

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 hyccheck.tex

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

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

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

```
4 \newcommand*{\checklatex}[1]{}{
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }
```

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

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

\HyC@getDate The release date is scanned.

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

\HyC@checkPackage

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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


```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a \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\l%
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```

231 \Hy@SetCatcodes

```

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

```

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 Version check

```

\Hy@VersionChecked

```

```

254 \chardef\Hy@VersionChecked=0 %

```

```

\Hy@VersionCheck

```

```

255 \def\Hy@VersionCheck#1{%
256   \begingroup
257   \ltx@ifundefined{ver@hyperref.sty}{%
258     \Hy@Error{%
259       This should not happen!\MessageBreak
260       Missing hyperref version%
261     }\@ehd

```

```

262 }{%
263   \ltx@ifundefined{ver@#1}{%
264     \Hy@Error{%
265       This should not happen!\MessageBreak
266       Missing version of '#1'%
267     }\@ehd
268   }{%
269     \def\x##1##2##3{%
270       \expandafter\expandafter\expandafter\Hy@@VersionCheck
271       \expandafter\expandafter\expandafter##2%
272       \csname ver@##3\endcsname##1##1\@nil
273     }%
274     \x{ }\y{hyperref.sty}%
275     \x{ }\z{#1}%
276     \ifx\y\z
277     \else
278       \Hy@Error{%
279         Version mismatch!\MessageBreak
280         * \y: hyperref.sty\MessageBreak
281         * \z: #1%
282       }\@ehd
283     \fi
284   }%
285 }%
286 \endgroup
287 \chardef\Hy@VersionChecked=1 %
288 }

```

\Hy@@VersionCheck

```

289 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
290   \def#1{#2 #3}%
291 }

```

4.3 Checks with regular expressions

```

292 \ltx@ifundefined{pdfmatch}{%
293   \def\Hy@Match#1#2#3#4{%
294   }{%
295     \def\Hy@Match#1#2{%
296       \begingroup
297       \edef\~{\ltx@backslashchar\string~}%
298       \edef\.{\ltx@backslashchar.}%
299       \edef\[\{\ltx@backslashchar[]}%
300       \edef\${\ltx@backslashchar$}%
301       \edef\({\ltx@backslashchar(}%
302       \edef\){\ltx@backslashchar)}%
303       \edef\|{\ltx@backslashchar|}%
304       \edef\*{\ltx@backslashchar*}%
305       \edef\+{\ltx@backslashchar+}%
306       \edef\?{\ltx@backslashchar?}%
307       \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
308       \edef\}{\ltx@rightbracechar}%
309       \edef\\{\ltx@backslashchar\ltx@backslashchar}%
310       \let\ \ltx@space
311       \ifcase\pdfmatch{#2}{#1} %
312       \endgroup
313       \expandafter\ltx@secondoftwo

```

```

314 \or
315 \endgroup
316 \expandafter\ltx@firstoftwo
317 \else
318 \Hy@Warning{%
319   Internal error: Wrong pattern!\MessageBreak
320   --> #2 <--\MessageBreak
321   Pattern check ignored%
322 }%
323 \endgroup
324 \expandafter\ltx@firstoftwo
325 \fi
326 }%
327 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{-}{%
328 \begingroup
329   \lccode'0='\relax
330 \lowercase{\endgroup
331   \def\ltx@leftbracechar{0}%
332 }%
333 \begingroup
334   \lccode'0='\relax
335 \lowercase{\endgroup
336   \def\ltx@rightbracechar{0}%
337 }%
338 }%
339 }

```

4.4 Compatibility with format dumps

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

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

```

340 \@ifundefined{AfterBeginDocument}{-}{-}{%
341   \def\AfterBeginDocument{\AtBeginDocument}%
342 }{-}{-}{%

```

`\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.

```

343 \def\Hy@AtBeginDocument{%
344   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
345 }

```

`\Hy@AtEndOfPackage`

```

346 \def\Hy@AtEndOfPackage{%
347   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
348 }

```

`\Hy@AtBeginDocumentHook`

```

349 \def\Hy@AtBeginDocumentHook{}

```

`\Hy@AtEndOfPackageHook`

```

350 \def\Hy@AtEndOfPackageHook{}

```

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

```
351 \AtEndOfPackage{%  
352   \Hy@AtEndOfPackageHook  
353   \let\Hy@AtEndOfPackageHook\@undefined  
354   \AfterBeginDocument{%  
355     \Hy@AtBeginDocumentHook}%  
356     \let\Hy@AtBeginDocumentHook\@undefined  
357   }%  
358 }
```

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

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

4.5 Switches

```
360 \newif\ifHy@typexml  
361 \newif\ifHy@activeanchor  
362 \newif\ifHy@backref  
363 \newif\ifHy@bookmarks  
364 \newif\ifHy@bookmarksnumbered  
365 \newif\ifHy@bookmarksopen  
366 \newif\ifHy@breaklinks  
367 \newif\ifHy@centerwindow  
368 \newif\ifHy@CJKbookmarks  
369 \newif\ifHy@colorlinks  
370 \newif\ifHy@draft  
371 \let\Hy@finaltrue\Hy@draftfalse  
372 \let\Hy@finalfalse\Hy@drafttrue  
373 \newif\ifHy@escapeform  
374 \newif\ifHy@figures  
375 \newif\ifHy@fitwindow  
376 \newif\ifHy@frenchlinks  
377 \newif\ifHy@hyperfootnotes  
378 \newif\ifHy@hyperindex  
379 \newif\ifHy@hypertexnames  
380 \newif\ifHy@implicit  
381 \newif\ifHy@linktocpage  
382 \newif\ifHy@localanchorname  
383 \newif\ifHy@menubar  
384 \newif\ifHy@naturalnames  
385 \newif\ifHy@nesting  
386 \newif\ifHy@newwindowset  
387 \newif\ifHy@newwindow  
388 \newif\ifHy@ocgcolorlinks  
389 \newif\ifHy@pageanchor  
390 \newif\ifHy@pagelabels  
391 \newif\ifHy@pdfpagehidden  
392 \newif\ifHy@pdfstring  
393 \newif\ifHy@plainpages  
394 \newif\ifHy@psize  
395 \newif\ifHy@raiselinks  
396 \newif\ifHy@seminarslides  
397 \newif\ifHy@setpagesize  
398 \newif\ifHy@texht  
399 \newif\ifHy@toolbar  
400 \newif\ifHy@unicode
```

```

401 \newif\ifHy@usetitle
402 \newif\ifHy@verbose
403 \newif\ifHy>windowui
404 \newif\ifHy@displaydoctitle
405 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

406 \Hy@backreffalse
407 \Hy@bookmarksnumberedfalse
408 \Hy@bookmarksopenfalse
409 \Hy@bookmarkstrue
410 \Hy@breaklinksfalse
411 \Hy@centerwindowfalse
412 \Hy@CJKbookmarksfalse
413 \Hy@escapeformfalse
414 \Hy@figuresfalse
415 \Hy@fitwindowfalse
416 \Hy@hyperfootnotetrue
417 \Hy@hyperindextrue
418 \Hy@hypertextnamestrue
419 \Hy@implicittrue
420 \Hy@linktocpagefalse
421 \Hy@localanchornamefalse
422 \Hy@menubartrue
423 \Hy@naturalnamesfalse
424 \Hy@nestingfalse
425 \Hy@newwindowsetfalse
426 \Hy@newwindowfalse
427 \Hy@pageanchortrue
428 \Hy@pagelabelstrue
429 \Hy@pdfpagehiddenfalse
430 \Hy@pdfstringfalse
431 \Hy@plainpagesfalse
432 \Hy@raiselinksfalse
433 \Hy@setpagesizetrue
434 \Hy@texhtfalse
435 \Hy@toolbartrue
436 \Hy@typexmlfalse
437 \Hy@unicodefalse
438 \Hy@usetitlefalse
439 \Hy@verbosefalse
440 \Hy>windowuitrue
441 \Hy@displaydoctitlefalse
442 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

445 \newdimen\@linkdim
446 \let\Hy@driver\@empty
447 \let\MaybeStopEarly\relax
448 \newcount\Hy@linkcounter
449 \newcount\Hy@pagecounter

```



```
450 \Hy@linkcounter0
451 \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.

```
452 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
453 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

454 \let\Hy@ReturnEnd\@empty
455 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
456 \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.

```
457 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
458 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}
```

5.3 Coordinate transformations

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

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

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

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

Example (TeX):

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

`\hypercalsbp`

```
459 \begingroup\expandafter\expandafter\expandafter\endgroup
460 \expandafter\ifx\csname dimexpr\endcsname\relax
461 \def\hypercalsbpdef#1#2{%
```

```

462 \begingroup
463 \toks@{}%
464 \HyCal@scan#2\hypercalcbp\@nil
465 \expandafter\endgroup
466 \expandafter\def\expandafter#1\expandafter{\the\toks@}%
467 }%
468 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
469 \toks@\expandafter{\the\toks@ #1}%
470 \ifx\#2\%
471 \else
472 \Hy@ReturnAfterFi{%
473 \HyCal@do#2\@nil
474 }%
475 \fi
476 }%
477 \def\HyCal@do#1#2\@nil{%
478 \ifpackageloaded{calc}{}%
479 \Hy@Warning{%
480 For calculations \string\hypercalcbp\space needs\MessageBreak
481 package calc or e-TeX%
482 }%
483 }%
484 \setlength{\dimen@}{#1}%
485 \setlength{\dimen@}{0.99626401\dimen@}%
486 \edef\x{%
487 \toks@{%
488 \the\toks@
489 \strip@pt\dimen@
490 }%
491 }\x
492 \HyCal@scan#2\@nil
493 }%
494 \else
495 \def\hypercalcbp#1{%
496 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
497 }%
498 \def\hypercalcbpdef\def}%
499 \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 be processed by \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
501 \begingroup
```

6.2.1 Preprocessing

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

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

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

```
502 \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.

```
503 \edef\0{\string\0}%
```

```
504 \edef\1{\string\1}%
```

```
505 \edef\2{\string\2}%
```

```
506 \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.

```

507 \ifHy@unicode
508 \edef\8{\string\8}%
509 \edef\9{\string\9}%
510 \fontencoding{PU}%
511 \HyPsd@UTFviii
512 \def\ifpdfstringunicode###1##2{##1}%
513 \else
514 \fontencoding{PD1}%
515 \def\ifpdfstringunicode###1##2{##2}%
516 \fi
517 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
518 \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).

```

519 \@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).

```

520 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

521 \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.

```

522 \let\{\textbraceleft
523 \let\}\textbraceright
524 \let\\textbackslash
525 \let\#\textnumbersign
526 \let$\textdollar
527 \let%\textpercent
528 \let&\textampersand
529 % \let\~\textasciitilde
530 \let\_textunderscore
531 \let\textparagraph
532 \let\ldots\textellipsis
533 \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.

```
534 \def\{\pdfstringdefWarn\\}%
535 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
536 \def\TeX{\TeX}%
537 \def\LaTeX{\LaTeX}%
538 \def\LaTeXe{%
539   \LaTeX2%
540   \ifHy@unicode\textepsilon\else e\fi
541 }%
542 \def\eTeX{%
543   \ifHy@unicode\textepsilon\else e\fi
544   -\TeX%
545 }%
546 \def\SliTeX{Sli\TeX}%
547 \def\MF{Metafont}%
548 \def\MP{Metapost}%
```

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

```
549 \let\fontencoding\@gobble
550 \let\fontfamily\@gobble
551 \let\fontseries\@gobble
552 \let\fontshape\@gobble
553 \let\fontsize\@gobbletwo
554 \let\selectfont\@empty
555 \let\usefont\@gobblefour
556 \let\emph\@firstofone
557 \let\textnormal\@firstofone
558 \let\textrm\@firstofone
559 \let\textsf\@firstofone
560 \let\texttt\@firstofone
561 \let\textbf\@firstofone
562 \let\textmd\@firstofone
563 \let\textit\@firstofone
564 \let\textsc\@firstofone
565 \let\textsl\@firstofone
566 \let\textup\@firstofone
567 \let\normalfont\@empty
568 \let\rmfamily\@empty
569 \let\sfamily\@empty
570 \let\ttfamily\@empty
571 \let\bfseries\@empty
```

```

572 \let\mdseries\@empty
573 \let\itshape\@empty
574 \let\scshape\@empty
575 \let\slshape\@empty
576 \let\upshape\@empty
577 \let\em\@empty
578 \let\rm\@empty
579 \let\Huge\@empty
580 \let\LARGE\@empty
581 \let\Large\@empty
582 \let\footnotesize\@empty
583 \let\huge\@empty
584 \let\large\@empty
585 \let\normalsize\@empty
586 \let\scriptsize\@empty
587 \let\small\@empty
588 \let\tiny\@empty
589 \let\mathversion\@gobble
590 \let\phantom\@gobble
591 \let\vphantom\@gobble
592 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

594 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
595 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

596 \let\textlatin\@firstofone
597 \ltx@ifundefined{language@group}{-}{%
598 \csname HyPsd@babel@{language@group}\endcsname
599 }%
600 \HyPsd@GreekPatch
601 \HyPsd@SpanishPatch
602 \HyPsd@RussianPatch
603 \HyPsd@BabelPatch
604 \let\@safe@activestrue\relax
605 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

606 \let\cyr\relax

```

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

```

607 \let\es@roman\@Roman

```

Package german.

```

608 \let\glqq\textglqq
609 \let\grqq\textgrqq
610 \let\glq\textglq
611 \let\grq\textgrq
612 \let\flqq\textflqq

```

```

613 \let\frqq\textfrqq
614 \let\flq\textflq
615 \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}
616 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

617 \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.

```

618 \let\hspace\HyPsd@hspace

```

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

```

619 \let\label\@gobble
620 \let\index\@gobble
621 \let\glossary\@gobble
622 \let\href\HyPsd@href
623 \let\@mkboth\@gobbletwo

```

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

```

624 \let\ref\HyPsd@ref
625 \let\pageref\HyPsd@pageref
626 \let\nameref\HyPsd@nameref
627 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

628 \let\leavevmode\@empty
629 \let\mbox\@empty

```

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

```

630 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
631 \let\ignorespaces\HyPsd@ignorespaces
632 \let\Hy@SectionAnchorHref\@gobble

```

Patch for cjk bookmarks.

```

633 \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`).

```
634 \Hy@pdfstringtrue
635 \pdfstringdefPreHook
```

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

```
636 \HyPsd@LetUnexpandableSpace\space
637 \HyPsd@LetUnexpandableSpace\ %
638 \HyPsd@LetUnexpandableSpace~%
639 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
640 \ltx@ifundefined{@xspace}{%
641   \let\xspace\HyPsd@ITALCORR
642 }{%
643   \let\xspace\HyPsd@XSPACE
644 }%
645 \let\/\HyPsd@ITALCORR
646 \let\bgroup\/%
647 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
648 \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:

```
649 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
650 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
651 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
652 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
653 \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 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 `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \TeX , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

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

```
654 \begingroup
655   \let\GenericError\@gobblefour
656   \let\GenericWarning\@gobbletwo
657   \let\GenericInfo\@gobbletwo
```

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

```
658 \ifx\nofrenchguillemets\@undefined
659   \else
660     \nofrenchguillemets
661   \fi
```

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

```
662 \let\Hy@temp\xdef
663 \let\def\HyPsd@DefCommand
664 \let\gdef\HyPsd@DefCommand
665 \let\edef\HyPsd@DefCommand
666 \let\xdef\HyPsd@DefCommand
667 \let\futurelet\HyPsd@LetCommand
668 \let\let\HyPsd@LetCommand
669 \Hy@temp#1{#2}%
670 \endgroup
```

6.2.3 Postprocessing

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

```
671 \ifx#1\@empty
672 \else
```

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

- T_EX 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 T_EX'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.
- T_EX 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.

```
673 \HyPsd@ProtectSpaces#1%
674 \let\HyPsd@String\@empty
675 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
676 \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 \HyPsd@CheckCatcodes the command \HyPsd@RemoveMask is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if \HyPsd@CheckCatcodes is called.

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

```
677 \let\HyPsd@SPACEOPTI\relax
678 {%
679 \let\HyPsd@String\@empty
680 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
681 \global\let#1\HyPsd@String
682}%
683 \expandafter\HyPsd@RemoveMask\expandafter
684 \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.

