentHref\@empty
7450       \Hy@Warning{%
7451         No destination for bookmark of \string\addcontentsline,%
7452         \MessageBreak destination is added%
7453       }%
7454     \phantomsection
7455   \fi
7456   \expandafter\ifx\csname toplevel@#2\endcsname\relax
7457     \begingroup
7458       \def\Hy@tempa{#1}%
7459       \ifx\Hy@tempa\Hy@bookmarkstype
7460         \Hy@WarningNoLine{%
7461           bookmark level for unknown #2 defaults to 0%
7462         }%
7463       \else
7464         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7465       \fi
7466     \endgroup
7467     \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7468   \fi
7469   \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7470   \Hy@writebookmark{\csname the#2\endcsname}%
7471     {#3}%
7472     {\@currentHref}%
7473     {\Hy@toplevel}%
7474     {#1}%
7475   \ifHy@verbose
7476     \begingroup
7477       \def\Hy@tempa{#3}%
7478       \@onelevel@sanitize\Hy@tempa
7479       \let\temp@online\on@line
7480       \let\on@line\@empty
7481       \Hy@Info{%
7482         bookmark\temp@online:\MessageBreak
7483         thecounter {\csname the#2\endcsname}\MessageBreak
7484         text {\Hy@tempa}\MessageBreak
7485         reference {\@currentHref}\MessageBreak
7486         toplevel {\Hy@toplevel}\MessageBreak

```

```

7487     type {#1}%
7488   }%
7489   \endgroup
7490 \fi
7491 \addtocontents{#1}{%
7492   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7493 }%
7494 \endgroup
7495 }
7496 \def\contentsline#1#2#3#4{%
7497   \ifx\#4\%
7498     \csname l@#1\endcsname{#2}{#3}%
7499   \else
7500     \ifcase\Hy@linktoc % none
7501       \csname l@#1\endcsname{#2}{#3}%
7502     \or % section
7503       \csname l@#1\endcsname{%
7504         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7505       }{#3}%
7506     \or % page
7507       \csname l@#1\endcsname{{#2}}{%
7508         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7509       }%
7510     \else % all
7511       \csname l@#1\endcsname{%
7512         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7513       }{%
7514         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7515       }%
7516     \fi
7517   \fi
7518 }
7519 \</package>
7520 \<*check>
7521 \checklatex
7522 \checkcommand\def\addcontentsline#1#2#3{%
7523   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7524 }
7525 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7526 \</check>
7527 \<*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.

```

7528 \let\H@definecounter\@definecounter
7529 \def\@definecounter#1{%
7530   \H@definecounter{#1}%
7531   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7532 }

```

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.

```

7533 \let\H@newctr\@newctr
7534 \def\@newctr#1[#2]{%

```

```

7535 \H@newctr#1[#2]%
7536 \expandafter\def\csname theH#1\endcsname{%
7537   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
7538 }%
7539 }

```

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.

```

7540 \ifpackageloaded{amsmath}{%
7541   \def\Hy@make@anchor{%
7542     \Hy@MakeCurrentHrefAuto{AMS}%
7543     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7544   }%
7545   \def\Hy@make@df@tag@@#1{%
7546     \gdef\df@tag{%
7547       \maketag@@@{\Hy@make@anchor#1}%
7548       \def\@currentlabel{#1}%
7549     }%
7550   }%
7551   \def\Hy@make@df@tag@@@#1{%
7552     \gdef\df@tag{%
7553       \tagform@{\Hy@make@anchor#1}%
7554       \toks@{\exp{\p@equation{#1}}}%
7555       \edef\@currentlabel{\the\toks@}%
7556     }%
7557   }%
7558   \let\HyOrg@make@df@tag@@\make@df@tag@@
7559   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7560   \let\make@df@tag@@\Hy@make@df@tag@@
7561   \let\make@df@tag@@@\Hy@make@df@tag@@@
7562 }{}

```

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

```

7563 \ifpackagewith{hyperref}{pdf $\TeX$ }{%
7564   \let\H@seteqlabel\@seteqlabel
7565   \def\@seteqlabel#1{%
7566     \H@seteqlabel{#1}%
7567     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7568     \Hy@raisedlink{%
7569       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7570     }%
7571   }%
7572 }{}

```

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.

```

7573 \let\HyOrg@addtoreset\@addtoreset
7574 \def\@addtoreset#1#2{%
7575   \HyOrg@addtoreset{#1}{#2}%
7576   \expandafter\xdef\csname theH#1\endcsname{%
7577     \expandafter\noexpand
7578     \csname the\@ifundefined{theH#2}{H#2}\endcsname
7579     .\noexpand\the\noexpand\value{#1}%
7580   }%
7581 }

```

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

```

7582 </package>
7583 <*check>
7584 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7585 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7586   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7587     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7588       \@addtoreset{#2}{#3}%
7589       \@xp\xdef\csname the#2\endcsname{%
7590         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7591       }%
7592     }%
7593   }%
7594 }%
7595 </check>
7596 <*package>
7597 \@ifpackageloaded{amsmath}{%
7598   \@ifpackagelater{amsmath}{1999/12/14}{%
7599     \renewcommand*{\numberwithin}[3][\arabic]{%
7600       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7601         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7602           \HyOrg@addtoreset{#2}{#3}%
7603           \@xp\xdef\csname the#2\endcsname{%
7604             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7605           }%
7606           \@xp\xdef\csname theH#2\endcsname{%
7607             \@xp\@nx
7608             \csname the\@ifundefined{theH#3}{H#3}\endcsname
7609             .\@nx#1{#2}%
7610           }%
7611         }%
7612       }%
7613     }%
7614   }{%
7615     \Hy@WarningNoLine{%
7616       \string\numberwithin\space of package 'amsmath' %
7617       only fixed\MessageBreak

```

```

7618     for version 2000/06/06 v2.12 or newer%
7619   }%
7620 }%
7621 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7622 \ifHy@figures
7623   \let\Hy@Gin@setfile\Gin@setfile
7624   \def\Gin@setfile#1#2#3{%
7625     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7626   }%
7627 \fi
7628 \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.

```

7629 \ifHy@hyperindex
7630   \def\HyInd@ParenLeft{()%
7631   \def\HyInd@ParenRight{)}%
7632   \def\hyperindexformat#1#2{%
7633     \let\HyOrg@hyperpage\hyperpage
7634     \let\hyperpage\@firstofone
7635     #1{\HyOrg@hyperpage{#2}}%
7636     \let\hyperpage\HyOrg@hyperpage
7637   }%
7638   \Hy@nextfalse
7639   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7640   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7641   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7642   \begingroup
7643     \lccode'\|=\expandafter\HyInd@EncapChar\relax
7644     \lccode'\|=\|\\relax
7645   \lowercase{\endgroup
7646   \ifHy@next
7647     \let\HyInd@org@wrindex\@wrindex
7648     \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
7649     \def\HyInd@@wrindex#1#2|#3|#4\\{%
7650       \ifx\\#3\\%
7651         \HyInd@org@wrindex{#1}{#2|hyperpage}%
7652       \else
7653         \HyInd@@@wrindex{#1}{#2}#3\\%
7654       \fi
7655     }%

```

```

7656 \def\HyInd@@@wrindex#1#2#3#4\{\%
7657 \def\Hy@temp@A{#3}%
7658 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7659 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7660 \relax
7661 \HyInd@org@wrindex{#1}{\%
7662 #2|hyperindexformat{/#3#4}%
7663 }%
7664 \else
7665 \ifx\#4\%
7666 \ifx\Hy@temp@A\HyInd@ParenRight
7667 \HyInd@org@wrindex{#1}{#2|#3}%
7668 \else
7669 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7670 \fi
7671 \else
7672 \HyInd@org@wrindex{#1}{\%
7673 #2|#3hyperindexformat{/#4}%
7674 }%
7675 \fi
7676 \fi
7677 }%
7678 \else
7679 \def\@wrindex#1{\@@wrindex#1||\}%
7680 \def\@wrindex#1|#2|#3\{\%
7681 \if@files@w
7682 \ifx\#2\%
7683 \protected@write\@indexfile{\%
7684 \string\indexentry{#1|hyperpage}{\thepage}%
7685 }%
7686 \else
7687 \HyInd@@@wrindex{#1}#2\%
7688 \fi
7689 \fi
7690 \endgroup
7691 \@esphack
7692 }%
7693 \def\HyInd@@@wrindex#1#2#3\{\%
7694 \def\Hy@temp@A{#2}%
7695 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7696 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7697 \relax
7698 \protected@write\@indexfile{\%
7699 \string\indexentry{
7700 #1|hyperindexformat{/#2#3}%
7701 }{\thepage}%
7702 }%
7703 \else
7704 \ifx\#3\%
7705 \ifx\Hy@temp@A\HyInd@ParenRight
7706 \protected@write\@indexfile{\%
7707 \string\indexentry{#1|#2}{\thepage}%
7708 }%
7709 \else
7710 \protected@write\@indexfile{\%
7711 \string\indexentry{#1|#2hyperpage}{\thepage}%
7712 }%

```

```

7713         \fi
7714     \else
7715         \protected@write\@indexfile{}\{
7716             \string\indexentry{%
7717                 #1|#2hyperindexformat{/#3}%
7718             }\thepage}%
7719     }%
7720     \fi
7721     \fi
7722 }%
7723 \fi
7724 }%
7725 \fi
7726 \Hy@DisableOption{hyperindex}
7727 \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.

```

7728 \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.

```

7729 \def\hyperpage#1{%
7730   \HyInd@hyperpage#1\nohyperpage{}\@nil
7731 }
7732 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7733   \HyInd@@hyperpage{#1}%
7734   #2%
7735   \def\Hy@temp{#3}%
7736   \ifx\Hy@temp\@empty
7737     \else
7738       \Hy@ReturnAfterFi{%
7739         \HyInd@hyperpage#3\@nil
7740       }%
7741     \fi
7742 }
7743 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7744 \def\@hyperpage#1--#2--#3\{\{%
7745   \ifx\#2\}%
7746   \@commahyperpage{#1}%
7747   \else
7748     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7749   \fi
7750 }
7751 \def\@commahyperpage#1{\@commahyperpage#1, \}%
7752 \def\@commahyperpage#1, #2,#3\{\{%
7753   \ifx\#2\}%
7754   \HyInd@pagelink{#1}%
7755   \else
7756     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7757   \fi
7758 }

```

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

```

7759 \def\HyInd@pagelink#1{%
7760   \begingroup

```

```

7761 \toks@={}%
7762 \HyInd@removespaces#1 \@nil
7763 \endgroup
7764 }
7765 \def\HyInd@removespaces#1 #2\@nil{%
7766 \toks@=\expandafter{\the\toks@#1}%
7767 \ifx\#2\%
7768 \edef\x{\the\toks@}%
7769 \ifx\x\@empty
7770 \else
7771 \hyperlink{page.\the\toks@}{\the\toks@}%
7772 \fi
7773 \else
7774 \Hy@ReturnAfterFi{%
7775 \HyInd@removespaces#2\@nil
7776 }%
7777 \fi
7778 }

```

44 Compatibility with foiltex

```

7779 \@ifclassloaded{foils}{%
7780 \providecommand*\ext@table{lot}%
7781 \providecommand*\ext@figure{lof}%
7782 }{}

```

45 Compatibility with seminar slide package

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

```

7783 \@ifclassloaded{seminar}{%
7784 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7785 }{%
7786 \Hy@seminarslidesfalse
7787 }
7788 \@ifpackageloaded{slidesec}{%
7789 \newcommand\theHslidesection {\arabic{slidesection}}%
7790 \newcommand\theHslidesubsection{%
7791 \theHslidesection.\arabic{slidesubsection}}%
7792 }%
7793 \def\slide@heading[#1]#2{%
7794 \H@refstepcounter{slidesection}%
7795 \@addtoreset{slidesubsection}{slidesection}%
7796 \addtocontents{los}{%
7797 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
7798 {\@SCTR}{slideheading.\theslidesection}%
7799 }%
7800 \def\Hy@tempa{#2}%
7801 \ifx\Hy@tempa\@empty
7802 \else
7803 {%
7804 \edef\@currentlabel{%
7805 \csname p@slidesection\endcsname\theslidesection
7806 }%
7807 \makeslideheading{#2}%
7808 }%

```

```

7809 \fi
7810 \gdef\theslideheading{#1}%
7811 \gdef\theslidesubheading{}%
7812 \ifHy@bookmarksnumbered
7813   \def\Hy@slidetitle{\theslide\section\space #1}%
7814 \else
7815   \def\Hy@slidetitle{#1}%
7816 \fi
7817 \ifHy@hypertextnames
7818   \ifHy@naturalnames
7819     \hyper@@anchor{slideheading.\theslide\section}{\relax}%
7820     \Hy@writebookmark
7821       {\theslide\section}%
7822       {\Hy@slidetitle}%
7823       {slideheading.\theslide\section}%
7824       {1}%
7825       {toc}%
7826   \else
7827     \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
7828     \Hy@writebookmark
7829       {\theslide\section}%
7830       {\Hy@slidetitle}%
7831       {slideheading.\theHslide\section}%
7832       {1}%
7833       {toc}%
7834   \fi
7835 \else
7836   \Hy@GlobalStepCount\Hy@linkcounter
7837   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7838   \Hy@writebookmark
7839     {\theslide\section}%
7840     {\Hy@slidetitle}%
7841     {slideheading.\the\Hy@linkcounter}%
7842     {1}%
7843     {toc}%
7844 \fi
7845 }%
7846 \def\slide@subheading[#1]#2{%
7847   \H@refstepcounter{slidesubsection}%
7848   \addtocontents{los}{%
7849     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7850     {\@SCTR}{slideheading.\theslidesubsection}%
7851   }%
7852   \def\Hy@tempa{#2}%
7853   \ifx\Hy@tempa@empty
7854   \else
7855     {%
7856       \edef\@currentlabel{%
7857         \csname p@slidesubsection\endcsname\theslidesubsection
7858       }%
7859       \makeslidesubheading{#2}%
7860     }%
7861   \fi
7862   \gdef\theslidesubheading{#1}%
7863   \ifHy@bookmarksnumbered
7864     \def\Hy@slidetitle{\theslidesubsection\space #1}%
7865   \else

```

```

7866 \def\Hy@slidetitle{#1}%
7867 \fi
7868 \ifHy@hypertextnames
7869 \ifHy@naturalnames
7870 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7871 \Hy@writebookmark
7872 {\theslidesubsection}%
7873 {\Hy@slidetitle}%
7874 {slideheading.\theslidesubsection}%
7875 {2}%
7876 {toc}%
7877 \else
7878 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7879 \Hy@writebookmark
7880 {\theslidesubsection}%
7881 {\Hy@slidetitle}%
7882 {slideheading.\theHslidesubsection}%
7883 {2}%
7884 {toc}%
7885 \fi
7886 \else
7887 \Hy@GlobalStepCount\Hy@linkcounter
7888 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7889 \Hy@writebookmark
7890 {\theslidesubsection}%
7891 {\Hy@slidetitle}%
7892 {slideheading.\the\Hy@linkcounter}%
7893 {1}%
7894 {toc}%
7895 \fi
7896 }%
7897 \providecommand*\listofslides{List of Slides}%
7898 \def\listofslides{%
7899 \section*{%
7900 \listofslides
7901 \@mkboth{%
7902 \expandafter\MakeUppercase\listofslides
7903 }{%
7904 \expandafter\MakeUppercase\listofslides
7905 }%
7906 }%
7907 \def\l@slide##1##2##3##4{%
7908 \slide@undottedcline{%
7909 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7910 }{}%
7911 }%
7912 \let\l@subslide\l@slide
7913 \@startlos
7914 }%
7915 \def\slide@contents{%
7916 \def\l@slide##1##2##3##4{%
7917 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7918 }%
7919 \let\l@subslide\@gobblefour
7920 \@startlos
7921 }%
7922 \def\Slide@contents{%

```

```

7923 \def\l@slide##1##2##3##4{%
7924 \ifcase\lslide@flag
7925 \message{##1 ** \the\c@slidesection}%
7926 \ifnum##1>\c@slidesection
7927 \def\lslide@flag{1}%
7928 {%
7929 \large
7930 \slide@cline{%
7931 \slidenumberline{$\Rightarrow\bullet$}%
7932 {\hyperlink{##4}{##2}}}%
7933 }{##3}%
7934 }%
7935 \else
7936 {%
7937 \large
7938 \slide@cline{%
7939 \slidenumberline{$\surd\;\bullet$}%
7940 {\hyperlink{##4}{##2}}}%
7941 }{##3}%
7942 }%
7943 \fi
7944 \or
7945 \def\lslide@flag{2}%
7946 {%
7947 \large
7948 \slide@cline{%
7949 \slidenumberline{$\bullet$}%
7950 {\hyperlink{##4}{##2}}}%
7951 }{##3}%
7952 }%
7953 \or
7954 {%
7955 \large
7956 \slide@cline{%
7957 \slidenumberline{$\bullet$}%
7958 {\hyperlink{##4}{##2}}}%
7959 }{##3}%
7960 }%
7961 \fi
7962 }%
7963 \def\l@subslide##1##2##3##4{%
7964 \ifnum\lslide@flag=1 %
7965 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7966 \fi
7967 }%
7968 \def\lslide@flag{0}%
7969 \@startlos
7970 }%
7971 }{}

```

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.)

```

7972 \ifHy@texht
7973 \expandafter\endinput
7974 \fi
7975 \let\real@setref\@setref
7976 \def\@setref#1#2#3{% csname, extract group, refname

```

```

7977 \ifx#1\relax
7978 \protect\G@refundefinedtrue
7979 \nfss@text{\reset@font\bfseries ??}%
7980 \@latex@warning{%
7981   Reference '#3' on page \thepage \space undefined%
7982 }%
7983 \else
7984 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7985 \fi
7986 }

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

7987 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
7988 \begingroup
7989 \toks0={\hyper@@link{#5}{#4}}%
7990 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7991 \edef\x{\endgroup
7992   \the\toks0 {\the\toks1 }%
7993 }%
7994 \x
7995 }

7996 \def\@pagesetref#1#2#3{% curname, extract macro, ref
7997 \ifx#1\relax
7998 \protect\G@refundefinedtrue
7999 \nfss@text{\reset@font\bfseries ??}%
8000 \@latex@warning{%
8001   Reference '#3' on page \thepage \space undefined%
8002 }%
8003 \else
8004 \protect\hyper@@link
8005   {\expandafter\@fifthoffive#1}%
8006   {page.\expandafter\@secondoffive#1}%
8007   {\expandafter\@secondoffive#1}%
8008 \fi
8009 }

8010 </package>
8011 <*check>
8012 \checklatex
8013 \checkcommand\def\@setref#1#2#3{%
8014 \ifx#1\relax
8015 \protect\G@refundefinedtrue
8016 \nfss@text{\reset@font\bfseries ??}%
8017 \@latex@warning{%
8018   Reference '#3' on page \thepage \space undefined%
8019 }%
8020 \else
8021 \expandafter#2#1\null
8022 \fi
8023 }
8024 </check>
8025 <*package>

```

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

```

8026 \def\HyRef@StarSetRef#1{%
8027 \begingroup
8028 \Hy@safe@activetrue

```

```

8029 \edef\x{#1}%
8030 \@onelevel@sanitize\x
8031 \edef\x{\endgroup
8032 \noexpand\HyRef@@StarSetRef
8033 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8034 }%
8035 \x
8036 }
8037 \def\HyRef@@StarSetRef#1#2#3{%
8038 \ifx#1\@undefined
8039 \let#1\relax
8040 \fi
8041 \real@setref#1#3{#2}%
8042 }
8043 \def\@refstar#1{%
8044 \HyRef@StarSetRef{#1}\@firstoffive
8045 }
8046 \def\@pagerefstar#1{%
8047 \HyRef@StarSetRef{#1}\@secondoffive
8048 }
8049 \def\@namerefstar#1{%
8050 \HyRef@StarSetRef{#1}\@thirdoffive
8051 }
8052 \Hy@AtBeginDocument{%
8053 \@ifpackageloaded{varioref}{%
8054 \def\@Refstar#1{%
8055 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8056 }%
8057 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8058 \MakeUppercase#1%
8059 }%
8060 \DeclareRobustCommand*\@Ref*{%
8061 \@ifstar\@Refstar\HyRef@Ref
8062 }%
8063 \def\HyRef@Ref#1{%
8064 \hyperref[{#1}]{\Ref*{#1}}%
8065 }%
8066 \def\Vr@f#1{%
8067 \leavevmode\unskip\vref@space
8068 \hyperref[{#1}]{%
8069 \Ref*{#1}%
8070 \let\vref@space\nobreakspace
8071 \@vpageref{\unskip}{#1}%
8072 }%
8073 }%
8074 \def\vr@f#1{%
8075 \leavevmode\unskip\vref@space
8076 \begingroup
8077 \let\T@pageref\@pagerefstar
8078 \hyperref[{#1}]{%
8079 \ref*{#1}%
8080 \vpageref{\unskip}{#1}%
8081 }%
8082 \endgroup
8083 }%
8084 }{}%
8085 }

```

```

8086 \DeclareRobustCommand*\autopageref}{%
8087 \ifstar{%
8088 \HyRef@autopagerefname\pageref*%
8089 }\HyRef@autopageref
8090 }
8091 \def\HyRef@autopageref#1{%
8092 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8093 }
8094 \def\HyRef@autopagerefname{%
8095 \ltx@ifundefined{pageautorefname}{%
8096 \ltx@ifundefined{pagename}{%
8097 \Hy@Warning{No autoref name for 'page'}%
8098 }{%
8099 \pagename\nobreakspace
8100 }%
8101 }{%
8102 \pageautorefname\nobreakspace
8103 }%
8104 }
8105 \DeclareRobustCommand*\autoref}{%
8106 \ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8107 }
8108 \def\HyRef@autoref#1#2{%
8109 \begingroup
8110 \Hy@safe@activetrue
8111 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8112 \endgroup
8113 }
8114 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8115 \HyRef@ShowKeysRef{#2}%
8116 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8117 \edef\HyRef@thisref{%
8118 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8119 }%
8120 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8121 \Hy@safe@activesfalse
8122 #3{%
8123 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8124 }{%
8125 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8126 }{%
8127 \HyRef@currentHtag
8128 \expandafter\@firstoffive#1\@empty\@empty\@empty
8129 \null
8130 }%
8131 \else
8132 \protect\G@refundefinedtrue
8133 \nfss@text{\reset@font\bfseries ??}%
8134 \@latex@warning{%
8135 Reference '#2' on page \thepage\space undefined%
8136 }%
8137 \fi
8138 }
8139 \def\HyRef@testreftype#1.#2\.{%
8140 \ltx@ifundefined{#1autorefname}{%
8141 \ltx@ifundefined{#1name}{%
8142 \HyRef@StripStar#1\*\@nil{#1}%

```

```

8143 \ltx@ifundefined{\HyRef@name autorefname}{%
8144 \ltx@ifundefined{\HyRef@name name}{%
8145 \def\HyRef@currentHtag{}%
8146 \Hy@Warning{No autoref name for '#1'}%
8147 }{%
8148 \edef\HyRef@currentHtag{%
8149 \expandafter\noexpand\csname\HyRef@name name\endcsname
8150 \noexpand~%
8151 }%
8152 }%
8153 }{%
8154 \edef\HyRef@currentHtag{%
8155 \expandafter\noexpand
8156 \csname\HyRef@name autorefname\endcsname
8157 \noexpand~%
8158 }%
8159 }%
8160 }{%
8161 \edef\HyRef@currentHtag{%
8162 \expandafter\noexpand\csname#1name\endcsname
8163 \noexpand~%
8164 }%
8165 }%
8166 }{%
8167 \edef\HyRef@currentHtag{%
8168 \expandafter\noexpand\csname#1autorefname\endcsname
8169 \noexpand~%
8170 }%
8171 }%
8172 }
8173 \def\HyRef@StripStar#1*\#2\@nil#3{%
8174 \def\HyRef@name{#2}%
8175 \ifx\HyRef@name\HyRef@CaseStar
8176 \def\HyRef@name{#1}%
8177 \else
8178 \def\HyRef@name{#3}%
8179 \fi
8180 }
8181 \def\HyRef@CaseStar{*\\}
8182 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8183 \let\HyRef@ShowKeysRef\@gobble
8184 \def\HyRef@ShowKeysInit{%
8185 \begingroup\expandafter\expandafter\expandafter\endgroup
8186 \expandafter\ifx\csname SK@@label\endcsname\relax
8187 \else
8188 \ifx\SK@ref\@empty
8189 \else
8190 \def\HyRef@ShowKeysRef{%
8191 \SK@\SK@@ref
8192 }%
8193 \fi
8194 \fi
8195 }
8196 \@ifpackageloaded{showkeys}{%

```

```

8197 \HyRef@ShowKeysInit
8198 }{%
8199 \Hy@AtBeginDocument{%
8200 \@ifpackageloaded{showkeys}{%
8201 \HyRef@ShowKeysInit
8202 }{}%
8203 }%
8204 }

```

Defaults for the names that `\autoref` uses.

```

8205 \providecommand*\AMSautorefname{\equationautorefname}
8206 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8207 \providecommand*\Itemautorefname{\itemautorefname}
8208 \providecommand*\itemautorefname{item}
8209 \providecommand*\equationautorefname{Equation}
8210 \providecommand*\footnoteautorefname{footnote}
8211 \providecommand*\itemautorefname{item}
8212 \providecommand*\figureautorefname{Figure}
8213 \providecommand*\tableautorefname{Table}
8214 \providecommand*\partautorefname{Part}
8215 \providecommand*\appendixautorefname{Appendix}
8216 \providecommand*\chapterautorefname{chapter}
8217 \providecommand*\sectionautorefname{section}
8218 \providecommand*\subsectionautorefname{subsection}
8219 \providecommand*\subsubsectionautorefname{subsubsection}
8220 \providecommand*\paragraphautorefname{paragraph}
8221 \providecommand*\subparagraphautorefname{subparagraph}
8222 \providecommand*\FancyVerbLineautorefname{line}
8223 \providecommand*\theoremautorefname{Theorem}
8224 \providecommand*\pageautorefname{page}
8225 </package>

```

46 Configuration files

46.1 PS/PDF strings

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

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

```

8226 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8227 \RequirePackage{pdfTeXcmds}[2009/04/10]
8228 \begingroup\expandafter\expandafter\expandafter\endgroup
8229 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8230 \begingroup
8231 \catcode'\|=0 %
8232 \@makeother\|%
8233 |@firstofone{|endgroup
8234 |def|Hy@pstringdef#1#2{%
8235 |begingroup
8236 |edef~{|string~}%
8237 |xdef|Hy@gtemp{#2}%
8238 |endgroup

```

```

8239 |let#1|Hy@gtemp
8240 |@onelevel@sanitize#1%
8241 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8242 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8243 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8244 }%
8245 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8246 #1%
8247 |ifx|\#2|\%
8248 |else
8249 \\\%
8250 |Hy@ReturnAfterFi{%
8251 |Hy@ExchangeBackslash#2|@nil
8252 }%
8253 |fi
8254 }%
8255 }%
8256 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8257 #1%
8258 \ifx\#2\%
8259 \else
8260 \@backslashchar(%
8261 \Hy@ReturnAfterFi{%
8262 \Hy@ExchangeLeftParenthesis#2\@nil
8263 }%
8264 \fi
8265 }%
8266 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8267 #1%
8268 \ifx\#2\%
8269 \else
8270 \@backslashchar)%
8271 \Hy@ReturnAfterFi{%
8272 \Hy@ExchangeRightParenthesis#2\@nil
8273 }%
8274 \fi
8275 }%
8276 \else
8277 \def\Hy@pstringdef#1#2{%
8278 \begingroup
8279 \edef~{\string~}%
8280 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8281 \endgroup
8282 \let#1\Hy@gtemp
8283 }%
8284 \fi
8285 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)

```

46.2 pdfTeX

```

8286 <*pdfTeX>
8287 \providecommand*{\XR@ext}{pdf}
8288 \Hy@setbreaklinks{true}
8289 \def\HyPat@ObjRef{%
8290 [0-9]*[1-9][0-9]* 0 R%
8291 }

```

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`

```

8292 \let\Hy@pdfminorversion\relax
8293 \begingroup\expandafter\expandafter\expandafter\endgroup
8294 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8295 \begingroup\expandafter\expandafter\expandafter\endgroup
8296 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8297 \else
8298 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8299 \fi
8300 \else
8301 \def\Hy@pdfminorversion{\pdfminorversion}%
8302 \fi
8303 \ifundefined{Hy@pdfminorversion}{%
8304 \PackageInfo{hyperref}{%
8305 PDF version is not set, because pdfTeX is too old (<1.10a)%
8306 }%
8307 }{%
8308 \ifHy@ocgcolorlinks
8309 \ifnum\Hy@pdfminorversion<5 %
8310 \kvsetkeys{Hyp}{pdfversion=1.5}%
8311 \fi
8312 \fi
8313 \ifHy@setpdfversion
8314 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8315 \else
8316 \Hy@pdfminorversion=\Hy@pdfversion\relax
8317 \fi
8318 \PackageInfo{hyperref}{%
8319 \expandafter\string\Hy@pdfminorversion
8320 :=\number\Hy@pdfversion\space
8321 }%
8322 \fi
8323 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8324 }
8325 \Hy@DisableOption{pdfversion}%

8326 \ifHy@ocgcolorlinks
8327 \immediate\pdfobj{%
8328 <<%
8329 /Type/OCG%
8330 /Name(View)%
8331 /Usage<<%
8332 /Print<<%
8333 /PrintState/OFF%
8334 >>%
8335 /View<<%
8336 /ViewState/ON%
8337 >>%
8338 >>%
8339 >>%
8340 }%

```

```

8341 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8342 \immediate\pdfobj{%
8343   <<%
8344     /Type/OCG%
8345     /Name(Print)%
8346     /Usage<<%
8347     /Print<<%
8348     /PrintState/ON%
8349     >>%
8350     /View<<%
8351     /ViewState/OFF%
8352     >>%
8353     >>%
8354   >>%
8355 }%
8356 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8357 \immediate\pdfobj{%
8358   [%
8359     \OBJ@OCG@view\space\OBJ@OCG@print
8360   ]%
8361 }%
8362 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8363 \pdfcatalog{%
8364   /OCProperties<<%
8365     /OCGs \OBJ@OCGs
8366     /D<<%
8367       /OFF[\OBJ@OCG@print]%
8368       /AS[%
8369         <<%
8370           /Event/View%
8371           /OCGs \OBJ@OCGs
8372           /Category[/View]%
8373         >>%
8374         <<%
8375           /Event/Print%
8376           /OCGs \OBJ@OCGs
8377           /Category[/Print]%
8378         >>%
8379         <<%
8380           /Event/Export%
8381           /OCGs \OBJ@OCGs
8382           /Category[/Print]%
8383         >>%
8384       ]%
8385     >>%
8386   >>%
8387 }%
8388 \begingroup
8389 \edef\x{\endgroup
8390   \pdfpageresources{%
8391     /Properties<<%
8392       /OCView \OBJ@OCG@view
8393       /OCPrint \OBJ@OCG@print
8394     >>%
8395   }%
8396 }%
8397 \x

```

```

8398 \Hy@AtBeginDocument{%
8399   \def\Hy@colorlink#1{%
8400     \begingroup
8401     \ifHy@ocgcolorlinks
8402       \def\Hy@ocgcolor{#1}%
8403       \setbox0=\hbox\bgroup\color@begingroup
8404     \else
8405       \HyColor@UseColor#1%
8406     \fi
8407   }%
8408   \def\Hy@endcolorlink{%
8409     \ifHy@ocgcolorlinks
8410       \color@endgroup\egroup
8411       \mbox{%
8412         \pdfliteral page{/OC/OCPrint BDC}%
8413         \rlap{\copy0}%
8414         \pdfliteral page{EMC/OC/OCView BDC}%
8415         \begingroup
8416         \expandafter\HyColor@UseColor\Hy@ocgcolor
8417         \box0 %
8418         \endgroup
8419         \pdfliteral page{EMC}%
8420       }%
8421     \fi
8422   \endgroup
8423 }%
8424 }%
8425 \else
8426 \Hy@DisableOption{ocgcolorlinks}%
8427 \fi

```

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

```

8428 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8429 \ifx\pdfstartlink\@undefined% less than version 14
8430 \let\pdfstartlink\pdfannotlink
8431 \let\pdfinkmargin\@tempdima
8432 \let\pdfxform\pdfform
8433 \let\pdfastxform\pdfastform
8434 \let\pdfrefxform\pdfrefform
8435 \else
8436 \pdfinkmargin1pt %
8437 \fi

```

First set up the default linking

```
8438 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8439 \Hy@WrapperDef\new@pdfink#1{%
8440   \ifhmode
8441     \@savsf\spacefactor
8442   \fi
8443   \Hy@SaveLastskip
8444   \Hy@VerboseAnchor{#1}%
8445   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8446   \Hy@DestName\Hy@pstringDest\@pdfview
8447   \Hy@RestoreLastskip
8448   \ifhmode
8449     \spacefactor\@savsf
8450   \fi

```

```

8451 }
8452 \let\pdf@endanchor\@empty

```

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

```

8453 \def\Hy@DestName#1#2{%
8454   \pdfdest name{#1}#2\relax
8455 }

```

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.