```
685 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
686 \let\HyPsd@String\@empty
687 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
688 \global\let#1\HyPsd@String
```

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

```
689 \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.

```
690 \ifHy@unicode
691 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
692 \HyPsd@SPACEOPTI#1%
693 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
694 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
695 {\HyPsd@SPACEOPTI\80\273}#1%
696 \else
697 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
698 \expandafter\HyPsd@Subst\expandafter{%
699 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
700 \string\273}{\HyPsd@SPACEOPTI\273}#1%
701 \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.

```
702 \ifHy@unicode
703 \HyPsd@StringSubst{\)}{\80\051}#1%
704 \HyPsd@Subst){\80\051}#1%
705 \let\HyPsd@empty\relax
706 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
707 {\HyPsd@empty\80\051}#1%
708 \else
709 \HyPsd@StringSubst{\)}{\051}#1%
710 \HyPsd@Subst){\051}#1%
711 \let\HyPsd@empty\relax
```

```

712     \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
713     \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.

```

714     \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
715     \ltx@ifundefined{@xspace}{%
716     }{%
717         \let\HyPsd@xspace\relax
718         \expandafter\HyPsd@Subst\expandafter
719         {\HyPsd@XSPACE}\HyPsd@xspace#1%
720         \let\HyPsd@xspace\HyPsd@doxspace
721     }%
722     \xdef#1{#1\HyPsd@empty}%

```

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

Since newer AcrobatReader versions now show the en- and emdash in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.781.

```

723     \HyPsd@Subst{---}\textemdash#1%
724     \HyPsd@Subst{--}\textendash#1%
725 %     \HyPsd@Subst{fi}\textfi#1%
726 %     \HyPsd@Subst{fl}\textfl#1%
727     \HyPsd@Subst{!'}\textexclamdown#1%
728     \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

729     \let\HyPsd@empty\@empty

```

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

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

```

730     \ifHy@unicode
731     \HyPsd@StringSubst{\textparenleft#1%
732     \HyPsd@Subst(\textparenleft#1%
733     \else

```

```

734 \HyPsd@StringSubst\({\050}#1%
735 \HyPsd@Subst({\050}#1%
736 \HyPsd@StringSubst{\050}{\string\{ }#1%
737 \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.

```

738 \ifHy@unicode
739 \edef\HyPsd@SPACEOPTI{\80\040}%
740 \else
741 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
742 \fi
743 \xdef#1{#1\@empty}%
744 \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.

```

745 \endgroup
746 \begingroup
747 \ifHy@unicode
748 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

749 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
750 \ltx@ifundefined{StringEncodingConvertTest}{%
751 }{%
752 \EdefUnescapeString\HyPsd@temp#1%
753 \ifxetex
754 \let\HyPsd@UnescapedString\HyPsd@temp
755 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
756 {utf16be}{ascii-print}{%
757 \EdefEscapeString\HyPsd@temp\HyPsd@temp
758 \global\let#1\HyPsd@temp
759 \HyPsd@EscapeTeX#1%
760 \Hy@unicodedefalse
761 }{%
762 \HyPsd@ToBigChars#1%
763 }%
764 \else
765 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
766 {utf16be}{pdfdoc}{%
767 \EdefEscapeString\HyPsd@temp\HyPsd@temp
768 \global\let#1\HyPsd@temp
769 \HyPsd@EscapeTeX#1%
770 \Hy@unicodedefalse
771 }{%
772 \fi
773 }%
774 \fi
775 \fi
776 \HyPsd@XeTeXBigCharsfalse

```

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

```
777 \pdfstringdefPostHook#1%
778 \endgroup
779 }
```

`\Hy@pdfstringdef`

```
780 \def\Hy@pdfstringdef#1#2{%
781 \pdfstringdef\Hy@gtemp{#2}%
782 \let#1\Hy@gtemp
783 }
```

6.3 Encodings

6.3.1 Xe_{TeX}

```
784 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
785 \catcode\z@=12 %
786 \ifxetex
787 \expandafter\@firstofone
788 \else
789 \let\HyPsd@XeTeXBigCharstrue\@empty
790 \let\HyPsd@XeTeXBigCharsfalse\@empty
791 \expandafter\@gobble
792 \fi
793 {%
794 \newif\ifHyPsd@XeTeXBigChars
795 \def\HyPsd@XeTeXBigCharsfalse{%
796 \global\let\ifHyPsd@XeTeXBigChars\iffalse
797 }%
798 \def\HyPsd@XeTeXBigCharstrue{%
799 \global\let\ifHyPsd@XeTeXBigChars\iftrue
800 }%
801 \def\HyPsd@ToBigChars#1{%
802 \ifHyPsd@XeTeXBigChars
803 \EdefEscapeHex\HyPsd@UnescapedString{%
804 \expandafter\@gobbletwo\HyPsd@UnescapedString
805 }%
806 \begingroup
807 \toks@{%
808 \escapechar=92\relax
809 \let\x\HyPsd@ToBigChar
810 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
811 \relax\relax\relax\relax\relax\relax\relax
812 \edef\x{%
813 \endgroup
814 \gdef\noexpand#1{\the\toks@}%
815 }%
816 \x
817 \fi
818 }%
819 \def\HyPsd@ToBigChar#1#2#3#4{%
820 \ifx\relax#1\relax
821 \let\x\relax
822 \else
823 \count@=#1#2#3#4\relax
824 \let\y\@empty
```

```

825 \lccode\z@=\count@
826 \ifnum\count@=40 % (
827 \let\y\@backslashchar
828 \else
829 \ifnum\count@=41 % )
830 \let\y\@backslashchar
831 \else
832 \ifnum\count@=92 % backslash
833 \let\y\@backslashchar
834 \else
835 \ifnum\count@=10 % newline
836 \edef\y###1{\string\n}%
837 \else
838 \ifnum\count@=13 % carriage return
839 \edef\y###1{\string\r}%
840 \fi
841 \fi
842 \fi
843 \fi
844 \fi
845 \lowercase{%
846 \toks@\expandafter{%
847 \the\expandafter\toks@
848 \y
849 ^^@%
850 }%
851 }%
852 \fi
853 \x
854 }%
855 }
856 \Hy@temp

```

6.3.2 Workaround for package linguex

```

857 \ifpackageloaded{linguex}{%
858 \let\HyLinguex@OrgB\b
859 \let\HyLinguex@OrgC\c
860 \let\HyLinguex@OrgD\d
861 \def\HyLinguex@Restore{%
862 \let\b\HyLinguex@OrgB
863 \let\c\HyLinguex@OrgC
864 \let\d\HyLinguex@OrgD
865 }%
866 \Hy@AtEndOfPackage{%
867 \pdfstringdefDisableCommands{%
868 \ltx@ifundefined{oldb}{\let\b\oldb}%
869 \ltx@ifundefined{oldc}{\let\c\oldc}%
870 \ltx@ifundefined{oldd}{\let\d\oldd}%
871 }%
872 }%
873 }{%
874 \let\HyLinguex@Restore\relax
875 }%

```

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 inter-

preting 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.

```
876 \ifundefined{T@PD1}{%
877   \input{pdlenc.def}%
878   \HyLinguex@Restore
879 }{}
880 \DeclareFontFamily{PD1}{pdf}{}
881 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
882 \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.

```
883 \def\HyPsd@InitUnicode{%
884   \ifundefined{T@PU}{%
885     \input{puenc.def}%
886     \HyLinguex@Restore
887   }{}%
888   \DeclareFontFamily{PU}{pdf}{}%
889   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
890   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
891   \let\HyPsd@InitUnicode\relax
892 }
```

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.

```
893 \def\texorpdfstring{%
894   \ifHy@pdfstring
895     \expandafter\@secondoftwo
896   \else
897     \expandafter\@firstoftwo
898   \fi
899 }
```

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`.

```
900 \ifundefined{pdfstringdefPreHook}{%
901   \let\pdfstringdefPreHook\@empty
902 }{}
```



```

903 \@ifundefined{pdfstringdefPostHook}{%
904   \let\pdfstringdefPostHook\@gobble
905 }{}

```

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

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

```

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

```

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

```

906 \def\pdfstringdefDisableCommands{%
907   \begingroup
908     \makeatletter
909     \HyPsd@DisableCommands
910 }

```

`\HyPsd@DisableCommands`

```

911 \long\def\HyPsd@DisableCommands#1{%
912   \toks0=\expandafter{\pdfstringdefPreHook}%
913   \toks1={#1}%
914   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
915   \endgroup
916 }

```

`\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`.

```

917 \def\pdfstringdefWarn#1{%
918   \expandafter\noexpand\csname<>-string#1\endcsname
919 }

```

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.

```

920 \begingroup

```

```

921 \catcode0=12 %
922 \def\x{\endgroup
923 \def\HyPsd@ignorespaces{%
924 \romannumeral\expandafter'\expandafter^^@%
925 \romannumeral'^^@%
926 }%
927 }%
928 \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`.

```

929 \def\HyPsd@BabelPatch{%
930 \let\HyOrg@languageshorthands\languageshorthands
931 \let\languageshorthands\HyPsd@LanguageShorthands
932 }
933 \RequirePackage{pdftexcmds}[2009/04/10]
934 \begingroup\expandafter\expandafter\expandafter\endgroup
935 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
936 \let\HyPsd@langshort@system\@empty
937 \def\HyPsd@LanguageShorthands#1{%
938 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
939 \HyPsd@langshort@system
940 \expandafter\@gobble
941 \else
942 \expandafter\@firstofone
943 \fi
944 {%
945 \HyOrg@languageshorthands{#1}%
946 }%
947 }%
948 \else
949 \def\HyPsd@LanguageShorthands#1{%
950 \ifnum\pdf@strcmp{#1}{system}=\z@
951 \expandafter\@gobble
952 \else
953 \expandafter\@firstofone
954 \fi
955 {%
956 \HyOrg@languageshorthands{#1}%
957 }%
958 }%
959 \fi
960 \def\Hy@temp{%
961 \@ifpackageloaded{babel}{%
962 \@ifpackagelater{babel}{2008/03/16}{%
963 \let\Hy@temp\@empty
964 }{%

```

```

965 \def\HyPsd@BabelPatch{%
966 \let\HyOrg@languageshorthands\languageshorthands
967 }%
968 }%
969 }{}%
970 }
971 \Hy@temp
972 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
973 \newif\ifHy@next

Nothing to do for english.
974 \ltx@ifundefined{danish@sh@@"@sel}{-}{%
975 \def\HyPsd@babel@danish{%
976 \declare@shorthand{danish}{-}{-}%
977 \declare@shorthand{danish}{-}{-}%
978 }%
979 }
980 \ltx@ifundefined{dutch@sh@@"@sel}{-}{%
981 \def\HyPsd@babel@dutch{%
982 \declare@shorthand{dutch}{-}{-}%
983 \declare@shorthand{dutch}{-}{-}%
984 }%
985 }
986 \ltx@ifundefined{finnish@sh@@"@sel}{-}{%
987 \def\HyPsd@babel@finnish{%
988 \declare@shorthand{finnish}{-}{-}%
989 }%
990 }
991 \ltx@ifundefined{french@sh@@"@sel}{-}{%
992 \def\HyPsd@babel@frenchb{%
993 \def\guill@spacing{ }%
994 }%
995 }
996 \ltx@ifundefined{german@sh@@"@sel}{-}{%
997 \def\HyPsd@babel@german{%
998 \declare@shorthand{german}{f}{f}%
999 \declare@shorthand{german}{-}{-}%
1000 \declare@shorthand{german}{-}{-}%
1001 }%
1002 }
1003 \ltx@ifundefined{macedonian@sh@@"@sel}{-}{%
1004 \def\HyPsd@babel@macedonian{%
1005 \declare@shorthand{macedonian}{-}{-}%
1006 \declare@shorthand{macedonian}{-}{-}%
1007 }%
1008 }{}
1009 \ltx@ifundefined{ngerman@sh@@"@sel}{-}{%
1010 \def\HyPsd@babel@ngerman{%
1011 \declare@shorthand{ngerman}{-}{-}%
1012 \declare@shorthand{ngerman}{-}{-}%
1013 }%
1014 }
1015 \ltx@ifundefined{portuges@sh@@"@sel}{-}{%
1016 \def\HyPsd@babel@portuges{%
1017 \declare@shorthand{portuges}{-}{-}%
1018 }%
1019 }

```

```

1020 \ltx@ifundefined{russian@sh@"@sel}{-}{%
1021   \def\HyPsd@babel@russian{%
1022     \declare@shorthand{russian}{-}{-}%
1023     \declare@shorthand{russian}{-}{-}%
1024   }%
1025 }
1026 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
1027   \def\HyPsd@babel@slovene{%
1028     \declare@shorthand{slovene}{-}{-}%
1029   }%
1030 }
Nested quoting environments are not supported (<<, >>).
1031 \ltx@ifundefined{spanish@sh@>@sel}{-}{%
1032   \def\HyPsd@babel@spanish{%
1033     \declare@shorthand{spanish}{<<}{\guillemotleft}%
1034     \declare@shorthand{spanish}{>>}{\guillemotright}%
1035     \declare@shorthand{spanish}{=}{-}%
1036     \declare@shorthand{spanish}{~}{-}%
1037     \declare@shorthand{spanish}{!}{\textexclamdown}%
1038     \declare@shorthand{spanish}{?}{\textquestiondown}%
1039   }%
1040 }
1041 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
1042   \def\HyPsd@babel@swedish{%
1043     \declare@shorthand{swedish}{-}{-}%
1044     \declare@shorthand{swedish}{-}{-}%
1045   }%
1046 }
1047 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1048   \def\HyPsd@babel@ukrainian{%
1049     \declare@shorthand{ukrainian}{-}{-}%
1050     \declare@shorthand{ukrainian}{-}{-}%
1051   }%
1052 }
1053 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1054   \def\HyPsd@babel@usorbian{%
1055     \declare@shorthand{usorbian}{f}{f}%
1056     \declare@shorthand{usorbian}{-}{-}%
1057   }%
1058 }
1059 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1060   \let\HyPsd@GreekPatch\@empty
1061 }{%
1062   \def\HyPsd@GreekPatch{%
1063     \let\greeknumeral\HyPsd@greeknumeral
1064     \let\Greeknatural\HyPsd@greeknatural
1065   }%
1066 }
1067 \def\HyPsd@greeknumeral#1{%
1068   \HyPsd@GreekNum\@firstoftwo{#1}%
1069 }
1070 \def\HyPsd@Greeknatural#1{%
1071   \HyPsd@GreekNum\@secondoftwo{#1}%
1072 }
1073 \def\HyPsd@GreekNum#1#2{%
1074   \ifHy@unicode
1075     \ifnum#2<\@ne

```

```

1076 \@arabic{#2}%
1077 \else
1078 \ifnum#2<1000000 %
1079 \HyPsd@@GreekNum#1{#2}%
1080 \else
1081 \@arabic{#2}%
1082 \fi
1083 \fi
1084 \else
1085 \@arabic{#2}%
1086 \fi
1087 }
1088 \def\HyPsd@@GreekNum#1#2{%
1089 \ifnum#2<\@m
1090 \ifnum#2<10 %
1091 \expandafter\HyPsd@GreekNumI
1092 \expandafter\@gobble\expandafter#1\number#2%
1093 \else
1094 \ifnum#2<100 %
1095 \expandafter\HyPsd@GreekNumII
1096 \expandafter\@gobble\expandafter#1\number#2%
1097 \else
1098 \expandafter\HyPsd@GreekNumIII
1099 \expandafter\@gobble\expandafter#1\number#2%
1100 \fi
1101 \fi
1102 \ifnum#2>\z@
1103 \textnumeralsigngreek
1104 \fi
1105 \else
1106 \ifnum#2<\@M
1107 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1108 \else
1109 \ifnum#2<100000 %
1110 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1111 \else
1112 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1113 \fi
1114 \fi
1115 \fi
1116 }
1117 \def\HyPsd@GreekNumI#1#2#3{%
1118 #1{%
1119 \ifnum#3>\z@
1120 \textnumeralsignlowergreek
1121 \fi
1122 }%
1123 \expandafter#2%
1124 \ifcase#3 %
1125 {}{}%
1126 \or\textalpha\textAlpha
1127 \or\textbeta\textBeta
1128 \or\textgamma\textGamma
1129 \or\textdelta\textDelta
1130 \or\textepsilon\textEpsilon
1131 \or\textstigmagreek\textStigmagreek
1132 \or\textzeta\textZeta