```

8456 \providecommand*\@pdfborder{0 0 1}
8457 \providecommand*\@pdfborderstyle{}
8458 \def\Hy@undefinedname{UNDEFINED}
8459 \def\find@pdflink#1#2{%
8460   \leavevmode
8461   \protected@edef\Hy@testname{#2}%
8462   \ifx\Hy@testname\@empty
8463     \Hy@Warning{%
8464       Empty destination name,\MessageBreak
8465       using '\Hy@undefinedname'%
8466     }%
8467   \let\Hy@testname\Hy@undefinedname
8468   \else
8469     \Hy@pstringdef\Hy@testname{%
8470       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8471     }%
8472   \fi
8473   \Hy@StartlinkName{%
8474     \ifHy@pdfa /F 4\fi
8475     \Hy@setpdfborder
8476     \ifx\@pdfhighlight\@empty
8477       \else
8478         /H\@pdfhighlight
8479       \fi
8480     \ifx\CurrentBorderColor\relax
8481       \else
8482         /C[\CurrentBorderColor]%
8483       \fi
8484   }\Hy@testname
8485   \expandafter\Hy@colorlink\csname @#1color\endcsname
8486 }
8487 \def\Hy@StartlinkName#1#2{%
8488   \pdfstartlink attr{#1}goto name{#2}\relax
8489 }
8490 \def\close@pdflink{%
8491   \Hy@endcolorlink
8492   \Hy@VerboseLinkStop
8493   \pdfendlink
8494 }
8495 \def\hyper@anchor#1{%
8496   \new@pdflink{#1}\anchor@spot\pdf@endanchor
8497 }
8498 \def\hyper@anchorstart#1{%
8499   \new@pdflink{#1}%

```

```

8500 \Hy@activeanchortrue
8501 }
8502 \def\hyper@anchorend{%
8503 \pdf@endanchor
8504 \Hy@activeanchorfalse
8505 }
8506 \def\hyper@linkstart#1#2{%
8507 \Hy@VerboseLinkStart{#1}{#2}%
8508 \ltx@ifundefined{@#1bordercolor}{%
8509 \let\CurrentBorderColor\relax
8510 }{%
8511 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8512 }%
8513 \find@pdfink{#1}{#2}%
8514 }
8515 \def\hyper@linkend{\close@pdfink}
8516 \def\hyper@link#1#2#3{%
8517 \Hy@VerboseLinkStart{#1}{#2}%
8518 \ltx@ifundefined{@#1bordercolor}{%
8519 \let\CurrentBorderColor\relax
8520 }{%
8521 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8522 }%
8523 \find@pdfink{#1}{#2}#3%
8524 \close@pdfink
8525 }
8526 \let\CurrentBorderColor\@linkbordercolor
8527 \def\hyper@linkurl#1#2{%
8528 \begingroup
8529 \Hy@pstringdef\Hy@pstringURI{#2}%
8530 \hyper@chars
8531 \leavevmode
8532 \pdfstartlink
8533 attr{%
8534 \Hy@setpdfborder
8535 \ifx\@pdfnhighlight\@empty
8536 \else
8537 /H\@pdfhighlight
8538 \fi
8539 \ifx\@urlbordercolor\relax
8540 \else
8541 /C[\@urlbordercolor]%
8542 \fi
8543 }%
8544 user{%
8545 /Subtype/Link%
8546 \ifHy@pdfa /F 4\fi
8547 /A<<%
8548 /Type/Action%
8549 /S/URI%
8550 /URI(\Hy@pstringURI)%
8551 \ifHy@href@ismap
8552 /IsMap true%
8553 \fi
8554 \Hy@href@nextactionraw
8555 >>%
8556 }%

```

```

8557 \relax
8558 \Hy@colorlink\@urlcolor#1%
8559 \close@pdflink
8560 \endgroup
8561 }
8562 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8563 \begingroup
8564 \def\Hy@pstringF{#2}%
8565 \Hy@CleanupFile\Hy@pstringF
8566 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8567 \Hy@pstringdef\Hy@pstringD{#3}%
8568 \Hy@MakeRemoteAction
8569 \leavevmode
8570 \pdfstartlink
8571 attr{%
8572 \Hy@setpdfborder
8573 \ifx\@pdfhighlight\@empty
8574 \else
8575 /H\@pdfhighlight
8576 \fi
8577 \ifx\@filebordercolor\relax
8578 \else
8579 /C[\@filebordercolor]%
8580 \fi
8581 }%
8582 user {%
8583 /Subtype/Link%
8584 \ifHy@pdfa /F 4\fi
8585 /A<<%
8586 /F(\Hy@pstringF)%
8587 /S/GoToR%
8588 \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}

```

```

8589 \ifx\#3\%
8590 /D[\Hy@href@page\@pdfremotestartview]%
8591 \else
8592 /D(\Hy@pstringD)%
8593 \fi
8594 \Hy@href@nextactionraw
8595 >>%
8596 }%
8597 \relax
8598 \Hy@colorlink\@filecolor#1%
8599 \close@pdflink
8600 \endgroup
8601 }
8602 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname

```

```

8603 \begingroup
8604 \Hy@pstringdef\Hy@pstringF{#1}%
8605 \Hy@pstringdef\Hy@pstringP{#3}%
8606 \leavevmode
8607 \pdfstartlink
8608 attr{%
8609 \Hy@setpdfborder
8610 \ifx\@pdfhighlight\@empty
8611 \else
8612 /H\@pdfhighlight
8613 \fi
8614 \ifx\@runbordercolor\relax
8615 \else
8616 /C[\@runbordercolor]%
8617 \fi
8618 }%
8619 user {%
8620 /Subtype/Link%
8621 \ifHy@pdfa /F 4\fi
8622 /A<<%
8623 /F(\Hy@pstringF)%
8624 /S/Launch%
8625 \Hy@SetNewWindow
8626 \ifx\@#3\%
8627 \else
8628 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8629 \fi
8630 \Hy@href@nextactionraw
8631 >>%
8632 }%
8633 \relax
8634 \Hy@colorlink\@runcolor#2%
8635 \close@pdflink
8636 \endgroup
8637 }

```

\@pdfproducer

```

8638 \ifx\@pdfproducer\relax
8639 \begingroup\expandafter\expandafter\endgroup
8640 \expandafter\ifx\csname luatexversion\endcsname\relax
8641 \def\@pdfproducer{pdfTeX}%
8642 \ifx\eTeXversion\@undefined
8643 \else
8644 \ifx\eTeXversion\relax
8645 \else
8646 \ifnum\eTeXversion>0 %
8647 \def\@pdfproducer{pdfTeX}%
8648 \fi
8649 \fi
8650 \fi
8651 \ifx\pdfTeXversion\@undefined
8652 \else
8653 \ifnum\pdfTeXversion<100 %
8654 \edef\@pdfproducer{%
8655 \@pdfproducer
8656 \the\pdfTeXversion.\pdfTeXrevision
8657 }%

```

```

8658 \else
8659 \ifnum\pdfTeXversion<130 %
8660 \edef\@pdfproducer{%
8661 \@pdfproducer-%
8662 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8663 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8664 \pdfTeXrevision
8665 }%
8666 \else
8667 \ifnum\pdfTeXversion<140 %
8668 \else
8669 \def\@pdfproducer{pdfTeX}%
8670 \fi
8671 \edef\@pdfproducer{%
8672 \@pdfproducer-%
8673 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8674 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8675 \pdfTeXrevision
8676 }%
8677 \fi
8678 \fi
8679 \fi
8680 \else
8681 \begingroup
8682 \count@=\luaTeXversion
8683 \divide\count@ by 100 %
8684 \edef\x{\the\count@}%
8685 \count@=-\x\relax
8686 \multiply\count@ by 100 %
8687 \advance\count@ by \luaTeXversion
8688 \edef\x{\endgroup
8689 \def\noexpand\@pdfproducer{%
8690 LuaTeX-\x.\the\count@.\luaTeXrevision
8691 }%
8692 }%
8693 \x
8694 \fi
8695 \fi

```

\PDF@SetupDox

```

8696 \def\PDF@SetupDoc{%
8697 \ifx\@pdfpagescrop\@empty
8698 \else
8699 \edef\process@me{%
8700 \pdfpagesattr={%
8701 /CropBox[\@pdfpagescrop]%
8702 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
8703 \else
8704 ^^J\the\pdfpagesattr
8705 \fi
8706 }%
8707 }%
8708 \process@me
8709 \fi
8710 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8711 \pdfcatalog{%
8712 /PageMode/\@pdfpagemode

```

```

8713 \ifx\@baseurl\@empty
8714 \else
8715 /URI<</Base(\Hy@pstringB)>>%
8716 \fi
8717 }%
8718 \ifx\@pdfstartpage\@empty
8719 \else
8720 \ifx\@pdfstartview\@empty
8721 \else
8722 openaction goto page\@pdfstartpage{\@pdfstartview}%
8723 \fi
8724 \fi
8725 \edef\Hy@temp{%
8726 \ifHy@toolbar\else /HideToolbar true\fi
8727 \ifHy@menubar\else /HideMenubar true\fi
8728 \ifHy>windowui\else /HideWindowUI true\fi
8729 \ifHy@fitwindow /FitWindow true\fi
8730 \ifHy@centerwindow /CenterWindow true\fi
8731 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8732 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8733 \Hy@UseNameKey{Direction}\@pdfdirection
8734 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8735 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8736 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8737 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8738 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8739 \Hy@UseNameKey{Duplex}\@pdfduplex
8740 \ifx\@pdfpicktraybypdfsize\@empty
8741 \else
8742 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8743 \fi
8744 \ifx\@pdfprintpagerange\@empty
8745 \else
8746 /PrintPageRange\@pdfprintpagerange]%
8747 \fi
8748 \ifx\@pdfnumcopies\@empty
8749 \else
8750 /NumCopies \@pdfnumcopies
8751 \fi
8752 }%
8753 \pdfcatalog{%
8754 \ifx\Hy@temp\@empty
8755 \else
8756 /ViewerPreferences<<\Hy@temp>>%
8757 \fi
8758 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8759 \ifx\@pdflang\@empty
8760 \else
8761 /Lang(\@pdflang)%
8762 \fi
8763 }%
8764 }

```

\PDF@FinishDoc

```

8765 \def\PDF@FinishDoc{%
8766 \Hy@UseMaketitleInfos
8767 \HyInfo@GenerateAddons

```

```

8768 \pdfinfo{%
8769   /Author(\@pdfauthor)%
8770   /Title(\@pdftitle)%
8771   /Subject(\@pdfsubject)%
8772   /Creator(\@pdfcreator)%
8773   \ifx\@pdfcreationdate\@empty
8774   \else
8775     /CreationDate(\@pdfcreationdate)%
8776   \fi
8777   \ifx\@pdfmoddate\@empty
8778   \else
8779     /ModDate(\@pdfmoddate)%
8780   \fi
8781   \ifx\@pdfproducer\relax
8782   \else
8783     /Producer(\@pdfproducer)%
8784   \fi
8785   /Keywords(\@pdfkeywords)%
8786   \ifx\@pdftrapped\@empty
8787   \else
8788     /Trapped/\@pdftrapped
8789   \fi
8790   \HyInfo@Addons
8791 }%
8792 \Hy@DisableOption{pdfauthor}%
8793 \Hy@DisableOption{pdftitle}%
8794 \Hy@DisableOption{pdfsubject}%
8795 \Hy@DisableOption{pdfcreator}%
8796 \Hy@DisableOption{pdfcreationdate}%
8797 \Hy@DisableOption{pdfmoddate}%
8798 \Hy@DisableOption{pdfproducer}%
8799 \Hy@DisableOption{pdfkeywords}%
8800 \Hy@DisableOption{pdftrapped}%
8801 \Hy@DisableOption{pdfinfo}%
8802 }

```

`\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`.

```

8803 \def\hyper@pagetransition{%
8804   \ifx\@pdfpagetransition\relax
8805   \else
8806     \expandafter\Hy@RemoveTransPageAttr
8807     \the\pdfpageattr^^J/Trans{}}>>\END
8808   \ifx\@pdfpagetransition\@empty
8809   \else
8810     \edef\@processme{%
8811       \global\pdfpageattr{%
8812         \the\pdfpageattr
8813         ^^J/Trans << /S /\@pdfpagetransition\space >>%
8814       }%
8815     }%
8816     \@processme
8817   \fi
8818 \fi
8819 }

```

`\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.

```
8820 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8821   \ifx\#2\%
8822     \global\pdfpageattr{#1}%
8823   \else
8824     \Hy@RemoveTransPageAttr#1#4\END
8825   \fi
8826 }
```

`\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`.

```
8827 \def\hyper@pageduration{%
8828   \ifx\@pdfpageduration\relax
8829   \else
8830     \expandafter
8831     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
8832     \ifx\@pdfpageduration\@empty
8833     \else
8834       \edef\@processme{%
8835         \global\pdfpageattr{%
8836           \the\pdfpageattr
8837             ^^J/Dur \@pdfpageduration\space
8838         }%
8839       }%
8840       \@processme
8841     \fi
8842   \fi
8843 }
```

`\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.

```
8844 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8845   \ifx\#2\%
8846     \global\pdfpageattr{#1}%
8847   \else
8848     \Hy@RemoveDurPageAttr#1#4\END
8849   \fi
8850 }
```

`\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).

```
8851 \def\hyper@pagehidden{%
8852   \ifHy@useHidKey
8853   \expandafter
8854   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END
8855   \ifHy@pdfpagehidden
8856   \edef\@processme{%
8857     \global\pdfpageattr{%
8858       \the\pdfpageattr
8859         ^^J/Hid true % SPACE
8860     }%
8861   }%
8862   \@processme
8863 }
```

```

8860     }%
8861     }%
8862     \@processme
8863     \fi
8864 \fi
8865 }

```

`\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.

```

8866 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8867   \ifx\#2\%
8868     \global\pdfpageattr{#1}%
8869   \else
8870     \Hy@RemoveHidPageAttr#1#4\END
8871   \fi
8872 }

8873 \g@addto@macro\Hy@EveryPageHook{%
8874   \hyper@pagetransition
8875   \hyper@pageduration
8876   \hyper@pagehidden
8877 }

```

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

```

8878 </pdfTeX>
8879 <*pdfTeX | xetex>
8880 \Hy@AtBeginDocument{%
8881   \ifHy@setpagesize
8882     \expandafter\@firstofone
8883   \else
8884     \expandafter\@gobble
8885   \fi
8886   {%
8887     \@ifclassloaded{seminar}{%
8888 <*pdfTeX>
8889       \setlength{\pdfhorigin}{1truein}%
8890       \setlength{\pdfvorigin}{1truein}%
8891 </pdfTeX>
8892       \ifportrait
8893         \ifdim\paperwidth=\z@
8894         \else
8895           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8896         \fi
8897         \ifdim\paperheight=\z@
8898         \else
8899           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8900         \fi
8901       \else
8902         \ifdim\paperheight=\z@
8903         \else
8904           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8905         \fi
8906         \ifdim\paperwidth=\z@
8907         \else
8908           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%

```

```

8909     \fi
8910     \fi
8911   }{%
8912     \ltx@ifundefined{stockwidth}{%
8913       \ifdim\paperwidth>\z@
8914         \setlength{\pdfpagewidth}{\paperwidth}%
8915       \fi
8916       \ifdim\paperheight>\z@
8917         \setlength{\pdfpageheight}{\paperheight}%
8918       \fi
8919     }{%
8920       \ifdim\stockwidth>\z@
8921         \setlength{\pdfpagewidth}{\stockwidth}%
8922       \fi
8923       \ifdim\stockheight>\z@
8924         \setlength{\pdfpageheight}{\stockheight}%
8925       \fi
8926     }%
8927   }%
8928 }%
8929 \Hy@DisableOption{setpagesize}%
8930 }
8931 </pdfTeX | xetex>
8932 <*pdfTeX>
8933 \def\Acrobatmenu#1#2{%
8934   \Hy@Acrobatmenu{#1}{#2}{%
8935     \pdfstartlink
8936     attr{%
8937       \Hy@setpdfborder
8938       \ifx\@pdfhighlight\@empty
8939         \else
8940           /H\@pdfhighlight
8941         \fi
8942       \ifx\@menubordercolor\relax
8943         \else
8944           /C[\@menubordercolor]%
8945         \fi
8946     }%
8947     user{%
8948       /Subtype/Link%
8949       \ifHy@pdfa /F 4\fi
8950       /A<<%
8951       /S/Named%
8952       /N/#1%
8953       \Hy@href@nextactionraw
8954       >>%
8955     }%
8956     \relax
8957     \Hy@colorlink\@menucolor#2%
8958     \close@pdflink
8959   }%
8960 }

```

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 pdf \TeX —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`.

```
8961 \def\Hy@FixNotFirstPage{%
8962   \gdef\Hy@FixNotFirstPage{%
8963     \setbox\AtBeginShipoutBox=\hbox{%
8964       \copy\AtBeginShipoutBox
8965     }%
8966   }%
8967 }
8968 \AtBeginShipout{\Hy@FixNotFirstPage}
8969 \</pdfTeX>
```

46.3 `hypertex`

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

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

```
8970 \<*hypertex>
8971 \providecommand*\XR@ext\{dvi}
8972 \def\PDF@FinishDoc{}
8973 \def\PDF@SetupDoc{%
8974   \ifx\@baseurl\@empty
8975   \else
8976     \special{html:<base href="\@baseurl">}%
8977   \fi
```

```

8978 }
8979 \Hy@WrapperDef\hyper@anchor#1{%
8980 \Hy@SaveLastskip
8981 \Hy@VerboseAnchor{#1}%
8982 \begingroup
8983 \let\protect=\string
8984 \hyper@chars
8985 \special{html:<a name=%
8986 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8987 \endgroup
8988 \Hy@activeanchortrue
8989 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8990 \special{html:</a>}%
8991 \Hy@activeanchorfalse
8992 \Hy@RestoreLastskip
8993 }
8994 \Hy@WrapperDef\hyper@anchorstart#1{%
8995 \Hy@SaveLastskip
8996 \Hy@VerboseAnchor{#1}%
8997 \begingroup
8998 \hyper@chars
8999 \special{html:<a name=%
9000 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9001 \endgroup
9002 \Hy@activeanchortrue
9003 }
9004 \def\hyper@anchorend{%
9005 \special{html:</a>}%
9006 \Hy@activeanchorfalse
9007 \Hy@RestoreLastskip
9008 }
9009 \def\@urlltype{url}
9010 \def\hyper@linkstart#1#2{%
9011 \Hy@VerboseLinkStart{#1}{#2}%
9012 \expandafter\Hy@colorlink\csname @#1color\endcsname
9013 \def\Hy@tempa{#1}%
9014 \ifx\Hy@tempa\@urlltype
9015 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9016 \else
9017 \begingroup
9018 \hyper@chars
9019 \special{html:<a href=%
9020 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9021 \endgroup
9022 \fi
9023 }
9024 \def\hyper@linkend{%
9025 \special{html:</a>}%
9026 \Hy@endcolorlink
9027 }
9028 \def\hyper@linkfile#1#2#3{%
9029 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9030 }
9031 \def\hyper@linkurl#1#2{%

```

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

```

9032 \leavevmode

```

```

9033 \ifHy@raiselinks
9034 \Hy@SaveSpaceFactor
9035 \Hy@SaveSavedSpaceFactor
9036 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9037 \Hy@RestoreSavedSpaceFactor
9038 \@linkdim\dp\@tempboxa
9039 \lower\@linkdim\hbox{%
9040   \hyper@chars
9041   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9042 }%
9043 \Hy@colorlink\@urlcolor
9044 \Hy@RestoreSpaceFactor
9045 #1%
9046 \Hy@SaveSpaceFactor
9047 \@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).

```

9048 \advance\@linkdim by -6.5\p@
9049 \raise\@linkdim\hbox{\special{html:</a>}}%
9050 \Hy@endcolorlink
9051 \Hy@RestoreSpaceFactor
9052 \else
9053 \begingroup
9054   \hyper@chars
9055   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9056   \Hy@colorlink\@urlcolor#1%
9057   \special{html:</a>}%
9058   \Hy@endcolorlink
9059 \endgroup
9060 \fi
9061 }

```

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

```

9062 \def\hyper@link#1#2#3{%
9063   \Hy@VerboseLinkStart{#1}{#2}%
9064   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9065 }

9066 \def\hyper@image#1#2{%
9067   \begingroup
9068   \hyper@chars
9069   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9070   \endgroup
9071 }
9072 \</hypertex>
9073 \<*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 hypertext 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.

```

9074 \providecommand*\XR@ext}{dvi}
9075 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9076 \Hy@WrapperDef\hyper@anchor#1{%
9077   \Hy@SaveLastskip
9078   \Hy@VerboseAnchor{#1}%
9079   \begingroup
9080     \let\protect=\string
9081     \special{mark: #1}%
9082   \endgroup
9083   \Hy@activeanchortrue
9084   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9085   \Hy@activeanchorfalse
9086   \Hy@RestoreLastskip
9087 }
9088 \Hy@WrapperDef\hyper@anchorstart#1{%
9089   \Hy@SaveLastskip
9090   \Hy@VerboseAnchor{#1}%
9091   \special{mark: #1}%
9092   \Hy@activeanchortrue
9093 }
9094 \def\hyper@anchorend{%
9095   \Hy@activeanchorfalse
9096   \Hy@RestoreLastskip
9097 }
9098 \def\hyper@linkstart#1#2{%
9099   \Hy@VerboseLinkStart{#1}{#2}%
9100   \expandafter\Hy@colorlink\csname @#1color\endcsname
9101   \special{button: %
9102     10000000 %
9103     \number\baselineskip\space
9104     #2%
9105   }%
9106 }
9107 \def\hyper@linkend{%
9108   \Hy@endcolorlink
9109 }
9110 \def\hyper@link#1#2#3{%
9111   \Hy@VerboseLinkStart{#1}{#2}%
9112   \leavevmode
9113   \ifHy@raiselinks
9114     \Hy@SaveSpaceFactor
9115     \Hy@SaveSavedSpaceFactor
9116     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9117     \Hy@RestoreSavedSpaceFactor
9118     \@linkdim\dp\@tempboxa
9119     \lower\@linkdim\hbox{%
9120       \special{button: %
9121         \number\wd\@tempboxa\space
9122         \number\ht\@tempboxa\space
9123         #2%
9124       }%
9125       \expandafter\Hy@colorlink\csname @#1color\endcsname
9126       \Hy@RestoreSpaceFactor

```

```

9127     #3%
9128     \Hy@SaveSpaceFactor
9129     \Hy@endcolorlink
9130 }%
9131 \@linkdim\ht\@tempboxa
9132 \advance\@linkdim by -6.5\p@
9133 \raise\@linkdim\hbox{}%
9134 \Hy@RestoreSpaceFactor
9135 \else
9136 \special{button: %
9137   \number\wd\@tempboxa\space
9138   \number\ht\@tempboxa\space
9139   #2%
9140 }%
9141 \expandafter\Hy@colorlink\csname @#1color\endcsname
9142 #3%
9143 \Hy@endcolorlink
9144 \fi
9145 }
9146 \def\hyper@linkurl#1#2{%
9147 \begingroup
9148 \hyper@chars
9149 \leavevmode
9150 \ifHy@raiselinks
9151 \Hy@SaveSpaceFactor
9152 \Hy@SaveSavedSpaceFactor
9153 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9154 \Hy@RestoreSavedSpaceFactor
9155 \@linkdim\dp\@tempboxa
9156 \lower\@linkdim\hbox{%
9157   \special{button: %
9158     \number\wd\@tempboxa\space
9159     \number\ht\@tempboxa\space
9160     launch: \wwwbrowser\space
9161     #2%
9162   }%
9163   \Hy@colorlink\@urlcolor
9164   \Hy@RestoreSpaceFactor
9165   #1%
9166   \Hy@SaveSpaceFactor
9167   \Hy@endcolorlink
9168 }%
9169 \@linkdim\ht\@tempboxa
9170 \advance\@linkdim by -6.5\p@
9171 \raise\@linkdim\hbox{}%
9172 \Hy@RestoreSpaceFactor
9173 \else
9174 \special{button: %
9175   \number\wd\@tempboxa\space
9176   \number\ht\@tempboxa\space
9177   launch: \wwwbrowser\space
9178   #2%
9179 }%
9180 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9181 \fi
9182 \endgroup
9183 }

```

```

9184 \def\hyper@linkfile#1#2#3{%
9185   \begingroup
9186     \hyper@chars
9187     \leavevmode
9188     \ifHy@raiselinks
9189       \Hy@SaveSpaceFactor
9190       \Hy@SaveSavedSpaceFactor
9191       \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9192       \Hy@RestoreSavedSpaceFactor
9193       \@linkdim\dp\@tempboxa
9194       \lower\@linkdim\hbox{%
9195         \special{button: %
9196           \number\wd\@tempboxa\space
9197           \number\ht\@tempboxa\space
9198           #3,%
9199           file: #2%
9200         }%
9201         \Hy@colorlink\@filecolor
9202         \Hy@RestoreSpaceFactor
9203         #1%
9204         \Hy@SaveSpaceFactor
9205         \Hy@endcolorlink
9206       }%
9207       \@linkdim\ht\@tempboxa
9208       \advance\@linkdim by -6.5\p@
9209       \raise\@linkdim\hbox{}%
9210       \Hy@RestoreSpaceFactor
9211     \else
9212       \special{button: %
9213         \number\wd\@tempboxa\space
9214         \number\ht\@tempboxa\space
9215         #3,%
9216         file: #2%
9217       }%
9218       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9219     \fi
9220   \endgroup
9221 }
9222 \ifx\@pdfproducer\relax
9223   \def\@pdfproducer{dviwindo + Distiller}%
9224 \fi
9225 \HyInfo@AddonUnsupportedtrue
9226 \def\PDF@FinishDoc{%
9227   \Hy@UseMaketitleInfos
9228   \HyInfo@TrappedUnsupported
9229   \special{PDF: Keywords \@pdfkeywords}%
9230   \special{PDF: Title \@pdftitle}%
9231   \special{PDF: Creator \@pdfcreator}%
9232   \ifx\@pdfcreationdate\@empty
9233   \else
9234     \special{PDF: CreationDate \@pdfcreationdate}%
9235   \fi
9236   \ifx\@pdfmoddate\@empty
9237   \else
9238     \special{PDF: ModDate \@pdfmoddate}%
9239   \fi
9240   \special{PDF: Author \@pdfauthor}%

```

```

9241 \ifx\@pdfproducer\relax
9242 \else
9243 \special{PDF: Producer \@pdfproducer}%
9244 \fi
9245 \special{PDF: Subject \@pdfsubject}%
9246 \Hy@DisableOption{pdfauthor}%
9247 \Hy@DisableOption{pdftitle}%
9248 \Hy@DisableOption{pdfsubject}%
9249 \Hy@DisableOption{pdfcreator}%
9250 \Hy@DisableOption{pdfcreationdate}%
9251 \Hy@DisableOption{pdfmoddate}%
9252 \Hy@DisableOption{pdfproducer}%
9253 \Hy@DisableOption{pdfkeywords}%
9254 \Hy@DisableOption{pdftrapped}%
9255 \Hy@DisableOption{pdfinfo}%
9256 }
9257 \def\PDF@SetupDoc{%
9258 \ifx\@baseurl\@empty
9259 \else
9260 \special{PDF: Base \@baseurl}%
9261 \fi
9262 \ifx\@pdfpagescrop\@empty\else
9263 \special{PDF: BBox \@pdfpagescrop}%
9264 \fi
9265 \def\Hy@temp{%
9266 \ifx\@pdfstartpage\@empty
9267 \else
9268 \ifx\@pdfstartview\@empty
9269 \else
9270 \edef\Hy@temp{%
9271 ,Page=\@pdfstartpage
9272 ,View=\@pdfstartview
9273 }%
9274 \fi
9275 \fi
9276 \edef\Hy@temp{%
9277 \noexpand\pdfmark{%
9278 pdfmark=/DOCVIEW,%
9279 PageMode=/\@pdfpagemode
9280 \Hy@temp
9281 }%
9282 }%
9283 \Hy@temp
9284 \ifx\@pdfpagescrop\@empty
9285 \else
9286 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9287 \fi
9288 \edef\Hy@temp{%
9289 \ifHy@toolbar\else /HideToolbar true\fi
9290 \ifHy@menubar\else /HideMenubar true\fi
9291 \ifHy>windowui\else /HideWindowUI true\fi
9292 \ifHy@fitwindow /FitWindow true\fi
9293 \ifHy@centerwindow /CenterWindow true\fi
9294 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9295 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9296 \Hy@UseNameKey{Direction}\@pdfdirection
9297 \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

9298 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9299 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9300 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9301 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9302 \Hy@UseNameKey{Duplex}\@pdfduplex
9303 \ifx\@pdfpicktraybypdsize\@empty
9304 \else
9305 /PickTrayByPDFSize \@pdfpicktraybypdsize
9306 \fi
9307 \ifx\@pdfprintpagerange\@empty
9308 \else
9309 /PrintPageRange\@pdfprintpagerange\%
9310 \fi
9311 \ifx\@pdfnumcopies\@empty
9312 \else
9313 /NumCopies \@pdfnumcopies
9314 \fi
9315 }%
9316 \pdfmark{pdfmark=/PUT,%
9317 Raw={%
9318 \string{Catalog}\string}<<%
9319 \ifx\Hy@temp\@empty
9320 \else
9321 /ViewerPreferences<<\Hy@temp>>%
9322 \fi
9323 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9324 \ifx\@pdflang\@empty
9325 \else
9326 /Lang(\@pdflang)%
9327 \fi
9328 >>%
9329 }%
9330 }%
9331 }
9332 </dviwindo>
9333 <*dvipdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9334 \providecommand*\XR@ext}{pdf}
9335 \Hy@setbreaklinks{true}
9336 \def\HyPat@ObjRef{%
9337 @[\~ ]+%
9338 }
9339 \newsavebox{\pdfm@box}
9340 \def\@pdfm@mark#1{\special{pdf:#1}}
9341 \Hy@WrapperDef\@pdfm@dest#1{%
9342 \Hy@SaveLastskip
9343 \Hy@VerboseAnchor{#1}%
9344 \begingroup
9345 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9346 \def\x{XYZ}%
9347 \ifx\x\@pdfview
9348 \def\x{XYZ @xpos @ypos null}%
9349 \else
9350 \def\x{FitH}%

```

```

9351 \ifx\x\@pdfview
9352 \def\x{FitH @ypos}%
9353 \else
9354 \def\x{FitBH}%
9355 \ifx\x\@pdfview
9356 \def\x{FitBH @ypos}%
9357 \else
9358 \def\x{FitV}%
9359 \ifx\x\@pdfview
9360 \def\x{FitV @xpos}%
9361 \else
9362 \def\x{FitBV}%
9363 \ifx\x\@pdfview
9364 \def\x{FitBV @xpos}%
9365 \else
9366 \def\x{Fit}%
9367 \ifx\x\@pdfview
9368 \let\x\@pdfview
9369 \else
9370 \def\x{FitB}%
9371 \ifx\x\@pdfview
9372 \let\x\@pdfview
9373 \else
9374 \def\x{FitR}%
9375 \ifx\x\@pdfview
9376 \Hy@Warning{'pdfview=FitR' is not supported}%
9377 \def\x{XYZ @xpos @ypos null}%
9378 \else
9379 \@onelevel@sanitize\@pdfview
9380 \Hy@Warning{%
9381 Unknown value '\@pdfview' for pdfview%
9382 }%
9383 \def\x{XYZ @xpos @ypos null}%
9384 \fi
9385 \fi
9386 \fi
9387 \fi
9388 \fi
9389 \fi
9390 \fi
9391 \fi
9392 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9393 \endgroup
9394 \Hy@RestoreLastskip
9395 }
9396 \providecommand*\@pdfview{XYZ}
9397 \providecommand*\@pdfborder{0 0 1}
9398 \providecommand*\@pdfborderstyle{}
9399 \def\hyper@anchor#1{%
9400 \@pdfm@dest{#1}%
9401 }
9402 \def\hyper@anchorstart#1{%
9403 \Hy@activeanchortrue
9404 \@pdfm@dest{#1}%
9405 }
9406 \def\hyper@anchorend{%
9407 \Hy@activeanchorfalse

```