```

```

1133 \or\texteta\textEta
1134 \or\texttheta\textTheta
1135 \else
1136   {}{}%
1137 \fi
1138 }
1139 \def\HyPsd@GreekNumII#1#2#3#4{%
1140   #1{%
1141     \ifnum#3>\z@
1142       \textnumeralsignlowergreek
1143     \fi
1144   }%
1145   \expandafter#2%
1146   \ifcase#3 %
1147     {}{}%
1148     \or\textiota\textIota
1149     \or\textkappa\textKappa
1150     \or\textlambda\textLambda
1151     \or\textmu\textMu
1152     \or\textnu\textNu
1153     \or\textxi\textXi
1154     \or\textomicron\textOmicron
1155     \or\textpi\textPi
1156     \or\textkoppagreek\textKoppagreek
1157     \else
1158       {}{}%
1159     \fi
1160   \HyPsd@GreekNumI#1#2#4%
1161 }
1162 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1163   #1{%
1164     \ifnum#3>\z@
1165       \textnumeralsignlowergreek
1166     \fi
1167   }%
1168   \expandafter#2%
1169   \ifcase#3 %
1170     {}{}%
1171     \or\textrho\textRho
1172     \or\textsigma\textSigma
1173     \or\texttau\textTau
1174     \or\textupsilon\textUpsilon
1175     \or\textphi\textPhi
1176     \or\textchi\textChi
1177     \or\textpsi\textPsi
1178     \or\textomega\textOmega
1179     \or\textsampigreek\textSampigreek
1180     \else
1181       {}{}%
1182     \fi
1183   \HyPsd@GreekNumII#1#2#4#5%
1184 }
1185 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1186   \HyPsd@GreekNumI\@firstofone#1#2%
1187   \HyPsd@@GreekNum#1{#3#4#5}%
1188 }
1189 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%

```

```

1190 \HyPsd@GreekNumII\@firstofone#1#2#3%
1191 \HyPsd@@GreekNum#1{#4#5#6}%
1192 }
1193 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1194 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1195 \HyPsd@@GreekNum#1{#5#6#7}%
1196 }

1197 \def\HyPsd@SpanishPatch{%
1198 \ltx@ifundefined{es@save@dot}{%
1199 }{%
1200 \let\.\es@save@dot
1201 }%
1202 }

```

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

```

1203 \def\HyPsd@RussianPatch{%
1204 \ltx@ifundefined{russian@sh@"@-@}{%
1205 }{%
1206 \@namedef{russian@sh@"@-@}{-}%
1207 }%
1208 }

```

6.5.3 CJK patch

```

1209 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1210 \def\HyPsd@CJKhook{%
1211 \ltx@ifpackageloaded{CJK}{%
1212 \let\CJK@kern\relax
1213 \let\CJKkern\relax
1214 \let\CJK@CJK\relax
1215 \ifHy@CJKbookmarks
1216 \HyPsd@CJKhook@bookmarks
1217 \fi
1218 \HyPsd@CJKhook@unicode
1219 }{%
1220 }

```

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 (≥ 0x40).

```

1221 \begingroup
1222 \catcode"7F=\active
1223 \toks@{%
1224 \let\CJK@ignorespaces\empty
1225 \def\CJK@char#1{\@gobbletwo}%

```

```

1226 \let\CJK@charx\@gobblefour
1227 \let\CJK@punctchar\@gobblefour
1228 \def\CJK@punctcharx#1{\@gobblefour}%
1229 \catcode"7F=\active
1230 \def^^7f#1^^7f#2^^7f{%
1231   \string #1\HyPsd@DecimalToOctal{#2}%
1232 }%
1233 % ... ?
1234 \ifHy@unicode
1235   \def\Hy@cjkpu{\80}%
1236 \else
1237   \let\Hy@cjkpu\@empty
1238 \fi
1239 \HyPsd@CJKActiveChars
1240 }%
1241 \count@=127 %
1242 \@whilenum\count@<255 \do{%
1243   \advance\count@ by 1 %
1244   \lccode'\~=\count@
1245   \lowercase{%
1246     \toks@\expandafter{\the\toks@ ~}%
1247   }%
1248 }%
1249 \toks@\expandafter{\the\toks@ !}%
1250 \xdef\HyPsd@CJKhook@bookmarks{%
1251   \the\toks@
1252 }%
1253 \endgroup

```

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

```

1254 \def\HyPsd@CJKActiveChars#1{%
1255   \ifx#1!%
1256     \let\HyPsd@CJKActiveChars\relax
1257   \else
1258     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1259   \fi
1260   \HyPsd@CJKActiveChars
1261 }

```

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

```

1262 \def\HyPsd@DecimalToOctal#1{%
1263   \ifcase #1 %
1264     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1265     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1266     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1267     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1268     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1269     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1270     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1271     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1272     \or @\or A\or B\or C\or D\or E\or F\or G%
1273     \or H\or I\or J\or K\or L\or M\or N\or O%
1274     \or P\or Q\or R\or S\or T\or U\or V\or W%
1275     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1276     \or \140\or a\or b\or c\or d\or e\or f\or g%
1277     \or h\or i\or j\or k\or l\or m\or n\or o%

```



```

1278 \or p\or q\or r\or s\or t\or u\or v\or w%
1279 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1280 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1281 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1282 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1283 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1284 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1285 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1286 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1287 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1288 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1289 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1290 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1291 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1292 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1293 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1294 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1295 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1296 \fi
1297 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1298 \def\HyPsd@CJKhook@unicode{%
1299 \let\Unicode\HyPsd@CJK@Unicode
1300 \let\CJKnumber\HyPsd@CJKnumber
1301 \let\CJKdigits\HyPsd@CJKdigits
1302 }

```

\HyPsd@CJK@Unicode

```

1303 \def\HyPsd@CJK@Unicode#1#2{%
1304 \ifnum#1<256 %
1305 \HyPsd@DecimalToOctalFirst{#1}%
1306 \HyPsd@DecimalToOctalSecond{#2}%
1307 \else
1308 \933%
1309 \expandafter\expandafter\expandafter\HyPsd@HighA
1310 \intcalcDiv{#1}{4}!%
1311 \933%
1312 \ifcase\intcalcMod{#1}{4} %
1313 4\or 5\or 6\or 7%
1314 \fi
1315 \HyPsd@DecimalToOctalSecond{#2}%
1316 \fi
1317 }

1318 \def\HyPsd@HighA#1!{%
1319 \expandafter\expandafter\expandafter\HyPsd@HighB
1320 \IntCalcDiv#1!64!!%
1321 \expandafter\expandafter\expandafter\HyPsd@HighD
1322 \IntCalcMod#1!64!!%
1323 }
1324 \def\HyPsd@HighB#1!{%
1325 \expandafter\expandafter\expandafter\HyPsd@HighC
1326 \IntCalcDec#1!!%
1327 }

```

```

1328 \def\HyPsd@HighC#1!{%
1329   \IntCalcDiv#1!4!%
1330   \@backslashchar
1331   \IntCalcMod#1!4!%
1332 }
1333 \def\HyPsd@HighD#1!{%
1334   \ifcase\IntCalcDiv#1!8! %
1335     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1336   \fi
1337   \ifcase\IntCalcMod#1!8! %
1338     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1339   \fi
1340 }
1341 \def\HyPsd@DecimalToOctalFirst#1{%
1342   \9%
1343   \ifcase#1 %
1344     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1345     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1346     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1347     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1348     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1349     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1350     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1351     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1352     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1353     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1354     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1355     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1356     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1357     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1358     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1359     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1360     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1361     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1362     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1363     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1364     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1365     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1366     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1367     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1368     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1369     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1370     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1371     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1372     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1373     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1374     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1375     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1376   \fi
1377 }
1378 \def\HyPsd@DecimalToOctalSecond#1{%
1379   \ifcase #1 %
1380     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1381     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1382     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1383     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1384     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%

```

```

1385 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1386 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1387 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1388 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1389 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1390 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1391 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1392 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1393 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1394 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1395 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1396 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1397 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1398 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1399 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1400 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1401 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1402 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1403 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1404 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1405 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1406 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1407 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1408 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1409 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1410 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1411 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1412 \fi
1413 }

1414 \def\HyPsd@CJKNnumber#1{%
1415 \ifnum#1<\z@
1416 \CJk@minus
1417 \expandafter\HyPsd@@CJKNnumber\expandafter{\number-\number#1}%
1418 \else
1419 \expandafter\HyPsd@@CJKNnumber\expandafter{\number#1}%
1420 \fi
1421 }

1422 \def\HyPsd@@CJKNnumber#1{%
1423 \ifcase#1 %
1424 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1425 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1426 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1427 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1428 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1429 \CJk@ten\CJk@nine
1430 \else
1431 \ifnum#1<10000 %
1432 \HyPsd@CJKNnumberFour#1!\@empty{20}%
1433 \@empty
1434 \else
1435 \ifnum#1<100000000 %
1436 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1437 \IntCalcDiv#1!10000!%
1438 !{}{20}%
1439 \CJk@tenthousand
1440 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1441 \IntCalcMod#1!10000!%

```

```

1442      !\CJK@zero{10}%
1443      \@empty
1444      \else
1445      \expandafter\HyPsd@CJKnumberLarge
1446      \number\IntCalcDiv#1!100000000!\expandafter!%
1447      \number\IntCalcMod#1!100000000!!%
1448      \fi
1449      \fi
1450      \fi
1451  }
1452  \def\HyPsd@CJKnumberLarge#1!#2!{%
1453  \HyPsd@CJKnumberFour#1!{}{20}%
1454  \CJK@hundredmillion
1455  \ifnum#2=\z@
1456  \else
1457  \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1458  \IntCalcDiv#2!10000!%
1459  !\CJK@zero{10}%
1460  \CJK@tenthousand
1461  \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1462  \IntCalcMod#2!10000!%
1463  !\CJK@zero{10}%
1464  \@empty
1465  \fi
1466  }
1467  \def\HyPsd@CJKnumberFour#1!#2#3{%
1468  \ifnum#1=\z@
1469  \expandafter\@gobble
1470  \else
1471  \ifnum#1<1000 %
1472  #2%
1473  \HyPsd@CJKnumberThree#1!{}{#3}%
1474  \else
1475  \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1476  \CJK@thousand
1477  \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1478  \IntCalcMod#1!1000!%
1479  !\CJK@zero{10}%
1480  \fi
1481  \fi
1482  }
1483  \def\HyPsd@CJKnumberThree#1!#2#3{%
1484  \ifnum#1=\z@
1485  \else
1486  \ifnum#1<100 %
1487  #2%
1488  \HyPsd@CJKnumberTwo#1!{}{#3}%
1489  \else
1490  \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1491  \CJK@hundred
1492  \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1493  \IntCalcMod#1!100!%
1494  !\CJK@zero{10}%
1495  \fi
1496  \fi
1497  }
1498  \def\HyPsd@CJKnumberTwo#1!#2#3{%

```

```

1499 \ifnum#1=\z@
1500 \else
1501 \ifnum#1<#3 %
1502   #2%
1503   \HyPsd@@CJKnumber{#1}%
1504 \else
1505   \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1506   \CJK@ten
1507   \ifnum\IntCalcMod#1!10!=\z@
1508   \else
1509   \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1510   \fi
1511 \fi
1512 \fi
1513 }

1514 \def\HyPsd@CJKdigits#1{%
1515   \ifx*#1\relax
1516   \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1517   \else
1518   \HyPsd@@CJKdigits\CJK@null{#1}%
1519   \fi
1520 }

1521 \def\HyPsd@@CJKdigits#1#2{%
1522   \ifx\#2\%
1523   \else
1524   \HyPsd@@@CJKdigits#1#2\@nil
1525   \fi
1526 }%

1527 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1528   \HyPsd@CJKdigit#1{#2}%
1529   \ifx\#3\%
1530   \expandafter\@gobble
1531   \else
1532   \expandafter\@firstofone
1533   \fi
1534   {%
1535   \HyPsd@@@CJKdigits#1#3\@nil
1536   }%
1537 }

1538 \def\HyPsd@CJKdigit#1#2{%
1539   \ifcase#2 %
1540     #1\or
1541     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1542     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1543   \fi
1544 }

```

6.5.6 \@inmathwarn-Patch

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

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ($\text{\LaTeX} 2_{\epsilon}$ 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}

1545 \def\HyPsd@inmathwarn#1#2{%
1546   \ifx#2\expandafter
1547     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1548       \HyPsd@GLYPHERR
1549       \expandafter\@gobble\string#1%
1550     >%
1551     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1552   \else
1553     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1554   \fi
1555 \else
1556   \expandafter#2%
1557 \fi
1558 }
1559 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1560 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1561 \def\HyPsd@add@accent#1#2{%
1562   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1563   #2%
1564 }%

```

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 be caught by undelimited arguments.
- And they work in number, dimension, and skip assignments.

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

```
1565 \def\HyPsd@LetUnexpandableSpace#1{%
1566   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1567 }
```

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

```
1568 \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.

```
1569 \edef\HyPsd@XSPACE{\string#\string X}
1570 \edef\HyPsd@ITALCORR{\string#\string I}
1571 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1572 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1573 \def\HyPsd@@hspace#1*#2\END{%
1574   \ifx\#2\%
1575     \HyPsd@hspacetest{#1}%
1576   \else
1577     \expandafter\HyPsd@hspacetest
1578   \fi
1579 }
```

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

```
1580 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1581 \ltx@ifundefined{tocsection}{%
1582   \let\HyPsd@AMSClassfix\relax
1583 }{%
1584   \def\HyPsd@AMSClassfix{%
1585     \let\tocpart\HyPsd@tocsection
1586     \let\tocchapter\HyPsd@tocsection
1587     \let\tocappendix\HyPsd@tocsection
```

```

1588 \let\tocsection\HyPsd@tocsection
1589 \let\tocsubsection\HyPsd@tocsection
1590 \let\tocsubsubsection\HyPsd@tocsection
1591 \let\tocparagraph\HyPsd@tocsection
1592 }%
1593 \def\HyPsd@tocsection#1#2#3{%
1594 \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1595 #3%
1596 }%
1597 }

```

6.5.11 Reference commands

`\HyPsd@href`

```
1598 \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.

```
1599 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```

1600 \def\HyPsd@@ref#1*#2\END{%
1601 \ifx\#2\%
1602 \HyPsd@@@ref{#1}%
1603 \else
1604 \expandafter\HyPsd@@@ref
1605 \fi
1606 }%

```

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

```

1607 \def\HyPsd@@@ref#1{%
1608 \expandafter\ifx\csname r@#1\endcsname\relax
1609 ??%
1610 \else
1611 \expandafter\expandafter\expandafter
1612 \@car\csname r@#1\endcsname\@nil
1613 \fi
1614 }

```

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

```
1615 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```

1616 \def\HyPsd@@pageref#1*#2\END{%
1617 \ifx\#2\%
1618 \HyPsd@@@pageref{#1}%
1619 \else
1620 \expandafter\HyPsd@@@pageref
1621 \fi
1622 }

```

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

```

1623 \def\HyPsd@@@pageref#1{%
1624 \expandafter\ifx\csname r@#1\endcsname\relax
1625 ??%

```



```

1626 \else
1627 \expandafter\expandafter\expandafter\expandafter
1628 \expandafter\expandafter\expandafter\@car
1629 \expandafter\expandafter\expandafter\@gobble
1630 \csname r@#1\endcsname{}\@nil
1631 \fi
1632 }

```

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

```

1633 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1634 \def\HyPsd@@nameref#1*#2\END{%
1635 \ifx\#2\%
1636 \HyPsd@@@nameref{#1}%
1637 \else
1638 \expandafter\HyPsd@@@nameref
1639 \fi
1640 }

```

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

```

1641 \def\HyPsd@@@nameref#1{%
1642 \expandafter\ifx\csname r@#1\endcsname\relax
1643 ??%
1644 \else
1645 \expandafter\expandafter\expandafter\expandafter
1646 \expandafter\expandafter\expandafter\@car
1647 \expandafter\expandafter\expandafter\@gobbletwo
1648 \csname r@#1\endcsname{}\@nil
1649 \fi
1650 }

```

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

```

1651 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1652 \def\HyPsd@@autoref#1*#2\END{%
1653 \ifx\#2\%
1654 \HyPsd@@@autoref{#1}%
1655 \else
1656 \expandafter\HyPsd@@@autoref
1657 \fi
1658 }

```

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

```

1659 \def\HyPsd@@@autoref#1{%
1660 \expandafter\ifx\csname r@#1\endcsname\relax
1661 ??%
1662 \else
1663 \expandafter\expandafter\expandafter\HyPsd@autorefname
1664 \csname r@#1\endcsname{}\@nil
1665 \expandafter\expandafter\expandafter
1666 \@car\csname r@#1\endcsname\@nil
1667 \fi
1668 }

```

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

```
1669 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1670   \ifx\#4\%
1671   \else
1672     \HyPsd@@autorefname#4.\@nil
1673   \fi
1674 }
```

`\HyPsd@@autorefname`

```
1675 \def\HyPsd@@autorefname#1.#2\@nil{%
1676   \ltx@ifundefined{#1autorefname}{%
1677     \ltx@ifundefined{#1name}{%
1678       }{%
1679         \csname#1name\endcsname\space
1680       }%
1681     }{%
1682       \csname#1autorefname\endcsname\space
1683     }%
1684 }
```

6.5.12 Redefining the defining commands

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

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

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

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

The difference between `\HyPsd@DefCommand` and `\HyPsd@LetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

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

`\HyPsd@DefCommand`

`\HyPsd@LetCommand`

```
1685 \begingroup
1686 \def\x#1#2{%
1687   \endgroup
1688   \let#1\def
```

```

1689 \def\HyPsd@DefCommand##1##2##3{%
1690   #1%
1691   \expandafter\noexpand
1692   \csname\expandafter\@gobble\string##1\@empty\endcsname
1693   \@gobble
1694 }%
1695 \let#2\let
1696 \def\HyPsd@@LetCommand##1{%
1697   \expandafter\ifx\csname##1\expandafter\endcsname
1698   \csname iftrue\endcsname
1699   \pdfstringdefWarn\let
1700   \expandafter\@gobble
1701   \else
1702   \expandafter\ifx\csname##1\expandafter\endcsname
1703   \csname iffalse\endcsname
1704   \pdfstringdefWarn\let
1705   \expandafter\expandafter\expandafter\@gobble
1706   \else
1707   #2%
1708   \expandafter\noexpand
1709   \csname##1\expandafter\expandafter\expandafter\endcsname
1710   \fi
1711   \fi
1712 }%
1713 }%
1714 \expandafter\x\csname <def>-command\expandafter\endcsname
1715   \csname <let>-command\endcsname
1716 \def\HyPsd@LetCommand#1{%
1717   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1718   \expandafter\expandafter\expandafter{%
1719   \expandafter\@gobble\string#1\@empty
1720 }%
1721 }

```

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).

```

1722 \def\HyPsd@ifnextchar#1{%
1723   \pdfstringdefWarn#1%
1724   \expandafter\@gobbletwo\@gobble
1725 }

```

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`.

```
1726 \def\HyPsd@protected@testopt#1{%
1727   \pdfstringdefWarn#1%
1728   \@gobbletwo
1729 }
```

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:

```
1730 \def\HyPsd@Warning#1{%
1731   \begingroup
1732   \def\space{ }%
1733   \Hy@Warning{#1}%
1734   \endgroup
1735 }
```

6.6.2 Protecting spaces

```
1736 \RequirePackage{etexcmds}[2007/09/09]
1737 \ifetex@unexpanded
1738   \expandafter\@secondoftwo
1739 \else
1740   \expandafter\@firstoftwo
1741 \fi
1742 {%
```

`\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`.

```
1743 \def\HyPsd@ProtectSpaces#1{%
1744   \iftrue
1745     \expandafter\HyPsd@@ProtectSpacesFi
1746     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1747   \fi
1748   }%
```

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

```
1749 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1750   \fi
1751   \ifx\scrollmode#2\scrollmode
1752     \HyPsd@RemoveMask#1\HyPsd@End#3%
1753   \else
1754     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1755     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1756   \fi
1757   }%
```

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.

```

1758 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1759   \toks@\expandafter{#1}%
1760   \xdef#2{\the\toks@}%
1761 }%

1762 }{%
1763 \let\HyPsd@fi\fi
1764 \def\HyPsd@ProtectSpaces#1{%
1765   \xdef#1{%
1766     \iftrue
1767       \expandafter\HyPsd@@ProtectSpacesFi
1768       \expandafter|\expandafter\@empty#1| %
1769       \HyPsd@fi
1770   }%
1771   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1772 }%
1773 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1774   \fi
1775   \etex@unexpanded{#1}%
1776   \ifx\scrollmode#2\scrollmode
1777   \else
1778     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1779   \HyPsd@fi
1780 }%
1781 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1782   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1783 }%
1784 }

```

6.6.3 Remove grouping braces

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

```

1785 \def\HyPsd@RemoveBraces#1{%
1786   \ifx\scrollmode#1\scrollmode
1787   \else
1788     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1789   \fi
1790 }

```

`\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`.

```

1791 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1792   \fi
1793   \def\Hy@temp@A{#1#2}%
1794   \def\Hy@temp@B{#3}%
1795   \ifx\Hy@temp@A\Hy@temp@B
1796     \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1797 \HyPsd@String#1%
1798 }%
1799 \ifx\scrollmode#2\scrollmode
1800 \else
1801 \Hy@ReturnAfterFiFiEnd{%
1802 \HyPsd@RemoveBraces{#2}%
1803 }%
1804 \fi
1805 \else
1806 \def\Hy@temp@A{#1}%
1807 \HyPsd@AppendItalcorr\HyPsd@String
1808 \ifx\Hy@temp@A\@empty
1809 \Hy@ReturnAfterElseFiFiEnd{%
1810 \HyPsd@RemoveBraces{#2}%
1811 }%
1812 \else
1813 \HyPsd@ProtectSpaces\Hy@temp@A
1814 \HyPsd@AppendItalcorr\Hy@temp@A
1815 \Hy@ReturnAfterFiFiEnd{%
1816 \expandafter\HyPsd@RemoveBraces\expandafter
1817 {\Hy@temp@A#2}%
1818 }%
1819 \fi
1820 \fi
1821 \Hy@ReturnEnd
1822 }

```

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

```

1823 \def\HyPsd@AppendItalcorr#1{%
1824 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1825 }
1826 \def\HyPsd@@AppendItalcorr#1#2{%
1827 \expandafter\def\expandafter#2\expandafter{#2#1}%
1828 }

```

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).

```

1829 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1830 \global\let\HyPsd@Rest\relax
1831 \ifcat\relax\noexpand#1\relax
1832 \ifx#1\protect
1833 \else
1834 \ifx#1\penalty
1835 \setbox\z@=\hbox{%

```

```

1836     \afterassignment\HyPsd@AfterCountRemove
1837     \count@=#2\HyPsd@End
1838 }%
1839 \else
1840   \ifx#1\kern
1841     \setbox\z@=\hbox{%
1842       \afterassignment\HyPsd@AfterDimenRemove
1843       \dimen@=#2\HyPsd@End
1844     }%
1845   \else
1846     \ifx#1\hskip
1847       \setbox\z@=\hbox{%
1848         \afterassignment\HyPsd@AfterSkipRemove
1849         \skip@=#2\HyPsd@End
1850       }%
1851     \else
1852       \HyPsd@CatcodeWarning{#1}%
1853     \fi
1854   \fi
1855 \fi
1856 \fi
1857 \else
1858   \ifcat#1A% letter
1859     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1860       \HyPsd@String#1%
1861     }%
1862   \else
1863     \ifcat#1 % SPACE
1864       \expandafter\def\expandafter\HyPsd@String\expandafter{%
1865         \HyPsd@String\HyPsd@SPACEOPTI
1866       }%
1867     \else
1868       \ifcat$#1%
1869         \HyPsd@CatcodeWarning{math shift}%
1870       \else
1871         \ifcat&#1%
1872           \HyPsd@CatcodeWarning{alignment tab}%
1873         \else
1874           \ifcat^#1%
1875             \HyPsd@CatcodeWarning{superscript}%
1876           \else
1877             \ifcat_#1%
1878               \HyPsd@CatcodeWarning{subscript}%
1879             \else
1880               \expandafter\def\expandafter\HyPsd@String\expandafter{%
1881                 \HyPsd@String#1%
1882               }%
1883             \fi
1884           \fi
1885         \fi
1886       \fi
1887     \fi
1888   \fi
1889 \fi
1890 \ifx\HyPsd@Rest\relax
1891   \ifx\scrollmode#2\scrollmode
1892   \else

```

```

1893 \Hy@ReturnAfterFiFiEnd{%
1894 \HyPsd@CheckCatcodes#2\HyPsd@End
1895 }%
1896 \fi
1897 \else
1898 \ifx\HyPsd@Rest\@empty
1899 \else
1900 \Hy@ReturnAfterFiFiEnd{%
1901 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1902 }%
1903 \fi
1904 \fi
1905 \Hy@ReturnEnd
1906 }

```

Remove counts, dimens, skips.

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

```

1907 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1908 \gdef\HyPsd@Rest{#1}%
1909 }

```

\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.

```

1910 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1911 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex %
1912 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1913 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1914 \else
1915 \ifdim\dimen@=\z@
1916 \else
1917 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1918 \fi
1919 \gdef\HyPsd@Rest{#1}%
1920 \fi
1921 }

```

\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).

```

1922 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1923 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>1ex %
1924 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1925 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1926 \else
1927 \ifdim\skip@=\z@
1928 \else
1929 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1930 \fi
1931 \gdef\HyPsd@Rest{#1}%
1932 \fi
1933 }

```

Catcode warnings.

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

```
1934 \def\HyPsd@CatcodeWarning#1{%
1935   \HyPsd@Warning{%
1936     Token not allowed in a PDF string (%)
1937     \ifHy@unicode
1938       Unicode%
1939     \else
1940       PDFDocEncoding%
1941     \fi
1942   }:%
1943   \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1944 }%
1945 }
1946 \begingroup
1947   \catcode'\|=0 %
1948   \catcode'\|=12 %
1949   \gdef\HyPsd@RemoveCmdPrefix#1{%
1950     \expandafter\HyPsd@@RemoveCmdPrefix
1951     \string#1|@empty\<>-|@empty|@empty
1952   }%
1953   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1954 \endgroup
```

\HyPsd@RemoveSpaceWarning

```
1955 \def\HyPsd@RemoveSpaceWarning#1{%
1956   \HyPsd@Warning{%
1957     Token not allowed in a PDF string (%)
1958     \ifHy@unicode
1959       Unicode%
1960     \else
1961       PDFDocEncoding%
1962     \fi
1963   }:%
1964   \MessageBreak #1\MessageBreak
1965   removed%
1966 }%
1967 }
```

\HyPsd@ReplaceSpaceWarning

```
1968 \def\HyPsd@ReplaceSpaceWarning#1{%
1969   \HyPsd@Warning{%
1970     Token not allowed in a PDF string (%)
1971     \ifHy@unicode
1972       Unicode%
1973     \else
1974       PDFDocEncoding%
1975     \fi
1976   }:%
1977   \MessageBreak #1\MessageBreak
1978   replaced by space%
1979 }%
1980 }
```

6.6.5 Check for wrong glyphs

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

```

1981 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1982   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1983     \HyPsd@String#1%
1984   }%
1985   \ifx\#2\%
1986   \else
1987     \Hy@ReturnAfterFi{%
1988       \HyPsd@GlyphProcessWarning#2\@empty
1989     }%
1990   \fi
1991 }
1992 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1993   \HyPsd@@@GlyphProcessWarning#1++>%
1994   \HyPsd@GlyphProcess#2\@empty
1995 }
1996 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1997   \ifx\#2\%
1998     \HyPsd@Warning{%
1999       Glyph not defined in %
2000       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2001       removing '@backslashchar#1'%
2002     }%
2003   \else
2004     \HyPsd@Warning{%
2005       Composite letter '@backslashchar#1+#2'\MessageBreak
2006       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2007       \MessageBreak
2008       removing '@backslashchar#1'%
2009     }%
2010   \fi
2011 }

```

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`.

```

2012 \def\HyPsd@spaceopti#1{ % first space
2013   \ifx\HyPsd@spaceopti#1%
2014     \040%
2015   \else
2016     #1%
2017   \fi
2018 }%

```

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.

```

2019 \def\HyPsd@Subst#1#2#3{%
2020   \def\HyPsd@@@ReplaceFi##1#1##2\END\fi{%
2021     \fi

```

```

2022  ##1%
2023  \ifx\scrollmode##2\scrollmode
2024  \else
2025    #2%
2026    \HyPsd@@ReplaceFi##2\END
2027  \fi
2028 }%
2029 \xdef#3{%
2030   \iftrue
2031     \expandafter\HyPsd@@ReplaceFi#3#1\END
2032   \fi
2033 }%
2034 }

```

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

```

2035 \def\HyPsd@StringSubst#1{%
2036   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2037 }

```

`\HyPsd@EscapeTeX`

```

2038 \begingroup
2039 \lccode'\!='\%%
2040 \lccode'\|='\%%
2041 \lccode'\(=\'{\%
2042 \lccode'\)='\}%
2043 \lccode'0=\ltx@zero
2044 \lccode'1=\ltx@zero
2045 \lccode'3=\ltx@zero
2046 \lccode'4=\ltx@zero
2047 \lccode'5=\ltx@zero
2048 \lccode'7=\ltx@zero
2049 \lowercase{\endgroup
2050 \def\HyPsd@EscapeTeX#1{%
2051   \HyPsd@Subst!{|045}#1%
2052   \HyPsd@Subst({|173}#1%
2053   \HyPsd@Subst){|175}#1%
2054 }%
2055 }

```

6.6.7 Support for package `xspace`

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

```

2056 \def\HyPsd@doxspace#1{%
2057   \ifx#1\relax\else
2058     \ifx#1.\else
2059       \ifx#1:\else
2060         \ifx#1,\else
2061         \ifx#1;\else
2062         \ifx#1!\else
2063         \ifx#1?\else
2064         \ifx#1/\else
2065         \ifx#1-\else
2066         \ifx#1'\else

```

```

2067         \HyPsd@SPACEOPTI
2068         \fi
2069         \fi
2070         \fi
2071         \fi
2072         \fi
2073         \fi
2074         \fi
2075         \fi
2076         \fi
2077         \fi
2078         #1%
2079     }%

```

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.

```

2080 \begingroup
2081   \catcode'\|=0 %
2082   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2083 |gdef|HyPsd@ConvertToUnicode#1{%
2084 |xdef#1{%
2085   |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2086 }%
2087 |ifx#1|@empty
2088 |else
2089   |xdef#1{%
2090     \376\377%
2091     #1%
2092   }%
2093 |fi
2094 }%

```

\HyPsd@DoConvert

```

2095 |gdef|HyPsd@DoConvert#1{%
2096 |ifx#1|@empty
2097 |else
2098   |Hy@ReturnAfterFi{%
2099     |ifx#1\%%
2100     \%%
2101     |expandafter|HyPsd@DoEscape
2102   |else
2103     |HyPsd@Char{#1}%
2104     |expandafter|HyPsd@DoConvert
2105   |fi
2106 }%
2107 |fi
2108 }%

```

\HyPsd@DoEscape

```

2109 |gdef|HyPsd@DoEscape#1{%
2110 |ifx#19%

```

```

2111 |expandafter|HyPsd@GetTwoBytes
2112 |else
2113 |Hy@ReturnAfterFi{%
2114 |ifx#18%
2115 00%
2116 |expandafter|HyPsd@GetTwoBytes
2117 |else
2118 #1%
2119 |expandafter|HyPsd@GetOneByte
2120 |fi
2121 }%
2122 |fi
2123 }%

```

\HyPsd@GetTwoBytes

```

2124 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2125 #1\#2#3#4%
2126 |HyPsd@DoConvert
2127 }%

```

\HyPsd@GetOneByte

```

2128 |gdef|HyPsd@GetOneByte#1#2{%
2129 #1#2%
2130 |HyPsd@DoConvert
2131 }%
2132 |endgroup

```

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

```

2133 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2134 \xdef#4{#4#1#2}%
2135 \HyPsd@@ConvertToUnicode#3\END#4%
2136 }

```

\HyPsd@Char

```

2137 \begingroup
2138 \catcode0=9 %
2139 \catcode'\^=7 %
2140 \catcode'\^^=12 %
2141 \def\x{^^^^0000}%
2142 \expandafter\endgroup
2143 \ifx\x\@empty
2144 \def\HyPsd@Char#1{%
2145 \ifnum'#1<128 %
2146 \@backslashchar 000#1%
2147 \else
2148 \ifnum'#1<65536 %
2149 \expandafter\HyPsd@CharTwoByte\number'#1!%
2150 \else
2151 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2152 \intcalcSub{'#1}{65536}!%
2153 \fi
2154 \fi
2155 }%
2156 \def\HyPsd@CharTwoByte#1!{%
2157 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2158 \IntCalcDiv#1!256!!%
2159 \expandafter\expandafter\expandafter\HyPsd@CharOctByte

```

```

2160 \IntCalcMod#1!256!!%
2161 }%
2162 \def\HyPsd@CharOctByte#1!{%
2163 \@backslashchar
2164 \IntCalcDiv#1!64!%
2165 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2166 \IntCalcMod#1!8!%
2167 }%
2168 \def\HyPsd@CharSurrogate#1!{%
2169 \@backslashchar 33%
2170 \IntCalcDiv#1!262144!%
2171 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2172 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2173 \@backslashchar 33%
2174 \expandafter\expandafter\expandafter\IntCalcAdd
2175 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2176 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2177 \IntCalcMod#1!256!!%
2178 }%
2179 \else
2180 \def\HyPsd@Char#1{%
2181 \@backslashchar 000#1%
2182 }%
2183 \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`

```

2184 \begingroup\expandafter\expandafter\expandafter\endgroup
2185 \expandafter\ifx\csname numexpr\endcsname\relax
2186 \let\HyPsd@UTFviii\relax
2187 \else
2188 \begingroup
2189 \lccode'\~='^f4\relax
2190 \lowercase{\endgroup
2191 \def\HyPsd@UTFviii{%
2192 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2193 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2194 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2195 \ifx~\HyPsd@UTFviii@ccxliv@undef
2196 \let~\HyPsd@UTFviii@ccxliv@def
2197 \fi
2198 \let\unichar\HyPsd@unichar
2199 }%
2200 }%
2201 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2202 \edef\HyPsd@UTFviii@ccxliv@def{%

```

```

2203 \noexpand\UTFviii@four@octets\string ^f4%
2204 }%

```

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.