```

9408 }
9409 \newcounter{Hy@AnnotLevel}
9410 \ifHy@ocgcolorlinks
9411 \def\OBJ@OCG@view{@OCG@view}%
9412 \@pdfm@mark{%
9413   obj \OBJ@OCG@view <<%
9414     /Type/OCG%
9415     /Name(View)%
9416     /Usage<<%
9417     /Print<<%
9418     /PrintState/OFF%
9419     >>%
9420     /View<<%
9421     /ViewState/ON%
9422     >>%
9423     >>%
9424   >>%
9425 }%
9426 \@pdfm@mark{close \OBJ@OCG@view}%
9427 \def\OBJ@OCG@print{@OCG@print}%
9428 \@pdfm@mark{%
9429   obj \OBJ@OCG@print <<%
9430     /Type/OCG%
9431     /Name(Print)%
9432     /Usage<<%
9433     /Print<<%
9434     /PrintState/ON%
9435     >>%
9436     /View<<%
9437     /ViewState/OFF%
9438     >>%
9439     >>%
9440   >>%
9441 }%
9442 \@pdfm@mark{close \OBJ@OCG@print}%
9443 \def\OBJ@OCGs{@OCGs}%
9444 \@pdfm@mark{%
9445   obj \OBJ@OCGs [%
9446     \OBJ@OCG@view\space\OBJ@OCG@print
9447   ]%
9448 }%
9449 \@pdfm@mark{close \OBJ@OCGs}%
9450 \@pdfm@mark{%
9451   put @catalog <<%
9452     /OCProperties<<%
9453     /OCGs \OBJ@OCGs
9454     /D<<%
9455     /OFF[\OBJ@OCG@print]%
9456     /AS[%
9457       <<%
9458         /Event/View%
9459         /OCGs \OBJ@OCGs
9460         /Category[/View]%
9461       >>%
9462       <<%
9463         /Event/Print%
9464         /OCGs \OBJ@OCGs

```

```

9465         /Category[/Print]%
9466     >>%
9467     <<%
9468         /Event/Export%
9469         /OCGs \OBJ@OCGs
9470         /Category[/Print]%
9471     >>%
9472     ]%
9473     >>%
9474     >>%
9475     >>%
9476     }%
9477     \AtBeginShipout{%
9478         \setbox\AtBeginShipoutBox=\hbox{%
9479             \copy\AtBeginShipoutBox
9480             \@pdfm@mark{%
9481                 put @resources <<%
9482                     /Properties<<%
9483                     /OCView \OBJ@OCG@view
9484                     /OCPrint \OBJ@OCG@print
9485                 >>%
9486                 >>%
9487             }%
9488         }%
9489     }%
9490     \Hy@AtBeginDocument{%
9491         \def\Hy@colorlink#1{%
9492             \begingroup
9493             \ifHy@ocgcolorlinks
9494                 \def\Hy@ocgcolor{#1}%
9495                 \setbox0=\hbox\bgroup\color@begingroup
9496             \else
9497                 \HyColor@UseColor#1%
9498             \fi
9499         }%
9500         \def\Hy@endcolorlink{%
9501             \ifHy@ocgcolorlinks
9502                 \color@endgroup\egroup
9503                 \mbox{%
9504                     \@pdfm@mark{content /OC/OCPrint BDC}%
9505                     \rlap{\copy0}%
9506                     \@pdfm@mark{content EMC/OC/OCView BDC}%
9507                 \begingroup
9508                     \expandafter\HyColor@UseColor\Hy@ocgcolor
9509                 \box0 %
9510                 \endgroup
9511                 \@pdfm@mark{content EMC}%
9512             }%
9513         \fi
9514     \endgroup
9515     }%
9516     }%
9517 \else
9518     \Hy@DisableOption{ocgcolorlinks}%
9519 \fi
9520 \def\Hy@BeginAnnot#1{%
9521     \stepcounter{Hy@AnnotLevel}%

```

```

9522 \ifnum\value{Hy@AnnotLevel}=\@ne
9523   #1%
9524 \fi
9525 }
9526 \def\Hy@endAnnot{%
9527   \ifnum\value{Hy@AnnotLevel}=\@ne
9528     \Hy@endcolorlink
9529     \@pdfm@mark{eann}%
9530 \fi
9531 \addtocounter{Hy@AnnotLevel}\m@ne
9532 }

9533 \def\Hy@undefinedname{UNDEFINED}
9534 \def\hyper@linkstart#1#2{%
9535   \Hy@VerboseLinkStart{#1}{#2}%
9536   \Hy@BeginAnnot{%
9537     \protected@edef\Hy@testname{#2}%
9538     \ifx\Hy@testname\@empty
9539       \Hy@Warning{%
9540         Empty destination name,\MessageBreak
9541         using '\Hy@undefinedname'%
9542       }%
9543     \let\Hy@testname\Hy@undefinedname
9544   \else
9545     \Hy@pstringdef\Hy@testname{%
9546       \expandafter\HyperDestNameFilter\expandafter{%
9547         \Hy@testname
9548       }%
9549     }%
9550   \fi
9551   \@pdfm@mark{%
9552     bann<<%
9553     /Type/Annot%
9554     /Subtype/Link%
9555     \ifHy@pdfa /F 4\fi
9556     \Hy@setpdfborder
9557     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9558     \else
9559       /C[\csname @#1bordercolor\endcsname]%
9560     \fi
9561     /A<<%
9562     /S/GoTo%
9563     /D(\Hy@testname)%
9564     \Hy@href@nextactionraw
9565     >>%
9566     >>%
9567   }%
9568   \expandafter\Hy@colorlink\csname @#1color\endcsname
9569 }%
9570 }

9571 \def\hyper@linkend{\Hy@endAnnot}%
9572 \def\hyper@link#1#2#3{%
9573   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9574 }

9575 \def\hyper@linkfile#1#2#3{%
9576   \leavevmode
9577   \Hy@BeginAnnot{%
9578     \def\Hy@pstringF{#2}%

```

```

9579 \Hy@CleanupFile\Hy@pstringF
9580 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9581 \Hy@pstringdef\Hy@pstringD{#3}%
9582 \Hy@MakeRemoteAction
9583 \@pdfm@mark{%
9584   bann<<%
9585     /Type/Annot%
9586     /Subtype/Link%
9587     \ifHy@pdfa /F 4\fi
9588     \Hy@setpdfborder
9589     \ifx\@filebordercolor\relax
9590     \else
9591       /C[\@filebordercolor]%
9592     \fi
9593   /A<<%
9594     /S/GoToR%
9595     /F(\Hy@pstringF)%
9596     /D%
9597     \ifx\#3\%
9598       [\Hy@href@page\@pdfremotestartview]%
9599     \else
9600       (\Hy@pstringD)%
9601     \fi
9602     \Hy@SetNewWindow
9603     \Hy@href@nextactionraw
9604   >>%
9605   >>%
9606   }%
9607   \Hy@colorlink\@filecolor
9608 }%
9609 #1%
9610 \Hy@endAnnot
9611 }
9612 \def\hyper@linkurl#1#2{%
9613   \leavevmode
9614   \Hy@BeginAnnot{%
9615     \Hy@pstringdef\Hy@pstringURI{#2}%
9616     \@pdfm@mark{%
9617       bann<<%
9618         /Type/Annot%
9619         /Subtype/Link%
9620         \ifHy@pdfa /F 4\fi
9621         \Hy@setpdfborder
9622         \ifx\@urlbordercolor\relax
9623         \else
9624           /C[\@urlbordercolor]%
9625         \fi
9626       /A<<%
9627         /S/URI%
9628         /URI(\Hy@pstringURI)%
9629         \ifHy@href@ismap
9630         /IsMap true%
9631       \fi
9632       \Hy@href@nextactionraw
9633     >>%
9634     >>%
9635     }%

```

```

9636 \Hy@colorlink\@urlcolor
9637 }%
9638 #1%
9639 \Hy@EndAnnot
9640 }
9641 \def\Acrobatmenu#1#2{%
9642 \Hy@Acrobatmenu{#1}{#2}{%
9643 \Hy@BeginAnnot{%
9644 \@pdfm@mark{%
9645 bann<<%
9646 /Type/Annot%
9647 /Subtype/Link%
9648 \ifHy@pdfa /F 4\fi
9649 /A<<%
9650 /S/Named%
9651 /N/#1%
9652 \Hy@href@nextactionraw
9653 >>%
9654 \Hy@setpdfborder
9655 \ifx\@menubordercolor\relax
9656 \relax
9657 /C[\@menubordercolor]%
9658 \fi
9659 >>%
9660 }%
9661 \Hy@colorlink\@menucolor
9662 }%
9663 #2%
9664 \Hy@EndAnnot
9665 }%
9666 }
9667 \ifx\@pdfproducer\relax
9668 \def\@pdfproducer{dvipdfm}%

```

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

```

9669 \begingroup\expandafter\expandafter\expandafter\endgroup
9670 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9671 \else
9672 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9673 \fi
9674 \fi
9675 \def\PDF@FinishDoc{%
9676 \Hy@UseMaketitleInfos
9677 \HyInfo@GenerateAddons
9678 \@pdfm@mark{%
9679 docinfo<<%
9680 /Title(\@pdftitle)%
9681 /Subject(\@pdfsubject)%
9682 /Creator(\@pdfcreator)%
9683 \ifx\@pdfcreationdate\@empty
9684 \else
9685 /CreationDate(\@pdfcreationdate)%
9686 \fi
9687 \ifx\@pdfmoddate\@empty
9688 \else
9689 /ModDate(\@pdfmoddate)%
9690 \fi
9691 /Author(\@pdfauthor)%

```

```

9692 \ifx\@pdfproducer\relax
9693 \else
9694 /Producer(\@pdfproducer)%
9695 \fi
9696 /Keywords(\@pdfkeywords)%
9697 \ifx\@pdftrapped\@empty
9698 \else
9699 /Trapped/\@pdftrapped
9700 \fi
9701 \HyInfo@Addons
9702 >>%
9703 }%
9704 \Hy@DisableOption{pdfauthor}%
9705 \Hy@DisableOption{pdftitle}%
9706 \Hy@DisableOption{pdfsubject}%
9707 \Hy@DisableOption{pdfcreator}%
9708 \Hy@DisableOption{pdfcreationdate}%
9709 \Hy@DisableOption{pdfmoddate}%
9710 \Hy@DisableOption{pdfproducer}%
9711 \Hy@DisableOption{pdfkeywords}%
9712 \Hy@DisableOption{pdftrapped}%
9713 \Hy@DisableOption{pdfinfo}%
9714 }

9715 \def\PDF@SetupDoc{%
9716 \edef\Hy@temp{%
9717 \ifHy@toolbar\else /HideToolbar true\fi
9718 \ifHy@menubar\else /HideMenubar true\fi
9719 \ifHy>windowui\else /HideWindowUI true\fi
9720 \ifHy@fitwindow /FitWindow true\fi
9721 \ifHy@centerwindow /CenterWindow true\fi
9722 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9723 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9724 \Hy@UseNameKey{Direction}\@pdfdirection
9725 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9726 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9727 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9728 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9729 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9730 \Hy@UseNameKey{Duplex}\@pdfduplex
9731 \ifx\@pdfpicktraybypdfsize\@empty
9732 \else
9733 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9734 \fi
9735 \ifx\@pdfprintpagerange\@empty
9736 \else
9737 /PrintPageRange[\@pdfprintpagerange]%
9738 \fi
9739 \ifx\@pdfnumcopies\@empty
9740 \else
9741 /NumCopies \@pdfnumcopies
9742 \fi
9743 }%
9744 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9745 \@pdfm@mark{%
9746 docview<<%
9747 \ifx\@pdfstartpage\@empty
9748 \else

```

```

9749 \ifx\@pdfstartview\@empty
9750 \else
9751 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9752 \fi
9753 \fi
9754 \ifx\@baseurl\@empty
9755 \else
9756 /URI<</Base(\Hy@pstringB)>>%
9757 \fi
9758 /PageMode/\@pdfpagemode
9759 \ifx\Hy@temp\@empty
9760 \else
9761 /ViewerPreferences<<\Hy@temp>>%
9762 \fi
9763 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9764 \ifx\@pdflang\@empty
9765 \else
9766 /Lang(\@pdflang)%
9767 \fi
9768 >>%
9769 }%
9770 \ifx\@pdfpagescrop\@empty
9771 \else
9772 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9773 \fi
9774 }
9775 </dvipdfm | xetex>

```

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

```

9776 < *dvipdfm>
9777 \AtBeginShipoutFirst{%
9778 \ifHy@setpagesize
9779 \begingroup
9780 \@ifundefined{stockwidth}{%
9781 \ifdim\paperwidth>\z@
9782 \ifdim\paperheight>\z@
9783 \special{papersize=\the\paperwidth,\the\paperheight}%
9784 \fi
9785 \fi
9786 }{%
9787 \ifdim\stockwidth>\z@
9788 \ifdim\stockheight>\z@
9789 \special{papersize=\the\stockwidth,\the\stockheight}%
9790 \fi
9791 \fi
9792 }%
9793 \endgroup
9794 \fi
9795 \Hy@DisableOption{setpagesize}%
9796 }
9797 </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.

```

9798 \*vtexhtml)
9799 \providecommand*\XR@ext}{htm}
9800 \RequirePackage{vtexhtml}
9801 \newif\if@Localurl
9802 \def\PDF@FinishDoc{}
9803 \def\PDF@SetupDoc{%
9804   \ifx\@baseurl\@empty
9805   \else
9806     \special{!direct <base href="\@baseurl">}%
9807   \fi
9808 }
9809 \def\@urltype{url}
9810 \def\hyper@link#1#2#3{%
9811   \Hy@VerboseLinkStart{#1}{#2}%
9812   \leavevmode
9813   \special{!direct <a href=%
9814     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9815   #3%
9816   \special{!direct </a>}%
9817 }
9818 \def\hyper@linkurl#1#2{%
9819   \begingroup
9820   \hyper@chars
9821   \leavevmode
9822   \MathBSuppress=1\relax
9823   \special{!direct <a href=%
9824     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9825   #1%
9826   \MathBSuppress=0\relax
9827   \special{!direct </a>}%
9828   \endgroup
9829 }
9830 \def\hyper@linkfile#1#2#3{%
9831   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\\#3\fi}%
9832 }
9833 \def\hyper@linkstart#1#2{%
9834   \Hy@VerboseLinkStart{#1}{#2}%
9835   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
9836     \@Localurltrue
9837     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9838   \else
9839     \@Localurlfalse
9840   \begingroup
9841     \hyper@chars
9842     \special{!aref \HyperDestNameFilter{#2}}%
9843   \endgroup
9844   \fi
9845 }
9846 \def\hyper@linkend{%
9847   \if@Localurl
9848     \special{!endaref}%
9849   \else
9850     \special{!direct </a>}%
9851   \fi
9852 }
9853 \Hy@WrapperDef\hyper@anchorstart#1{%
9854   \Hy@SaveLastskip

```

```

9855 \Hy@VerboseAnchor{#1}%
9856 \begingroup
9857 \hyper@chars
9858 \special{!aname #1}%
9859 \special{!direct <a name=%
9860 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
9861 \endgroup
9862 \Hy@activeanchortrue
9863 }
9864 \def\hyper@anchorend{%
9865 \special{!direct </a>}}%
9866 \Hy@activeanchorfalse
9867 \Hy@RestoreLastskip
9868 }
9869 \Hy@WrapperDef\hyper@anchor#1{%
9870 \Hy@SaveLastskip
9871 \Hy@VerboseAnchor{#1}%
9872 \begingroup
9873 \let\protect=\string
9874 \hyper@chars
9875 \leavevmode
9876 \special{!aname #1}%
9877 \special{!direct <a name=%
9878 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
9879 \endgroup
9880 \Hy@activeanchortrue
9881 \bgroup\anchor@spot\egroup
9882 \special{!direct </a>}}%
9883 \Hy@activeanchorfalse
9884 \Hy@RestoreLastskip
9885 }
9886 \def\@Form[#1]{%
9887 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9888 }
9889 \def\@endForm{}
9890 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9891 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
9892 }
9893 \def\@TextField[#1]#2{% parameters, label
9894 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
9895 }
9896 \def\@CheckBox[#1]#2{% parameters, label
9897 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
9898 }
9899 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9900 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
9901 }
9902 \def\@PushButton[#1]#2{% parameters, label
9903 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
9904 }
9905 \def\@Reset[#1]#2{%
9906 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9907 }
9908 \def\@Submit[#1]#2{%
9909 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9910 }
9911 \</vtexhtml>

```

9912 $\langle *v\text{tex} \rangle$

VT_EX 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.

```
9913 \ifx\mediaheight\@undefined
9914 \else
9915   \ifx\mediaheight\relax
9916   \else
9917     \ifHy@setpagesize
9918       \providecommand*\VTEXInitMediaSize{%
9919         \ltx@ifundefined{stockwidth}{%
9920           \ifdim\paperheight>0pt %
9921             \setlength\mediaheight\paperheight
9922           \fi
9923           \ifdim\paperheight>0pt %
9924             \setlength\mediawidth\paperwidth
9925           \fi
9926         }{%
9927           \ifdim\stockheight>0pt %
9928             \setlength\mediaheight\stockheight
9929           \fi
9930           \ifdim\stockwidth>0pt %
9931             \setlength\mediawidth\stockwidth
9932           \fi
9933         }%
9934       }%
9935     \Hy@AtBeginDocument{\VTEXInitMediaSize}%
9936   \fi
9937   \Hy@DisableOption{setpagesize}%
9938 \fi
9939 \fi
```

Older versions of VT_EX require xyz in lower case.

```
9940 \providecommand*\@pdfview{xyz}
9941 \providecommand*\@pdfborder{0 0 1}
9942 \providecommand*\@pdfborderstyle{}
9943 \let\CurrentBorderColor\@linkbordercolor
9944 \Hy@WrapperDef\hyper@anchor#1{%
9945   \Hy@SaveLastskip
9946   \Hy@VerboseAnchor{#1}%
9947   \begingroup
9948     \let\protect=\string
9949     \hyper@chars
9950     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9951   \endgroup
9952   \Hy@activeanchortrue
9953   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9954   \Hy@activeanchorfalse
9955   \Hy@RestoreLastskip
9956 }
9957 \Hy@WrapperDef\hyper@anchorstart#1{%
9958   \Hy@SaveLastskip
9959   \Hy@VerboseAnchor{#1}%
9960   \begingroup
9961     \hyper@chars
9962     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9963   \endgroup
```

```

9964 \Hy@activeanchortrue
9965 }
9966 \def\hyper@anchorend{%
9967 \Hy@activeanchorfalse
9968 \Hy@RestoreLastskip
9969 }
9970 \def\@urltype{url}
9971 \def\Hy@undefinedname{UNDEFINED}
9972 \def\hyper@linkstart#1#2{%
9973 \Hy@VerboseLinkStart{#1}{#2}%
9974 \Hy@pstringdef\Hy@pstringURI{#2}%
9975 \expandafter\Hy@colorlink\csname @#1color\endcsname
9976 \ltx@ifundefined{@#1bordercolor}{%
9977 \let\CurrentBorderColor\relax
9978 }{%
9979 \edef\CurrentBorderColor{%
9980 \csname @#1bordercolor\endcsname
9981 }%
9982 }%
9983 \def\Hy@tempa{#1}%
9984 \ifx\Hy@tempa\@urltype
9985 \special{!%
9986 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
9987 \ifHy@href@ismap
9988 /IsMap true%
9989 \fi
9990 \Hy@href@nextactionraw
9991 >,%
9992 a=<%
9993 \ifHy@pdfa /F 4\fi
9994 \Hy@setpdfborder
9995 \ifx\CurrentBorderColor\relax
9996 \else
9997 /C [\CurrentBorderColor]%
9998 \fi
9999 >%
10000 }%
10001 \else
10002 \protected@edef\Hy@testname{#2}%
10003 \ifx\Hy@testname\@empty
10004 \Hy@Warning{%
10005 Empty destination name,\MessageBreak
10006 using '\Hy@undefinedname'%
10007 }%
10008 \let\Hy@testname\Hy@undefinedname
10009 \fi
10010 \special{!%
10011 aref \expandafter\HyperDestNameFilter
10012 \expandafter{\Hy@testname};%
10013 a=<%
10014 \ifHy@pdfa /F 4\fi
10015 \Hy@setpdfborder
10016 \ifx\CurrentBorderColor\relax
10017 \else
10018 /C [\CurrentBorderColor]%
10019 \fi
10020 >%

```

```

10021 }%
10022 \fi
10023 }
10024 \def\hyper@linkend{%
10025 \special{!endaref}%
10026 \Hy@endcolorlink
10027 }
10028 \def\hyper@linkfile#1#2#3{%
10029 \leavevmode
10030 \def\Hy@pstringF{#2}%
10031 \Hy@CleanupFile\Hy@pstringF
10032 \special{!%
10033   aref <%
10034   \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10035   f=\Hy@pstringF>#3;%
10036   a=<%
10037     \ifHy@pdfa /F 4\fi
10038     \Hy@setpdfborder
10039     \ifx\@filebordercolor\relax
10040     \else
10041       /C [\@filebordercolor]%
10042     \fi
10043   >%
10044 }%
10045 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
10046 \special{!endaref}%
10047 }
10048 \def\hyper@linkurl#1#2{%
10049 \begingroup
10050 \Hy@pstringdef\Hy@pstringURI{#2}%
10051 \hyper@chars
10052 \leavevmode
10053 \special{!%
10054   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10055   \ifHy@href@ismap
10056   /IsMap true%
10057   \fi
10058   \Hy@href@nextactionraw
10059   >;%
10060   a=<%
10061     \ifHy@pdfa /F 4\fi
10062     \Hy@setpdfborder
10063     \ifx\@urlbordercolor\relax
10064     \else
10065       /C [\@urlbordercolor]%
10066     \fi
10067   >%
10068 }%
10069 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10070 \special{!endaref}%
10071 \endgroup
10072 }
10073 \def\hyper@link#1#2#3{%
10074 \Hy@VerboseLinkStart{#1}{#2}%
10075 \ltx@ifundefined{@#1bordercolor}{%
10076 \let\CurrentBorderColor\relax
10077 }{%

```

```

10078 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10079 }%
10080 \leavevmode
10081 \protected@edef\Hy@testname{#2}%
10082 \ifx\Hy@testname\@empty
10083 \Hy@Warning{%
10084   Empty destination name,\MessageBreak
10085   using '\Hy@undefinedname'%
10086 }%
10087 \let\Hy@testname\Hy@undefinedname
10088 \fi
10089 \special{!%
10090   aref \expandafter\HyperDestNameFilter
10091   \expandafter{\Hy@testname};%
10092   a=<%
10093   \ifHy@pdfa /F 4\fi
10094   \Hy@setpdfborder
10095   \ifx\CurrentBorderColor\relax
10096   \else
10097     /C [\CurrentBorderColor]%
10098   \fi
10099   >%
10100 }%
10101 \expandafter
10102 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
10103 \special{!endaref}%
10104 }
10105 \def\hyper@image#1#2{%
10106 \hyper@linkurl{#2}{#1}%
10107 }
10108 \def\@hyper@launch run:#1\#2#3{%
10109 \Hy@pstringdef\Hy@pstringF{#1}%
10110 \Hy@pstringdef\Hy@pstringP{#3}%
10111 \leavevmode
10112 \special{!aref %
10113   <u=%
10114     /Type/Action%
10115     /S/Launch%
10116     /F(\Hy@pstringF)%
10117     \Hy@SetNewWindow
10118     \ifx\#3\%
10119     \else
10120       /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10121     \fi
10122     \Hy@href@nextactionraw
10123   >,%
10124   a=<%
10125   \ifHy@pdfa /F 4\fi
10126   \Hy@setpdfborder
10127   \ifx\@runbordercolor\relax
10128   \else
10129     /C[\@runbordercolor]%
10130   \fi
10131   >%
10132 }%
10133 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
10134 \special{!endaref}%

```

```

10135 }
10136 \def\Acrobatmenu#1#2{%
10137   \Hy@Acrobatmenu{#1}{#2}{%
10138     \special{!%
10139       aref <u=/S /Named /N /#1>;%
10140       a=<%
10141         \ifHy@pdfa /F 4\fi
10142         \Hy@setpdfborder
10143         \ifx\@menubordercolor\relax
10144         \else
10145         /C[\@menubordercolor]%
10146         \fi
10147       >%
10148     }%
10149     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
10150     \special{!endaref}%
10151   }%
10152 }

```

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

The code below makes sense for VT_EX 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` globally.

```

10153 \ifnum\Hy@VTeXversion<702 %
10154 \else
10155 \def\hyper@pagetransition{%
10156   \ifx\@pdfpagetransition\relax
10157   \else
10158   \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10159   \else
10160   \hvtex@parse@trans\@pdfpagetransition
10161   \fi
10162   \fi
10163 }%

```

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

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

```

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

```

Transition codes:

```

10164 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%

```

```

10165 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10166 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10167 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10168 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10169 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10170 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10171 \def\hvtex@par@dimension{/Dm}%
10172 \def\hvtex@par@direction{/Di}%
10173 \def\hvtex@par@duration{/D}%
10174 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10175 \def\hvtex@gettoken{%
10176   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10177 }%

```

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

```

10178 \def\hvtex@gettoken@#1 #2\@nil{%
10179   \edef\hvtex@token{#1}%
10180   \edef\hvtex@buffer{#2}%
10181 }%
10182 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10183 \let\hvtex@trans@code\@empty
10184 \let\hvtex@param@dimension\@empty
10185 \let\hvtex@param@direction\@empty
10186 \let\hvtex@param@duration\@empty
10187 \let\hvtex@param@motion\@empty
10188 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10189 \hvtex@gettoken
10190 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10191   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10192   \else
10193     \hvtex@gettoken
10194   \fi
10195 \fi
10196 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10197 \hvtex@trans@params
10198 }%

```

Reentrant macro to parse optional parameters.

```

10199 \def\hvtex@trans@params{%
10200   \ifx\hvtex@buffer\@empty
10201   \else
10202     \hvtex@gettoken
10203     \let\hvtex@trans@par\hvtex@token
10204     \ifx\hvtex@buffer\@empty
10205     \else
10206       \hvtex@gettoken
10207       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```
10208      \let\hvtex@param@duration\hvtex@token
10209      \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10210      \expandafter\edef\expandafter\hvtex@param@motion
10211      \expandafter{\expandafter\@gobble\hvtex@token}%
10212      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10213      \expandafter\edef\expandafter\hvtex@param@dimension
10214      \expandafter{\expandafter\@gobble\hvtex@token}%
10215      \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).

```
10216      \let\hvtex@param@direction\hvtex@token
10217      \fi\fi\fi
10218      \fi
10219      \fi
10220      \ifx\hvtex@buffer\@empty
10221      \let\next\hvtex@produce@trans
10222      \else
10223      \let\next\hvtex@trans@params
10224      \fi
10225      \next
10226      }%
```

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

```
10227 \def\hvtex@produce@trans{%
10228 \let\vtex@trans@special\@empty
10229 \if S\hvtex@trans@code
10230 \edef\vtex@trans@special{\hvtex@trans@code
10231 \hvtex@param@dimension\hvtex@param@motion}%
10232 \else\if B\hvtex@trans@code
10233 \edef\vtex@trans@special{%
10234 \hvtex@trans@code\hvtex@param@dimension
10235 }%
10236 \else\if X\hvtex@trans@code
10237 \edef\vtex@trans@special{%
10238 \hvtex@trans@code\hvtex@param@motion
10239 }%
10240 \else\if W\hvtex@trans@code
10241 \edef\vtex@trans@special{%
10242 \hvtex@trans@code\hvtex@param@direction
10243 }%
10244 \else\if D\hvtex@trans@code
10245 \let\vtex@trans@special\hvtex@trans@code
10246 \else\if R\hvtex@trans@code
10247 \let\vtex@trans@special\hvtex@trans@code
10248 \else\if G\hvtex@trans@code
10249 \edef\vtex@trans@special{%
10250 \hvtex@trans@code\hvtex@param@direction
10251 }%
10252 \fi\fi\fi\fi\fi
10253 \ifx\vtex@trans@special\@empty
10254 \else
10255 \ifx\hvtex@param@duration\@empty
```

```

10256 \else
10257 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10258 \multiply\dimen@\@m
10259 \edef\vtex@trans@special{%
10260 \vtex@trans@special,\strip@pt\dimen@
10261 }%
10262 \fi

```

And all the mess is just for this.

```

10263 \special{!trans \vtex@trans@special}%
10264 \fi
10265 }%

10266 \def\hyper@pageduration{%
10267 \ifx\@pdfpageduration\relax
10268 \else
10269 \ifx\@pdfpageduration\@empty
10270 \special{!duration-}%
10271 \else
10272 \special{!duration \@pdfpageduration}%
10273 \fi
10274 \fi
10275 }%

10276 \def\hyper@pagehidden{%
10277 \ifHy@useHidKey
10278 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10279 \fi
10280 }%

10281 \g@addto@macro\Hy@EveryPageBoxHook{%
10282 \hyper@pagetransition
10283 \hyper@pageduration
10284 \hyper@pagehidden
10285 }%
10286 \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

```

10287 \ifx\@pdfproducer\relax
10288 \def\@pdfproducer{VTeX}%
10289 \ifnum\Hy@VTeXversion>\z@
10290 \count@\VTeXversion
10291 \divide\count@ 100 %
10292 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10293 \multiply\count@ -100 %
10294 \advance\count@\VTeXversion
10295 \edef\@pdfproducer{%
10296 \@pdfproducer
10297 .\ifnum\count@<10 0\fi\the\count@
10298 \ifx\VTeXOS\@undefined\else

```

```

10299 \ifnum\VTexOS>0 %
10300 \ifnum\VTexOS<6 %
10301 \space(
10302 \ifcase\VTexOS
10303 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10304 \fi
10305 )%
10306 \fi
10307 \fi
10308 \fi
10309 ,\space
10310 \ifnum\OpMode=\@ne PDF\else PS\fi
10311 \space backend%
10312 \ifx\gexmode\@undefined\else
10313 \ifnum\gexmode>\z@\space with GeX\fi
10314 \fi
10315 }%
10316 \fi
10317 \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).