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

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

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

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

$$(5)$$

```

2205 \def\HyPsd@UTFviii@two#1#2{%
2206 \expandafter\HyPsd@UTFviii@@two
2207 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2208 \number'#1\expandafter| %
2209 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2210 \number'#2 \@nil
2211 }%
2212 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2213 \expandafter\8%
2214 \number\numexpr #1-48\expandafter\relax
2215 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2216 \number\numexpr #3-8*%
2217 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2218 \number\numexpr #4-8*#3\relax
2219 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2220 \def\HyPsd@UTFviii@three#1#2#3{%
2221 \expandafter\HyPsd@UTFviii@@three
2222 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2223 \number'#1\expandafter| %
2224 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2225 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2226 \number'#2\expandafter| %
2227 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2228 \number'#3 \@nil
2229 }%
2230 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2231 \expandafter\9%
2232 \number\numexpr #1-56\expandafter\relax
2233 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2234 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax

```

```

2235 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2236 \number\numexpr #6-16\expandafter\relax
2237 \number\numexpr #7-8*#6\relax
2238 }%

```

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

```

```

2239 \def\HyPsd@UTFviii@four#1#2{%
2240 \expandafter\HyPsd@@UTFviii@four\number
2241 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2242 \expandafter|\number
2243 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2244 }%
2245 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2246 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2247 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2248 \ifodd#2 %
2249 \number\numexpr(#2-1)/2\relax
2250 \else
2251 \number\numexpr#2/2\relax
2252 \fi
2253 \number\numexpr\ifodd#2 4+\fi
2254 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2255 \933%
2256 \expandafter\HyPsd@@@UTFviii@four\number
2257 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2258 }%
2259 \def\HyPsd@@@UTFviii@four#1|#2{%
2260 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2261 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2262 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2263 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2264 }%

```

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

```

2265 \def\HyPsd@unichar#1{%
2266 \ifHy@unicode
2267 \ifnum#1>"10FFFF %
2268 \HyPsd@UnicodeReplacementCharacter % illegal
2269 \else
2270 \ifnum#1>"FFFF %

```

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

```

2271 \expandafter\HyPsd@unichar\expandafter{%
2272 \number\numexpr 55296+%
2273 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2274 \relax\relax\relax
2275 }%

```

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

```

2276 \expandafter\HyPsd@unichar\expandafter{%
2277 \number\numexpr#1-9216%

```



```

2278         -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2279         \relax\relax\relax
2280     }%
2281     \else
2282     \ifnum#1>"7FF %
2283     \9%
2284     \expandafter\HyPsd@unichar@first@byte\expandafter{%
2285     \number
2286     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2287     }%
2288     \else
2289     \8%
2290     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2291     \fi
2292     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2293     \number
2294     \numexpr#1-256*\number
2295     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2296     }%
2297     \fi
2298     \fi
2299     \else
2300     .% unsupported (Unicode -> PDF Doc Encoding)
2301     \fi
2302     }%
2303     \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2304     \def\HyPsd@unichar@first@byte#1{%
2305     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2306     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2307     \number
2308     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2309     \relax\relax\relax
2310     }%
2311     }%
2312     \def\HyPsd@unichar@second@byte#1{%
2313     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2314     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2315     \number
2316     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2317     \relax\relax\relax
2318     }%
2319     }%
2320     \def\HyPsd@unichar@octtwo#1{%
2321     \number\dimexpr.125\dimexpr#1sp\relax\relax
2322     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2323     \relax\relax\relax
2324     }%
2325     \fi

```

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

```

2326 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2327 \ifx\@gobble#1%
2328 \else
2329 [Please insert \textbackslash PrerenderUnicode%
2330 \textbraceleft#1\textbraceright\space
2331 into preamble]%
2332 \fi

```

```
2333 }%
```

7 Support of other packages

7.1 Class memoir

```
2334 \@ifclassloaded{memoir}{}%
2335 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2336 }{}
```

7.2 Package subfigure

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

```
2337 \@ifpackageloaded{subfigure}{}%
2338 \ltx@ifundefined{sub@label}{}%
2339 \Hy@hypertexnamesfalse
2340 }{%
2341 \renewcommand*{\sub@label}[1]{%
2342 \@bsphack
2343 \subfig@oldlabel{#1}%
2344 \if@filesw
2345 \begingroup
2346 \edef\@currentlabstr{%
2347 \expandafter\strip@prefix\meaning\@currentlabelname
2348 }%
2349 \protected@write\@auxout{}{%
2350 \string\newlabel{sub@#1}{%
2351 {\@nameuse{@@thesub}\@captive}}%
2352 {\thepage}%
2353 {%
2354 \expandafter\strip@period\@currentlabstr
2355 \relax.\relax\@@@%
2356 }%
2357 {\@currentHref}%
2358 }}%
2359 }%
2360 }%
2361 \endgroup
2362 \fi
2363 \@esphack
2364 }%
2365 \@ifpackagelater{subfigure}{2002/03/26}{}%
2366 \providecommand*\toclevel@subfigure{1}%
2367 \providecommand*\toclevel@subtable{1}%
2368 }%
2369 }%
2370 }{}
```

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:

```
2371 \ltx@ifundefined{XR@addURL}{}%
2372 }{%
```

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.

```

2373 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2374 \def\XR@dURL#1#2#3#4#5\\{%
2375   {#1}{#2}%
2376   \if!#4!%
2377   \else
2378     {#3}{#4}{\XR@URL}%
2379   \fi
2380 }%
2381 }

2382 \def\Hy@true{true}
2383 \def\Hy@false{false}

```

Providing dummy definitions.

```

2384 \let\literalps@out\@gobble
2385 \newcommand\pdfbookmark[3]{}
2386 \def\Acrobatmenu#1#2{\leavevmode#2}
2387 \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

```

2388 \let\HyperRaiseLinkHook\@empty
2389 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2390 \newcount\Hy@SavedSpaceFactor
2391 \def\Hy@SaveSpaceFactor{%
2392   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2393 }
2394 \def\Hy@RestoreSpaceFactor{%
2395   \relax
2396   \ifhmode
2397     \ifnum\Hy@SavedSpaceFactor>\z@
2398       \spacefactor=\Hy@SavedSpaceFactor
2399     \fi
2400   \fi
2401 }
2402 \def\Hy@SaveSavedSpaceFactor{%
2403   \edef\Hy@RestoreSavedSpaceFactor{%
2404     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2405   }%
2406 }
2407 \def\Hy@raisedlink#1{%
2408   \ifvmode
2409     #1%
2410   \else

```

```

2411 \Hy@SaveSpaceFactor
2412 \penalty\@M
2413 \smash{%
2414 \begingroup
2415 \let\HyperRaiseLinkLength\@tempdima
2416 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2417 \HyperRaiseLinkHook
2418 \expandafter\endgroup
2419 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2420 \Hy@RestoreSpaceFactor
2421 #1%
2422 \Hy@SaveSpaceFactor
2423 }%
2424 }%
2425 \Hy@RestoreSpaceFactor
2426 \fi
2427 }

```

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

```

2428 \def\Hy@SaveLastskip{%
2429 \let\Hy@RestoreLastskip\relax
2430 \ifvmode
2431 \ifdim\lastskip=\z@
2432 \let\Hy@RestoreLastskip\nobreak
2433 \else
2434 \begingroup
2435 \skip@=-\lastskip
2436 \edef\x{%
2437 \endgroup
2438 \def\noexpand\Hy@RestoreLastskip{%
2439 \noexpand\ifvmode
2440 \noexpand\nobreak
2441 \vskip\the\skip@
2442 \vskip\the\lastskip\relax
2443 \noexpand\fi
2444 }%
2445 }%
2446 \x
2447 \fi
2448 \else
2449 \ifhmode
2450 \ifdim\lastskip=\z@
2451 \let\Hy@RestoreLastskip\nobreak
2452 \else
2453 \begingroup
2454 \skip@=-\lastskip
2455 \edef\x{%
2456 \endgroup
2457 \def\noexpand\Hy@RestoreLastskip{%
2458 \noexpand\ifhmode
2459 \noexpand\nobreak
2460 \hskip\the\skip@
2461 \hskip\the\lastskip\relax
2462 \noexpand\fi
2463 }%
2464 }%
2465 \x

```

```

2466     \fi
2467   \fi
2468 \fi
2469 }%

```

9 Options

```

2470 \SetupKeyvalOptions{%
2471   family=Hyp,%
2472   prefix=HyOpt%
2473 }

```

9.1 Help macros

\Hy@boolkey

```

2474 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
2475 \def\Hy@boolkey[#1]#2#3{%
2476   \edef\Hy@tempa{#3}%
2477   \lowercase\expandafter{%
2478     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2479   }%
2480   \ifx\Hy@tempa\@empty
2481     \let\Hy@tempa\Hy@true
2482   \fi
2483   \ifx\Hy@tempa\Hy@true
2484     \else
2485     \ifx\Hy@tempa\Hy@false
2486     \else
2487       \let\Hy@tempa\relax
2488     \fi
2489   \fi
2490   \ifx\Hy@tempa\relax
2491     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2492   \else
2493     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2494     \csname Hy@#2\Hy@tempa\endcsname
2495   \fi
2496 }

```

\Hy@WarnOptionValue

```

2497 \def\Hy@WarnOptionValue#1#2#3{%
2498   \Hy@Warning{%
2499     Unexpected value ‘#1’\MessageBreak
2500     of option ‘#2’ instead of\MessageBreak
2501     #3%
2502   }%
2503 }

```

\Hy@DisableOption

```

2504 \def\Hy@DisableOption#1{%
2505   \ifundefined{KV@Hyp@#1@default}{%
2506     \define@key{Hyp}{#1}%
2507   }{%
2508     \define@key{Hyp}{#1}[]%
2509   }%
2510   {\Hy@WarnOptionDisabled{#1}}%
2511 }

```

\Hy@WarnOptionDisabled

```
2512 \def\Hy@WarnOptionDisabled#1{%
2513   \Hy@Warning{%
2514     Option '#1' has already been used,\MessageBreak
2515     setting the option has no effect%
2516   }%
2517 }
```

\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.

```
2518 \def\Hy@CheckOptionValue#1#2#3{%
2519   \begingroup
2520   \edef\x{#1}%
2521   \@onelevel@sanitize\x
2522   \let\y=y%
2523   \def\do##1##2{%
2524     \def\z{##1}%
2525     \@onelevel@sanitize\z
2526     \ifx\x\z
2527       \let\y=n%
2528       \let\do\@gobbletwo
2529     \fi
2530   }%
2531   #3%
2532   \ifx\y y%
2533     \def\do##1##2{%
2534       *'##1'%
2535       \ifx\\##2\\\else\space(##2)\fi
2536     \MessageBreak
2537   }%
2538   \Hy@Warning{%
2539     Values of option '#2':\MessageBreak
2540     #3%
2541     * An empty value disables the option.\MessageBreak
2542     Unknown value '\x'%
2543   }%
2544   \fi
2545 \endgroup
2546 }
```

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

```
2547 \def\Hy@DefNameKey#1{%
2548   \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2549 }
```

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

```
2550 \def\Hy@@@DefNameKey#1#2#3{%
2551   \define@key{Hyp}{#2}{%
2552     \edef#1{##1}%
2553     \ifx#1\@empty
2554     \else
2555       \Hy@CheckOptionValue{##1}{#2}{#3}%

```

```

2556 \fi
2557 }%
2558 \let#1\@empty
2559 }

```

\Hy@UseNameKey

```

2560 \def\Hy@UseNameKey#1#2{%
2561 \ifx#2\@empty
2562 \else
2563 /#1/#2%
2564 \fi
2565 }

```

9.2 Defining the options

```

2566 \define@key{Hyp}{implicit}[true]{%
2567 \Hy@boolkey{implicit}{#1}%
2568 }
2569 \define@key{Hyp}{draft}[true]{%
2570 \Hy@boolkey{draft}{#1}%
2571 }
2572 \define@key{Hyp}{final}[true]{%
2573 \Hy@boolkey{final}{#1}%
2574 }
2575 \let\KV@Hyp@nolinks\KV@Hyp@draft

2576 \def\Hy@ObsoletePaperOption#1{%
2577 \Hy@WarningNoLine{%
2578 Option ‘#1’ is no longer used%
2579 }%
2580 \define@key{Hyp}{#1}[true]{}%
2581 }
2582 \def\Hy@temp#1{%
2583 \define@key{Hyp}{#1}[true]{%
2584 \Hy@ObsoletePaperOption{#1}%
2585 }%
2586 }
2587 \Hy@temp{a4paper}
2588 \Hy@temp{a5paper}
2589 \Hy@temp{b5paper}
2590 \Hy@temp{letterpaper}
2591 \Hy@temp{legalpaper}
2592 \Hy@temp{executivepaper}

2593 \define@key{Hyp}{setpagesize}[true]{%
2594 \Hy@boolkey{setpagesize}{#1}%
2595 }
2596 \define@key{Hyp}{debug}[true]{%
2597 \Hy@boolkey[debug]{verbose}{#1}%
2598 }
2599 \define@key{Hyp}{linktocpage}[true]{%
2600 \Hy@boolkey{linktocpage}{#1}%
2601 \ifHy@linktocpage
2602 \let\Hy@linktoc\Hy@linktoc@page
2603 \else
2604 \let\Hy@linktoc\Hy@linktoc@section
2605 \fi
2606 }

```

```

2607 \chardef\Hy@linktoc@none=0 %
2608 \chardef\Hy@linktoc@section=1 %
2609 \chardef\Hy@linktoc@page=2 %
2610 \chardef\Hy@linktoc@all=3 %
2611 \ifHy@linktocpage
2612   \let\Hy@linktoc\Hy@linktoc@page
2613 \else
2614   \let\Hy@linktoc\Hy@linktoc@section
2615 \fi
2616 \define@key{Hyp}{linktoc}{%
2617   \ifundefined{Hy@linktoc@#1}{%
2618     \Hy@Warning{%
2619       Unexpected value ‘#1’ of\MessageBreak
2620       option ‘linktoc’ instead of ‘none’,\MessageBreak
2621       ‘section’, ‘page’ or ‘all’%
2622     }%
2623   }{%
2624     \expandafter\let\expandafter\Hy@linktoc
2625     \csname Hy@linktoc@#1\endcsname
2626   }%
2627 }
2628 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2629 \let\XR@ext\relax
2630 \define@key{Hyp}{verbose}[true]{%
2631   \Hy@boolkey{verbose}{#1}%
2632 }
2633 \define@key{Hyp}{typexml}[true]{%
2634   \Hy@boolkey{typexml}{#1}%
2635 }

```

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.

```

2636 \define@key{Hyp}{raiselinks}[true]{%
2637   \Hy@boolkey{raiselinks}{#1}%
2638 }

```

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

```

2639 \def\Hy@setbreaklinks#1{%
2640   \csname breaklinks#1\endcsname
2641 }
2642 \def\Hy@breaklinks@unsupported{%
2643   \ifx\Hy@setbreaklinks\@gobble
2644     \ifHy@breaklinks
2645       \Hy@WarningNoLine{%
2646         You have enabled option ‘breaklinks’.\MessageBreak
2647         But driver ‘\Hy@driver.def’ does not support this.\MessageBreak
2648         Expect trouble with the link areas of broken links%
2649       }%
2650     \fi
2651   \fi
2652 }
2653 \define@key{Hyp}{breaklinks}[true]{%
2654   \Hy@boolkey{breaklinks}{#1}%
2655   \let\Hy@setbreaklinks\@gobble
2656 }

```



```

2657 \define@key{Hyp}{localanchorname}[true]{%
2658   \Hy@boolkey{localanchorname}{#1}%
2659 }

```

Determines whether an automatic anchor is put on each page

```

2660 \define@key{Hyp}{pageanchor}[true]{%
2661   \Hy@boolkey{pageanchor}{#1}%
2662 }

```

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.

```

2663 \define@key{Hyp}{plainpages}[true]{%
2664   \Hy@boolkey{plainpages}{#1}%
2665 }

```

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

```

2666 \define@key{Hyp}{naturalnames}[true]{%
2667   \Hy@boolkey{naturalnames}{#1}%
2668 }

```

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

```

2669 \define@key{Hyp}{hypertexnames}[true]{%
2670   \Hy@boolkey{hypertexnames}{#1}%
2671 }

```

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

```

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

```

```

2675 \define@key{Hyp}{unicode}[true]{%
2676   \Hy@boolkey{unicode}{#1}%
2677   \ifHy@unicode
2678     \def\HyPsd@pdfencoding{unicode}%
2679     \HyPsd@LoadUnicode
2680   \else
2681     \def\HyPsd@pdfencoding{pdfdoc}%
2682   \fi
2683 }
2684 \def\HyPsd@LoadUnicode{%
2685   \@ifundefined{T@PU}{%
2686     \input{puenc.def}%
2687     \HyLinguex@Restore
2688   }{}%
2689   \DeclareFontFamily{PU}{pdf}{}%
2690   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2691   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2692   \global\let\HyPsd@LoadUnicode\relax
2693 }
2694 \Hy@AtBeginDocument{%
2695   \ifx\HyPsd@LoadUnicode\relax
2696   \else
2697     \def\HyPsd@LoadUnicode{%
2698       \Hy@Error{%
2699         Unicode support for bookmarks is not available.\MessageBreak
2700         Activate unicode support by using one of the options\MessageBreak
2701         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2702         in the preamble%
2703       }\@ehc

```

```

2704 \global\let\HyPsd@LoadUnicode\relax
2705 \global\Hy@unicodedefalse
2706 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2707 }%
2708 \fi
2709 }

2710 \define@key{Hyp}{pdfencoding}{%
2711 \edef\HyPsd@temp{#1}%
2712 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2713 \let\HyPsd@pdfencoding\HyPsd@temp
2714 \Hy@unicodedefalse
2715 \else
2716 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2717 \z@
2718 \else
2719 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2720 \z@
2721 \else
2722 \@ne
2723 \fi
2724 \fi
2725 \let\HyPsd@pdfencoding\HyPsd@temp
2726 \hypersetup{unicode}%
2727 \ifHy@unicode
2728 \def\HyPsd@pdfencoding{#1}%
2729 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2730 \HyPsd@LoadStringEnc
2731 \fi
2732 \else
2733 \Hy@Warning{Cannot switch to unicode bookmarks}%
2734 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2735 \fi
2736 \else
2737 \@onelevel@sanitize\HyPsd@temp
2738 \Hy@Warning{%
2739 Values of option 'pdfencoding':\MessageBreak
2740 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2741 Ignoring unknown value '\HyPsd@temp'%
2742 }%
2743 \fi
2744 \fi
2745 }

2746 \def\HyPsd@pdfencoding@auto{auto}
2747 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2748 \def\HyPsd@pdfencoding@unicode{unicode}
2749 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2750 \def\HyPsd@LoadStringEnc{%
2751 \RequirePackage{stringenc}[2009/12/15]%
2752 \let\HyPsd@LoadStringEnc\relax
2753 }

2754 \Hy@AtBeginDocument{%
2755 \@ifpackageloaded{stringenc}{%
2756 \let\HyPsd@LoadStringEnc\relax
2757 }{%
2758 \def\HyPsd@LoadStringEnc{%
2759 \Hy@WarningNoLine{%
2760 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak

```

```

2761      in the preamble or load the package there%
2762    }%
2763  }%
2764 }%
2765 }

2766 \def\hypersetup{\kvsetkeys{Hyp}}

2767 \newif\ifHy@setpdfversion
2768 \define@key{Hyp}{pdfversion}{%
2769   \ifundefined{Hy@pdfversion@#1}{%
2770     \PackageWarning{hyperref}{%
2771       Unsupported PDF version '#1'.\MessageBreak
2772       Valid values: 1.2 until 1.9%
2773     }%
2774   }{%
2775     \Hy@setpdfversiontrue
2776     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2777   }%
2778 }
2779 \@namedef{Hy@pdfversion@1.2}{2}%
2780 \@namedef{Hy@pdfversion@1.3}{3}%
2781 \@namedef{Hy@pdfversion@1.4}{4}%
2782 \@namedef{Hy@pdfversion@1.5}{5}%
2783 \@namedef{Hy@pdfversion@1.6}{6}%
2784 \@namedef{Hy@pdfversion@1.7}{7}%
2785 \@namedef{Hy@pdfversion@1.8}{8}%
2786 \@namedef{Hy@pdfversion@1.9}{9}%
2787 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2788 \newif\ifHy@DviMode
2789 \let\Hy@DviErrMsg\ltx@empty
2790 \ifpdf
2791   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2792 \else
2793   \ifxetex
2794     \def\Hy@DviErrMsg{XeTeX is running}%
2795   \else
2796     \ifvtex
2797       \ifvtexdvi
2798         \Hy@DviModetrue
2799       \else
2800         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2801       \fi
2802     \else
2803       \Hy@DviModetrue
2804     \fi
2805   \fi
2806 \fi
2807 \def\HyOpt@CheckDvi#1{%
2808   \ifHy@DviMode
2809     \expandafter\ltx@firstofone
2810   \else
2811     \Hy@Error{%
2812       Wrong DVI mode driver option '#1',\MessageBreak
2813       because \Hy@DviErrMsg
2814     }\@ehc

```

```

2815 \expandafter\ltx@gobble
2816 \fi
2817 }

2818 \DeclareVoidOption{tex4ht}{%
2819 \Hy@texhttrue
2820 \kvsetkeys{Hyp}{colorlinks=true}%
2821 \def\BeforeTeXIVht{\RequirePackage{color}}%
2822 \def\Hy@driver{htex4ht}%
2823 \def\MaybeStopEarly{%
2824 \Hy@Message{Stopped early}%
2825 \Hy@AtBeginDocument{%
2826 \PDF@FinishDoc
2827 \gdef\PDF@FinishDoc{}%
2828 }%
2829 \endinput
2830 }%
2831 }

2832 \DeclareVoidOption{pdftex}{%
2833 \ifpdf
2834 \def\Hy@driver{hpdftex}%
2835 \else
2836 \Hy@Error{%
2837 Wrong driver option 'pdftex',\MessageBreak
2838 because pdfTeX in PDF mode is not detected%
2839 }\@ehc
2840 \fi
2841 }

2842 \DeclareVoidOption{nativepdf}{%
2843 \HyOpt@CheckDvi{nativepdf}{%
2844 \def\Hy@driver{hdvips}%
2845 }%
2846 }

2847 \DeclareVoidOption{dvipdfm}{%
2848 \HyOpt@CheckDvi{dvipdfm}{%
2849 \def\Hy@driver{hdvipdfm}%
2850 }%
2851 }

2852 \DeclareVoidOption{dvipdfmx}{%
2853 \HyOpt@CheckDvi{dvipdfmx}{%
2854 \def\Hy@driver{hdvipdfm}%
2855 }%
2856 }

2857 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2858 \expandafter\ifx\csname if#1\expandafter\endcsname
2859 \csname iftrue\endcsname
2860 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2861 \else
2862 \chardef\SpecialDvipdfmxOutlineOpen\z@
2863 \fi
2864 }

2865 \DeclareVoidOption{xetex}{%
2866 \ifxetex
2867 \def\Hy@driver{hxetex}%
2868 \else
2869 \Hy@Error{%
2870 Wrong driver option 'xetex',\MessageBreak
2871 because XeTeX is not detected%

```

```

2872   }\@ehc
2873   \fi
2874 }
2875 \DeclareVoidOption{pdfmark}{%
2876   \HyOpt@CheckDvi{pdfmark}{%
2877     \def\Hy@driver{hdvips}%
2878   }%
2879 }
2880 \DeclareVoidOption{dvips}{%
2881   \HyOpt@CheckDvi{dvips}{%
2882     \def\Hy@driver{hdvips}%
2883   }%
2884 }
2885 \DeclareVoidOption{hypertex}{%
2886   \HyOpt@CheckDvi{hypertex}{%
2887     \def\Hy@driver{hypertex}%
2888   }%
2889 }
2890 \let\Hy@MaybeStopNow\relax
2891 \DeclareVoidOption{vtex}{%
2892   \ifvtex
2893     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2894     \def\Hy@driver{hvtex}%
2895   \else
2896     \ifnum\OpMode=10\relax
2897       \def\Hy@driver{hvtexhtm}%
2898       \def\MaybeStopEarly{%
2899         \Hy@Message{Stopped early}%
2900         \Hy@AtBeginDocument{%
2901           \PDF@FinishDoc
2902           \gdef\PDF@FinishDoc{}}%
2903       }%
2904       \endinput
2905     }%
2906   \else
2907     \Hy@Error{%
2908       Wrong driver option 'vtex',\MessageBreak
2909       because of wrong OpMode (\the\OpMode)%
2910     }\@ehc
2911   \fi
2912   \fi
2913 \else
2914   \Hy@Error{%
2915     Wrong driver option 'vtex',\MessageBreak
2916     because VTeX is not running%
2917   }\@ehc
2918 \fi
2919 }
2920 \DeclareVoidOption{vtexpdfmark}{%
2921   \ifvtex
2922     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2923     \def\Hy@driver{hvtexmrk}%
2924   \else
2925     \Hy@Error{%
2926       Wrong driver option 'vtexpdfmark',\MessageBreak
2927       because of wrong OpMode (\the\OpMode)%
2928     }\@ehc

```

```

2929 \fi
2930 \else
2931 \Hy@Error{%
2932   Wrong driver option 'vtexpdfmark,\MessageBreak
2933   because VTeX is not running%
2934 } \@ehc
2935 \fi
2936 }
2937 \DeclareVoidOption{dviwindo}{%
2938 \HyOpt@CheckDvi{dviwindo}{%
2939 \def\Hy@driver{hdviwind}%
2940 \kvsetkeys{Hyp}{colorlinks}%
2941 \PassOptionsToPackage{dviwindo}{color}%
2942 }%
2943 }
2944 \DeclareVoidOption{dvipsone}{%
2945 \HyOpt@CheckDvi{dvipsone}{%
2946 \def\Hy@driver{hdvipson}%
2947 }%
2948 }
2949 \DeclareVoidOption{textures}{%
2950 \HyOpt@CheckDvi{textures}{%
2951 \def\Hy@driver{httexture}%
2952 }%
2953 }
2954 \DeclareVoidOption{latex2html}{%
2955 \HyOpt@CheckDvi{latex2html}{%
2956 \Hy@AtBeginDocument{\@@@latex2htmlX}%
2957 }%
2958 }

```

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

```

2959 \DeclareVoidOption{ps2pdf}{%
2960 \HyOpt@CheckDvi{ps2pdf}{%
2961 \def\Hy@driver{hdvips}%
2962 }%
2963 }
2964 \let\HyOpt@DriverFallback\ltx@empty
2965 \define@key{Hyp}{driverfallback}{%
2966 \ifHy@DviMode
2967 \def\HyOpt@DriverFallback{#1}%
2968 \Hy@Match\HyOpt@DriverFallback{%
2969   ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2970   latex2html|tex4ht)$%
2971 }{}{%
2972 \let\HyOpt@DriverFallback\ltx@empty
2973 }%
2974 \fi
2975 }

```

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.

```

2976 \define@key{Hyp}{hyperfigures}[true]{%
2977 \Hy@boolkey[hyperfigures]{figures}{#1}%
2978 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2979 \define@key{Hyp}{hyperfootnotes}[true]{%
2980   \Hy@boolkey{hyperfootnotes}{#1}%
2981 }
```

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

```
2982 \def\back@none{none}
2983 \def\back@section{section}
2984 \def\back@page{page}
2985 \def\back@slide{slide}
2986 \define@key{Hyp}{backref}[section]{%
2987   \lowercase{\def\Hy@tempa{#1}}%
2988   \ifx\Hy@tempa\@empty
2989     \let\Hy@tempa\back@section
2990   \fi
2991   \ifx\Hy@tempa\Hy@false
2992     \let\Hy@tempa\back@none
2993   \fi
2994   \ifx\Hy@tempa\back@slide
2995     \let\Hy@tempa\back@section
2996   \fi
2997   \ifx\Hy@tempa\back@page
2998     \PassOptionsToPackage{hyperpageref}{backref}%
2999     \Hy@backreftrue
3000   \else
3001     \ifx\Hy@tempa\back@section
3002       \PassOptionsToPackage{hyperref}{backref}%
3003       \Hy@backreftrue
3004     \else
3005       \ifx\Hy@tempa\back@none
3006         \Hy@backreffalse
3007       \else
3008         \Hy@WarnOptionValue{#1}{backref}{%
3009           'section', 'slide', 'page', 'none',\MessageBreak
3010           or 'false'}%
3011       \fi
3012     \fi
3013   \fi
3014 }
3015 \define@key{Hyp}{pagebackref}[true]{%
3016   \edef\Hy@tempa{#1}%
3017   \lowercase\expandafter{%
3018     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3019   }%
3020   \ifx\Hy@tempa\@empty
3021     \let\Hy@tempa\Hy@true
3022   \fi
3023   \ifx\Hy@tempa\Hy@true
3024     \PassOptionsToPackage{hyperpageref}{backref}%
3025     \Hy@backreftrue
3026   \else
3027     \ifx\Hy@tempa\Hy@false
3028       \Hy@backreffalse
3029     \else
3030       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3031     \fi
3032   \fi
3033 }
```

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

```
3034 \define@key{Hyp}{hyperindex}[true]{%
3035   \Hy@boolkey{hyperindex}{#1}%
3036 }
```

Configuration of encap char.

```
3037 \define@key{Hyp}{encap}[|]{%
3038   \def\HyInd@EncapChar{#1}%
3039 }
```

12 Language options

The `\autoref` feature depends on the language.

```
3040 \def\HyLang@afrikaans{%
3041   \def\equationautorefname{Vergelyking}%
3042   \def\footnoteautorefname{Voetnota}%
3043   \def\itemautorefname{Item}%
3044   \def\figureautorefname{Figuur}%
3045   \def\tableautorefname{Tabel}%
3046   \def\partautorefname{Deel}%
3047   \def\appendixautorefname{Bylae}%
3048   \def\chapterautorefname{Hoofstuk}%
3049   \def\sectionautorefname{Afdeling}%
3050   \def\subsectionautorefname{Subafdeling}%
3051   \def\subsubsectionautorefname{Subsubafdeling}%
3052   \def\paragraphautorefname{Paragraaf}%
3053   \def\subparagraphautorefname{Subparagraaf}%
3054   \def\FancyVerbLineautorefname{Lyn}%
3055   \def\theoremautorefname{Teorema}%
3056   \def\pageautorefname{Bladsy}%
3057 }
3058 \def\HyLang@english{%
3059   \def\equationautorefname{Equation}%
3060   \def\footnoteautorefname{footnote}%
3061   \def\itemautorefname{item}%
3062   \def\figureautorefname{Figure}%
3063   \def\tableautorefname{Table}%
3064   \def\partautorefname{Part}%
3065   \def\appendixautorefname{Appendix}%
3066   \def\chapterautorefname{chapter}%
3067   \def\sectionautorefname{section}%
3068   \def\subsectionautorefname{subsection}%
3069   \def\subsubsectionautorefname{subsubsection}%
3070   \def\paragraphautorefname{paragraph}%
3071   \def\subparagraphautorefname{subparagraph}%
3072   \def\FancyVerbLineautorefname{line}%
3073   \def\theoremautorefname{Theorem}%
3074   \def\pageautorefname{page}%
3075 }
3076 \def\HyLang@french{%
3077   \def\equationautorefname{'Equation}%
3078   \def\footnoteautorefname{note}%
3079   \def\itemautorefname{item}%
3080   \def\figureautorefname{Figure}%
3081   \def\tableautorefname{Tableau}%