```

10318 \def\PDF@SetupDoc{%
10319 \ifx\@pdfpagescrop\@empty
10320 \else
10321 \special{!pdfinfo b=<\@pdfpagescrop>}%
10322 \fi
10323 \ifx\@pdfstartpage\@empty
10324 \else
10325 \ifx\@pdfstartview\@empty
10326 \else
10327 \special{!onopen Page\@pdfstartpage}%
10328 \fi
10329 \fi
10330 \special{!pdfinfo p=</\@pdfpagemode>}%
10331 \ifx\@baseurl\@empty
10332 \else
10333 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10334 \fi
10335 \special{!pdfinfo v=<<<%
10336 \ifHy@toolbar\else /HideToolbar true\fi
10337 \ifHy@menubar\else /HideMenubar true\fi
10338 \ifHy>windowui\else /HideWindowUI true\fi
10339 \ifHy@fitwindow /FitWindow true\fi
10340 \ifHy@centerwindow /CenterWindow true\fi

```

```

10341 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10342 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10343 \Hy@UseNameKey{Direction}\@pdfdirection
10344 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10345 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10346 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10347 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10348 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10349 \Hy@UseNameKey{Duplex}\@pdfduplex
10350 \ifx\@pdfpicktraybypdfsize\@empty
10351 \else
10352 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10353 \fi
10354 \ifx\@pdfprintpagerange\@empty
10355 \else
10356 /PrintPageRange[\@pdfprintpagerange]%
10357 \fi
10358 \ifx\@pdfnumcopies\@empty
10359 \else
10360 /NumCopies \@pdfnumcopies
10361 \fi
10362 >>>}%
10363 \ifx\@pdfpagelayout\@empty
10364 \else
10365 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10366 \fi
10367 }%
10368 \HyInfo@AddonUnsupportedtrue
10369 \def\PDF@FinishDoc{%
10370 \Hy@UseMaketitleInfos
10371 \HyInfo@TrappedUnsupported
10372 \special{!pdfinfo a=<\@pdfauthor>}%
10373 \special{!pdfinfo t=<\@pdftitle>}%
10374 \special{!pdfinfo s=<\@pdfsubject>}%
10375 \special{!pdfinfo c=<\@pdfcreator>}%
10376 \ifx\@pdfproducer\relax
10377 \else
10378 \special{!pdfinfo r=<\@pdfproducer>}%
10379 \fi
10380 \special{!pdfinfo k=<\@pdfkeywords>}%
10381 \Hy@DisableOption{pdfauthor}%
10382 \Hy@DisableOption{pdftitle}%
10383 \Hy@DisableOption{pdfsubject}%
10384 \Hy@DisableOption{pdfcreator}%
10385 \Hy@DisableOption{pdfcreationdate}%
10386 \Hy@DisableOption{pdfmoddate}%
10387 \Hy@DisableOption{pdfproducer}%
10388 \Hy@DisableOption{pdfkeywords}%
10389 \Hy@DisableOption{pdftrapped}%
10390 \Hy@DisableOption{pdfinfo}%
10391 }
10392 </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.

```
10393 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%  
10394 <package>\providecommand*{\Hy@DistillerDestFix}{%  
10395 <*pdfmark | dviwindo>  
10396 \def\Hy@DistillerDestFix{%  
10397   \begingroup  
10398   \let\x\literalps@out
```

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

```
10399   \ifnum \@ifundefined{OpMode}{0}{%  
10400     \@ifundefined{gexmode}{0}{%  
10401       \ifnum\gexmode>0 \OpMode\else 0\fi  
10402     }>1 %  
10403   \def\x##1{%  
10404     \immediate\special{!=##1}%  
10405   }%  
10406   \fi  
10407   \x{%  
10408     /product where{%  
10409       pop %  
10410       product(Distiller)search{%  
10411         pop pop pop %  
10412         version(.)search{%  
10413           exch pop exch pop%  
10414           (3011)eq{%  
10415             gsave %  
10416             newpath 0 0 moveto closepath clip%  
10417             /Courier findfont 10 scalefont setfont %  
10418             72 72 moveto(.)show %  
10419             grestore%  
10420           }if%  
10421           }{pop}ifelse%  
10422           }{pop}ifelse%  
10423         }if%  
10424       }%  
10425     \endgroup  
10426   }  
10427 </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

```

10428 (*pdfmark)
10429 \Hy@breaklinks@unsupported
10430 \def\HyPat@ObjRef{%
10431   \{[~{}]+\}%
10432 }
10433 \Hy@WrapperDef\hyper@anchor#1{%
10434   \Hy@SaveLastskip
10435   \Hy@VerboseAnchor{#1}%
10436   \begingroup
10437     \pdfmark[\anchor@spot]{%
10438       pdfmark=/DEST,%
10439       linktype=anchor,%
10440       View=/\@pdfview \@pdfviewparams,%
10441       DestAnchor={#1}%
10442     }%
10443   \endgroup
10444   \Hy@RestoreLastskip
10445 }
10446 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}
10447 \Hy@WrapperDef\hyper@anchorstart#1{%
10448   \Hy@SaveLastskip
10449   \Hy@VerboseAnchor{#1}%
10450   \literalps@out{H.S}%
10451   \Hy@AllowHyphens
10452   \xdef\hyper@currentanchor{#1}%
10453   \Hy@activeanchortrue
10454 }
10455 \def\hyper@anchorend{%
10456   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10457   \pdfmark{%
10458     pdfmark=/DEST,%
10459     linktype=anchor,%
10460     View=/\@pdfview \@pdfviewparams,%
10461     DestAnchor=\hyper@currentanchor,%
10462   }%
10463   \Hy@activeanchorfalse
10464   \Hy@RestoreLastskip
10465 }
10466 \def\hyper@linkstart#1#2{%
10467   \Hy@VerboseLinkStart{#1}{#2}%
10468   \ifHy@breaklinks
10469     \else
10470       \leavevmode
10471       \Hy@SaveSpaceFactor
10472       \hbox\bgroup
10473       \Hy@RestoreSpaceFactor
10474     \fi
10475     \expandafter\Hy@colorlink\csname @#1color\endcsname
10476     \literalps@out{H.S}%
10477     \Hy@AllowHyphens

```

```

10478 \xdef\hyper@currentanchor{#2}%
10479 \gdef\hyper@currentlinktype{#1}%
10480 }
10481 \def\hyper@linkend{%
10482 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10483 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10484 \let\Hy@tempcolor\relax
10485 }{%
10486 \edef\Hy@tempcolor{%
10487 \csname @\hyper@currentlinktype bordercolor\endcsname
10488 }%
10489 }%
10490 \pdfmark{%
10491 pdfmark=/ANN,%
10492 linktype=link,%
10493 Subtype=/Link,%
10494 PDFAFlags=4,%
10495 Dest=\hyper@currentanchor,%
10496 AcroHighlight=\@pdfhighlight,%
10497 Border=\@pdfborder,%
10498 BorderStyle=\@pdfborderstyle,%
10499 Color=\Hy@tempcolor,%
10500 Raw=H.B%
10501 }%
10502 \Hy@endcolorlink
10503 \ifHy@breaklinks
10504 \else
10505 \Hy@SaveSpaceFactor
10506 \egroup
10507 \Hy@RestoreSpaceFactor
10508 \fi
10509 }

```

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.

```

10510 \begingroup
10511 \catcode'P=12 %
10512 \catcode'T=12 %
10513 \lowercase{\endgroup
10514 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10515 }
10516 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

10517 \def\hyper@pagetransition{%
10518 \ifx\@pdfpagetransition\relax
10519 \else
10520 \ifx\@pdfpagetransition\empty
10521 % 1. Does an old entry have to be deleted?
10522 % 2. If 1=yes, how to delete?
10523 \else
10524 \pdfmark{%
10525 pdfmark=/PUT,%
10526 Raw={%
10527 \string{ThisPage\string}%
10528 <</Trans << /S /\@pdfpagetransition\space >> >>%

```

```

10529     }%
10530     }%
10531   \fi
10532 \fi
10533 }

```

\hyper@pageduration

```

10534 \def\hyper@pageduration{%
10535   \ifx\@pdfpageduration\relax
10536   \else
10537     \ifx\@pdfpageduration\@empty
10538       % 1. Does an old entry have to be deleted?
10539       % 2. If 1=yes, how to delete?
10540     \else
10541       \pdfmark{%
10542         pdfmark=/PUT,%
10543         Raw={%
10544           \string{ThisPage\string}%
10545           <</Dur \@pdfpageduration>>%
10546         }%
10547       }%
10548     \fi
10549   \fi
10550 }

```

\hyper@pagehidden

```

10551 \def\hyper@pagehidden{%
10552   \ifHy@useHidKey
10553     \pdfmark{%
10554       pdfmark=/PUT,%
10555       Raw={%
10556         \string{ThisPage\string}%
10557         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10558       }%
10559     }%
10560   \fi
10561 }

10562 \g@addto@macro\Hy@EveryPageBoxHook{%
10563   \hyper@pagetransition
10564   \hyper@pageduration
10565   \hyper@pagehidden
10566 }

10567 \def\hyper@image#1#2{%
10568   \hyper@linkurl{#2}{#1}%
10569 }

10570 \def\Hy@undefinedname{UNDEFINED}
10571 \def\hyper@link#1#2#3{%
10572   \Hy@VerboseLinkStart{#1}{#2}%
10573   \ltx@ifundefined{@#1bordercolor}{%
10574     \let\Hy@tempcolor\relax
10575   }{%
10576     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10577   }%
10578   \begingroup
10579     \protected@edef\Hy@testname{#2}%
10580     \ifx\Hy@testname\@empty

```

```

10581 \Hy@Warning{%
10582   Empty destination name,\MessageBreak
10583   using '\Hy@undefinedname'%
10584 }%
10585 \let\Hy@testname\Hy@undefinedname
10586 \fi
10587 \pdfmark[#{3}]{%
10588   Color=\Hy@tempcolor,%
10589   linktype={#1},%
10590   AcroHighlight=\@pdfhighlight,%
10591   Border=\@pdfborder,%
10592   BorderStyle=\@pdfborderstyle,%
10593   pdfmark=/ANN,%
10594   Subtype=/Link,%
10595   PDFAFlags=4,%
10596   Dest=\Hy@testname
10597 }%
10598 \endgroup
10599 }
10600 \newtoks\pdf@docset
10601 \def\PDF@FinishDoc{%
10602   \Hy@UseMaketitleInfos
10603   \HyInfo@GenerateAddons
10604   \let\Hy@temp\@empty
10605   \ifx\@pdfcreationdate\@empty
10606   \else
10607     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10608   \fi
10609   \ifx\@pdfmoddate\@empty
10610   \else
10611     \expandafter\def\expandafter\Hy@temp\expandafter{%
10612       \Hy@temp
10613       ModDate=\@pdfmoddate,%
10614     }%
10615   \fi
10616   \ifx\@pdfproducer\relax
10617   \else
10618     \expandafter\def\expandafter\Hy@temp\expandafter{%
10619       \Hy@temp
10620       Producer=\@pdfproducer,%
10621     }%
10622   \fi
10623   \expandafter
10624   \pdfmark\expandafter{%
10625     \Hy@temp
10626     pdfmark=/DOCINFO,%
10627     Title=\@pdftitle,%
10628     Subject=\@pdfsubject,%
10629     Creator=\@pdfcreator,%
10630     Author=\@pdfauthor,%
10631     Keywords=\@pdfkeywords,%
10632     Trapped=\@pdftrapped
10633   }%
10634   \ifx\HyInfo@Addons\@empty
10635   \else
10636     \pdfmark{%
10637       pdfmark=/DOCINFO,%

```

```

10638     Raw={\HyInfo@Addons}%
10639   }%
10640 \fi
10641 \Hy@DisableOption{pdfauthor}%
10642 \Hy@DisableOption{pdftitle}%
10643 \Hy@DisableOption{pdfsubject}%
10644 \Hy@DisableOption{pdfcreator}%
10645 \Hy@DisableOption{pdfcreationdate}%
10646 \Hy@DisableOption{pdfmoddate}%
10647 \Hy@DisableOption{pdfproducer}%
10648 \Hy@DisableOption{pdfkeywords}%
10649 \Hy@DisableOption{pdftrapped}%
10650 \Hy@DisableOption{pdfinfo}%
10651 }
10652 \def\PDF@SetupDoc{%
10653   \def\Hy@temp{}%
10654   \ifx\@pdfstartpage\@empty
10655   \else
10656     \ifx\@pdfstartview\@empty
10657     \else
10658       \edef\Hy@temp{%
10659         ,Page=\@pdfstartpage
10660         ,View=\@pdfstartview
10661       }%
10662     \fi
10663   \fi
10664   \edef\Hy@temp{%
10665     \noexpand\pdfmark{%
10666       pdfmark=/DOCVIEW,%
10667       PageMode=/\@pdfpagemode
10668     }\Hy@temp
10669   }%
10670 }%
10671 \Hy@temp
10672 \ifx\@pdfpagescrop\@empty
10673 \else
10674   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10675 \fi
10676 \edef\Hy@temp{%
10677   \ifHy@toolbar\else /HideToolbar true\fi
10678   \ifHy@menubar\else /HideMenubar true\fi
10679   \ifHy>windowui\else /HideWindowUI true\fi
10680   \ifHy@fitwindow /FitWindow true\fi
10681   \ifHy@centerwindow /CenterWindow true\fi
10682   \ifHy@displaydoctitle /DisplayDocTitle true\fi
10683   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
10684   \Hy@UseNameKey{Direction}\@pdfdirection
10685   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10686   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10687   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10688   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10689   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10690   \Hy@UseNameKey{Duplex}\@pdfduplex
10691   \ifx\@pdfpicktraybypdfsize\@empty
10692   \else
10693     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10694   \fi

```

```

10695 \ifx\@pdfprintpagerange\@empty
10696 \else
10697 /PrintPageRange[\@pdfprintpagerange]%
10698 \fi
10699 \ifx\@pdfnumcopies\@empty
10700 \else
10701 /NumCopies \@pdfnumcopies
10702 \fi
10703 }%
10704 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10705 \pdfmark{%
10706 pdfmark=PUT,%
10707 Raw={%
10708 \string{Catalog\string}<<%
10709 \ifx\Hy@temp\@empty
10710 \else
10711 /ViewerPreferences<<\Hy@temp>>%
10712 \fi
10713 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10714 \ifx\@pdflang\@empty
10715 \else
10716 /Lang(\@pdflang)%
10717 \fi
10718 \ifx\@baseurl\@empty
10719 \else
10720 /URI<</Base(\Hy@pstringB)>>%
10721 \fi
10722 >>%
10723 }%
10724 }%
10725 }
10726 </pdfmark>
10727 <*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.

```

10728 \newif\ifHy@pdfmarkerror
10729 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
10730 \def\pdfmark@[#1]#2{%
10731 \Hy@pdfmarkerrorfalse
10732 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10733 \@processme
10734 \let\pdf@type\relax
10735 \kvsetkeys{PDF}{#2}%
10736 \ifHy@pdfmarkerror
10737 \else
10738 \ifx\pdf@type\relax
10739 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10740 \ifx\#1\%
10741 \else
10742 \pdf@rect{#1}%
10743 \fi
10744 \else
10745 \ifx\#1\%

```

```

10746 \literalps@out{%
10747 [\the\pdf@toks\space\pdf@type\space pdfmark%
10748 }%
10749 \else
10750 \ltx@ifundefined{@\pdf@linktype color}{%
10751 \Hy@colorlink\@linkcolor
10752 }{%
10753 \expandafter\Hy@colorlink
10754 \csname @\pdf@linktype color\endcsname
10755 }%
10756 \pdf@rect{#1}%
10757 \literalps@out{%
10758 [\the\pdf@toks\space\pdf@type\space pdfmark%
10759 }%
10760 \Hy@endcolorlink
10761 \fi
10762 \fi
10763 \fi
10764 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

10765 \newsavebox{\pdf@box}
10766 \providecommand*{\Hy@setouterhbox}{\sbox}
10767 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10768 \def\Hy@DEST{/DEST}
10769 \def\pdf@rect#1{%
10770 \begingroup
10771 \chardef\x=1 %
10772 \def\Hy@temp{#1}%
10773 \ifx\Hy@temp\ltx@empty
10774 \chardef\x=0 %
10775 \else
10776 \def\y{\anchor@spot}%
10777 \ifx\Hy@temp\y
10778 \def\y{\relax}%
10779 \ifx\anchor@spot\y
10780 \chardef\x=0 %
10781 \fi
10782 \fi
10783 \fi
10784 \expandafter\endgroup
10785 \ifcase\x
10786 \literalps@out{H.S}%
10787 \literalps@out{H.R}%
10788 \else
10789 \leavevmode
10790 \Hy@SaveSpaceFactor
10791 \ifHy@breaklinks

```

```

10792 \Hy@setouterhbox\pdf@box{%
10793 \Hy@RestoreSpaceFactor
10794 \Hy@AllowHyphens#1%
10795 \Hy@SaveSpaceFactor
10796 }%
10797 \else
10798 \sbox\pdf@box{%
10799 \Hy@RestoreSpaceFactor
10800 #1%
10801 \Hy@SaveSpaceFactor
10802 }%
10803 \fi
10804 \dimen@\ht\pdf@box
10805 \ifdim\dp\pdf@box=>z@
10806 \literalps@out{H.S}%
10807 \else
10808 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10809 \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...).

```

10810 \ifHy@breaklinks
10811 \expandafter\Hy@breaklinkshbox
10812 \else
10813 \expandafter\box
10814 \fi
10815 \pdf@box

```

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

10816 \ifdim\dimen@=>z@
10817 \literalps@out{H.R}%
10818 \else
10819 \raise\dimen@\hbox{\literalps@out{H.R}}%
10820 \fi
10821 \Hy@RestoreSpaceFactor
10822 \fi
10823 \ifx\pdf@type\Hy@DEST
10824 \else
10825 \pdf@addtoksx{H.B}%
10826 \fi
10827 }

```

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.

```

10828 \newtoks\pdf@toks
10829 \newtoks\pdf@defaulttoks
10830 \pdf@defaulttoks={}%
10831 \def\pdf@addtoks#1#2{%
10832 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10833 \@processme
10834 }
10835 \def\pdf@addtoksx#1{%
10836 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10837 \@processme

```

```

10838 }
10839 \def\PDFdefaults#1{%
10840   \pdf@defaulttoks={#1}%
10841 }

```

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

```

10842 % what is the type of pdfmark?
10843 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10844 % what is the link type?
10845 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10846 \def\pdf@linktype{link}
10847 % parameter is a stream of PDF
10848 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
10849 % parameter is a name
10850 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10851 % parameter is a array
10852 \define@key{PDF}{Border}{%
10853   \edef\Hy@temp{#1}%
10854   \ifx\Hy@temp\@empty
10855     \else
10856       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10857   \fi
10858 }
10859 \let\Hy@BorderArrayPatch\@empty
10860 % parameter is a dictionary
10861 \define@key{PDF}{BorderStyle}{%
10862   \edef\Hy@temp{#1}%
10863   \ifx\Hy@temp\@empty
10864     \else
10865       \pdf@addtoks{<<#1>>}{BS}%
10866   \fi
10867 }
10868 % parameter is a array
10869 \define@key{PDF}{Color}{%
10870   \ifx\relax#1\relax
10871     \else
10872       \pdf@addtoks{[#1]}{Color}% hash-ok
10873   \fi
10874 }
10875 % parameter is a string
10876 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10877 % parameter is a integer
10878 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10879 % parameter is a array
10880 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10881 % parameter is a string
10882 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10883 % parameter is a string or file
10884 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10885 % parameter is a destination
10886 \define@key{PDF}{Dest}{%
10887   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10888   \ifx\Hy@pstringDest\@empty
10889     \Hy@pdfmarkerrortrue
10890     \Hy@Warning{Destination with empty name ignored}%
10891   \else
10892     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10893   \fi

```

```

10894 }
10895 \define@key{PDF}{DestAnchor}{%
10896   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10897   \ifx\Hy@pstringDest\@empty
10898     \Hy@pdfmarkerrortrue
10899     \Hy@Warning{Destination with empty name ignored}%
10900   \else
10901     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10902   \fi
10903 }
10904 % parameter is a string
10905 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10906 % parameter is a string
10907 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10908 % parameter is a int
10909 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10910 \define@key{PDF}{PDFAFlags}{%
10911   \ifHy@pdfa
10912     \pdf@addtoks{#1}{F}%
10913   \fi
10914 }
10915 % parameter is a name
10916 \define@key{PDF}{AcroHighlight}{%
10917   \begingroup
10918     \edef\x{#1}%
10919     \expandafter\endgroup\ifx\x\@empty
10920     \else
10921       \pdf@addtoks{#1}{H}%
10922     \fi
10923 }
10924 % parameter is a string
10925 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10926 % parameter is a string
10927 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10928 % parameter is a string
10929 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10930 % parameter is a string
10931 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10932 % parameter is a Boolean
10933 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10934 % parameter is a integer or name
10935 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10936 % parameter is a name
10937 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10938 % parameter is a string
10939 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10940 % parameter is a array
10941 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10942 % parameter is a integer
10943 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10944 % parameter is a name
10945 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10946 % parameter is a string
10947 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10948 % parameter is a string
10949 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10950 % parameter is a string

```

```

10951 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10952 % parameter is an array
10953 \define@key{PDF}{View}{\pdf@addtoks{(#1)}{View}}% hash-ok
10954 % parameter is a string
10955 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10956 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10957 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10958 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10959 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10960 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10961 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10962 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10963 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10964 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10965 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
10966 \define@key{PDF}{Trapped}{%
10967   \edef\Hy@temp{#1}%
10968   \ifx\Hy@temp\@empty
10969     \else
10970       \pdf@addtoks{/#1}{Trapped}%
10971   \fi
10972 }
10973
10974 </pdfmarkbase>
10975 <*pdfmark>
10976 \def\Acrobatmenu#1#2{%
10977   \Hy@Acrobatmenu{#1}{#2}{%
10978     \pdfmark[{#2}]{%
10979       linktype=menu,%
10980       pdfmark=/ANN,%
10981       AcroHighlight=\@pdfhighlight,%
10982       Border=\@pdfborder,%
10983       BorderStyle=\@pdfborderstyle,%
10984       Action={<< /Subtype /Named /N /#1 >>},%
10985       Subtype=/Link,%
10986       PDFAFlags=4%
10987     }%
10988   }%
10989 }

```

And now for some useful examples:

```

10990 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10991 \def\PDFNextPage@[#1]#2{%
10992   \pdfmark[{#2}]{%
10993     #1,%
10994     Border=\@pdfborder,%
10995     BorderStyle=\@pdfborderstyle,%
10996     Color=.2 .1 .5,%
10997     pdfmark=/ANN,%
10998     Subtype=/Link,%
10999     PDFAFlags=4,%
11000     Page=/Next%
11001   }%
11002 }
11003 \def\PDFPreviousPage{%
11004   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}]%

```

```

11005 }
11006 \def\PDFPreviousPage@{#1}#2{%
11007   \pdfmark[{#2}]{%
11008     #1,%
11009     Border=\@pdfborder,%
11010     BorderStyle=\@pdfborderstyle,%
11011     Color=.4 .4 .1,%
11012     pdfmark=/ANN,%
11013     Subtype=/Link,%
11014     PDFAFlags=4,%
11015     Page=/Prev%
11016   }%
11017 }
11018 \def\PDFOpen#1{%
11019   \pdfmark{#1,pdfmark=/DOCVIEW}%
11020 }

```

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

```

11021 \def\hyper@linkurl#1#2{%
11022   \begingroup
11023     \Hy@pstringdef\Hy@pstringURI{#2}%
11024     \hyper@chars
11025     \leavevmode
11026     \pdfmark[{#1}]{%
11027       pdfmark=/ANN,%
11028       linktype=url,%
11029       AcroHighlight=\@pdfhighlight,%
11030       Border=\@pdfborder,%
11031       BorderStyle=\@pdfborderstyle,%
11032       Color=\@urlbordercolor,%
11033       Action={<<%
11034         /Subtype/URI%
11035         /URI(\Hy@pstringURI)%
11036         \ifHy@href@ismap
11037           /IsMap true%
11038         \fi
11039       >>},%
11040       Subtype=/Link,%
11041       PDFAFlags=4%
11042     }%
11043   \endgroup
11044 }
11045 \def\hyper@linkfile#1#2#3{%
11046   \begingroup
11047     \def\Hy@pstringF{#2}%
11048     \Hy@CleanupFile\Hy@pstringF
11049     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11050     \Hy@pstringdef\Hy@pstringD{#3}%
11051     \Hy@MakeRemoteAction
11052     \leavevmode
11053     \pdfmark[{#1}]{%
11054       pdfmark=/ANN,%
11055       Subtype=/Link,%
11056       PDFAFlags=4,%
11057       AcroHighlight=\@pdfhighlight,%
11058       Border=\@pdfborder,%
11059       BorderStyle=\@pdfborderstyle,%
11060       linktype=file,%

```

```

11061     Color=\@filebordercolor,%
11062     Action={%
11063     <<%
11064         /S/GoToR%
11065         \Hy@SetNewWindow
11066         /F(\Hy@pstringF)%
11067         /D%
11068         \ifx\#3\%
11069         [\Hy@href@page\@pdfremotestartview]%
11070         \else
11071         (\Hy@pstringD)cvn%
11072         \fi
11073         \Hy@href@nextactionraw
11074     >>%
11075     }%
11076 }%
11077 \endgroup
11078 }
11079 \def\@hyper@launch run:#1\#2#3{%
11080 \begingroup
11081 \Hy@pstringdef\Hy@pstringF{#1}%
11082 \Hy@pstringdef\Hy@pstringP{#3}%
11083 \leavevmode
11084 \pdfmark[{#2}]{%
11085     pdfmark=/ANN,%
11086     Subtype=/Link,%
11087     PDFAFlags=4,%
11088     AcroHighlight=\@pdfhighlight,%
11089     Border=\@pdfborder,%
11090     BorderStyle=\@pdfborderstyle,%
11091     linktype=run,%
11092     Color=\@runbordercolor,%
11093     Action={%
11094     <<%
11095         /S/Launch%
11096         \Hy@SetNewWindow
11097         /F(\Hy@pstringF)%
11098         \ifx\#3\%
11099         \else
11100         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11101         \fi
11102         \Hy@href@nextactionraw
11103     >>%
11104     }%
11105     }%
11106 \endgroup
11107 }
11108 </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.

```

11109 \*dvips)
11110 \providecommand*\XR@ext}{pdf}
11111 \def\Hy@raisedlink{}
11112 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11113 \def\headerps@out#1{\special{! #1}}%
11114 \input{pdfmark.def}%
11115 \ifx\@pdfproducer\relax
11116 \def\@pdfproducer{dvips + Distiller}%
11117 \fi
11118 \providecommand*\@pdfborder{0 0 1}
11119 \providecommand*\@pdfborderstyle{}
11120 \providecommand*\@pdfview{XYZ}
11121 \providecommand*\@pdfviewparams{ H.V}
11122 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11123 \g@addto@macro\Hy@FirstPageHook{%
11124 \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.

```

11125 /DvipsToPDF{72.27 mul Resolution div} def%
11126 /PDFToDvips{72.27 div Resolution mul} def%
11127 /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.

```

11128 /BorderArrayPatch{%
11129 [exch{%
11130 dup dup type/integertype eq exch type/realtype eq or%
11131 {BPToDvips}if%
11132 }forall]%
11133 ]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.

```

11134 /HyperBorder {1 PDFToDvips} def%
11135 /H.V {pdf@hoff pdf@voff null} def%
11136 /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

```

11137 /H.S {%
11138 currentpoint %
11139 HyperBorder add /pdf@lly exch def %
11140 dup DvipsToPDF 72 add /pdf@hoff exch def %
11141 HyperBorder sub /pdf@llx exch def%
11142 } 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`

```

11143 /H.L {%
11144   2 sub dup%
11145   /HyperBasePt exch def %
11146   PDFToDvips /HyperBaseDvips exch def %
11147   currentpoint %
11148   HyperBaseDvips sub /pdf@ury exch def%
11149   /pdf@urx exch def%
11150 } def%
11151 /H.A {%
11152   H.L %
11153 % | /pdf@voff| = the distance from the top of the page to a point
11154 % | \baselineskip| above the current point in PDF coordinates
11155   currentpoint exch pop %
11156   vsize 72 sub exch DvipsToPDF %
11157   HyperBasePt sub % baseline skip
11158   sub /pdf@voff exch def%
11159 } def%
11160 /H.R {%
11161   currentpoint %
11162   HyperBorder sub /pdf@ury exch def %
11163   HyperBorder add /pdf@urx exch def %
11164 % | /pdf@voff| = the distance from the top of the page to the current point, in
11165 % PDF coordinates
11166   currentpoint exch pop vsize 72 sub %
11167   exch DvipsToPDF sub /pdf@voff exch def%
11168 } def%
11169 }%
11170 }
11171 \AtBeginShipoutFirst{%
11172   \ifHy@setpagesize
11173     \begingroup
11174     \@ifundefined{stockwidth}{%
11175       \ifdim\paperwidth>\z@
11176         \ifdim\paperheight>\z@
11177           \special{papersize=\the\paperwidth,\the\paperheight}%
11178         \fi
11179       \fi
11180     }{%
11181       \ifdim\stockwidth>\z@
11182         \ifdim\stockheight>\z@
11183           \special{papersize=\the\stockwidth,\the\stockheight}%
11184         \fi
11185       \fi
11186     }%
11187   \endgroup
11188   \fi
11189   \Hy@DisableOption{setpagesize}%
11190 }
11191 \</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.

```

11192 <*vtexpdfmark>
11193 \providecommand*\XR@ext}{pdf}
11194 \def\Hy@raisedlink{}
11195 \def\literalps@out#1{\special{pS:#1}}%
11196 \def\headerps@out#1{\immediate\special{pS:#1}}%
11197 \input{pdfmark.def}%
11198 \ifx\@pdfproducer\relax
11199   \ifnum\OpMode=\@ne
11200     \def\@pdfproducer{VTeX}%
11201   \else
11202     \def\@pdfproducer{VTeX + Distiller}%
11203   \fi
11204 \fi
11205 \providecommand*\@pdfborder{0 0 1}
11206 \providecommand*\@pdfborderstyle{}
11207 \providecommand*\@pdfview{XYZ}
11208 \providecommand*\@pdfviewparams{ H.V}
11209 \g@addto@macro\Hy@FirstPageHook{%
11210   \headerps@out{%
11211     /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.

```

11212   /HyperBorder {1} def%
11213   /H.V {pdf@hoff pdf@voff null} def%
11214   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11215   /H.S {%
11216     currentpoint %
11217     HyperBorder sub%
11218     /pdf@lly exch def %
11219     dup 72 add /pdf@hoff exch def %
11220     HyperBorder sub%
11221     /pdf@llx exch def%
11222   } def%

```

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

```

11223   /H.L {%
11224     2 sub%
11225     /HyperBasePt exch def %
11226     currentpoint %
11227     HyperBasePt add HyperBorder add%
11228     /pdf@ury exch def %
11229     HyperBorder add%
11230     /pdf@urx exch def%
11231   } def%
11232   /H.A {%

```

```

11233      H.L %
11234      currentpoint exch pop %
11235      vsize 72 sub exch %
11236      HyperBasePt add add%
11237      /pdf@voff exch def%
11238      } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11239      /H.R {%
11240          currentpoint %
11241          HyperBorder add%
11242          /pdf@ury exch def %
11243          HyperBorder add%
11244          /pdf@urx exch def %
11245          currentpoint exch pop vsize 72 sub add%
11246          /pdf@voff exch def%
11247      } def%
11248      }%
11249      }
11250      </vtexpdfmark>

```

46.11 Textures

```

11251 <*textures>
11252 \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.

```

11253 \begingroup
11254 \obeylines %
11255 \gdef\Hy@ps@CR{\noexpand
11256 }%
11257 \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`.

```

11258 \def\literalps@out#1{%
11259   \special{postscript 0 0 transform}%
11260   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11261 }%
11262 %

```

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.

```

11263 \def\headerps@out#1{%
11264   \special{%
11265     prepostscript TeXdict begin\Hy@ps@CR
11266       #1\Hy@ps@CR
11267     end%
11268   }%
11269 }%
11270 %

```

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.

```

11271 \g@addto@macro\Hy@FirstPageHook{%
11272   \headerps@out{%
11273     /betterpdfmark {%
11274       systemdict begin %
11275         dup /BP eq%
11276         {cleartomark gsave nulldevice []}%
11277         {dup /EP eq%
11278           {cleartomark cleartomark grestore}%
11279           {cleartomark}%
11280         ifelse%
11281       }ifelse %
11282     end%
11283   }def\Hy@ps@CR
11284   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11285 }% end of \headerps@out
11286 }% end of \AtBeginShipoutFirst
11287 %
11288 \input{pdfmark.def}%
11289 %
11290 \ifx\@pdfproducer\relax
11291   \def\@pdfproducer{Textures + Distiller}%
11292 \fi
11293 \providecommand*\@pdfborder{0 0 1}
11294 \providecommand*\@pdfborderstyle{}
11295 \providecommand*\@pdfview{XYZ}
11296 \providecommand*\@pdfviewparams{ H.V}
11297 %

```

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 .

```

11298 \Hy@AtBeginDocument{%
11299   \headerps@out{%

```

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

```

11300   /vsize {\Hy@pageheight} def%
11301   /DvipsToPDF {} def%
11302   /PDFToDvips {} def%
11303   /BPToDvips {} def%
11304   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11305   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR

```

```

11306 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11307 /H.S {%
11308   currentpoint %
11309   HyperBorder add /pdf@lly exch def %
11310   dup DvipsToPDF 72 add /pdf@hoff exch def %
11311   HyperBorder sub /pdf@llx exch def%
11312 } def\Hy@ps@CR
11313 /H.L {%
11314   2 sub %
11315   PDFToDvips /HyperBase exch def %
11316   currentpoint %
11317   HyperBase sub /pdf@ury exch def%
11318   /pdf@urx exch def%
11319 } def\Hy@ps@CR
11320 /H.A {%
11321   H.L %
11322   currentpoint exch pop %
11323   vsize 72 sub exch DvipsToPDF %
11324   HyperBase sub % baseline skip
11325   sub /pdf@voff exch def%
11326 } def\Hy@ps@CR
11327 /H.R {%
11328   currentpoint %
11329   HyperBorder sub /pdf@ury exch def %
11330   HyperBorder add /pdf@urx exch def %
11331   currentpoint exch pop vsize 72 sub %
11332   exch DvipsToPDF sub /pdf@voff exch def%
11333 } def\Hy@ps@CR
11334 }%
11335 }

11336 \Hy@AtBeginDocument{%
11337   \ifHy@colorlinks
11338     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11339   \fi
11340 }

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.

11341 \expandafter\let\expandafter\keepPDF@SetupDoc
11342   \csname PDF@SetupDoc\endcsname
11343 \def\PDF@SetupDoc{%
11344   \ifx\@baseurl\@empty
11345     \else
11346       \special{html:<base href="\@baseurl">}%
11347     \fi
11348   \keepPDF@SetupDoc
11349 }

11350 \Hy@WrapperDef\hyper@anchor#1{%
11351   \Hy@SaveLastskip
11352   \Hy@VerboseAnchor{#1}%
11353   \begingroup
11354     \let\protect=\string
11355     \special{html:<a name=%
11356       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11357   \endgroup
11358   \Hy@activeanchortrue
11359   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

11360 \special{html:</a>}%
11361 \Hy@activeanchorfalse
11362 \Hy@RestoreLastskip
11363 }
11364 \Hy@WrapperDef\hyper@anchorstart#1{%
11365 \Hy@SaveLastskip
11366 \Hy@VerboseAnchor{#1}%
11367 \begingroup
11368 \hyper@chars
11369 \special{html:<a name=%
11370 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11371 \endgroup
11372 \Hy@activeanchortrue
11373 }
11374 \def\hyper@anchorend{%
11375 \special{html:</a>}%
11376 \Hy@activeanchorfalse
11377 \Hy@RestoreLastskip
11378 }
11379 \def\@urlltype{url}
11380 \def\hyper@linkstart#1#2{%
11381 \Hy@VerboseLinkStart{#1}{#2}%
11382 \expandafter\Hy@colorlink\csname @#1color\endcsname
11383 \def\Hy@tempa{#1}%
11384 \ifx\Hy@tempa\@urlltype
11385 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11386 \else
11387 \begingroup
11388 \hyper@chars
11389 \special{%
11390 html:<a href=%
11391 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11392 }%
11393 \endgroup
11394 \fi
11395 }
11396 \def\hyper@linkend{%
11397 \special{html:</a>}%
11398 \Hy@endcolorlink
11399 }
11400 \def\hyper@linkfile#1#2#3{%
11401 \hyper@linkurl{#1}{%
11402 \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11403 }%
11404 }
11405 \def\hyper@linkurl#1#2{%
11406 \leavevmode
11407 \ifHy@raiselinks
11408 \Hy@SaveSpaceFactor
11409 \Hy@SaveSavedSpaceFactor
11410 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11411 \Hy@RestoreSavedSpaceFactor
11412 \@linkdim\dp\@tempboxa
11413 \lower\@linkdim\hbox{%
11414 \hyper@chars
11415 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11416 }%

```

```

11417 \Hy@colorlink\@urlcolor
11418 \Hy@RestoreSpaceFactor
11419 #1%
11420 \Hy@SaveSpaceFactor
11421 \@linkdim\ht\@tempboxa
11422 \advance\@linkdim by -6.5\p@
11423 \raise\@linkdim\hbox{\special{html:</a>}}%
11424 \Hy@endcolorlink
11425 \Hy@RestoreSpaceFactor
11426 \else
11427 \begingroup
11428 \hyper@chars
11429 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11430 \Hy@colorlink\@urlcolor#1%
11431 \special{html:</a>}%
11432 \Hy@endcolorlink
11433 \endgroup
11434 \fi
11435 }

```

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

```

11436 \def\hyper@link#1#2#3{%
11437 \Hy@VerboseLinkStart{#1}{#2}%
11438 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
11439 }
11440 \def\hyper@image#1#2{%
11441 \begingroup
11442 \hyper@chars
11443 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11444 \endgroup
11445 }
11446 </textures>

```

46.12 dvipsone

```

11447 % \subsection{dvipsone driver}
11448 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11449 % |\special| commands.
11450 <*dvipsone>
11451 \providecommand*\XR@ext}{pdf}
11452 \def\Hy@raisedlink{}
11453 \providecommand*\@pdfborder{0 0 1}
11454 \providecommand*\@pdfborderstyle{}
11455 \def\literalps@out#1{\special{ps:#1}}%
11456 \def\headerps@out#1{\special{headertext=#1}}%
11457 \input{pdfmark.def}%
11458 \ifx\@pdfproducer\relax
11459 \def\@pdfproducer{dvipsone + Distiller}%
11460 \fi
11461 \HyInfo@AddonUnsupportedtrue
11462 \def\PDF@FinishDoc{%
11463 \Hy@UseMaketitleInfos
11464 \HyInfo@TrappedUnsupported
11465 \special{PDF: Keywords \@pdfkeywords}%
11466 \special{PDF: Title \@pdftitle}%
11467 \special{PDF: Creator \@pdfcreator}%
11468 \ifx\@pdfcreationdate\@empty
11469 \else

```

```

11470 \special{PDF: CreationDate \@pdfcreationdate}%
11471 \fi
11472 \ifx\@pdfmoddate\@empty
11473 \else
11474 \special{PDF: ModDate \@pdfmoddate}%
11475 \fi
11476 \special{PDF: Author \@pdfauthor}%
11477 \ifx\@pdfproducer\relax
11478 \else
11479 \special{PDF: Producer \@pdfproducer}%
11480 \fi
11481 \special{PDF: Subject \@pdfsubject}%
11482 \Hy@DisableOption{pdfauthor}%
11483 \Hy@DisableOption{pdftitle}%
11484 \Hy@DisableOption{pdfsubject}%
11485 \Hy@DisableOption{pdfcreator}%
11486 \Hy@DisableOption{pdfcreationdate}%
11487 \Hy@DisableOption{pdfmoddate}%
11488 \Hy@DisableOption{pdfproducer}%
11489 \Hy@DisableOption{pdfkeywords}%
11490 \Hy@DisableOption{pdftrapped}%
11491 \Hy@DisableOption{pdfinfo}%
11492 }
11493 \def\PDF@SetupDoc{%
11494 \def\Hy@temp{}%
11495 \ifx\@pdfstartpage\@empty
11496 \else
11497 \ifx\@pdfstartview\@empty
11498 \else
11499 \edef\Hy@temp{%
11500 ,Page=\@pdfstartpage
11501 ,View=\@pdfstartview
11502 }%
11503 \fi
11504 \fi
11505 \edef\Hy@temp{%
11506 \noexpand\pdfmark{%
11507 pdfmark=/DOCVIEW,%
11508 PageMode=/\@pdfpagemode
11509 \Hy@temp
11510 }%
11511 }%
11512 \Hy@temp
11513 \ifx\@pdfpagescrop\@empty
11514 \else
11515 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11516 \fi
11517 \edef\Hy@temp{%
11518 \ifHy@toolbar\else /HideToolbar true\fi
11519 \ifHy@menubar\else /HideMenubar true\fi
11520 \ifHy>windowui\else /HideWindowUI true\fi
11521 \ifHy@fitwindow /FitWindow true\fi
11522 \ifHy@centerwindow /CenterWindow true\fi
11523 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11524 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11525 \Hy@UseNameKey{Direction}\@pdfdirection
11526 \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

11527 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11528 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11529 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11530 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11531 \Hy@UseNameKey{Duplex}\@pdfduplex
11532 \ifx\@pdfpicktraybypdfsize\@empty
11533 \else
11534 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11535 \fi
11536 \ifx\@pdfprintpagerange\@empty
11537 \else
11538 /PrintPageRange\@pdfprintpagerange]%
11539 \fi
11540 \ifx\@pdfnumcopies\@empty
11541 \else
11542 /NumCopies \@pdfnumcopies
11543 \fi
11544 }%
11545 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11546 \pdfmark{%
11547 pdfmark=/PUT,%
11548 Raw={%
11549 \string{Catalog\string}<<%
11550 \ifx\Hy@temp\@empty
11551 \else
11552 /ViewerPreferences<<\Hy@temp>>%
11553 \fi
11554 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11555 \ifx\@pdflang\@empty
11556 \else
11557 /Lang(\@pdflang)%
11558 \fi
11559 \ifx\@baseurl\@empty
11560 \else
11561 /URI<</Base(\Hy@pstringB)>>%
11562 \fi
11563 >>%
11564 }%
11565 }%
11566 }
11567 \providecommand*\@pdfview{XYZ}
11568 \providecommand*\@pdfviewparams{ %
11569 gsave revscl currentpoint grestore %
11570 72 add exch pop null exch null%
11571 }
11572 \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 .

```

11573 \g@addto@macro\Hy@FirstPageHook{%
11574 \headerps@out{%

```

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

```

11575 /DvipsToPDF { 65781 div } def%
11576 /PDFToDvips { 65781 mul } def%

```

```

11577 /BPToDvips{65781 mul}def%
11578 /HyperBorder { 1 PDFToDvips } def%
11579 /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.

```

11580 /BorderArrayPatch{%
11581   [exch{%
11582     dup dup type/integertype eq exch type/realtype eq or%
11583     {BPToDvips}if%
11584   }forall]%
11585 }def%

11586 /H.S {%
11587   currentpoint %
11588   HyperBorder add /pdf@lly exch def %
11589   dup DvipsToPDF 72 add /pdf@hoff exch def %
11590   HyperBorder sub /pdf@llx exch def%
11591 } def%

11592 /H.L {%
11593   2 sub %
11594   PDFToDvips /HyperBase exch def %
11595   currentpoint %
11596   HyperBase sub /pdf@ury exch def%
11597   /pdf@urx exch def%
11598 } def%

11599 /H.A {%
11600   H.L %
11601   currentpoint exch pop %
11602   HyperBase sub % baseline skip
11603   DvipsToPDF /pdf@voff exch def%
11604 } def%

11605 /H.R {%
11606   currentpoint %
11607   HyperBorder sub /pdf@ury exch def %
11608   HyperBorder add /pdf@urx exch def %
11609   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11610 } def%
11611 }%
11612 }
11613 </dvipsone>

```

46.13 TeX4ht

```

11614 <*tex4ht>
11615 \providecommand*{\XR@ext}{html}
11616 \def\Hy@raisedlink{}
11617 \ifpackageloaded{tex4ht}{%
11618   \Hy@InfoNoLine{tex4ht is already loaded}%
11619 }{%
11620   \RequirePackage[htex4ht]{tex4ht}%
11621 }
11622 \hyperlinkfileprefix{}
11623 \def\PDF@FinishDoc{}
11624 \def\PDF@SetupDoc{%
11625   \ifx\@baseurl\@empty
11626   \else
11627     \special{t4ht=<base href="\@baseurl">}%

```

```

11628 \fi
11629 }
11630 \Hy@WrapperDef\hyper@anchor#1{%
11631 \Hy@SaveLastskip
11632 \Hy@VerboseAnchor{#1}%
11633 \begingroup
11634 \let\protect=\string
11635 \special{t4ht=<a name=%
11636 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11637 \endgroup
11638 \Hy@activeanchortrue
11639 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11640 \special{t4ht=</a>}%
11641 \Hy@activeanchorfalse
11642 \Hy@RestoreLastskip
11643 }
11644 \Hy@WrapperDef\hyper@anchorstart#1{%
11645 \Hy@SaveLastskip
11646 \Hy@VerboseAnchor{#1}%
11647 \begingroup
11648 \hyper@chars\special{t4ht=<a name=%
11649 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11650 \endgroup
11651 \Hy@activeanchortrue
11652 }
11653 \def\hyper@anchorend{%
11654 \special{t4ht=</a>}%
11655 \Hy@activeanchorfalse
11656 \Hy@RestoreLastskip
11657 }
11658 \def\@urlltype{url}
11659 \def\hyper@linkstart#1#2{%
11660 \Hy@VerboseLinkStart{#1}{#2}%
11661 \expandafter\Hy@colorlink\csname @#1color\endcsname
11662 \def\Hy@tempa{#1}%
11663 \ifx\Hy@tempa\@urlltype
11664 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11665 \else
11666 \begingroup
11667 \hyper@chars
11668 \special{t4ht=<a href=%
11669 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
11670 \endgroup
11671 \fi
11672 }
11673 \def\hyper@linkend{%
11674 \special{t4ht=</a>}%
11675 \Hy@endcolorlink
11676 }
11677 \def\hyper@linkfile#1#2#3{%
11678 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
11679 }
11680 \def\hyper@linkurl#1#2{%
11681 \leavevmode
11682 \ifHy@raiselinks
11683 \Hy@SaveSpaceFactor
11684 \Hy@SaveSavedSpaceFactor

```

```

11685 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11686 \Hy@RestoreSavedSpaceFactor
11687 \@linkdim\dp\@tempboxa
11688 \lower\@linkdim\hbox{%
11689   \begingroup
11690   \hyper@chars
11691   \special{%
11692     t4ht=<a href=\hyper@quote#2\hyper@quote>%
11693   }%
11694   \endgroup
11695 }%
11696 \Hy@colorlink\@urlcolor
11697 \Hy@RestoreSpaceFactor
11698 #1%
11699 \Hy@SaveSpaceFactor
11700 \Hy@endcolorlink
11701 \@linkdim\ht\@tempboxa
11702 \advance\@linkdim by -6.5\p@
11703 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11704 \Hy@RestoreSpaceFactor
11705 \else
11706 \begingroup
11707 \hyper@chars
11708 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11709 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11710 \special{t4ht=</a>}%
11711 \endgroup
11712 \fi
11713 }

```

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

```

11714 \def\hyper@link#1#2#3{%
11715   \Hy@VerboseLinkStart{#1}{#2}%
11716   \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
11717 }
11718 \def\hyper@image#1#2{%
11719   \begingroup
11720   \hyper@chars
11721   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11722   \endgroup
11723 }
11724 \let\autoref\ref
11725 \ifx \rEfLiNK \UnDef
11726   \def\rEfLiNK #1#2{#2}%
11727 \fi
11728 \def\backref#1{}

```

Fix for tex4ht.

```

11729 \AtBeginDocument{%
11730   \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
11731   \expandafter\def\csname Make:Label\endcsname#1#2{%
11732     \ifhmode
11733       \Hy@SaveSpaceFactor
11734     \else
11735       \global\Hy@SavedSpaceFactor=1000 %
11736     \fi
11737     \Hy@OrgMakeLabel{#1}{%
11738       \Hy@RestoreSpaceFactor
11739       #2%

```

```

11740 \Hy@SaveSpaceFactor
11741 }%
11742 \Hy@RestoreSpaceFactor
11743 }%
11744 }
11745 </tex4ht>
11746 <*tex4htcfg>
11747 \IfFileExists{\jobname.cfg}{\endinput}{}
11748 \Preamble{html}
11749 \begin{document}%
11750 \EndPreamble
11751 \def\TeX{\TeX}
11752 \def\OMEGA{\Omega}
11753 \def\LaTeX{\LaTeX}
11754 \def\LaTeXe{\LaTeX2e}
11755 \def\TeX{e-TeX}
11756 \def\MF{Metafont}
11757 \def\MP{MetaPost}
11758 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

11759 <*pdfmark>
11760 \long\def\@Form[#1]{%
11761 \g@addto@macro\Hy@FirstPageHook{%
11762 \headerps@out{%
11763 [%
11764 /__objdef{pdfDocEncoding}%
11765 /type/dict%
11766 /OBJ pdfmark%
11767 [%
11768 {pdfDocEncoding}%
11769 <<%
11770 /Type/Encoding%
11771 /Differences[%
11772 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11773 /tilde %
11774 39/quotesingle %
11775 96/grave %
11776 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11777 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11778 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11779 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
11780 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11781 164/currency %
11782 166/brokenbar %
11783 168/dieresis/copyright/ordfeminine %
11784 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11785 /twosuperior/threesuperior/acute/mu %
11786 183/periodcentered/cedilla/onesuperior/ordmasculine %
11787 188/onequarter/onehalf/threequarters %
11788 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11789 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11790 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11791 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11792 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%

```

```

11793      /grave/aacute/acircumflex/atilde/adieresis/aring/ae%
11794      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11795      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11796      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11797      /ucircumflex/udieresis/yacute/thorn/ydieresis%
11798  ]%
11799  >>%
11800 /PUT pdfmark%
11801 [%
11802   /__objdef{ZaDb}%
11803   /type/dict%
11804 /OBJ pdfmark%
11805 [%
11806   {ZaDb}%
11807  <<%
11808   /Type/Font%
11809   /Subtype/Type1%
11810   /Name/ZaDb%
11811   /BaseFont/ZapfDingbats%
11812  >>%
11813 /PUT pdfmark%
11814 [%
11815   /__objdef{Helv}%
11816   /type/dict%
11817 /OBJ pdfmark%
11818 [%
11819   {Helv}%
11820  <<%
11821   /Type/Font%
11822   /Subtype/Type1%
11823   /Name/Helv%
11824   /BaseFont/Helvetica%
11825   /Encoding{pdfDocEncoding}%
11826  >>%
11827 /PUT pdfmark%
11828 [%
11829   /__objdef{aform}%
11830   /type/dict%
11831 /OBJ pdfmark%
11832 [%
11833   /__objdef{afields}%
11834   /type/array%
11835 /OBJ pdfmark%
11836 {%
11837  [%
11838   /BBox[0 0 100 100]%
11839   /__objdef{Check}%
11840 /BP pdfmark %
11841 1 0 0 setrgbcolor%
11842 /ZapfDingbats 80 selectfont %
11843 20 20 moveto%
11844 (4)show%
11845 [/EP pdfmark%
11846 [%
11847   /BBox[0 0 100 100]%
11848   /__objdef{Cross}%
11849 /BP pdfmark %

```

```

11850 1 0 0 setrgbcolor%
11851 /ZapfDingbats 80 selectfont %
11852 20 20 moveto%
11853 (8)show%
11854 [/EP pdfmark%
11855 [%
11856 /BBox[0 0 250 100]%
11857 /_objdef{Submit}%
11858 /BP pdfmark %
11859 0.6 setgray %
11860 0 0 250 100 rectfill %
11861 1 setgray %
11862 2 2 moveto %
11863 2 98 lineto %
11864 248 98 lineto %
11865 246 96 lineto %
11866 4 96 lineto %
11867 4 4 lineto %
11868 fill %
11869 0.34 setgray %
11870 248 98 moveto %
11871 248 2 lineto %
11872 2 2 lineto %
11873 4 4 lineto %
11874 246 4 lineto %
11875 246 96 lineto %
11876 fill%
11877 /Helvetica 76 selectfont %
11878 0 setgray %
11879 8 22.5 moveto%
11880 (Submit)show%
11881 [/EP pdfmark%
11882 [%
11883 /BBox[0 0 250 100]%
11884 /_objdef{SubmitP}%
11885 /BP pdfmark %
11886 0.6 setgray %
11887 0 0 250 100 rectfill %
11888 0.34 setgray %
11889 2 2 moveto %
11890 2 98 lineto %
11891 248 98 lineto %
11892 246 96 lineto %
11893 4 96 lineto %
11894 4 4 lineto %
11895 fill %
11896 1 setgray %
11897 248 98 moveto %
11898 248 2 lineto %
11899 2 2 lineto %
11900 4 4 lineto %
11901 246 4 lineto %
11902 246 96 lineto %
11903 fill%
11904 /Helvetica 76 selectfont %
11905 0 setgray %
11906 10 20.5 moveto%

```

```

11907 (Submit)show%
11908 [/EP pdfmark%
11909 } ?pdfmark%
11910 [%
11911 {aform}%
11912 <<%
11913 /Fields{afields}%
11914 /DR<<%
11915 /Font<<%
11916 /ZaDb{ZaDb}%
11917 /Helv{Helv}%
11918 >>%
11919 >>%
11920 /DA(/Helv 10 Tf 0 g)%
11921 /CO{corder}%
11922 \ifHy@pdfa
11923 \else
11924 /NeedAppearances true%
11925 \fi
11926 >>%
11927 /PUT pdfmark%
11928 [%
11929 {Catalog}%
11930 <<%
11931 /AcroForm{aform}%
11932 >>%
11933 /PUT pdfmark%
11934 [%
11935 /__objdef{corder}%
11936 /type/array%
11937 /OBJ pdfmark% dps
11938 }}%
11939 \kvsetkeys{Form}{#1}%
11940 }
11941 \def\@endForm{}
11942 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11943 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
11944 }
11945 \def\@TextField[#1]#2{% parameters, label
11946 \def\Fld@name{#2}%
11947 \def\Fld@default{}%
11948 \let\Fld@value\@empty
11949 \def\Fld@width{\DefaultWidthofText}%
11950 \def\Fld@height{%
11951 \ifFld@multiline
11952 \DefaultHeightofTextMultiline
11953 \else
11954 \DefaultHeightofText
11955 \fi
11956 }%
11957 \begingroup
11958 \expandafter\HyField@SetKeys\expandafter{%
11959 \DefaultOptionsofText,#1%
11960 }%
11961 \HyField@FlagsText
11962 \ifFld@hidden\def\Fld@width{1sp}\fi
11963 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi

```

```

11964 \LayoutTextField{#2}{%
11965   \Hy@escapeform\PDFForm@Text
11966   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11967     pdfmark=/ANN,Raw={\PDFForm@Text}%
11968   }%
11969 }%
11970 \endgroup
11971 }
11972 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11973 \def\Fld@name{#2}%
11974 \let\Fld@default\relax
11975 \let\Fld@value\relax
11976 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11977 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11978 \begingroup
11979   \Fld@menulength=0 %
11980   \@tempdima\z@
11981   \@for\@curropt:=#3\do{%
11982     \expandafter\Fld@checkequals\@curropt==\%
11983     \Hy@StepCount\Fld@menulength
11984     \settowidth{\@tempdimb}{\@currDisplay}%
11985     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11986   }%
11987   \advance\@tempdima by 15\p@
11988   \begingroup
11989     \HyField@SetKeys{#1}%
11990   \edef\x{\endgroup
11991     \noexpand\expandafter
11992     \noexpand\HyField@SetKeys
11993     \noexpand\expandafter{%
11994       \expandafter\noexpand\csname DefaultOptionsof%
11995         \ifFld@radio
11996           Radio%
11997         \else
11998           \ifFld@combo
11999             \ifFld@popdown
12000               PopdownBox%
12001             \else
12002               ComboBox%
12003             \fi
12004           \else
12005             ListBox%
12006           \fi
12007         \fi
12008       \endcsname
12009     }%
12010   }\x
12011   \HyField@SetKeys{#1}%
12012   \ifFld@hidden\def\Fld@width{1sp}\fi
12013   \ifx\Fld@value\relax
12014     \let\Fld@value\Fld@default
12015   \fi
12016 \LayoutChoiceField{#2}{%
12017   \ifFld@radio
12018     \HyField@FlagsRadioButton
12019   \@@Radio{#3}%
12020   \else

```

```

12021 \begingroup
12022 \HyField@FlagsChoice
12023 \ifdim\Fld@width<\@tempdima
12024 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12025 \edef\Fld@width{\the\@tempdima}%
12026 \fi
12027 \ifFld@combo
12028 \else
12029 \@tempdima=\the\Fld@menulength\Fld@charsize
12030 \advance\@tempdima by \Fld@borderwidth bp %
12031 \advance\@tempdima by \Fld@borderwidth bp %
12032 \edef\Fld@height{\the\@tempdima}%
12033 \fi
12034 \@@Listbox{#3}%
12035 \endgroup
12036 \fi
12037 }%
12038 \endgroup
12039 }
12040 \def\@@Radio#1{%
12041 \Fld@listcount=0 %
12042 \@for\@curropt:=#1\do{%
12043 \expandafter\Fld@checkequals\@curropt==\%
12044 \Hy@StepCount\Fld@listcount
12045 \@currDisplay\space
12046 \Hy@escapeform\PDFForm@Radio
12047 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12048 pdfmark=/ANN,%
12049 Raw={%
12050 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12051 }%
12052 } % deliberate space between radio buttons
12053 }%
12054 }
12055 \newcount\Fld@listcount
12056 \def\@@Listbox#1{%
12057 \HyField@PDFChoices{#1}%
12058 \Hy@escapeform\PDFForm@List
12059 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12060 pdfmark=/ANN,Raw={\PDFForm@List}%
12061 }%
12062 }
12063 \def\@PushButton[#1]#2{% parameters, label
12064 \def\Fld@name{#2}%
12065 \begingroup
12066 \expandafter\HyField@SetKeys\expandafter{%
12067 \DefaultOptionsofPushButton,#1%
12068 }%
12069 \ifHy@pdfa
12070 \Hy@Error{%
12071 PDF/A: Push button with JavaScript is prohibited%
12072 }\@ehc
12073 \LayoutPushButtonField{%
12074 \leavevmode
12075 \MakeButtonField{#2}%
12076 }%
12077 \else

```

```

12078 \HyField@FlagsPushButton
12079 \ifFld@hidden\def\Fld@width{1sp}\fi
12080 \LayoutPushButtonField{%
12081 \leavevmode
12082 \Hy@escapeform\PDFForm@Push
12083 \pdfmark[\MakeButtonField{#2}]{%
12084 pdfmark=/ANN,Raw={\PDFForm@Push}%
12085 }%
12086 }%
12087 \fi
12088 \endgroup
12089 }
12090 \def\@Submit[#1]#2{%
12091 \def\Fld@width{\DefaultWidthofSubmit}%
12092 \def\Fld@height{\DefaultHeightofSubmit}%
12093 \begingroup
12094 \expandafter\HyField@SetKeys\expandafter{%
12095 \DefaultOptionsofSubmit,#1%
12096 }%
12097 \HyField@FlagsPushButton
12098 \HyField@FlagsSubmit
12099 \ifFld@hidden\def\Fld@width{1sp}\fi
12100 \Hy@escapeform\PDFForm@Submit
12101 \pdfmark[\MakeButtonField{#2}]{%
12102 pdfmark=/ANN,%
12103 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12104 }%
12105 \endgroup
12106 }
12107 \def\@Reset[#1]#2{%
12108 \def\Fld@width{\DefaultWidthofReset}%
12109 \def\Fld@height{\DefaultHeightofReset}%
12110 \begingroup
12111 \expandafter\HyField@SetKeys\expandafter{%
12112 \DefaultOptionsofReset,#1%
12113 }%
12114 \leavevmode
12115 \ifHy@pdfa
12116 \Hy@Error{%
12117 PDF/A: Reset action is prohibited%
12118 }\@ehc
12119 \MakeButtonField{#2}%
12120 \else
12121 \HyField@FlagsPushButton
12122 \ifFld@hidden\def\Fld@width{1sp}\fi
12123 \Hy@escapeform\PDFForm@Reset
12124 \pdfmark[\MakeButtonField{#2}]{%
12125 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12126 }%
12127 \fi
12128 \endgroup
12129 }%
12130 \def\@CheckBox[#1]#2{% parameters, label
12131 \def\Fld@name{#2}%
12132 \def\Fld@default{0}%
12133 \begingroup
12134 \def\Fld@width{\DefaultWidthofCheckBox}%

```

```

12135 \def\Fld@height{\DefaultHeightofCheckBox}%
12136 \expandafter\HyField@SetKeys\expandafter{%
12137   \DefaultOptionsofCheckBox,#1%
12138 }%
12139 \HyField@FlagsCheckBox
12140 \ifFld@hidden\def\Fld@width{1sp}\fi
12141 \LayoutCheckField{#2}{%
12142   \Hy@escapeform\PDFForm@Check
12143   \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12144     pdfmark=/ANN,Raw={\PDFForm@Check}%
12145   }%
12146 }%
12147 \endgroup
12148 }
12149 \pdfmark>

```

47.2 HyperTeX

```

12150 \hypertex
12151 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12152 \def\@endForm{}
12153 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12154   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12155 }
12156 \def\@TextField[#1]#2{% parameters, label
12157   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12158 }
12159 \def\@CheckBox[#1]#2{% parameters, label
12160   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12161 }
12162 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12163   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12164 }
12165 \def\@PushButton[#1]#2{% parameters, label
12166   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12167 }
12168 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12169 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12170 \hypertex

```

47.3 TeX4ht

```

12171 \tex4ht
12172 \def\@Form[#1]{%
12173   \kvsetkeys{Form}{#1}%
12174   \HCode{<form action="\Form@action" method="\Form@method">}%
12175 }
12176 \def\@endForm{\HCode{</form>}}
12177 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12178   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12179 }
12180 \def\@TextField[#1]#2{% parameters, label
12181   \let\Hy@reserved@a\@empty
12182   \def\Fld@name{#2}%
12183   \def\Fld@default{}%
12184   \bgroup
12185     \Field@toks={ }%
12186     \kvsetkeys{Field}{#1}%
12187     \HCode{<label for="\Fld@name">#2</label>}%

```

```

12188 \ifFld@password
12189 \@@PasswordField
12190 \else
12191 \@@TextField
12192 \fi
12193 \egroup
12194 }
12195 \def\@@PasswordField{%
12196 \HCode{%
12197 <input type="password" %
12198 id="\Fld@name" %
12199 name="\Fld@name" %
12200 \ifFld@hidden type="hidden" \fi
12201 value="\Fld@default" %
12202 \the\Field@toks
12203 >%
12204 }%
12205 }
12206 \def\@@TextField{%
12207 \ifFld@multiline
12208 \HCode{<textarea %
12209 \ifFld@readonly readonly \fi
12210 id="\Fld@name" %
12211 name="\Fld@name" %
12212 \ifFld@hidden type="hidden" \fi
12213 \the\Field@toks>%
12214 }%
12215 \Fld@default
12216 \HCode{</textarea>}}%
12217 \else
12218 \HCode{<input type="text" %
12219 \ifFld@readonly readonly \fi
12220 id="\Fld@name" %
12221 name="\Fld@name" %
12222 \ifFld@hidden type="hidden" \fi
12223 value="\Fld@default" %
12224 \the\Field@toks>%
12225 }%
12226 \fi
12227 }
12228 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12229 \def\Fld@name{#2}%
12230 \def\Fld@default{#3}%
12231 \let\Hy@reserved@a\relax
12232 \begingroup
12233 \expandafter\Fld@findlength#3\\%
12234 \Field@toks={ }%
12235 \kvsetkeys{Field}{#1}%
12236 #2%
12237 \ifFld@radio
12238 \expandafter\@@Radio#3\\%
12239 \else
12240 \expandafter\@@Menu#3\\%
12241 \fi
12242 \endgroup
12243 }
12244 \def\Fld@findlength#1\\{%

```

```

12245 \Fld@menulength=0 %
12246 \for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12247 }
12248 \def\@@Menu#1\{\%
12249 \HCode{<select size="\the\Fld@menulength" %
12250   name="\Fld@name" %
12251   \the\Field@toks>%
12252 }%
12253 \for\@curropt:=#1\do{%
12254   \expandafter\Fld@checkequals\@curropt==\\%
12255   \HCode{<option %
12256     \ifx\@curropt\Fld@default selected \fi
12257     value="\@currValue">\@currDisplay</option>%
12258   }%
12259 }%
12260 \HCode{</select>}}%
12261 }
12262 \def\@@Radio#1\{\%
12263 \for\@curropt:=#1\do{%
12264   \expandafter\Fld@checkequals\@curropt==\\%
12265   \HCode{<input type="radio" %
12266     \ifx\@curropt\Fld@default checked \fi
12267     name="\Fld@name" %
12268     value="\@currValue" %
12269     \the\Field@toks>%
12270   }%
12271   \@currDisplay
12272 }%
12273 }
12274 \def\@PushButton[#1]#2{% parameters, label
12275   \def\Fld@name{#2}%
12276   \bgroup
12277   \Field@toks={ }%
12278   \kvsetkeys{Field}{#1}%
12279   \HCode{<input type="button" %
12280     name="\Fld@name" %
12281     value="#2" %
12282     \the\Field@toks>%
12283   }%
12284   \HCode{</button>}}%
12285   \egroup
12286 }
12287 \def\@Submit[#1]#2{%
12288   \HCode{<button type="submit">#2</button>}}%
12289 }
12290 \def\@Reset[#1]#2{%
12291   \HCode{<button type="reset">#2</button>}}%
12292 }
12293 \def\@CheckBox[#1]#2{% parameters, label
12294   \let\Hy@reserved@a\@empty
12295   \def\Fld@name{#2}%
12296   \def\Fld@default{0}%
12297   \bgroup
12298   \Field@toks={ }%
12299   \kvsetkeys{Field}{#1}%
12300   \HCode{<input type="checkbox" %
12301     \ifFld@checked checked \fi

```

```

12302 \ifFld@disabled disabled \fi
12303 \ifFld@readonly readonly \fi
12304 name="\Fld@name" %
12305 \ifFld@hidden type="hidden" \fi
12306 value="\Fld@default" %
12307 \the\Field@toks>%
12308 #2%
12309 }%
12310 \egroup
12311 }
12312 </tex4ht>