```



```

3082 \def\partautorefname{Partie}%
3083 \def\appendixautorefname{Appendice}%
3084 \def\chapterautorefname{chapitre}%
3085 \def\sectionautorefname{section}%
3086 \def\subsectionautorefname{sous-section}%
3087 \def\subsubsectionautorefname{sous-sous-section}%
3088 \def\paragraphautorefname{paragraphe}%
3089 \def\subparagraphautorefname{sous-paragraphe}%
3090 \def\FancyVerbLineautorefname{ligne}%
3091 \def\theoremautorefname{Th\'eor\'eme}%
3092 \def\pageautorefname{page}%
3093 }
3094 \def\HyLang@german{%
3095 \def\equationautorefname{Gleichung}%
3096 \def\footnoteautorefname{Fu\ss note}%
3097 \def\itemautorefname{Punkt}%
3098 \def\figureautorefname{Abbildung}%
3099 \def\tableautorefname{Tabelle}%
3100 \def\partautorefname{Teil}%
3101 \def\appendixautorefname{Anhang}%
3102 \def\chapterautorefname{Kapitel}%
3103 \def\sectionautorefname{Abschnitt}%
3104 \def\subsectionautorefname{Unterabschnitt}%
3105 \def\subsubsectionautorefname{Unterunterabschnitt}%
3106 \def\paragraphautorefname{Absatz}%
3107 \def\subparagraphautorefname{Unterabsatz}%
3108 \def\FancyVerbLineautorefname{Zeile}%
3109 \def\theoremautorefname{Theorem}%
3110 \def\pageautorefname{Seite}%
3111 }
3112 \def\HyLang@italian{%
3113 \def\equationautorefname{Equazione}%
3114 \def\footnoteautorefname{nota}%
3115 \def\itemautorefname{punto}%
3116 \def\figureautorefname{Figura}%
3117 \def\tableautorefname{Tabella}%
3118 \def\partautorefname{Parte}%
3119 \def\appendixautorefname{Appendice}%
3120 \def\chapterautorefname{Capitolo}%
3121 \def\sectionautorefname{sezione}%
3122 \def\subsectionautorefname{sottosezione}%
3123 \def\subsubsectionautorefname{sottosottosezione}%
3124 \def\paragraphautorefname{paragrafo}%
3125 \def\subparagraphautorefname{sottoparagrafo}%
3126 \def\FancyVerbLineautorefname{linea}%
3127 \def\theoremautorefname{Teorema}%
3128 \def\pageautorefname{Pag.\@}%
3129 }
3130 \def\HyLang@magyar{%
3131 \def\equationautorefname{Egyenlet}%
3132 \def\footnoteautorefname{l\'abjegyzet}%
3133 \def\itemautorefname{Elem}%
3134 \def\figureautorefname{'Abra}%
3135 \def\tableautorefname{T\'abl\'azat}%
3136 \def\partautorefname{R\'esz}%
3137 \def\appendixautorefname{F\'uggel\'ek}%
3138 \def\chapterautorefname{fejezet}%

```

```

3139 \def\sectionautorefname{szakasz}%
3140 \def\subsectionautorefname{alszakasz}%
3141 \def\subsubsectionautorefname{alalszakasz}%
3142 \def\paragraphautorefname{bekezd'es}%
3143 \def\subparagraphautorefname{albekezd'es}%
3144 \def\FancyVerbLineautorefname{sor}%
3145 \def\theoremautorefname{T'etel}%
3146 \def\pageautorefname{oldal}%
3147 }
3148 \def\HyLang@portuges{%
3149 \def\equationautorefname{Equa\c c~ao}%
3150 \def\footnoteautorefname{Nota de rodap'e}%
3151 \def\itemautorefname{Item}%
3152 \def\figureautorefname{Figura}%
3153 \def\tableautorefname{Tabela}%
3154 \def\partautorefname{Parte}%
3155 \def\appendixautorefname{Ap~endice}%
3156 \def\chapterautorefname{Cap~itulo}%
3157 \def\sectionautorefname{Se\c c~ao}%
3158 \def\subsectionautorefname{Subse\c c~ao}%
3159 \def\subsubsectionautorefname{Subsubse\c c~ao}%
3160 \def\paragraphautorefname{par'agrafo}%
3161 \def\subparagraphautorefname{subpar'agrafo}%
3162 \def\FancyVerbLineautorefname{linha}%
3163 \def\theoremautorefname{Teorema}%
3164 \def\pageautorefname{P'agina}%
3165 }

```

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`.

```

3166 \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`?

```

3167 \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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`.

```

3168 % \def\equationautorefname{%
3169 %   \cyr\cyrv\cyrery\cyr\cyrz\cyre\cyrn\cyri\cyre
3170 % }%

```

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

```

3171 \def\footnoteautorefname{%
3172   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyr.\ \cyrp\cyr\cyri\cyr.m.%
3173 }%

```

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}`”

```

3174 % \def\footnoteautorefname{%

```

```

3175 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3176 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3177 % }%

```

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

```

3178 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3179 % \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.

```

3180 \def\itemautorefname{\cyr\cyrp.}%
3181 % \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.

```

3182 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3183 \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.

```

3184 \def\partautorefname{\cyr\cyrch.}%
3185 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3186 \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.

```

3187 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3188 % \def\appendixautorefname{%
3189 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
3190 % }%

```

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.

```

3191 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3192 \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.

```

3193 \def\paragraphautorefname{\cyr\cyrp.}%
3194 \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.

```

3195 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3196 % \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.

```

3197 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```
3198 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3199 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3200 % \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 ...

```
3201 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3202 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3203 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3204 \def\pageautorefname{\cyr\cyrs.}%
3205 }
```

```
3206 \def\HyLang@spanish{%
3207 \def\equationautorefname{Ecuaci\'on}%
3208 \def\footnoteautorefname{Nota a pie de p\'agina}%
3209 \def\itemautorefname{Elemento}%
3210 \def\figureautorefname{Figura}%
3211 \def\tableautorefname{Tabla}%
3212 \def\partautorefname{Parte}%
3213 \def\appendixautorefname{Ap\'endice}%
3214 \def\chapterautorefname{Cap\'itulo}%
3215 \def\sectionautorefname{Secci\'on}%
3216 \def\subsectionautorefname{Subsecci\'on}%
3217 \def\subsubsectionautorefname{Subsubsecci\'on}%
3218 \def\paragraphautorefname{P\'arrafo}%
3219 \def\subparagraphautorefname{Subp\'arrafo}%
3220 \def\FancyVerbLineautorefname{L\'inea}%
3221 \def\theoremautorefname{Teorema}%
3222 \def\pageautorefname{P\'agina}%
3223 }
3224 \def\HyLang@vietnamese{%
3225 \def\equationautorefname{Ph\uhorn{}\ohorn{}}ng tr\`inh}%
3226 \def\footnoteautorefname{Ch\`u th\`ich}%
3227 \def\itemautorefname{m\`d\`u\`c}%
3228 \def\figureautorefname{H\`inh}%
3229 \def\tableautorefname{B\`h\`a\`ng}%
3230 \def\partautorefname{Ph\`'\acircumflex{}n}%
3231 \def\appendixautorefname{Ph\`d\`u\` l\`d\`u\`c}%
3232 \def\chapterautorefname{ch\uhorn{}\ohorn{}}ng}%
3233 \def\sectionautorefname{m\`d\`u\`c}%
3234 \def\subsectionautorefname{m\`d\`u\`c}%
3235 \def\subsubsectionautorefname{m\`d\`u\`c}%
3236 \def\paragraphautorefname{\dj{}}o\`d\`a\`n}%
3237 \def\subparagraphautorefname{\dj{}}o\`d\`a\`n}%
3238 \def\FancyVerbLineautorefname{d\`ong}%
3239 \def\theoremautorefname{DJ{}}\`d\`i\`nh l\`y}%
3240 \def\pageautorefname{Trang}%
3241 }
```

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

```

3242 \def\HyLang@addto#1#2{%
3243   #2%
3244   \@temptokena{#2}%
3245   \ifx#1\relax
3246     \let#1\@empty
3247   \fi
3248   \ifx#1\@undefined
3249     \edef#1{\the\@temptokena}%
3250   \else
3251     \toks@\expandafter{#1}%
3252     \edef#1{\the\toks@\the\@temptokena}%
3253   \fi
3254   \@temptokena{}\toks@\@temptokena
3255 }

3256 \def\HyLang@DeclareLang#1#2#3{%
3257   \@ifpackagewith{babel}{#1}{%
3258     \expandafter\HyLang@addto
3259     \csname extras#1\expandafter\endcsname
3260     \csname HyLang@#2\endcsname
3261   \begingroup
3262     \edef\x{\endgroup
3263       #3%
3264     }%
3265     \x
3266     \@namedef{HyLang@#1@done}{}%
3267   }{%
3268     \begingroup
3269     \edef\x##1##2{%
3270       \noexpand\ifx##2\relax
3271         \errmessage{No definitions for language #2' found!}%
3272       \noexpand\fi
3273     \endgroup
3274     \noexpand\define@key{Hyp}{#1}[]{}%
3275     \noexpand\@ifundefined{HyLang@#1@done}{%
3276       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3277       #3%
3278       \noexpand\@namedef{HyLang@#1@done}{}%
3279     }{%
3280     }%
3281   }%
3282   \expandafter\x\csname extras#1\expandafter\endcsname
3283     \csname HyLang@#2\endcsname
3284 }

3285 \HyLang@DeclareLang{english}{english}{}
3286 \HyLang@DeclareLang{UKenglish}{english}{}
3287 \HyLang@DeclareLang{british}{english}{}
3288 \HyLang@DeclareLang{USenglish}{english}{}
3289 \HyLang@DeclareLang{american}{english}{}
3290 \HyLang@DeclareLang{german}{german}{}
3291 \HyLang@DeclareLang{austrian}{german}{}
3292 \HyLang@DeclareLang{ngerman}{german}{}
3293 \HyLang@DeclareLang{naustrian}{german}{}
3294 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3295 \HyLang@DeclareLang{brazil}{portuges}{}
3296 \HyLang@DeclareLang{brazilian}{portuges}{}

```

```

3297 \HyLang@DeclareLang{portuguese}{portuges}{}
3298 \HyLang@DeclareLang{spanish}{spanish}{}
3299 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3300 \HyLang@DeclareLang{french}{french}{}
3301 \HyLang@DeclareLang{frenchb}{french}{}
3302 \HyLang@DeclareLang{français}{french}{}
3303 \HyLang@DeclareLang{acadian}{french}{}
3304 \HyLang@DeclareLang{canadien}{french}{}
3305 \HyLang@DeclareLang{italian}{italian}{}
3306 \HyLang@DeclareLang{magyar}{magyar}{}
3307 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3308 \DeclareVoidOption{vietnamese}{%
3309   \HyLang@addto\extravietnamese\HyLang@vietnamese
3310   \Hy@AtEndOfPackage{%
3311     \ifundefined{T@PU}{}{}%
3312     \input{puvnenc.def}%
3313   }%
3314 }%
3315 }
3316 \DeclareVoidOption{vietnam}{%
3317   \HyLang@addto\extravietnam\HyLang@vietnamese
3318   \Hy@AtEndOfPackage{%
3319     \ifundefined{T@PU}{}{}%
3320     \input{puvnenc.def}%
3321   }%
3322 }%
3323 }

```

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

```

3324 \DeclareVoidOption{arabic}{%
3325   \Hy@AtEndOfPackage{%
3326     \ifundefined{T@PU}{}{}%
3327     \input{puarenc.def}%
3328   }%
3329 }%
3330 }

```

13 Options to change appearance of links

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

```

3331 \define@key{Hyp}{colorlinks}[true]{%
3332   \Hy@boolkey{colorlinks}{#1}%
3333 }
3334 \define@key{Hyp}{ocgcolorlinks}[true]{%
3335   \Hy@boolkey{ocgcolorlinks}{#1}%
3336 }
3337 \Hy@AtBeginDocument{%
3338   \begingroup
3339   \ifundefined{OBJ@OCG@view}{%
3340     \ifHy@ocgcolorlinks
3341     \Hy@Warning{%
3342       Driver does not support ‘ocgcolorlinks’,\MessageBreak
3343       using ‘colorlinks’ instead%
3344     }%
3345   \fi

```

```

3346   }{}%
3347   \endgroup
3348 }
3349 \define@key{Hyp}{frenchlinks}[true]{%
3350   \Hy@boolkey{frenchlinks}{#1}%
3351 }

```

14 Bookmarking

```

3352 \begingroup\expandafter\expandafter\expandafter\endgroup
3353 \expandafter\ifx\csname chapter\endcsname\relax
3354   \def\toclevel@part{0}%
3355 \else
3356   \def\toclevel@part{-1}%
3357 \fi
3358 \def\toclevel@chapter{0}
3359 \def\toclevel@section{1}
3360 \def\toclevel@subsection{2}
3361 \def\toclevel@subsubsection{3}
3362 \def\toclevel@paragraph{4}
3363 \def\toclevel@subparagraph{5}
3364 \def\toclevel@figure{0}
3365 \def\toclevel@table{0}
3366 \@ifpackageloaded{listings}{%
3367   \providecommand*\theHlstlisting{\thelstlisting}%
3368   \providecommand*\toclevel@lstlisting{0}%
3369 }{}
3370 \@ifpackageloaded{listing}{%
3371   \providecommand*\theHlisting{\thelisting}%
3372   \providecommand*\toclevel@listing{0}%
3373 }{}

3374 \define@key{Hyp}{bookmarks}[true]{%
3375   \Hy@boolkey{bookmarks}{#1}%
3376 }

3377 \define@key{Hyp}{bookmarksopen}[true]{%
3378   \Hy@boolkey{bookmarksopen}{#1}%
3379 }

```

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.

```

3380 \let\Hy@bookmarksdepth\c@tocdepth
3381 \define@key{Hyp}{bookmarksdepth}[]{%
3382   \begingroup
3383     \edef\x{#1}%
3384     \ifx\x\empty
3385       \global\let\Hy@bookmarksdepth\c@tocdepth
3386     \else

```

```

3387 \ifundefined{toclevel@x}{%
3388 \@onelevel@sanitize\x
3389 \edef\y{\expandafter\@car\x\@nil}%
3390 \ifcase 0\expandafter\ifx\y-1\fi
3391 \expandafter\ifnum\expandafter'\y>47 %
3392 \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3393 \Hy@Warning{Unknown document division name (\x)}%
3394 \else
3395 \setbox\z@=\hbox{%
3396 \count@=\x
3397 \xdef\Hy@bookmarksdepth{\the\count@}%
3398 }%
3399 \fi
3400 }{%
3401 \setbox\z@=\hbox{%
3402 \count@=\csname toclevel@x\endcsname
3403 \xdef\Hy@bookmarksdepth{\the\count@}%
3404 }%
3405 }%
3406 \fi
3407 \endgroup
3408 }

```

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

```

3409 \define@key{Hyp}{bookmarksopenlevel}{%
3410 \def\@bookmarksopenlevel{#1}%
3411 }
3412 \def\@bookmarksopenlevel{\maxdimen}
3413 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3414 \define@key{Hyp}{bookmarkstype}{%
3415 \def\Hy@bookmarkstype{#1}%
3416 }
3417 \def\Hy@bookmarkstype{toc}

```

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

```

3418 \define@key{Hyp}{bookmarksnumbered}[true]{%
3419 \Hy@boolkey{bookmarksnumbered}{#1}%
3420 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3421 \define@key{Hyp}{CJKbookmarks}[true]{%
3422 \Hy@boolkey{CJKbookmarks}{#1}%
3423 }

3424 \def\Hy@temp#1{%
3425 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3426 }
3427 \def\Hy@@temp#1#2#3{%
3428 \define@key{Hyp}{#2color}{%
3429 \HyColor@HyperrefColor{##1}#1%
3430 }%
3431 \def#1{#3}%
3432 }
3433 \Hy@temp{link}{red}
3434 \Hy@temp{anchor}{black}
3435 \Hy@temp{cite}{green}
3436 \Hy@temp{file}{cyan}
3437 \Hy@temp{url}{magenta}

```



```

3438 \Hy@temp{menu}{red}
3439 \Hy@temp{run}{\@filecolor}
3440 \define@key{Hyp}{pagecolor}{%
3441   \Hy@WarningPageColor
3442 }
3443 \def\Hy@WarningPageColor{%
3444   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3445   \global\let\Hy@WarningPageColor\relax
3446 }

3447 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3448 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3449 \let\@baseurl\@empty
3450 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3451 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3452 \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.