```

47.4 pdfTeX

```

12313 <*pdfTeX>
12314 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12315 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12316 }
12317 \def\MakeFieldObject#1#2{\sbox0{#1}%
12318 \immediate\pdfxform0 %
12319 \expandafter\edef\csname #2Object\endcsname{%
12320 \the\pdflastxform\space 0 R%
12321 }%
12322 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
12323 }%
12324 \def\HyField@afields{}
12325 \begingroup\expandafter\expandafter\expandafter\endgroup
12326 \expandafter\ifx\csname pdflastlink\endcsname\relax
12327 \let\HyField@AddToFields\relax
12328 \PackageInfo{hyperref}{%
12329 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12330 \MessageBreak
12331 Adobe Reader/Acrobat accepts an empty /Field array,%
12332 \MessageBreak
12333 but other PDF viewers might complain%
12334 }%
12335 \else
12336 \def\HyField@AuxAddToFields#1{%
12337 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12338 \Hy@AtBeginDocument{%
12339 \if@files
12340 \immediate\write\@mainaux{%
12341 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12342 }%
12343 \fi
12344 \let\HyField@AfterAuxOpen\@firstofone
12345 \def\HyField@AuxAddToFields#1{%
12346 \xdef\HyField@afields{%
12347 \ifx\HyField@afields\@empty
12348 \else
12349 \HyField@afields
12350 \space
12351 \fi
12352 #1 0 R%
12353 }%
12354 }%
12355 }%
12356 \def\HyField@AddToFields{%

```

```

12357 \expandafter\HyField@@AddToFields\expandafter{%
12358 \the\pdfastlink
12359 }%
12360 }%
12361 \def\HyField@@AddToFields#1{%
12362 \HyField@AfterAuxOpen{%
12363 \if@filesw
12364 \write\@mainaux{%
12365 \string\HyField@AuxAddToFields{#1}%
12366 }%
12367 \fi
12368 }%
12369 }%
12370 \fi
12371 \def\@Form[#1]{%
12372 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12373 \kvsetkeys{Form}{#1}%
12374 \Hy@FormObjects
12375 \ifnum\pdfTeXversion>13 %
12376 \pdfrefobj\OBJ@pdfdocencoding
12377 \pdfrefobj\OBJ@ZaDb
12378 \pdfrefobj\OBJ@Helv
12379 \fi
12380 \AtVeryEndDocument{%
12381 \immediate\pdfobj{%
12382 <<%
12383 /Fields[\HyField@afields]%
12384 /DR<<%
12385 /Font<<%
12386 /ZaDb \OBJ@ZaDb\space 0 R%
12387 /Helv \OBJ@Helv\space 0 R%
12388 >>%
12389 >>%
12390 /DA(/Helv 10 Tf 0 g)%
12391 \ifHy@pdfa
12392 \else
12393 /NeedAppearances true%
12394 \fi
12395 >>%
12396 }%
12397 \edef\OBJ@acroform{\the\pdfastobj}%
12398 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12399 }%
12400 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12401 \begingroup
12402 \fontfamily{pzd}%
12403 \fontencoding{U}%
12404 \fontseries{m}%
12405 \fontshape{n}%
12406 \selectfont
12407 \char123 %
12408 \endgroup
12409 }{Ding}%
12410 \MakeFieldObject{%
12411 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12412 }{Submit}%

```

```

12413 \MakeFieldObject{%
12414   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12415 }{SubmitP}%
12416 }
12417 \def\@endForm{}
12418 \def\@TextField[#1]#2{% parameters, label
12419   \def\Fld@name{#2}%
12420   \def\Fld@default{}%
12421   \let\Fld@value\@empty
12422   \def\Fld@width{\DefaultWidthofText}%
12423   \def\Fld@height{%
12424     \ifFld@multiline
12425       \DefaultHeightofTextMultiline
12426     \else
12427       \DefaultHeightofText
12428     \fi
12429   }%
12430   \begingroup
12431     \expandafter\HyField@SetKeys\expandafter{%
12432       \DefaultOptionsofText,#1%
12433     }%
12434     \PDFForm@Name
12435     \HyField@FlagsText
12436     \ifFld@hidden\def\Fld@width{1sp}\fi
12437     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12438     \LayoutTextField{#2}{%
12439       \Hy@escapeform\PDFForm@Text
12440       \pdfstartlink user {\PDFForm@Text}\relax
12441       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12442       \HyField@AddToFields
12443     }%
12444   \endgroup
12445 }
12446 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12447   \def\Fld@name{#2}%
12448   \let\Fld@default\relax
12449   \let\Fld@value\relax
12450   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12451   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12452   \begingroup
12453     \Fld@menulength=0 %
12454     \@tempdima\z@
12455     \@for\@curropt=#3\do{%
12456       \expandafter\Fld@checkequals\@curropt==\%
12457       \Hy@StepCount\Fld@menulength
12458       \settowidth{\@tempdimb}{\@currDisplay}%
12459       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12460     }%
12461     \advance\@tempdima by 15\p@
12462     \begingroup
12463       \HyField@SetKeys{#1}%
12464     \edef\x{\endgroup
12465       \noexpand\expandafter
12466       \noexpand\HyField@SetKeys
12467       \noexpand\expandafter{%
12468         \expandafter\noexpand\csname DefaultOptionsof%
12469           \ifFld@radio

```

```

12470         Radio%
12471     \else
12472     \ifFld@combo
12473         \ifFld@popdown
12474         PopdownBox%
12475     \else
12476         ComboBox%
12477     \fi
12478 \else
12479     ListBox%
12480 \fi
12481 \fi
12482 \endcsname
12483 }%
12484 } \x
12485 \HyField@SetKeys{#1}%
12486 \PDFForm@Name
12487 \ifFld@hidden\def\Fld@width{1sp}\fi
12488 \ifx\Fld@value\relax
12489     \let\Fld@value\Fld@default
12490 \fi
12491 \LayoutChoiceField{#2}{%
12492     \ifFld@radio
12493         \HyField@FlagsRadioButton
12494         \@@Radio{#3}%
12495     \else
12496         \begingroup
12497         \HyField@FlagsChoice
12498         \ifdim\Fld@width<\@tempdima
12499             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12500             \edef\Fld@width{\the\@tempdima}%
12501         \fi
12502         \ifFld@combo
12503         \else
12504             \@tempdima=\the\Fld@menulength\Fld@charsize
12505             \advance\@tempdima by \Fld@borderwidth bp %
12506             \advance\@tempdima by \Fld@borderwidth bp %
12507             \edef\Fld@height{\the\@tempdima}%
12508         \fi
12509         \@@ListBox{#3}%
12510     \endgroup
12511 \fi
12512 }%
12513 \endgroup
12514 }
12515 \def\@@Radio#1{%
12516     \Fld@listcount=0 %
12517     \@for\@curropt:=#1\do{%
12518         \expandafter\Fld@checkequals\@curropt==\%
12519         \Hy@StepCount\Fld@listcount
12520         \@currDisplay\space
12521         \leavevmode
12522         \Hy@escapeform\PDFForm@Radio
12523         \pdfstartlink user {%
12524             \PDFForm@Radio
12525             /AP<<%
12526             /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.

```

12527      /\@currValue\space \DingObject
12528      >>%
12529      >>%
12530      }%
12531      \relax
12532      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12533      \ifnum\Fld@listcount=1 %
12534      \HyField@AddToFields
12535      \fi
12536      \space % deliberate space between radio buttons
12537      }%
12538      }
12539      \newcount\Fld@listcount
12540      \def\@@ListBox#1{%
12541      \HyField@PDFChoices{#1}%
12542      \leavevmode
12543      \Hy@escapeform\PDFForm@List
12544      \pdfstartlink user {\PDFForm@List}\relax
12545      \MakeChoiceField{\Fld@width}{\Fld@height}%
12546      \pdfendlink
12547      \HyField@AddToFields
12548      }
12549      \def\@PushButton[#1]#2{% parameters, label
12550      \def\Fld@name{#2}%
12551      \begingroup
12552      \expandafter\HyField@SetKeys\expandafter{%
12553      \DefaultOptionsofPushButton,#1%
12554      }%
12555      \PDFForm@Name
12556      \ifHy@pdfa
12557      \Hy@Error{%
12558      PDF/A: Push button with JavaScript is prohibited%
12559      }\@ehc
12560      \LayoutPushButtonField{%
12561      \leavevmode
12562      \MakeButtonField{#2}%
12563      }%
12564      \else
12565      \HyField@FlagsPushButton
12566      \ifFld@hidden\def\Fld@width{1sp}\fi
12567      \LayoutPushButtonField{%
12568      \leavevmode
12569      \Hy@escapeform\PDFForm@Push
12570      \pdfstartlink user {\PDFForm@Push}\relax
12571      \MakeButtonField{#2}%
12572      \pdfendlink
12573      \HyField@AddToFields
12574      }%
12575      \fi
12576      \endgroup
12577      }
12578      \def\@Submit[#1]#2{%
12579      \def\Fld@width{\DefaultWidthofSubmit}%
12580      \def\Fld@height{\DefaultHeightofSubmit}%

```

```

12581 \begingroup
12582 \expandafter\HyField@SetKeys\expandafter{%
12583   \DefaultOptionsofSubmit,#1%
12584 }%
12585 \HyField@FlagsPushButton
12586 \HyField@FlagsSubmit
12587 \ifFld@hidden\def\Fld@width{1sp}\fi
12588 \leavevmode
12589 \Hy@escapeform\PDFForm@Submit
12590 \pdfstartlink user {%
12591   \PDFForm@Submit
12592   /AP<</N \SubmitObject/D \SubmitPObject>>%
12593 }%
12594 \relax
12595 \MakeButtonField{#2}%
12596 \pdfendlink
12597 \HyField@AddToFields
12598 \endgroup
12599 }
12600 \def\@Reset[#1]#2{%
12601   \def\Fld@width{\DefaultWidthofReset}%
12602   \def\Fld@height{\DefaultHeightofReset}%
12603   \begingroup
12604     \expandafter\HyField@SetKeys\expandafter{%
12605       \DefaultOptionsofReset,#1%
12606     }%
12607     \leavevmode
12608     \ifHy@pdfa
12609       \Hy@Error{%
12610         PDF/A: Reset action is prohibited%
12611       }\@ehc
12612       \MakeButtonField{#2}%
12613     \else
12614       \HyField@FlagsPushButton
12615       \ifFld@hidden\def\Fld@width{1sp}\fi
12616       \Hy@escapeform\PDFForm@Reset
12617       \pdfstartlink user {\PDFForm@Reset}\relax
12618       \MakeButtonField{#2}%
12619       \pdfendlink
12620       \HyField@AddToFields
12621     \fi
12622   \endgroup
12623 }
12624 \def\@CheckBox[#1]#2{% parameters, label
12625   \def\Fld@name{#2}%
12626   \def\Fld@default{0}%
12627   \begingroup
12628     \def\Fld@width{\DefaultWidthofCheckBox}%
12629     \def\Fld@height{\DefaultHeightofCheckBox}%
12630     \expandafter\HyField@SetKeys\expandafter{%
12631       \DefaultOptionsofCheckBox,#1%
12632     }%
12633     \PDFForm@Name
12634     \HyField@FlagsCheckBox
12635     \ifFld@hidden\def\Fld@width{1sp}\fi
12636     \LayoutCheckField{#2}{%
12637       \Hy@escapeform\PDFForm@Check

```

```

12638 \pdfstartlink user {\PDFForm@Check}\relax
12639 \MakeCheckField{\Fld@width}{\Fld@height}%
12640 \pdfendlink
12641 \HyField@AddToFields
12642 }%
12643 \endgroup
12644 }
12645 \def\Hy@FormObjects{%
12646 \pdfobj {%
12647 <<%
12648 /Type/Encoding%
12649 /Differences[%
12650 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12651 /ring/tilde %
12652 39/quotesingle %
12653 96/grave %
12654 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12655 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12656 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12657 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12658 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12659 164/currency %
12660 166/brokenbar %
12661 168/dieresis/copyright/ordfeminine %
12662 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12663 /twosuperior/threesuperior/acute/mu %
12664 183/periodcentered/cedilla/onesuperior/ordmasculine %
12665 188/onequarter/onehalf/threequarters %
12666 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12667 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12668 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12669 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12670 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12671 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12672 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12673 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12674 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12675 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12676 ]%
12677 >>%
12678 }%
12679 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
12680 \pdfobj{%
12681 <<%
12682 /Type/Font%
12683 /Subtype/Type1%
12684 /Name/ZaDb%
12685 /BaseFont/ZapfDingbats%
12686 >>%
12687 }%
12688 \xdef\OBJ@ZaDb{\the\pdflastobj}%
12689 \pdfobj{%
12690 <<%
12691 /Type/Font%
12692 /Subtype/Type1%
12693 /Name/Helv%
12694 /BaseFont/Helvetica%

```

```

12695      /Encoding \OBJ@pdfdocencoding\space 0 R%
12696      >>%
12697    }%
12698    \xdef\OBJ@Helv{\the\pdfastobj}%
12699    \global\let\Hy@FormObjects\relax
12700  }
12701 </pdfTeX>

```

47.5 dvipdfm, xetex

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

```

12702 < *dvipdfm | xetex>

```

\@Gauge

```

12703 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12704   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12705 }

```

\@Form

```

12706 \def\@Form[#1]{%
12707   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12708   \kvsetkeys{Form}{#1}%
12709   \Hy@FormObjects
12710   \@pdfm@mark{obj @afields []}%
12711   \@pdfm@mark{obj @corder []}%
12712   \@pdfm@mark{%
12713     obj @aform <<%
12714       /Fields @afields%
12715       /DR<<%
12716       /Font<<%
12717       /ZaDb @OBJZaDb%
12718       /Helv @OBJHelv%
12719       >>%
12720       >>%
12721       /DA(/Helv 10 Tf 0 g)%
12722       /CO @corder%
12723       \ifHy@pdfa
12724       \else
12725         /NeedAppearances true%
12726       \fi
12727       >>%
12728     }%
12729   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12730 }

```

\@endForm

```

12731 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

12732 \def\dvipdfm@setdim{%
12733   height \the\ht\pdfm@box\space
12734   width \the\wd\pdfm@box\space
12735   depth \the\dp\pdfm@box\space
12736 }

```

\HyField@AnnotCount

```
12737 \newcount\HyField@AnnotCount
12738 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
12739 \def\HyField@AdvanceAnnotCount{%
12740   \global\advance\HyField@AnnotCount\@ne
12741 }
```

\HyField@TheAnnotCount

```
12742 \def\HyField@TheAnnotCount{%
12743   \the\HyField@AnnotCount
12744 }
```

\@TextField

```
12745 \def\@TextField[#1]#2{% parameters, label
12746   \def\Fld@name{#2}%
12747   \def\Fld@default{}%
12748   \let\Fld@value\@empty
12749   \def\Fld@width{\DefaultWidthofText}%
12750   \def\Fld@height{%
12751     \ifFld@multiline
12752       \DefaultHeightofTextMultiline
12753     \else
12754       \DefaultHeightofText
12755     \fi
12756   }%
12757   \begingroup
12758   \expandafter\HyField@SetKeys\expandafter{%
12759     \DefaultOptionsofText,#1%
12760   }%
12761   \PDFForm@Name
12762   \HyField@FlagsText
12763   \ifFld@hidden\def\Fld@width{1sp}\fi
12764   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12765   \setbox\pdfm@box=\hbox{%
12766     \MakeTextField{\Fld@width}{\Fld@height}%
12767   }%
12768   \HyField@AdvanceAnnotCount
12769   \LayoutTextField{#2}{%
12770     \Hy@escapeform\PDFForm@Text
12771     \@pdfm@mark{%
12772       ann @text\HyField@TheAnnotCount\space
12773       \dvipdfm@setdim << \PDFForm@Text >>%
12774     }%
12775   }%
12776   \unhbox\pdfm@box
12777   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12778   % record in @afields array
12779   \endgroup
12780 }
```

\@ChoiceMenu

```
12781 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12782   \def\Fld@name{#2}%
12783   \let\Fld@default\relax
```

```

12784 \let\Fld@value\relax
12785 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12786 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12787 \begingroup
12788 \Fld@menulength=0 %
12789 \@tempdima\z@
12790 \@for\@curropt:=#3\do{%
12791 \expandafter\Fld@checkequals\@curropt==\%
12792 \Hy@StepCount\Fld@menulength
12793 \settowidth{\@tempdimb}{\@currDisplay}%
12794 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12795 }%
12796 \advance\@tempdima by 15\p@
12797 \begingroup
12798 \HyField@SetKeys{#1}%
12799 \edef\x{\endgroup
12800 \noexpand\expandafter
12801 \noexpand\HyField@SetKeys
12802 \noexpand\expandafter{%
12803 \expandafter\noexpand\csname DefaultOptionsof%
12804 \ifFld@radio
12805 Radio%
12806 \else
12807 \ifFld@combo
12808 \ifFld@popdown
12809 PopdownBox%
12810 \else
12811 ComboBox%
12812 \fi
12813 \else
12814 ListBox%
12815 \fi
12816 \fi
12817 \endcsname
12818 }%
12819 }\x
12820 \HyField@SetKeys{#1}%
12821 \PDFForm@Name
12822 \ifFld@hidden\def\Fld@width{1sp}\fi
12823 \ifx\Fld@value\relax
12824 \let\Fld@value\Fld@default
12825 \fi
12826 \LayoutChoiceField{#2}{%
12827 \ifFld@radio
12828 \HyField@FlagsRadioButton
12829 \@@Radio{#3}%
12830 \else
12831 \begingroup
12832 \HyField@FlagsChoice
12833 \ifdim\Fld@width<\@tempdima
12834 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12835 \edef\Fld@width{\the\@tempdima}%
12836 \fi
12837 \ifFld@combo
12838 \else
12839 \@tempdima=\the\Fld@menulength\Fld@charsize
12840 \advance\@tempdima by \Fld@borderwidth bp %

```

```

12841         \advance\@tempdima by \Fld@borderwidth bp %
12842         \edef\Fld@height{\the\@tempdima}%
12843     \fi
12844     \@@Listbox{#3}%
12845 \endgroup
12846 \fi
12847 }%
12848 \endgroup
12849 }

```

\@@Radio

```

12850 \def\@@Radio#1{%
12851   \Fld@listcount=0 %
12852   \setbox\pdfm@box=\hbox{%
12853     \MakeRadioField{\Fld@width}{\Fld@height}%
12854   }%
12855   \for\@curropt:=#1\do{%
12856     \expandafter\Fld@checkequals\@curropt==\%
12857     \Hy@StepCount\Fld@listcount
12858     \@currDisplay\space
12859     \leavevmode
12860     \Hy@escapeform\PDFForm@Radio
12861     \ifnum\Fld@listcount=1 %
12862       \HyField@AdvanceAnnotCount
12863     \fi
12864     \@pdfm@mark{%
12865       ann %
12866       \ifnum\Fld@listcount=1 %
12867         @radio\HyField@TheAnnotCount%
12868       \space
12869     \fi
12870     \dvipdfm@setdim
12871     <<%
12872     \PDFForm@Radio
12873     /AP<</N<</\@currValue /null>>>>%
12874     >>%
12875   }%
12876   \unhcopy\pdfm@box\space% deliberate space between radio buttons
12877   \ifnum\Fld@listcount=1 %
12878     \@pdfm@mark{%
12879       put @afields @radio\HyField@TheAnnotCount
12880     }%
12881   \fi
12882 }%
12883 }

```

\Fld@listcount

```

12884 \newcount\Fld@listcount

```

\@@Listbox

```

12885 \def\@@Listbox#1{%
12886   \HyField@PDFChoices{#1}%
12887   \setbox\pdfm@box=\hbox{%
12888     \MakeChoiceField{\Fld@width}{\Fld@height}%
12889   }%
12890   \leavevmode
12891   \Hy@escapeform\PDFForm@List

```

```

12892 \HyField@AdvanceAnnotCount
12893 \@pdfm@mark{%
12894   ann @list\HyField@TheAnnotCount\space
12895   \dvipdfm@setdim
12896   <<\PDFForm@List>>%
12897 }%
12898 \unhbox\pdfm@box
12899 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12900 }

```

\@PushButton

```

12901 \def\@PushButton[#1]#2{% parameters, label
12902 \def\Fld@name{#2}%
12903 \begingroup
12904   \expandafter\HyField@SetKeys\expandafter{%
12905     \DefaultOptionsofPushButton,#1%
12906   }%
12907   \PDFForm@Name
12908   \ifHy@pdfa
12909     \Hy@Error{%
12910       PDF/A: Push button with JavaScript is prohibited%
12911     }\@ehc
12912     \LayoutPushButtonField{%
12913       \leavevmode
12914       \MakeButtonField{#2}%
12915     }%
12916   \else
12917     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12918     \HyField@FlagsPushButton
12919     \ifFld@hidden\def\Fld@width{1sp}\fi
12920     \HyField@AdvanceAnnotCount
12921     \LayoutPushButtonField{%
12922       \leavevmode
12923       \Hy@escapeform\PDFForm@Push
12924       \@pdfm@mark{%
12925         ann @push\HyField@TheAnnotCount\space
12926         \dvipdfm@setdim
12927         <<\PDFForm@Push>>%
12928       }%
12929     }%
12930     \unhbox\pdfm@box
12931     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12932   \fi
12933 \endgroup
12934 }

```

\@Submit

```

12935 \def\@Submit[#1]#2{%
12936 \def\Fld@width{\DefaultWidthofSubmit}%
12937 \def\Fld@height{\DefaultHeightofSubmit}%
12938 \begingroup
12939   \expandafter\HyField@SetKeys\expandafter{%
12940     \DefaultOptionsofSubmit,#1%
12941   }%
12942   \HyField@FlagsPushButton
12943   \HyField@FlagsSubmit
12944   \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12945 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12946 \leavevmode
12947 \Hy@escapeform\PDFForm@Submit
12948 \HyField@AdvanceAnnotCount
12949 \@pdfm@mark{%
12950   ann @submit\HyField@TheAnnotCount\space
12951   \dvipdfm@setdim
12952   <<\PDFForm@Submit>>%
12953 }%
12954 \unhbox\pdfm@box%
12955 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12956 \endgroup
12957 }

```

\@Reset

```

12958 \def\@Reset[#1]#2{%
12959   \def\Fld@width{\DefaultWidthofReset}%
12960   \def\Fld@height{\DefaultHeightofReset}%
12961   \begingroup
12962     \expandafter\HyField@SetKeys\expandafter{%
12963       \DefaultOptionsofReset,#1%
12964     }%
12965     \leavevmode
12966     \ifHy@pdfa
12967       \Hy@Error{%
12968         PDF/A: Reset action is prohibited%
12969       }\@ehc
12970       \MakeButtonField{#2}%
12971     \else
12972       \HyField@FlagsPushButton
12973       \ifFld@hidden\def\Fld@width{1sp}\fi
12974       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12975       \Hy@escapeform\PDFForm@Reset
12976       \HyField@AdvanceAnnotCount
12977       \@pdfm@mark{%
12978         ann @reset\HyField@TheAnnotCount\space
12979         \dvipdfm@setdim
12980         <<\PDFForm@Reset>>%
12981       }%
12982       \unhbox\pdfm@box
12983       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12984     \fi
12985   \endgroup
12986 }

```

\@CheckBox

```

12987 \def\@CheckBox[#1]#2{% parameters, label
12988   \def\Fld@name{#2}%
12989   \def\Fld@default{0}%
12990   \begingroup
12991     \def\Fld@width{\DefaultWidthofCheckBox}%
12992     \def\Fld@height{\DefaultHeightofCheckBox}%
12993     \expandafter\HyField@SetKeys\expandafter{%
12994       \DefaultOptionsofCheckBox,#1%
12995     }%
12996     \PDFForm@Name
12997     \HyField@FlagsCheckBox

```

```

12998 \ifFld@hidden\def\Fld@width{1sp}\fi
12999 \setbox\pdfm@box=\hbox{%
13000 \MakeCheckField{\Fld@width}{\Fld@height}%
13001 }%
13002 \HyField@AdvanceAnnotCount
13003 \LayoutCheckField{#2}{%
13004 \Hy@escapeform\PDFForm@Check
13005 \@pdfm@mark{%
13006 ann @check\HyField@TheAnnotCount\space
13007 \dvipdfm@setdim
13008 <<\PDFForm@Check>>%
13009 }%
13010 \unhbox\pdfm@box
13011 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13012 }%
13013 \endgroup
13014 }

13015 \def\Hy@FormObjects{%
13016 \@pdfm@mark{obj @OBJpdfdocencoding%
13017 <<%
13018 /Type/Encoding%
13019 /Differences%
13020 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13021 39/quotesingle %
13022 96/grave %
13023 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13024 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13025 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13026 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13027 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13028 164/currency %
13029 166/brokenbar %
13030 168/dieresis/copyright/ordfeminine %
13031 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13032 /twosuperior/threesuperior/acute/mu %
13033 183/periodcentered/cedilla/onesuperior/ordmasculine %
13034 188/onequarter/onehalf/threequarters %
13035 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13036 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13037 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13038 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13039 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13040 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13041 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13042 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13043 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13044 /thorn/ydieresis%
13045 ]%
13046 >>%
13047 }%
13048 \@pdfm@mark{obj @OBJZaDb%
13049 <<%
13050 /Type/Font%
13051 /Subtype/Type1%
13052 /Name/ZaDb%
13053 /BaseFont/ZapfDingbats%
13054 >>%

```

```

13055 }%
13056 \@pdfm@mark{obj @OBJHelv%
13057 <<%
13058 /Type/Font%
13059 /Subtype/Type1%
13060 /Name/Helv%
13061 /BaseFont/Helvetica%
13062 /Encoding @OBJpdfdocencoding%
13063 >>%
13064 }%
13065 \global\let\Hy@FormObjects\relax
13066 }
13067 </dvipdfm | xetex>

```

47.6 Common forms part

```

13068 <*pdfform>

\Hy@escapestring

13069 \begingroup\expandafter\expandafter\expandafter\endgroup
13070 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13071 \let\Hy@escapestring\@firstofone
13072 \def\Hy@escapeform#1{%
13073 \ifHy@escapeform
13074 \def\Hy@escapestring##1{%
13075 \noexpand\Hy@escapestring{\noexpand##1}%
13076 }%
13077 \edef\Hy@temp{#1}%
13078 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13079 \def\Hy@escapestring##1{%
13080 \@ifundefined{Hy@esc@\string##1}{%
13081 ##1%
13082 \ThisShouldNotHappen
13083 }{%
13084 \csname Hy@esc@\string##1\endcsname
13085 }%
13086 }%
13087 \else
13088 \let\Hy@escapestring\@firstofone
13089 \fi
13090 }%
13091 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13092 \ifx\#3\%
13093 \else
13094 \expandafter
13095 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13096 \Hy@ReturnAfterFi{%
13097 \Hy@@escapeform#3\@nil
13098 }%
13099 \fi
13100 }%
13101 \else
13102 \def\Hy@escapeform#1{%
13103 \ifHy@escapeform
13104 \let\Hy@escapestring\pdfescapestring
13105 \else
13106 \let\Hy@escapestring\@firstofone

```

```

13107 \fi
13108 }%
13109 \Hy@escapeform{}%
13110 \fi

```

\PDFForm@Name

```

13111 \def\PDFForm@Name{%
13112 \begingroup
13113 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13114 \ifHy@unicode
13115 \Hy@unicodetrue
13116 \fi
13117 \fi
13118 \HyPsd@XeTeXBigCharstrue
13119 \pdfstringdef\Hy@gtemp\Fld@name
13120 \endgroup
13121 \let\Fld@name\Hy@gtemp
13122 }

```

\Fld@additionalactions

```

13123 \def\Fld@@additionalactions{%
K input (keystroke) format
13124 \ifx\Fld@keystroke@code\@empty
13125 \else
13126 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13127 \fi
F display format
13128 \ifx\Fld@format@code\@empty
13129 \else
13130 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13131 \fi
V validation
13132 \ifx\Fld@validate@code\@empty
13133 \else
13134 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13135 \fi
C calculation
13136 \ifx\Fld@calculate@code\@empty
13137 \else
13138 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13139 \fi
Fo receiving the input focus
13140 \ifx\Fld@onfocus@code\@empty
13141 \else
13142 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13143 \fi
Bl loosing the input focus (blurred)
13144 \ifx\Fld@onblur@code\@empty
13145 \else
13146 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13147 \fi

```

D pressing the mouse button (down)

```
13148 \ifx\Fld@onmousedown@code\@empty
13149 \else
13150 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13151 \fi
```

U releasing the mouse button (up)

```
13152 \ifx\Fld@onmouseup@code\@empty
13153 \else
13154 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13155 \fi
```

E cursor enters the annotation's active area.

```
13156 \ifx\Fld@onenter@code\@empty
13157 \else
13158 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13159 \fi
```

X cursor exits the annotation's active area.

```
13160 \ifx\Fld@onexit@code\@empty
13161 \else
13162 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13163 \fi
13164 }
13165 \def\Fld@additionalactions{%
13166 \if\Fld@@additionalactions-%
13167 \else
13168 \ifHy@pdfa
13169 \else
13170 /AA<<\Fld@@additionalactions>>%
13171 \fi
13172 \fi
13173 }
```

\PDFForm@Check

```
13174 \def\PDFForm@Check{%
13175 /Subtype/Widget%
13176 \Fld@annotflags
13177 /T(\Fld@name)%
13178 /FT/Btn%
13179 \Fld@flags
13180 /Q \Fld@align
13181 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13182 /MK<<%
13183 \ifnum\Fld@rotation=\z@
13184 \else
13185 /R \Fld@rotation
13186 \fi
13187 \ifx\Fld@bordercolor\relax
13188 \else
13189 /BC[\Fld@bordercolor]%
13190 \fi
13191 \ifx\Fld@bcolor\relax
13192 \else
13193 /BG[\Fld@bcolor]%
13194 \fi
13195 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13196 >>%
```

```

13197 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13198 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13199 /H/P%
13200 \ifFld@checked /V/Yes\else /V/Off\fi
13201 \Fld@additionalactions
13202 }

```

\PDFForm@Push

```

13203 \ifHy@pdfa
13204 \else
13205 \def\PDFForm@Push{%
13206 /Subtype/Widget%
13207 \Fld@annotflags
13208 /T(\Fld@name)%
13209 /FT/Btn%
13210 \Fld@flags
13211 /H/P%
13212 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13213 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13214 \ifx\Fld@bordercolor\relax\else 1\fi
13215 \space
13216 \else
13217 /MK<<%
13218 \ifnum\Fld@rotation=\z@
13219 \else
13220 /R \Fld@rotation
13221 \fi
13222 \ifx\Fld@bordercolor\relax
13223 \else
13224 /BC[\Fld@bordercolor]%
13225 \fi
13226 >>%
13227 \fi
13228 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13229 \Fld@additionalactions
13230 }%
13231 \fi

```

\PDFForm@List

```

13232 \def\PDFForm@List{%
13233 /Subtype/Widget%
13234 \Fld@annotflags
13235 /T(\Fld@name)%
13236 /FT/Ch%
13237 \Fld@flags
13238 /Q \Fld@align
13239 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13240 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13241 \ifx\Fld@bordercolor\relax\else 1\fi
13242 \ifx\Fld@bcolor\relax \else 1\fi
13243 \space
13244 \else
13245 /MK<<%
13246 \ifnum\Fld@rotation=\z@
13247 \else
13248 /R \Fld@rotation
13249 \fi

```

```

13250 \ifx\Fld@bordercolor\relax
13251 \else
13252 /BC[\Fld@bordercolor]%
13253 \fi
13254 \ifx\Fld@bcolor\relax
13255 \else
13256 /BG[\Fld@bcolor]%
13257 \fi
13258 >>%
13259 \fi
13260 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13261 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13262 \Fld@choices
13263 \Fld@additionalactions
13264 }

```

\PDFForm@Radio

```

13265 \def\PDFForm@Radio{%
13266 /Subtype/Widget%
13267 \Fld@annotflags
13268 /T(\Fld@name)%
13269 /FT/Btn%
13270 \Fld@flags
13271 /H/P%
13272 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13273 /MK<<%
13274 \ifnum\Fld@rotation=\z@
13275 \else
13276 /R \Fld@rotation
13277 \fi
13278 \ifx\Fld@bordercolor\relax
13279 \else
13280 /BC[\Fld@bordercolor]%
13281 \fi
13282 \ifx\Fld@bcolor\relax
13283 \else
13284 /BG[\Fld@bcolor]%
13285 \fi
13286 /CA(\Fld@radiosymbol)%
13287 >>%
13288 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13289 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13290 \ifx\@currValue\Fld@default
13291 /V/\Fld@default
13292 \else
13293 /V/Off%
13294 \fi
13295 \Fld@additionalactions
13296 }

```

\PDFForm@Text

```

13297 \def\PDFForm@Text{%
13298 /Subtype/Widget%
13299 \Fld@annotflags
13300 /T(\Fld@name)%
13301 /FT/Tx%
13302 \Fld@flags

```

```

13303 /Q \Fld@align
13304 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13305 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13306     \ifx\Fld@bordercolor\relax\else 1\fi
13307     \ifx\Fld@bcolor\relax \else 1\fi
13308     \space
13309 \else
13310 /MK<<%
13311     \ifnum\Fld@rotation=\z@
13312     \else
13313     /R \Fld@rotation
13314     \fi
13315     \ifx\Fld@bordercolor\relax
13316     \else
13317     /BC[\Fld@bordercolor]%
13318     \fi
13319     \ifx\Fld@bcolor\relax
13320     \else
13321     /BG[\Fld@bcolor]%
13322     \fi
13323 >>%
13324 \fi
13325 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13326     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13327 /DV(\Hy@escapestring{\Fld@default})%
13328 /V(\Hy@escapestring{\Fld@value})%
13329 \Fld@additionalactions
13330 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13331 }

```

\PDFForm@Submit

```

13332 \def\PDFForm@Submit{%
13333 /Subtype/Widget%
13334 \Fld@annotflags
13335 /T(\Fld@name)%
13336 /FT/Btn%
13337 \Fld@flags
13338 /H/P%
13339 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13340 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13341     \ifx\Fld@bordercolor\relax\else 1\fi
13342     \space
13343 \else
13344 /MK<<%
13345     \ifnum\Fld@rotation=\z@
13346     \else
13347     /R \Fld@rotation
13348     \fi
13349     \ifx\Fld@bordercolor\relax
13350     \else
13351     /BC[\Fld@bordercolor]%
13352     \fi
13353 >>%
13354 \fi
13355 /A<<%
13356 /S/SubmitForm%
13357 /F<<%

```

```

13358      /FS/URL%
13359      /F(\Hy@escapestring{\Form@action})%
13360    >>%
13361    \Fld@submitflags
13362  >>%
13363  \Fld@additionalactions
13364 }

```

\PDFForm@Reset

```

13365 \ifHy@pdfa
13366 \else
13367   \def\PDFForm@Reset{%
13368     /Subtype/Widget%
13369     \Fld@annotflags
13370     /T(\Fld@name)%
13371     /FT/Btn%
13372     \Fld@flags
13373     /H/P%
13374     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13375     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
13376       \ifx\Fld@bordercolor\relax\else 1\fi
13377       \space
13378     \else
13379       /MK<<%
13380       \ifnum\Fld@rotation=\z@
13381       \else
13382         /R \Fld@rotation
13383       \fi
13384       \ifx\Fld@bordercolor\relax
13385       \else
13386         /BC[\Fld@bordercolor]%
13387       \fi
13388     %   /CA (Clear)
13389     %   /AC (Done)
13390     >>%
13391     \fi
13392     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13393     /A<</S/ResetForm>>%
13394     \Fld@additionalactions
13395   }%
13396 \fi

13397 </pdfform>
13398 <*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`

```

13399 \def\phantomsection{%
13400   \Hy@MakeCurrentHrefAuto{section*}%

```

```

13401 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13402 }
13403 \end{package}

```

48.1 Bookmarks

```
13404 \begin{outlines}
```

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

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

When using the right-to-left typesetting based on ε -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of ε -TeX's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

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

```

13405 \def\Hy@writebookmark#1#2#3#4#5{%
13406   % section number, text, label, level, file
13407   \ifx\WriteBookmarks\relax%
13408     \else
13409     \ifnum#4>\Hy@bookmarksdepth\relax
13410     \else
13411       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13412     \fi
13413   \fi
13414 }
13415 \def\Hy@currentbookmarklevel{0}
13416 \def\Hy@numberline#1{#1 }
13417 \def\@@writetorep#1#2#3#4#5{%
13418   \begingroup
13419   \edef\Hy@tempa{#5}%
13420   \ifx\Hy@tempa\Hy@bookmarkstype
13421     \edef\Hy@level{#4}%
13422     \ifx\Hy@levelcheck Y%
13423       \@tempcnta\Hy@level\relax
13424       \advance\@tempcnta by -1 %
13425       \ifnum\Hy@currentbookmarklevel<\@tempcnta
13426         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13427         \advance\@tempcnta by 1 %
13428         \Hy@Warning{%
13429           Difference (\the\@tempcnta) between bookmark levels is %
13430           greater \MessageBreak than one, level fixed%
13431         }%
13432         \@tempcnta\Hy@currentbookmarklevel
13433         \advance\@tempcnta by 1 %
13434         \edef\Hy@level{\the\@tempcnta}%
13435       \fi
13436     \else
13437       \global\let\Hy@levelcheck Y%
13438     \fi
13439     \global\let\Hy@currentbookmarklevel\Hy@level

```

```

13440 \@tempcnta\Hy@level\relax
13441 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13442 \advance\@tempcnta by -1 %
13443 \edef\Hy@tempa{#3}%
13444 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13445 \ifx\Hy@tempa\Hy@tempb
13446 \Hy@Warning{%
13447     The anchor of a bookmark and its parent's must not%
13448     \MessageBreak be the same. Added a new anchor%
13449 }%
13450 \phantomsection
13451 \fi
13452 \ifHy@bookmarksnumbered
13453 \let\numberline\Hy@numberline
13454 \let\booknumberline\Hy@numberline
13455 \let\partnumberline\Hy@numberline
13456 \let\chapternumberline\Hy@numberline
13457 \else
13458 \let\numberline\@gobble
13459 \let\booknumberline\@gobble
13460 \let\partnumberline\@gobble
13461 \let\chapternumberline\@gobble
13462 \fi
13463 \HyPsd@XeTeXBigCharstrue
13464 \pdfstringdef\Hy@tempa{#2}%
13465 \HyPsd@SanitizeForOutFile\Hy@tempa
13466 \if@filesw
13467 \stepcounter{bookmark@seq@number}%
13468 \@ifundefined{@outlinefile}{%
13469 }{%
13470 \protected@write\@outlinefile{}{%
13471 \protect\BOOKMARK
13472 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13473 {\Hy@tempa}\Hy@tempb}%
13474 \@percentchar\space\thebookmark@seq@number
13475 }%
13476 }%
13477 \fi
13478 \fi
13479 \endgroup
13480 }
13481 \newcounter{bookmark@seq@number}

13482 \begingroup
13483 \lccode'('= '{%
13484 \lccode')='}%
13485 \lccode'1=\z@
13486 \lccode'2=\z@
13487 \lccode'3=\z@
13488 \lccode'5=\z@
13489 \lccode'7=\z@
13490 \lccode'\#=\z@
13491 \lccode'\='=\z@
13492 \lccode'\{=\z@
13493 \lccode'\}=\z@
13494 \lowercase{%
13495 \endgroup
13496 \def\HyPsd@SanitizeForOutFile#1{%

```

```

13497 \@onelevel@sanitize\Hy@tempa
13498 \escapechar'\%
13499 \edef\Hy@tempa{%
13500   \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13501 }%
13502 \edef\Hy@tempa{%
13503   \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13504 }%
13505 }%
13506 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13507   #1%
13508   \ifx\#2\%
13509     \expandafter\ltx@gobble
13510   \else
13511     \expandafter\ltx@firstofone
13512   \fi
13513   {%
13514     \string\173%
13515     \HyPsd@SanitizeOut@BraceLeft#2\@nil
13516   }%
13517 }%
13518 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13519   #1%
13520   \ifx\#2\%
13521     \expandafter\ltx@gobble
13522   \else
13523     \expandafter\ltx@firstofone
13524   \fi
13525   {%
13526     \string\175%
13527     \HyPsd@SanitizeOut@BraceRight#2\@nil
13528   }%
13529 }%
13530 }

```

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

```

13531 \newcommand{\currentpdfbookmark}{%
13532   \pdfbookmark[\Hy@currentbookmarklevel]%
13533 }
13534 \newcommand{\subpdfbookmark}{%
13535   \@tempcnta\Hy@currentbookmarklevel
13536   \Hy@StepCount\@tempcnta
13537   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13538 }
13539 \newcommand{\belowpdfbookmark}[2]{%
13540   \@tempcnta\Hy@currentbookmarklevel
13541   \Hy@StepCount\@tempcnta
13542   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13543   \advance\@tempcnta by -1 %
13544   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13545 }

```

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.

```

13546 \renewcommand\pdfbookmark[3][0]{%
13547   \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%

```

```

13548 \hyper@anchorstart{#3.#1}\hyper@anchorend
13549 }
13550 \def\BOOKMARK{%
13551 \ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%
13552 }
13553 \def\@BOOKMARK[#1]{%
13554 \ifnextchar[\@@BOOKMARK[{#1}]{\@@BOOKMARK[{#1}][-]}%
13555 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo pdf macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

13556 \RequirePackage{rerunfilecheck}[2009/12/10]
13557 \def\Hy@OutlineRerunCheck{%
13558 \RerunFileCheck{\jobname.out}{%
13559 \immediate\closeout\@outlinefile
13560 }{%
13561 Rerun to get outlines right\MessageBreak
13562 or use package 'bookmark'%
13563 }%
13564 }

```

48.1.2 Driver stuff

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

```

13565 <*vtex>
13566 \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.

```

13567 \begingroup
13568 \catcode'\'=12 %
13569 \ifnum\Hy@VTeXversion<650 %
13570 \catcode'\=12 %
13571 \gdef\hv@pdf@char#1#2#3{%
13572 \char
13573 \ifcase'#1#2#3 %
13574 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13575 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13576 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13577 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13578 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13579 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13580 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13581 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13582 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13583 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13584 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13585 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13586 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%

```

```

13587 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13588 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13589 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13590 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13591 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13592 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13593 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13594 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13595 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13596 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13597 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13598 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13599 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13600 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
13601 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13602 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13603 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13604 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13605 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
13606 \fi
13607 }%
13608 \else
13609 \gdef\hv@pdf@char{\char'}%
13610 \fi
13611 \endgroup

```

\@@BOOKMARK

```

13612 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13613 \expandafter\edef\csname @count@#3\endcsname{%
13614 \the\@serial@counter
13615 }%
13616 \edef\@mycount{\the\@serial@counter}%
13617 \Hy@StepCount\@serial@counter
13618 \edef\@parcount{%
13619 \expandafter\ifx\csname @count@#5\endcsname\relax
13620 0%
13621 \else
13622 \csname @count@#5\endcsname
13623 \fi
13624 }%
13625 \immediate\special{%
13626 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13627 s=\ifx#2-c\else o\fi,t=#4%
13628 }%
13629 }%

```

\ReadBookmarks

```

13630 \def\ReadBookmarks{%
13631 \begingroup
13632 \def\0{\hv@pdf@char 0}%
13633 \def\1{\hv@pdf@char 1}%
13634 \def\2{\hv@pdf@char 2}%
13635 \def\3{\hv@pdf@char 3}%
13636 \def\({}%
13637 \def\)}{}%
13638 \def\do##1{%
13639 \ifnum\catcode'#1=\active

```

```

13640 \makeother###1%
13641 \else
13642 \ifnum\catcode'###1=6 %
13643 \makeother###1%
13644 \fi
13645 \fi
13646 }%
13647 \dospecials
13648 \Hy@safe@activetrue
13649 \InputIfFileExists{\jobname.out}{-}{-}%
13650 \endgroup
13651 \ifx\WriteBookmarks\relax
13652 \else
13653 \if@filesw
13654 \newwrite\@outlinefile
13655 \Hy@OutlineRerunCheck
13656 \immediate\openout\@outlinefile=\jobname.out\relax
13657 \ifHy@typexml
13658 \immediate\write\@outlinefile{<relaxxml>\relax}%
13659 \fi
13660 \fi
13661 \fi
13662 }

13663 </vtex>
13664 <!*vtex>
13665 \def\ReadBookmarks{%
13666 \begingroup
13667 \def\do##1{%
13668 \ifnum\catcode'##1=\active
13669 \makeother##1%
13670 \else
13671 \ifnum\catcode'##1=6 %
13672 \makeother##1%
13673 \fi
13674 \fi
13675 }%
13676 \dospecials
13677 \Hy@safe@activetrue
13678 \escapechar='\'%
13679 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13680 \calc@bm@number{##5}%
13681 }%
13682 \InputIfFileExists{\jobname.out}{-}{-}%
13683 \ifx\WriteBookmarks\relax
13684 \global\let\WriteBookmarks\relax
13685 \fi
13686 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13687 \def\Hy@temp{##4}%
13688 <*pdfTex>
13689 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13690 \Hy@OutlineName{}\Hy@pstringName{%
13691 ##2\check@bm@number{##3}%
13692 }{%
13693 \expandafter\strip@prefix\meaning\Hy@temp
13694 }%
13695 </pdfTex>
13696 <*pdfmark>

```

```

13697 \pdfmark{%
13698 pdfmark=/OUT,%
13699 Count={##2\check@bm@number{##3}},%
13700 Dest={##3},%
13701 Title=\expandafter\strip@prefix\meaning\Hy@temp
13702 }%
13703 \pdfmark>
13704 \*dvipdfm | xetex>
13705 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13706 \pdfmark{%
13707 outline \ifHy@DvipdfmxOutlineOpen
13708 [%
13709 \ifnum##21>\z@
13710 \else
13711 -%
13712 \fi
13713 ] %
13714 \fi
13715 ##1<<%
13716 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13717 /A<<%
13718 /S/GoTo%
13719 /D(\Hy@pstringName)%
13720 >>%
13721 >>%
13722 }%
13723 \dvipdfm | xetex>
13724 }%
13725 {%
13726 \def\WriteBookmarks{0}%
13727 \InputIfFileExists{jobname.out}{-}{-}%
13728 }%
13729 {%\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
13730 \ifx\WriteBookmarks\relax
13731 \else
13732 \if@filesw
13733 \newwrite\@outlinefile
13734 \Hy@OutlineRerunCheck
13735 \immediate\openout\@outlinefile=jobname.out\relax
13736 \ifHy@typexml
13737 \immediate\write\@outlinefile{<relaxxml>\relax}%
13738 \fi
13739 \fi
13740 \fi
13741 \endgroup
13742 }
13743 \pdftex>
13744 \def\Hy@OutlineName#1#2#3#4{%
13745 \pdfoutline goto name{#2}count#3{#4}%
13746 }
13747 \pdftex>
13748 \def\check@bm@number#1{%
13749 \expandafter\ifx\csname B_#1\endcsname\relax
13750 0%
13751 \else
13752 \csname B_#1\endcsname
13753 \fi

```

```

13754 }
13755 \def\calc@bm@number#1{%
13756   \@tempcnta=\check@bm@number{#1}\relax
13757   \advance\@tempcnta by 1 %
13758   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
13759 }
13760 </!vtex>

13761 \ifHy@implicit
13762 \else
13763   \expandafter\endinput
13764 \fi

13765 </outlines>
13766 <*outlines | hypertex>

13767 \newlength\Hy@SectionHShift
13768 \def\Hy@SectionAnchorHref#1{%
13769   \ifx\protect\@typeset@protect
13770     \Hy@@SectionAnchor{#1}%
13771   \fi
13772 }
13773 \DeclareRobustCommand*\Hy@@SectionAnchor[1]{%
13774   \leavevmode
13775   \hbox to 0pt{%
13776     \kern-\Hy@SectionHShift
13777     \Hy@raisedlink{%
13778       \hyper@anchorstart{#1}\hyper@anchorend
13779     }%
13780     \hss
13781   }%
13782 }
13783 \let\H@old@ssect\@ssect
13784 \def\@ssect#1#2#3#4#5{%
13785   \Hy@MakeCurrentHrefAuto{section*}%
13786   \setlength\Hy@SectionHShift{#1}%
13787   \begingroup
13788     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13789     \toks\tw@\expandafter{%
13790       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13791       #5%
13792     }%
13793   \edef\x{\endgroup
13794     \the\toks@{\the\toks\tw@}}%
13795   }\x
13796 }
13797 \let\H@old@schapter\@schapter
13798 \def\@schapter#1{%
13799   \begingroup
13800     \let\@mkboth\@gobbletwo
13801     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13802     \Hy@raisedlink{%
13803       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13804     }%
13805   \endgroup
13806   \H@old@schapter{#1}%
13807 }

```

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:

```

13808 \ltx@ifundefined{@chapter}{%
13809   \let\Hy@org@chapter\@chapter
13810   \def\@chapter{%
13811     \def\Hy@next{%
13812       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13813       \Hy@raisedlink{%
13814         \hyper@anchorstart{\@currentHref}\hyper@anchorend
13815       }%
13816     }%
13817     \ifnum\c@secnumdepth>\m@ne
13818     \ltx@ifundefined{if@mainmatter}%
13819     \iftrue{\csname if@mainmatter\endcsname}%
13820     \let\Hy@next\relax
13821     \fi
13822   \fi
13823   \Hy@next
13824   \Hy@org@chapter
13825 }%
13826 }

13827 \let\H@old@part\@part
13828 \begingroup\expandafter\expandafter\expandafter\endgroup
13829 \expandafter\ifx\csname chapter\endcsname\relax
13830   \let\Hy@secnum@part\z@
13831 \else
13832   \let\Hy@secnum@part\m@ne
13833 \fi
13834 \def\@part{%
13835   \ifnum\Hy@secnum@part>\c@secnumdepth
13836     \phantomsection
13837   \fi
13838   \H@old@part
13839 }

13840 \let\H@old@spart\@spart
13841 \def\@spart#1{%
13842   \Hy@MakeCurrentHrefAuto{part*}%
13843   \Hy@raisedlink{%
13844     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13845   }%
13846   \H@old@spart{#1}%
13847 }

13848 \let\H@old@sect\@sect
13849 \def\@sect#1#2#3#4#5#6[#7]#8{%
13850   \ifnum #2>\c@secnumdepth
13851     \expandafter\@firstoftwo
13852   \else
13853     \expandafter\@secondoftwo
13854   \fi
13855   {%
13856     \Hy@MakeCurrentHrefAuto{section*}%
13857     \setlength{\Hy@SectionHShift}{#3}%
13858     \begingroup
13859     \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13860     \toks\tw@\expandafter{%
13861       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13862       #8%
13863     }%

```

```

13864 \edef\x{\endgroup
13865 \the\toks@{\the\toks\tw@}%
13866 }\x
13867 }{%
13868 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13869 }%
13870 }

13871 </outlines | hypertex>
13872 <*outlines>

13873 \expandafter\def\csname Parent-4\endcsname{}
13874 \expandafter\def\csname Parent-3\endcsname{}
13875 \expandafter\def\csname Parent-2\endcsname{}
13876 \expandafter\def\csname Parent-1\endcsname{}
13877 \expandafter\def\csname Parent0\endcsname{}
13878 \expandafter\def\csname Parent1\endcsname{}
13879 \expandafter\def\csname Parent2\endcsname{}
13880 \expandafter\def\csname Parent3\endcsname{}
13881 \expandafter\def\csname Parent4\endcsname{}

13882 </outlines>

```

49 Compatibility with koma-script classes

```

13883 <*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 ‘scrprpt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

13884 \def\Hy@tempa{%
13885 \def\@addchap{##1}##2{%
13886 \typeout{##2}%
13887 \if@twoside
13888 \@mkboth{##1}{}%
13889 \else
13890 \@mkboth{}{##1}%
13891 \fi
13892 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13893 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13894 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13895 \Hy@raisedlink{%
13896 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13897 }%
13898 \if@twocolumn
13899 \@topnewpage[\@makeschapterhead{##2}]%
13900 \else
13901 \@makeschapterhead{##2}%
13902 \@afterheading
13903 \fi
13904 \addcontentsline{toc}{chapter}{##1}%
13905 }%
13906 }
13907 \ifclassloaded{scrbook}{%
13908 \ifclasslater{scrbook}{2001/01/01}{%
13909 \let\Hy@tempa\@empty
13910 }{}%

```

```

13911 }{%
13912 \ifclassloaded{scrreprt}{%
13913 \ifclasslater{scrreprt}{2001/01/01}{%
13914 \let\Hy@tempa\@empty
13915 }{}%
13916 }{%
13917 \let\Hy@tempa\@empty
13918 }%
13919 }%
13920 \Hy@tempa
13921 </outlines | hypertext>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```

13922 <*pd1enc>
13923 \DeclareFontEncoding{PD1}{-}{-}

Accents
13924 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
13925 \DeclareTextAccent{\'}{PD1}{\textacute}
13926 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
13927 \DeclareTextAccent{\~}{PD1}{\texttilde}
13928 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
13929 \DeclareTextAccent{\r}{PD1}{\textring}
13930 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13931 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13932 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13933 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
13934 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13935 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13936 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
13937 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13938 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
13939 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
13940 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
13941 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13942 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13943 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13944 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13945 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13946 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13947 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13948 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
13949 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13950 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
13951 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
13952 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
13953 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13954 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13955 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13956 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13957 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13958 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}

```

```

13959 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13960 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13961 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13962 \DeclareTextCommand{\newtie}{PD1}[1]{%
13963   \TextSymbolUnavailable{\newtie{#1}}#1%
13964 }

```

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

```

13965 % U+0009 (CHARACTER TABULATION)
13966 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13967 % U+000A (LINE FEED)
13968 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13969 % U+000D (CARRIAGE RETURN)
13970 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

13971 % U+02D8 BREVE; breve
13972 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13973 % U+02C7 CARON; caron
13974 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13975 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13976 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13977 % U+02D9 DOT ABOVE; dotaccent
13978 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13979 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13980 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13981 % U+02DB OGONEK; ogonek
13982 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13983 % U+02DA RING ABOVE; ring
13984 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
13985 % U+02DC SMALL TILDE; ilde, *tilde
13986 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

13987 % U+0022 QUOTATION MARK; quotedbl
13988 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
13989 % U+0023 NUMBER SIGN; numbersign
13990 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
13991 % U+0024 DOLLAR SIGN; dollar
13992 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
13993 % U+0025 PERCENT SIGN; percent
13994 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
13995 % U+0026 AMPERSAND; ampersand
13996 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

```

13997 % U+0028 LEFT PARENTHESIS; parenleft
13998 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
13999 % U+0029 RIGHT PARENTHESIS; parenright
14000 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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

```

14001 % U+002E FULL STOP; period

```

```

14002 \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
 14003 % U+003C LESS-THAN SIGN; less
 14004 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14005 % U+003E GREATER-THAN SIGN; greater
 14006 \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
 14007 % U+005C REVERSE SOLIDUS; backslash
 14008 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14009 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14010 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14011 % U+005F LOW LINE; underscore
 14012 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14013 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14014 % U+0060 GRAVE ACCENT; grave
 14015 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14016 % U+0069 LATIN SMALL LETTER I; i
 14017 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14018 % U+007B LEFT CURLY BRACKET; braceleft
 14019 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14020 % U+007C VERTICAL LINE; *bar, verticalbar
 14021 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14022 % U+007D RIGHT CURLY BRACKET; braceright
 14023 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14024 % U+007E TILDE; asciitilde
 14025 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14026 % U+2022 BULLET; bullet
 14027 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14028 % U+2020 DAGGER; dagger
 14029 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14030 % U+2021 DOUBLE DAGGER; daggerdbl
 14031 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14032 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14033 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14034 % U+2014 EM DASH; emdash
 14035 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014

14036 % U+2013 EN DASH; endash
14037 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
14038 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
14039 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
14040 % U+2044 FRACTION SLASH; fraction
14041 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
14042 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
ingleft
14043 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
14044 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
ingright
14045 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
14046 % U+2212 MINUS SIGN; minus
14047 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14048 % U+2030 PER MILLE SIGN; perthousand
14049 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14050 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14051 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14052 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14053 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14054 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14055 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14056 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14057 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14058 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14059 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14060 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14061 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14062 % U+2122 TRADE MARK SIGN; trademark
14063 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14064 % U+FB01 LATIN SMALL LIGATURE FI; fi
14065 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14066 % U+FB02 LATIN SMALL LIGATURE FL; fl
14067 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14068 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14069 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14070 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14071 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14072 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14073 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14074 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14075 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
14076 \DeclareTextCommand{\IJ}{PD1}{\230}
14077 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14078 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14079 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14080 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14081 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14082 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14083 % U+0153 LATIN SMALL LIGATURE OE; oe
14084 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14085 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14086 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14087 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14088 \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.

14089 % U+20AC EURO SIGN; *Euro, euro
 14090 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 14091 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14092 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14093 % U+00A2 CENT SIGN; cent
 14094 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14095 % U+00A3 POUND SIGN; sterling
 14096 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14097 % U+00A4 CURRENCY SIGN; currency
 14098 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14099 % U+00A5 YEN SIGN; yen
 14100 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14101 % U+00A6 BROKEN BAR; brokenbar
 14102 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14103 % U+00A7 SECTION SIGN; section
 14104 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14105 % U+00A8 DIAERESIS; dieresis
 14106 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14107 % U+00A9 COPYRIGHT SIGN; copyright
 14108 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14109 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14110 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14111 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 14112 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14113 % U+00AC NOT SIGN; logicalnot
 14114 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14115 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14116 % U+00AE REGISTERED SIGN; registered
 14117 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14118 % U+00AF MACRON; *macron, overscore
 14119 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 14120 % U+00B0 DEGREE SIGN; degree
 14121 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 14122 % U+00B1 PLUS-MINUS SIGN; plusminus
 14123 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 14124 % U+00B2 SUPERScript TWO; twosuperior
 14125 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 14126 % U+00B3 SUPERScript THREE; threesuperior
 14127 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 14128 % U+00B4 ACUTE ACCENT; acute
 14129 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 14130 % U+00B5 MICRO SIGN; mu, mul
 14131 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 14132 % U+00B6 PILCROW SIGN; paragraph
 14133 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 14134 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14135 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 14136 % U+00B8 CEDILLA; cedilla
 14137 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 14138 % U+00B9 SUPERScript ONE; onesuperior
 14139 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 14140 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 14141 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 14142 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright

14143 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14144 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14145 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14146 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14147 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14148 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14149 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14150 % U+00BF INVERTED QUESTION MARK; questiondown
14151 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14152 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14153 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14154 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14155 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14156 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14157 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14158 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14159 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14160 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14161 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14162 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14163 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14164 % U+00C6 LATIN CAPITAL LETTER AE; AE
14165 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14166 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14167 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14168 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14169 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14170 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14171 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14172 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14173 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14174 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14175 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14176 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14177 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14178 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14179 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14180 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14181 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14182 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14183 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14184 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14185 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14186 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14187 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14188 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14189 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14190 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14191 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14192 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14193 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14194 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14195 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14196 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14197 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14198 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14199 % U+00D7 MULTIPLICATION SIGN; multiply

14200 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14201 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14202 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14203 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14204 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14205 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14206 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14207 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14208 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14209 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14210 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14211 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14212 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14213 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14214 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14215 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14216 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14217 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14218 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14219 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14220 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14221 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14222 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14223 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14224 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14225 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14226 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14227 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14228 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14229 % U+00E6 LATIN SMALL LETTER AE; ae
14230 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14231 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14232 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14233 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14234 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14235 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14236 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14237 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14238 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14239 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14240 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14241 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14242 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14243 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14244 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14245 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14246 \DeclareTextCompositeCommand{\^}{PD1}{i}{\355}% U+00ED
14247 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14248 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14249 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14250 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14251 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14252 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14253 % U+00F0 LATIN SMALL LETTER ETH; eth
14254 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14255 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14256 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1

14257 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 14258 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
 14259 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 14260 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
 14261 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 14262 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
 14263 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 14264 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
 14265 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 14266 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
 14267 % U+00F7 DIVISION SIGN; divide
 14268 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
 14269 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 14270 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 14271 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 14272 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
 14273 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 14274 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
 14275 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 14276 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
 14277 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 14278 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
 14279 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 14280 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
 14281 % U+00FE LATIN SMALL LETTER THORN; thorn
 14282 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 14283 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 14284 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
 14285 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

14286 \DeclareTextCommand{\SS}{PD1}{SS}
 14287 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

14288 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
 14289 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
 14290 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
 14291 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
 14292 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
 14293 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
 14294 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
 14295 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)

14296 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
 14297 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
 14298 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
 14299 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
 14300 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
 14301 \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).

14302 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
 14303 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
 14304 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
 14305 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
 14306 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute

```

14307 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
14308 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
14309 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
14310 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
14311 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
14312 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
14313 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
14314 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
14315 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
14316 </pdlenc>

```

50.2 PU encoding

```

14317 <*puenc>
14318 \DeclareFontEncoding{PU}{-}{-}

```

50.2.1 NFSS2 accents

```

14319 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14320 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
14321 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14322 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
14323 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14324 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
14325 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14326 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14327 % U+0304 COMBINING MACRON; macroncmb
14328 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14329 % U+0306 COMBINING BREVE; brevecmb
14330 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14331 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14332 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14333 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14334 % U+0308 COMBINING DIAERESIS; dieresiscomb
14335 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14336 % U+030A COMBINING RING ABOVE; ringcmb
14337 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14338 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14339 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14340 % U+030C COMBINING CARON; caroncmb
14341 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14342 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14343 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14344 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14345 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14346 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14347 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
14348 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14349 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14350 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14351 % U+0327 COMBINING CEDILLA; cedillacmb
14352 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14353 % U+0328 COMBINING OGONEK; ogonekcmb
14354 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14355 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14356 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14357 % U+20DD COMBINING ENCLOSING CIRCLE
14358 \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.

```

14359 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
14360 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14361 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
14362 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
14363 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14364 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14365 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14366 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14367 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14368 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14369 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14370 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14371 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14372 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14373 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14374 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14375 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14376 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14377 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

14378 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14379 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14380 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14381 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
14382 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14383 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14384 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14385 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14386 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14387 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14388 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14389 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14390 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14391 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14392 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14393 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14394 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14395 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14396 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14397 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14398 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14399 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14400 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14401 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14402 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14403 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\\"{#1}}
14404 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14405 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14406 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14407 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14408 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14409 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
14410 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14411 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```
14412 % U+0009 (CHARACTER TABULATION)
14413 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14414 % U+000A (LINE FEED)
14415 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14416 % U+000D (CARRIAGE RETURN)
14417 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
14418 % U+0022 QUOTATION MARK; quotedbl
14419 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14420 % U+0023 NUMBER SIGN; numbersign
14421 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14422 % U+0024 DOLLAR SIGN; dollar
14423 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14424 % U+0025 PERCENT SIGN; percent
14425 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14426 % U+0026 AMPERSAND; ampersand
14427 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14428 % U+0027 APOSTROPHE; quotesingle
14429 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14430 % U+0028 LEFT PARENTHESIS; parenleft
14431 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14432 % U+0029 RIGHT PARENTHESIS; parenright
14433 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14434 % U+002A ASTERISK; asterisk
14435 \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
14436 % U+003C LESS-THAN SIGN; less
14437 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
14438 % U+003E GREATER-THAN SIGN; greater
14439 \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
14440 % U+005C REVERSE SOLIDUS; backslash
14441 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
```

14442 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14443 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14444 % U+005F LOW LINE; underscore
 14445 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14446 % U+0060 GRAVE ACCENT; grave
 14447 \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
 14448 % U+0069 LATIN SMALL LETTER I; i
 14449 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069
 14450 \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
 14451 % U+007B LEFT CURLY BRACKET; braceleft
 14452 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14453 % U+007C VERTICAL LINE; *bar, verticalbar
 14454 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14455 % U+007D RIGHT CURLY BRACKET; braceright
 14456 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14457 % U+007E TILDE; asciitilde
 14458 \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
 14459 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14460 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14461 % U+00A2 CENT SIGN; cent
 14462 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14463 % U+00A3 POUND SIGN; sterling
 14464 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14465 % U+00A4 CURRENCY SIGN; currency
 14466 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14467 % U+00A5 YEN SIGN; yen
 14468 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14469 % U+00A6 BROKEN BAR; brokenbar
 14470 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14471 % U+00A7 SECTION SIGN; section
 14472 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14473 % U+00A8 DIAERESIS; dieresis
 14474 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14475 % U+00A9 COPYRIGHT SIGN; copyright
 14476 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14477 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14478 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14479 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14480 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14481 % U+00AC NOT SIGN; logicalnot
 14482 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14483 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14484 % U+00AE REGISTERED SIGN; registered

14485 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
14486 % U+00AF MACRON; *macron, overscore
14487 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
14488 % U+00B0 DEGREE SIGN; degree
14489 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
14490 % U+00B1 PLUS-MINUS SIGN; plusminus
14491 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
14492 % U+00B2 SUPERScript TWO; twosuperior
14493 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
14494 % U+00B3 SUPERScript THREE; threesuperior
14495 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
14496 % U+00B4 ACUTE ACCENT; acute
14497 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14498 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
14499 % U+00B5 MICRO SIGN; mu, mu1
14500 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
14501 % U+00B6 PILCROW SIGN; paragraph
14502 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
14503 % U+00B7 MIDDLE DOT; middot, *periodcentered
14504 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
14505 % U+00B8 CEDILLA; cedilla
14506 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
14507 % U+00B9 SUPERScript ONE; onesuperior
14508 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
14509 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14510 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
14511 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
14512 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
14513 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14514 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
14515 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14516 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
14517 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14518 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
14519 % U+00BF INVERTED QUESTION MARK; questiondown
14520 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
14521 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14522 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
14523 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14524 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
14525 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14526 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
14527 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14528 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
14529 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14530 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4
14531 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14532 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
14533 % U+00C6 LATIN CAPITAL LETTER AE; AE
14534 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
14535 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14536 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
14537 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14538 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
14539 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14540 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9

14541 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14542 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
14543 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14544 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
14545 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14546 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
14547 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14548 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
14549 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14550 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
14551 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14552 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
14553 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14554 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
14555 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14556 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
14557 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14558 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
14559 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14560 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
14561 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14562 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
14563 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14564 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
14565 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14566 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
14567 % U+00D7 MULTIPLICATION SIGN; multiply
14568 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14569 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14570 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
14571 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14572 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
14573 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14574 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
14575 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14576 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
14577 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14578 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
14579 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14580 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
14581 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14582 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
14583 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14584 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
14585 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14586 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
14587 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14588 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
14589 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14590 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
14591 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14592 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
14593 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14594 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
14595 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14596 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
14597 % U+00E6 LATIN SMALL LETTER AE; ae

14598 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
14599 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14600 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
14601 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14602 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
14603 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14604 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
14605 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14606 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
14607 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14608 \DeclareTextCompositeCommand{\\"}{PU}{e}{\80\353}% U+00EB
14609 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14610 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
14611 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
14612 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14613 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\355}% U+00ED
14614 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
14615 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14616 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14617 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14618 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14619 \DeclareTextCompositeCommand{\\"}{PU}{i}{\80\357}% U+00EF
14620 \DeclareTextCompositeCommand{\\"}{PU}{i}{\80\357}% U+00EF
14621 % U+00F0 LATIN SMALL LETTER ETH; eth
14622 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
14623 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14624 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
14625 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14626 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
14627 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14628 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
14629 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14630 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
14631 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14632 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
14633 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14634 \DeclareTextCompositeCommand{\\"}{PU}{o}{\80\366}% U+00F6
14635 % U+00F7 DIVISION SIGN; divide
14636 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
14637 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14638 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
14639 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14640 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
14641 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14642 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
14643 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14644 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
14645 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14646 \DeclareTextCompositeCommand{\\"}{PU}{u}{\80\374}% U+00FC
14647 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14648 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
14649 % U+00FE LATIN SMALL LETTER THORN; thorn
14650 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
14651 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14652 \DeclareTextCompositeCommand{\\"}{PU}{y}{\80\377}% U+00FF

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

14653 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
14654 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
14655 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
14656 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
14657 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
14658 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
14659 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
14660 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
14661 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
14662 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
14663 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
14664 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
14665 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
14666 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
14667 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
14668 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
14669 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
14670 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
14671 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
14672 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
14673 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
14674 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
14675 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
14676 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
14677 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
14678 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
14679 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
14680 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
14681 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
14682 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
14683 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
14684 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
14685 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
14686 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
14687 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
14688 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
14689 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
14690 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
14691 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
14692 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
14693 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
14694 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
14695 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
14696 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
14697 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
14698 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
14699 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
14700 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
14701 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
14702 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
14703 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
14704 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
14705 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
14706 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
14707 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
14708 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B

14709 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
14710 \DeclareTextCompositeCommand{\~}{PU}{G}{\81\034}% U+011C
14711 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
14712 \DeclareTextCompositeCommand{\~}{PU}{g}{\81\035}% U+011D
14713 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
14714 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
14715 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
14716 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
14717 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
14718 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
14719 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
14720 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
14721 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
14722 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
14723 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
14724 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
14725 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
14726 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
14727 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
14728 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
14729 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
14730 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
14731 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
14732 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
14733 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
14734 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
14735 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
14736 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14737 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14738 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
14739 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
14740 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
14741 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14742 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14743 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
14744 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
14745 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
14746 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14747 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14748 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
14749 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
14750 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
14751 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14752 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14753 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
14754 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
14755 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14756 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
14757 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
14758 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
14759 % U+0133 LATIN SMALL LIGATURE IJ; ij
14760 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
14761 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
14762 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
14763 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
14764 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

14765 \DeclareTextCompositeCommand{\~}{PU}{\j}{\81\065}% U+0135
 14766 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 14767 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 14768 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 14769 \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.

14770 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 14771 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 14772 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 14773 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 14774 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 14775 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 14776 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
 14777 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 14778 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 14779 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 14780 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 14781 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 14782 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 14783 \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.

14784 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
 14785 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 14786 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 14787 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 14788 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14789 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 14790 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14791 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 14792 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 14793 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 14794 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 14795 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 14796 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
 14797 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 14798 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 14799 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 14800 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 14801 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 14802 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 14803 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 14804 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
 14805 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 14806 % U+014A LATIN CAPITAL LETTER ENG; Eng
 14807 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 14808 % U+014B LATIN SMALL LETTER ENG; eng
 14809 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 14810 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 14811 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C

14812 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
14813 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
14814 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
14815 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
14816 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
14817 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
14818 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
14819 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
14820 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
14821 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
14822 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14823 \DeclareTextCompositeCommand{\OE}{PU}{\81\122}% U+0152
14824 % U+0153 LATIN SMALL LIGATURE OE; oe
14825 \DeclareTextCompositeCommand{\oe}{PU}{\81\123}% U+0153
14826 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
14827 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
14828 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
14829 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
14830 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
14831 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
14832 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
14833 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
14834 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
14835 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
14836 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
14837 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
14838 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
14839 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
14840 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
14841 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
14842 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
14843 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
14844 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
14845 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
14846 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
14847 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
14848 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
14849 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
14850 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14851 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
14852 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14853 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
14854 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
14855 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
14856 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
14857 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
14858 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
14859 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
14860 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
14861 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
14862 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
14863 \DeclareTextCompositeCommand{\textTslash}{PU}{\81\146}% U+0166
14864 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar

14865 \DeclareTextCommand{\textslash}{PU}{\81\147}% U+0167
14866 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
14867 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
14868 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
14869 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
14870 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
14871 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
14872 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
14873 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
14874 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
14875 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
14876 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
14877 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
14878 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
14879 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
14880 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
14881 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
14882 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
14883 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
14884 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
14885 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
14886 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
14887 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
14888 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
14889 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
14890 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
14891 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
14892 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
14893 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
14894 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
14895 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
14896 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
14897 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
14898 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14899 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
14900 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
14901 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
14902 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
14903 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
14904 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
14905 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
14906 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
14907 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
14908 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14909 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
14910 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14911 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
14912 % U+017F LATIN SMALL LETTER LONG S; longs, slong
14913 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

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

14914 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
14915 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
14916 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
14917 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD

14918 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
14919 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
14920 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
14921 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
14922 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
14923 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
14924 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
14925 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
14926 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
14927 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
14928 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
14929 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
14930 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
14931 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
14932 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
14933 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
14934 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
14935 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
14936 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
14937 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
14938 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
14939 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
14940 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
14941 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
14942 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
14943 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
14944 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
14945 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
14946 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
14947 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
14948 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
14949 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
14950 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
14951 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
14952 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
14953 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
14954 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
14955 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
14956 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
14957 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
14958 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
14959 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
14960 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
14961 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
14962 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
14963 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
14964 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
14965 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
14966 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
14967 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
14968 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
14969 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
14970 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
14971 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
14972 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave

14973 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 14974 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 14975 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 14976 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 14977 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 14978 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 14979 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 14980 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 14981 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 14982 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 14983 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 14984 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 14985 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 14986 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 14987 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 14988 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 14989 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 14990 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 14991 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 14992 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 14993 % U+021E LATIN CAPITAL LETTER H WITH CARON
 14994 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 14995 % U+021F LATIN SMALL LETTER H WITH CARON
 14996 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 14997 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 14998 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 14999 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15000 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15001 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15002 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15003 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15004 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15005 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15006 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15007 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15008 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15009 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15010 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15011 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15012 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15013 % U+0237 LATIN SMALL LETTER DOTLESS J
 15014 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

15015 % U+02C7 CARON; caron
 15016 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15017 % U+02D8 BREVE; breve
 15018 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15019 % U+02D9 DOT ABOVE; dotaccent
 15020 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15021 % U+02DA RING ABOVE; ring
 15022 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15023 % U+02DB OGONEK; ogonek
 15024 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15025 % U+02DC SMALL TILDE; ilde, *tilde
 15026 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15027 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut

15028 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15029 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15030 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15031 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15032 % U+02F7 MODIFIER LETTER LOW TILDE
 15033 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

15034 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15035 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15036 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15037 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15038 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15039 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15040 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15041 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15042 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15043 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

15044 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15045 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 15046 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 15047 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 15048 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 15049 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 15050 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 15051 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 15052 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 15053 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 15054 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 15055 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 15056 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
 cronos
 15057 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 15058 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos
 15059 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 15060 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 15061 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 15062 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
 tadiesistonos
 15063 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
 15064 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 15065 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 15066 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 15067 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 15068 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
 15069 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
 15070 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
 15071 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
 15072 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 15073 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 15074 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 15075 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 15076 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 15077 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 15078 % U+0398 GREEK CAPITAL LETTER THETA; Theta

15079 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15080 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15081 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15082 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
15083 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15084 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15085 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15086 % U+039C GREEK CAPITAL LETTER MU; Mu
15087 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15088 % U+039D GREEK CAPITAL LETTER NU; Nu
15089 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15090 % U+039E GREEK CAPITAL LETTER XI; Xi
15091 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15092 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15093 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15094 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15095 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15096 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15097 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15098 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15099 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15100 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
15101 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15102 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15103 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15104 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15105 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15106 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15107 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15108 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15109 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15110 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15111 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15112 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15113 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15114 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15115 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilon
silonadieresis
15116 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15117 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15118 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15119 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
15120 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15121 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15122 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15123 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15124 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15125 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silonadieresis
15126 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
15127 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15128 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15129 % U+03B2 GREEK SMALL LETTER BETA; beta
15130 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15131 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15132 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15133 % U+03B4 GREEK SMALL LETTER DELTA; delta

15134 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15135 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15136 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15137 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15138 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15139 % U+03B7 GREEK SMALL LETTER ETA; eta
15140 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15141 % U+03B8 GREEK SMALL LETTER THETA; theta
15142 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15143 % U+03B9 GREEK SMALL LETTER IOTA; iota
15144 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15145 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15146 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15147 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15148 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15149 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15150 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15151 % U+03BD GREEK SMALL LETTER NU; nu
15152 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15153 % U+03BE GREEK SMALL LETTER XI; xi
15154 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15155 % U+03BF GREEK SMALL LETTER OMICRON; omicron
15156 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
15157 % U+03C0 GREEK SMALL LETTER PI; pi
15158 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
15159 % U+03C1 GREEK SMALL LETTER RHO; rho
15160 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
15161 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
15162 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
15163 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
15164 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
15165 % U+03C4 GREEK SMALL LETTER TAU; tau
15166 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
15167 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
15168 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
15169 % U+03C6 GREEK SMALL LETTER PHI; phi
15170 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
15171 % U+03C7 GREEK SMALL LETTER CHI; chi
15172 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
15173 % U+03C8 GREEK SMALL LETTER PSI; psi
15174 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
15175 % U+03C9 GREEK SMALL LETTER OMEGA; omega
15176 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
15177 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
15178 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
15179 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
15180 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
15181 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
15182 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
15183 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
15184 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
15185 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
15186 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
15187 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
15188 % U+03DA GREEK LETTER STIGMA; Stigmagreek
15189 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA

15190 % U+03DB GREEK SMALL LETTER STIGMA
 15191 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15192 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15193 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15194 % U+03DD GREEK SMALL LETTER DIGAMMA
 15195 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15196 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15197 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15198 % U+03DF GREEK SMALL LETTER KOPPA
 15199 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15200 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15201 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15202 % U+03E1 GREEK SMALL LETTER SAMPI
 15203 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

50.2.9 Cyrillic: U+0400 to U+04FF

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

15204 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15205 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
 15206 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 15207 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 15208 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
 15209 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 15210 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
 15211 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 15212 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
 15213 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 15214 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 15215 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 15216 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 15217 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-
 lic, *afii10055
 15218 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
 15219 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
 15220 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
 15221 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
 15222 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
 15223 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
 15224 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
 15225 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
 15226 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
 15227 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
 15228 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
 15229 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
 15230 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
 15231 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
 15232 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
 15233 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
 15234 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
 15235 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
 15236 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
 15237 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
 15238 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
 15239 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
 15240 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
 15241 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018

15242 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15243 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15244 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15245 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15246 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15247 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15248 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15249 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15250 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15251 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15252 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15253 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15254 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15255 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15256 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15257 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15258 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15259 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15260 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15261 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15262 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15263 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
15264 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
15265 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
15266 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
15267 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15268 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15269 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15270 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15271 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15272 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15273 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15274 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15275 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15276 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15277 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15278 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15279 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15280 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15281 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15282 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15283 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15284 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15285 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15286 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15287 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15288 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15289 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15290 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15291 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15292 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15293 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15294 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15295 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15296 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15297 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15298 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047

15299 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15300 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15301 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15302 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15303 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15304 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15305 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15306 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15307 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15308 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15309 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15310 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15311 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15312 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15313 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15314 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15315 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15316 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
15317 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
15318 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15319 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15320 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15321 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15322 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15323 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15324 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15325 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15326 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15327 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15328 \DeclareTextCommand{\cyrll}{PU}{\84\073}% U+043B
15329 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15330 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15331 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15332 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15333 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15334 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15335 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15336 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15337 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15338 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15339 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15340 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
15341 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15342 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15343 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15344 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
15345 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15346 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15347 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15348 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15349 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15350 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15351 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15352 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15353 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15354 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15355 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic

15356 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15357 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15358 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15359 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15360 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15361 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15362 \DeclareTextCommand{\cyrstfn}{PU}{\84\114}% U+044C
15363 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15364 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
15365 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15366 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E
15367 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15368 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F
15369 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15370 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
15371 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15372 \DeclareTextCommand{\cyrIo}{PU}{\84\121}% U+0451
15373 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
15374 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15375 \DeclareTextCommand{\cyrDje}{PU}{\84\122}% U+0452
15376 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15377 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
15378 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
15379 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% U+0454
15380 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
15381 \DeclareTextCommand{\cyrDze}{PU}{\84\125}% U+0455
15382 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyrillic
15383 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% U+0456
15384 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
15385 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% U+0457
15386 \DeclareTextCompositeCommand{\"}{PU}{\cyrIi}{\84\127}% U+0457
15387 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15388 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% U+0458
15389 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15390 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459
15391 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15392 \DeclareTextCommand{\cyrNje}{PU}{\84\132}% U+045A
15393 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15394 \DeclareTextCommand{\cyrTshe}{PU}{\84\133}% U+045B
15395 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15396 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
15397 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15398 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
15399 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
15400 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
15401 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
15402 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15403 \DeclareTextCommand{\cyrDzhe}{PU}{\84\137}% U+045F
15404 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
15405 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15406 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
15407 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15408 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
15409 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15410 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
15411 \DeclareTextCommand{\cyrYat}{PU}{\84\143}% U+0463

15412 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 15413 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 15414 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 15415 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 15416 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 15417 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 15418 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 15419 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 15420 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
 tifiedcyrillic
 15421 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 15422 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
 fiedcyrillic
 15423 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 15424 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 15425 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 15426 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 15427 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 15428 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
 cyrillic
 15429 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 15430 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
 lic
 15431 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 15432 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 15433 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15434 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15435 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15436 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15437 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15438 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15439 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15440 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15441 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15442 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15443 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15444 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15445 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15446 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15447 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15448 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 15449 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15450 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 15451 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15452 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15453 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15454 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15455 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15456 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 15457 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15458 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15459 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15460 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic

15461 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15462 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-cyrillic
 15463 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15464 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15465 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15466 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15467 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15468 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15469 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15470 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15471 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15472 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 15473 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 15474 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15475 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15476 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15477 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15478 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15479 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15480 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15481 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15482 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15483 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15484 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15485 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15486 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 15487 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15488 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 15489 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15490 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 15491 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15492 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15493 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15494 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 15495 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15496 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 15497 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15498 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 15499 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496

15500 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 15501 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 15502 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 15503 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 15504 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 15505 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 15506 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
 15507 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 15508 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 15509 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 15510 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 15511 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 15512 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavericalstrokecyrillic
 15513 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 15514 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavericalstrokecyrillic
 15515 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 15516 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 15517 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 15518 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 15519 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 15520 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 15521 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 15522 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 15523 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 15524 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 15525 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 15526 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 15527 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 15528 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 15529 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 15530 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 15531 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 15532 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 15533 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 15534 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 15535 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 15536 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 15537 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 15538 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 15539 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 15540 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 15541 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 15542 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA

15543 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-cyrillic
 15544 \DeclareTextCommand{\cyrtdsc}{PU}{\84\253}% U+04AB
 15545 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 15546 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 15547 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 15548 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-cyrillic
 15549 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
 15550 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 15551 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 15552 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 15553 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
 15554 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 15555 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 15556 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
 15557 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 15558 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
 15559 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 15560 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescender-cyrillic
 15561 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 15562 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 15563 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 15564 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 15565 \DeclareTextCommand{\cyr tetse}{PU}{\84\265}% U+04B5
 15566 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 15567 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 15568 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 15569 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
 15570 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
 15571 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 15572 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
 15573 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 15574 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 15575 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 15576 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 15577 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 15578 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic
 15579 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 15580 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 15581 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 15582 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 15583 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 15584 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE

15585 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 15586 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 15587 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 15588 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 15589 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 15590 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 15591 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 15592 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 15593 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 15594 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 15595 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 15596 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 15597 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 15598 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 15599 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 15600 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 15601 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 15602 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 15603 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 15604 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 15605 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 15606 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
 15607 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 15608 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
 15609 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 15610 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 15611 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 15612 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 15613 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 15614 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 15615 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 15616 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 15617 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 15618 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
 15619 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
 15620 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 15621 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
 15622 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 15623 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 15624 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 15625 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 15626 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
 15627 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 15628 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
 15629 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 15630 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 15631 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 15632 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 15633 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
 15634 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic
 15635 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA

15636 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
 siscyrillic
 15637 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
 15638 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
 siscyrillic
 15639 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
 15640 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
 cyrillic
 15641 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
 15642 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
 cyrillic
 15643 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
 15644 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
 15645 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
 15646 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
 cyrillic
 15647 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 15648 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
 15649 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 15650 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 15651 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
 15652 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 15653 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
 15654 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
 15655 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
 15656 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
 15657 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
 15658 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
 lic
 15659 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 15660 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 15661 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 15662 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 15663 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 15664 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 15665 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 15666 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERE-
 SIS; Obarreddieresiscyrillic
 15667 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 15668 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-
 dieresiscyrillic
 15669 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 15670 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 15671 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 15672 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 15673 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 15674 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 15675 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
 15676 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 15677 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
 15678 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 15679 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 15680 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 15681 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 15682 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
 garumlautcyrillic
 15683 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2

15684 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
15685 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
15686 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
15687 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
15688 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
15689 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
15690 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
15691 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
15692 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
15693 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
15694 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
15695 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
15696 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
15697 \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
15698 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
15699 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
15700 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
15701 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

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

15702 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
15703 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

15704 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
15705 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
15706 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
15707 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
15708 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
15709 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
15710 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
15711 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
15712 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
15713 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
15714 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
15715 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
15716 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
15717 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
15718 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
15719 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
15720 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
15721 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
15722 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
15723 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
15724 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
15725 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E

15726 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
15727 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
15728 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
15729 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
15730 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
15731 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
15732 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
15733 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
15734 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
15735 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
15736 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
15737 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
15738 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
15739 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
15740 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
15741 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
15742 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
15743 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
15744 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
15745 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
15746 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
15747 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
15748 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
15749 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
15750 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
15751 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
15752 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
15753 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
15754 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
15755 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
15756 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
15757 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
15758 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
15759 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
15760 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
15761 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
15762 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
15763 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
15764 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
15765 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
15766 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
15767 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
15768 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
15769 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
15770 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
15771 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
15772 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
15773 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
15774 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
15775 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
15776 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
15777 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
15778 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
15779 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
15780 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
15781 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
15782 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent

15783 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
15784 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
15785 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
15786 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
15787 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
15788 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
15789 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
15790 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
15791 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
15792 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
15793 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
15794 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
15795 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
15796 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
15797 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
15798 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
15799 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
15800 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
15801 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
15802 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
15803 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
15804 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
15805 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\202}% U+1E82
15806 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
15807 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\203}% U+1E83
15808 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
15809 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
15810 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
15811 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
15812 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
15813 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
15814 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
15815 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
15816 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
15817 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
15818 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
15819 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
15820 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
15821 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
15822 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
15823 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
15824 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
15825 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
15826 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
15827 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
15828 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
15829 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
15830 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
15831 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
15832 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
15833 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
15834 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
15835 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
15836 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
15837 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
15838 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
15839 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97

15840 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
15841 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
15842 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
15843 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
15844 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
cent
15845 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
15846 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
15847 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
15848 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
15849 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
15850 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
15851 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
15852 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
15853 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
15854 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
15855 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
15856 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
15857 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

15858 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
15859 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
15860 % U+2013 EN DASH; endash
15861 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
15862 % U+2014 EM DASH; emdash
15863 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
15864 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
15865 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
15866 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
15867 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
15868 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
15869 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
15870 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
15871 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
15872 % U+201C LEFT DOUBLE QUOTATION MARK; quotedbleft
15873 \DeclareTextCommand{\textquotedbleft}{PU}{\9040\034}% U+201C
15874 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedbright
15875 \DeclareTextCommand{\textquotedbright}{PU}{\9040\035}% U+201D
15876 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
15877 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
15878 % U+2020 DAGGER; dagger
15879 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
15880 % U+2021 DOUBLE DAGGER; daggerdbl
15881 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
15882 % U+2022 BULLET; bullet
15883 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
15884 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
15885 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
15886 % U+2030 PER MILLE SIGN; perthousand
15887 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
15888 % U+2031 PER TEN THOUSAND SIGN
15889 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
15890 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
lingleft
15891 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039

15892 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guiltingright
15893 \DeclareTextCommand{\guiltingright}{PU}{\9040\072}% U+203A
15894 % U+203B REFERENCE MARK; referencemark
15895 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
15896 % U+203D INTERROBANG
15897 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
15898 % U+2044 FRACTION SLASH; fraction
15899 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
15900 % U+2045 LEFT SQUARE BRACKET WITH QUILL
15901 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
15902 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
15903 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
15904 % U+2052 COMMERCIAL MINUS SIGN
15905 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

15906 % U+2070 SUPERSCRIPT ZERO; zerosuperior
15907 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
15908 % U+2074 SUPERSCRIPT FOUR; foursuperior
15909 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
15910 % U+2075 SUPERSCRIPT FIVE; fivesuperior
15911 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
15912 % U+2076 SUPERSCRIPT SIX; sixsuperior
15913 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
15914 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
15915 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
15916 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
15917 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
15918 % U+2079 SUPERSCRIPT NINE; ninesuperior
15919 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
15920 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
15921 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
15922 % U+207B SUPERSCRIPT MINUS
15923 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
15924 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
15925 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}
15926 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
15927 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
15928 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
15929 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
15930 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
15931 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
15932 % U+2080 SUBSCRIPT ZERO; zeroinferior
15933 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
15934 % U+2081 SUBSCRIPT ONE; oneinferior
15935 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
15936 % U+2082 SUBSCRIPT TWO; twoinferior
15937 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
15938 % U+2083 SUBSCRIPT THREE; threeinferior
15939 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
15940 % U+2084 SUBSCRIPT FOUR; fourinferior
15941 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
15942 % U+2085 SUBSCRIPT FIVE; fiveinferior
15943 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
15944 % U+2086 SUBSCRIPT SIX; sixinferior
15945 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086

15946 % U+2087 SUBSCRIPT SEVEN; seveninferior
15947 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
15948 % U+2088 SUBSCRIPT EIGHT; eightinferior
15949 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
15950 % U+2089 SUBSCRIPT NINE; nineinferior
15951 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
15952 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
15953 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
15954 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
15955 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

15956 % U+20A1 COLON SIGN; *colonmonetary, colonsign
15957 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
15958 % U+20A4 LIRA SIGN; afii08941, *lira
15959 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
15960 % U+20A6 NAIRA SIGN
15961 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
15962 % U+20A7 PESETA SIGN; peseta
15963 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
15964 % U+20A9 WON SIGN; won
15965 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
15966 % U+20AB DONG SIGN; dong
15967 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
15968 % U+20AC EURO SIGN; *Euro, euro
15969 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
15970 % U+20B1 PESO SIGN
15971 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
15972 % U+20B2 GUARANI SIGN
15973 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

15974 % U+2103 DEGREE CELSIUS; centigrade
15975 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
15976 % U+2116 NUMERO SIGN; *afii61352, numero
15977 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
15978 % U+2117 SOUND RECORDING COPYRIGHT
15979 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
15980 % U+211E PRESCRIPTION TAKE; prescription
15981 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
15982 % U+2120 SERVICE MARK
15983 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
15984 % U+2122 TRADE MARK SIGN; trademark
15985 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
15986 % U+2126 OHM SIGN; Ohm, Omega
15987 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
15988 % U+2127 INVERTED OHM SIGN
15989 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
15990 % U+212B ANGSTROM SIGN; angstrom
15991 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
15992 % U+212E ESTIMATED SYMBOL; estimated
15993 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
15994 % U+2135 ALEF SYMBOL; aleph
15995 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

15996 % U+2190 LEFTWARDS ARROW; arrowleft

15997 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 15998 % U+2191 UPWARDS ARROW; arrowup
 15999 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16000 % U+2192 RIGHTWARDS ARROW; arrowright
 16001 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16002 % U+2193 DOWNWARDS ARROW; arrowdown
 16003 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

16004 % U+2212 MINUS SIGN; minus
 16005 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16006 % U+221A SQUARE ROOT; radical
 16007 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

16008 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16009 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16010 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16011 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

16012 % U+2422 BLANK SYMBOL
 16013 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16014 % U+2423 OPEN BOX; blank
 16015 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

16016 % U+2460 CIRCLED DIGIT ONE; onecircle
 16017 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 16018 % U+2461 CIRCLED DIGIT TWO; twocircle
 16019 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 16020 % U+2462 CIRCLED DIGIT THREE; threecircle
 16021 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 16022 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 16023 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 16024 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 16025 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 16026 % U+2465 CIRCLED DIGIT SIX; sixcircle
 16027 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 16028 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 16029 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 16030 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 16031 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 16032 % U+2468 CIRCLED DIGIT NINE; ninecircle
 16033 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 16034 % U+2469 CIRCLED NUMBER TEN; tencircle
 16035 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 16036 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 16037 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 16038 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 16039 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 16040 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 16041 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 16042 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 16043 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 16044 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 16045 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E

16046 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 16047 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 16048 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 16049 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 16050 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 16051 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 16052 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 16053 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 16054 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 16055 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 16056 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 16057 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 16058 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 16059 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 16060 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 16061 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 16062 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 16063 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 16064 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 16065 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 16066 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 16067 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 16068 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 16069 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 16070 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 16071 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 16072 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16073 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16074 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16075 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16076 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16077 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16078 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16079 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16080 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16081 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16082 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16083 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16084 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16085 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16086 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16087 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16088 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16089 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16090 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16091 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16092 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16093 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16094 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16095 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16096 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16097 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16098 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16099 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16100 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16101 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16102 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle

16103 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
16104 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
16105 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
16106 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
16107 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
16108 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
16109 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
16110 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
16111 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
16112 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
16113 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
16114 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
16115 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
16116 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
16117 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
16118 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
16119 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
16120 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
16121 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
16122 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
16123 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
16124 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
16125 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
16126 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
16127 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
16128 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
16129 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
16130 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
16131 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
16132 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
16133 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
16134 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
16135 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
16136 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
16137 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
16138 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
16139 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
16140 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
16141 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
16142 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
16143 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
16144 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
16145 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
16146 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
16147 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
16148 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
16149 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
16150 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
16151 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
16152 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
16153 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
16154 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
16155 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
16156 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
16157 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
16158 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
16159 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9

16160 % U+24EA CIRCLED DIGIT ZERO
 16161 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

16162 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16163 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16164 % U+25EF LARGE CIRCLE; largecircle
 16165 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

16166 % U+266A EIGHTH NOTE; musicalnote
 16167 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16168 % U+26AD MARRIAGE SYMBOL
 16169 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 16170 % U+26AE DIVORCE SYMBOL
 16171 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

16172 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16173 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16174 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16175 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

16176 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16177 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16178 % U+FB02 LATIN SMALL LIGATURE FL; fl
 16179 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

50.2.25 Miscellaneous

16180 \DeclareTextCommand{\SS}{PU}{SS}

50.2.26 Aliases

Aliases (german.sty)

16181 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
 16182 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
 16183 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
 16184 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
 16185 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
 16186 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
 16187 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
 16188 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

16189 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
 16190 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
 16191 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
 16192 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
 16193 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
 16194 </puenc>

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

16195 <*puvnenc>

16196 \DeclareTextCommand{\abreve}{PU}{\81\003}
16197 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16198 \DeclareTextCommand{\dj}{PU}{\81\021}
16199 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16200 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16201 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16202 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16203 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16204 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16205 \DeclareTextCommand{\DJ}{PU}{\81\020}
16206 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16207 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16208 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16209 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16210 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16211 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16212 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16213 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16214 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16215 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16216 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16217 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16218 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16219 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16220 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16221 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16222 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
16223 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16224 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16225 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16226 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16227 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16228 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16229 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16230 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16231 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16232 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16233 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16234 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16235 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16236 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16237 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16238 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16239 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16240 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16241 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16242 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16243 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16244 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16245 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16246 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16247 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16248 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16249 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16250 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16251 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16252 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}

16253 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16254 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16255 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16256 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16257 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16258 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16259 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16260 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16261 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16262 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16263 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16264 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16265 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16266 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16267 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16268 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16269 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16270 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16271 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16272 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16273 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16274 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16275 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16276 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16277 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16278 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16279 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
16280 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
16281 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16282 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16283 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16284 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
16285 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
16286 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16287 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
16288 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16289 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
16290 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
16291 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16292 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
16293 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16294 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
16295 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
16296 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16297 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
16298 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16299 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
16300 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
16301 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16302 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
16303 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16304 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
16305 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
16306 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16307 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
16308 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16309 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}

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16310 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\332}
16311 \DeclareTextCompositeCommand{d}{PU}{\OHORN}{\9036\342}
16312 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\334}
16313 \DeclareTextCompositeCommand{h}{PU}{\OHORN}{\9036\336}
16314 \DeclareTextCompositeCommand{~}{PU}{\OHORN}{\9036\340}
16315 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}
16316 \DeclareTextCompositeCommand{d}{PU}{U}{\9036\344}
16317 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}
16318 \DeclareTextCompositeCommand{h}{PU}{U}{\9036\346}
16319 \DeclareTextCompositeCommand{~}{PU}{U}{\81\150}
16320 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\350}
16321 \DeclareTextCompositeCommand{d}{PU}{\UHORN}{\9036\360}
16322 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}
16323 \DeclareTextCompositeCommand{h}{PU}{\UHORN}{\9036\354}
16324 \DeclareTextCompositeCommand{~}{PU}{\UHORN}{\9036\356}
16325 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}
16326 \DeclareTextCompositeCommand{d}{PU}{Y}{\9036\364}
16327 \DeclareTextCompositeCommand{'}{PU}{Y}{\9036\362}
16328 \DeclareTextCompositeCommand{h}{PU}{Y}{\9036\366}
16329 \DeclareTextCompositeCommand{~}{PU}{Y}{\9036\370}
16330 </puvnc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

16331 <*puarenc>
16332 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
16333 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
16334 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
16335 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
16336 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
16337 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
16338 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF
16339 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH
16340 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA
16341 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH
16342 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-
TER THEH
16343 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-
TER JEEM
16344 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH
16345 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH
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16349 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN
16350 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN
16351 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-
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16352 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD

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