```

3453 \let\@pdfpagetransition\relax
3454 \define@key{Hyp}{pdfpagetransition}{%
3455   \def\@pdfpagetransition{#1}%
3456 }

```

`\@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.

```

3457 \let\@pdfpageduration\relax
3458 \define@key{Hyp}{pdfpageduration}{%
3459   \def\@pdfpageduration{#1}%
3460   \Hy@Match\@pdfpageduration{%
3461     ^([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3462   }{}{%
3463     \Hy@Warning{%
3464       Invalid value '\@pdfpageduration'\MessageBreak
3465       of option 'pdfpageduration'\MessageBreak
3466       is replaced by an empty value%
3467     }%
3468     \let\@pdfpageduration\ltx@empty
3469   }%
3470 }

```

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.

```

3471 \newif\ifHy@useHidKey
3472 \Hy@useHidKeyfalse
3473 \define@key{Hyp}{pdfpagehidden}[true]{%
3474   \Hy@boolkey{pdfpagehidden}{#1}%
3475   \ifHy@pdfpagehidden
3476     \global\Hy@useHidKeytrue
3477   \fi
3478 }

```

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).

```

3479 \def\Hy@ColorList{cite,file,link,menu,run,url}
3480 \for\Hy@temp:=\Hy@ColorList\do{%
3481   \edef\Hy@temp{%
3482     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3483       \noexpand\HyColor@HyperrefBorderColor
3484         {##1}%
3485       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3486       {hyperref}%
3487       {\Hy@temp bordercolor}%
3488     }%
3489   }%
3490   \Hy@temp
3491 }
3492 \define@key{Hyp}{pagebordercolor}{%
3493   \Hy@WarningPageBorderColor
3494 }
3495 \def\Hy@WarningPageBorderColor{%
3496   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3497   \global\let\Hy@WarningPageBorderColor\relax
3498 }
3499 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{##1}}
3500 \Hy@DefNameKey{pdfhighlight}{%
3501   \do{/I}{Invert}%
3502   \do{/N}{None}%
3503   \do{/O}{Outline}%
3504   \do{/P}{Push}%
3505 }
3506 \define@key{Hyp}{pdfborder}{%
3507   \let\Hy@temp\@pdfborder
3508   \def\@pdfborder{##1}%
3509   \Hy@Match\@pdfborder{%
3510     ^\HyPat@NonNegativeReal/ %
3511     \HyPat@NonNegativeReal/ %
3512     \HyPat@NonNegativeReal/%
3513     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*]?$%
3514   }{ }{%
3515     \Hy@Warning{%
3516       Invalid value '\@pdfborder'\MessageBreak
3517       for option 'pdfborder'\MessageBreak
3518       Option setting is ignored%
3519     }%
3520     \let\@pdfborder\Hy@temp
3521   }%
3522 }
3523 \define@key{Hyp}{pdfborderstyle}{%
3524   \let\Hy@temp\@pdfborderstyle
3525   \def\@pdfborderstyle{##1}%
3526   \Hy@Match\@pdfborderstyle{%
3527     ^%

```

```

3528 ( */Type */Border%
3529 | */W +\HyPat@NonNegativeReal/%
3530 | */S */[SDBIU]%
3531 | */D *[\ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)]%
3532 )* *$%
3533 }{}{%
3534 \Hy@Warning{%
3535     Invalid value '\@pdfborderstyle'\MessageBreak
3536     for option 'pdfborderstyle'\MessageBreak
3537     Option setting is ignored%
3538 }%
3539 \let\@pdfborderstyle\Hy@temp
3540 }%
3541 }
3542 \def\Hy@setpdfborder{%
3543 \ifx\@pdfborder\@empty
3544 \else
3545 /Border[\@pdfborder]%
3546 \fi
3547 \ifx\@pdfborderstyle\@empty
3548 \else
3549 /BS<<\@pdfborderstyle>>%
3550 \fi
3551 }
3552 \Hy@DefNameKey{pdfpagemode}{%
3553 \do{UseNone}{}%
3554 \do{UseOutlines}{}%
3555 \do{UseThumbs}{}%
3556 \do{FullScreen}{}%
3557 \do{UseOC}{PDF 1.5}%
3558 \do{UseAttachments}{PDF 1.6}%
3559 }
3560 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3561 \do{UseNone}{}%
3562 \do{UseOutlines}{}%
3563 \do{UseThumbs}{}%
3564 \do{FullScreen}{}%
3565 \do{UseOC}{PDF 1.5}%
3566 \do{UseAttachments}{PDF 1.6}%
3567 }
3568 \Hy@DefNameKey{pdfdirection}{%
3569 \do{L2R}{Left to right}%
3570 \do{R2L}{Right to left}%
3571 }
3572 \Hy@DefNameKey{pdfviewarea}{%
3573 \do{MediaBox}{}%
3574 \do{CropBox}{}%
3575 \do{BleedBox}{}%
3576 \do{TrimBox}{}%
3577 \do{ArtBox}{}%
3578 }
3579 \Hy@DefNameKey{pdfviewclip}{%
3580 \do{MediaBox}{}%
3581 \do{CropBox}{}%
3582 \do{BleedBox}{}%
3583 \do{TrimBox}{}%
3584 \do{ArtBox}{}%

```

```

3585 }
3586 \Hy@DefNameKey{pdfprintarea}{%
3587   \do{MediaBox}{}%
3588   \do{CropBox}{}%
3589   \do{BleedBox}{}%
3590   \do{TrimBox}{}%
3591   \do{ArtBox}{}%
3592 }
3593 \Hy@DefNameKey{pdfprintclip}{%
3594   \do{MediaBox}{}%
3595   \do{CropBox}{}%
3596   \do{BleedBox}{}%
3597   \do{TrimBox}{}%
3598   \do{ArtBox}{}%
3599 }
3600 \Hy@DefNameKey{pdfprintscaling}{%
3601   \do{AppDefault}{}%
3602   \do{None}{}%
3603 }
3604 \Hy@DefNameKey{pdfduplex}{%
3605   \do{Simplex}{}%
3606   \do{DuplexFlipShortEdge}{}%
3607   \do{DuplexFlipLongEdge}{}%
3608 }
3609 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3610   \do{true}{}%
3611   \do{false}{}%
3612 }
3613 \define@key{Hyp}{pdfprintpagerange}{%
3614   \def\@pdfprintpagerange{#1}%
3615 }
3616 \Hy@DefNameKey{pdfnumcopies}{%
3617   \do{2}{two copies}%
3618   \do{3}{three copies}%
3619   \do{4}{four copies}%
3620   \do{5}{five copies}%
3621 }
3622 \define@key{Hyp}{pdfusetitle}[true]{%
3623   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3624 }
3625 \def\HyXeTeX@CheckUnicode{%
3626   \ifxetex
3627     \ifHy@unicode
3628     \else
3629       \Hy@WarningNoLine{%
3630         XeTeX driver only supports unicode.\MessageBreak
3631         Enabling option 'unicode'%
3632       }%
3633       \kvsetkeys{Hyp}{unicode}%
3634     \fi
3635   \else
3636     \let\HyXeTeX@CheckUnicode\relax
3637   \fi
3638 }
3639 \def\HyPsd@PrerenderUnicode#1{%
3640   \begingroup
3641     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax

```

```

3642 \else
3643 \sbox0{%
3644 \let\GenericInfo\@gobbletwo
3645 \let\GenericWarning\@gobbletwo
3646 \let\GenericError\@gobblefour
3647 \PrerenderUnicode{#1}%
3648 }%
3649 \fi
3650 \endgroup
3651 }
3652 \define@key{Hyp}{pdftitle}{%
3653 \HyXeTeX@CheckUnicode
3654 \HyPsd@XeTeXBigCharstrue
3655 \HyPsd@PrerenderUnicode{#1}%
3656 \pdfstringdef\@pdftitle{#1}%
3657 }
3658 \define@key{Hyp}{pdfauthor}{%
3659 \HyXeTeX@CheckUnicode
3660 \HyPsd@XeTeXBigCharstrue
3661 \HyPsd@PrerenderUnicode{#1}%
3662 \pdfstringdef\@pdfauthor{#1}%
3663 }
3664 \define@key{Hyp}{pdfproducer}{%
3665 \HyXeTeX@CheckUnicode
3666 \HyPsd@XeTeXBigCharstrue
3667 \HyPsd@PrerenderUnicode{#1}%
3668 \pdfstringdef\@pdfproducer{#1}%
3669 }
3670 \define@key{Hyp}{pdfcreator}{%
3671 \HyXeTeX@CheckUnicode
3672 \HyPsd@XeTeXBigCharstrue
3673 \HyPsd@PrerenderUnicode{#1}%
3674 \pdfstringdef\@pdfcreator{#1}%
3675 }
3676 \define@key{Hyp}{pdfcreationdate}{%
3677 \begingroup
3678 \Hy@unicodedefalse
3679 \pdfstringdef\@pdfcreationdate{#1}%
3680 \endgroup
3681 }
3682 \define@key{Hyp}{pdfmoddate}{%
3683 \begingroup
3684 \Hy@unicodedefalse
3685 \pdfstringdef\@pdfmoddate{#1}%
3686 \endgroup
3687 }
3688 \define@key{Hyp}{pdfsubject}{%
3689 \HyXeTeX@CheckUnicode
3690 \HyPsd@XeTeXBigCharstrue
3691 \HyPsd@PrerenderUnicode{#1}%
3692 \pdfstringdef\@pdfsubject{#1}%
3693 }
3694 \define@key{Hyp}{pdfkeywords}{%
3695 \HyXeTeX@CheckUnicode
3696 \HyPsd@XeTeXBigCharstrue
3697 \HyPsd@PrerenderUnicode{#1}%
3698 \pdfstringdef\@pdfkeywords{#1}%

```

```

3699 }
3700 \define@key{Hyp}{pdftrapped}{%
3701   \lowercase{\edef\Hy@temp{#1}}}%
3702   \ifx\Hy@temp\HyInfo@trapped@true
3703     \def\@pdftrapped{True}%
3704   \else
3705     \ifx\Hy@temp\HyInfo@trapped@false
3706       \def\@pdftrapped{False}%
3707     \else
3708       \ifx\Hy@temp\HyInfo@trapped@unknown
3709         \def\@pdftrapped{Unknown}%
3710       \else
3711         \ifx\Hy@temp\@empty
3712           \else
3713             \Hy@Warning{%
3714               Unsupported value '#1'\MessageBreak
3715               for option 'pdftrapped'%
3716             }%
3717           \fi
3718         \def\@pdftrapped{}%
3719       \fi
3720     \fi
3721   \fi
3722 }
3723 \def\HyInfo@trapped@true{true}
3724 \def\HyInfo@trapped@false{false}
3725 \def\HyInfo@trapped@unknown{unknown}
3726 \def\HyInfo@TrappedUnsupported{%
3727   \ifx\@pdftrapped\@empty
3728     \else
3729       \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3730       \gdef\HyInfo@TrappedUnsupported{}%
3731     \fi
3732 }
3733 \define@key{Hyp}{pdfinfo}{%
3734   \kvsetkeys{pdfinfo}{#1}%
3735 }
3736 \def\Hy@temp#1{%
3737   \lowercase{\Hy@temp@A{#1}}{#1}%
3738 }
3739 \def\Hy@temp@A#1#2{%
3740   \define@key{pdfinfo}{#2}{%
3741     \hypersetup{pdf#1={##1}}}%
3742   }%
3743 }
3744 \Hy@temp{Title}
3745 \Hy@temp{Author}
3746 \Hy@temp{Keywords}
3747 \Hy@temp{Subject}
3748 \Hy@temp{Creator}
3749 \Hy@temp{Producer}
3750 \Hy@temp{CreationDate}
3751 \Hy@temp{ModDate}
3752 \Hy@temp{Trapped}
3753 \newif\ifHyInfo@AddonUnsupported
3754 \kv@set@family@handler{pdfinfo}{%
3755   \HyInfo@AddonHandler{#1}{#2}%

```

```

3756 }
3757 \let\HyInfo@do\relax
3758 \def\HyInfo@AddonHandler#1#2{%
3759   \ifx\kv@value\relax
3760     \Hy@Warning{%
3761       Option 'pdfinfo': ignoring key '\kv@key' without value%
3762     }%
3763   \else
3764     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3765     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3766     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3767     \ifHyInfo@AddonUnsupported
3768       \Hy@Warning{%
3769         This driver does not support additional\MessageBreak
3770         information entries, therefore\MessageBreak
3771         '\kv@key' is ignored%
3772       }%
3773     \else
3774       \define@key{pdfinfo}{\HyInfo@Key}{%
3775         \HyXeTeX@CheckUnicode
3776         \HyPsd@XeTeXBigCharstrue
3777         \HyPsd@PrerenderUnicode{##1}%
3778         \pdfstringdef\HyInfo@Value{##1}%
3779         \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3780           \HyInfo@Value
3781       }%
3782     \edef\HyInfo@AddonList{%
3783       \HyInfo@AddonList
3784       \HyInfo@do{\HyInfo@Key}%
3785     }%
3786     \kv@parse@normalized{%
3787       \HyInfo@Key={#2}%
3788     }{%
3789       \kv@processor@default{pdfinfo}%
3790     }%
3791   \fi
3792 \else
3793   \kv@parse@normalized{%
3794     \HyInfo@Key={#2}%
3795   }{%
3796     \kv@processor@default{pdfinfo}%
3797   }%
3798 \fi
3799 \fi
3800 }
3801 \def\HyInfo@GenerateAddons{%
3802   \ifHyInfo@AddonUnsupported
3803     \def\HyInfo@Addons{}%
3804   \else
3805     \begingroup
3806     \toks@{}%
3807     \def\HyInfo@do##1{%
3808       \EdefEscapeName\HyInfo@Key{##1}%
3809       \edef\x{%
3810         \toks@{%
3811           \the\toks@
3812           /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%

```

```

3813     }%
3814     }%
3815     \x
3816     }%
3817     \HyInfo@AddonList
3818     \edef\x{\endgroup
3819       \def\noexpand\HyInfo@Addons{\the\toks@}%
3820     }%
3821     \x
3822     \fi
3823   }
3824   \def\HyInfo@AddonList{}

3825   \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3826   \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3827   \let\setpdfinkmargin\@gobble
3828   \def\calculate@pdfview#1 #2\{\%
3829     \def\@pdfview{#1}%
3830     \ifx\#2\%
3831       \def\@pdfviewparams{-32768}%
3832     \else
3833       \def\@pdfviewparams{#2}%
3834     \fi
3835   }

3836   \begingroup\expandafter\expandafter\expandafter\endgroup
3837   \expandafter\ifx\csname numexpr\endcsname\relax
3838     \def\Hy@number#1{%
3839       \expandafter\@firstofone\expandafter{\number#1}%
3840     }%
3841   \else
3842     \def\Hy@number#1{%
3843       \the\numexpr#1\relax
3844     }%
3845   \fi

3846   \define@key{Hyp}{pdfstartpage}{%
3847     \ifx\#1\%
3848       \def\@pdfstartpage{}%
3849     \else
3850       \edef\@pdfstartpage{\Hy@number{#1}}%
3851     \fi
3852   }%

3853   \define@key{Hyp}{pdfstartview}{%
3854     \ifx\#1\%
3855       \def\@pdfstartview{}%
3856     \else
3857       \hypercalcbpdef\@pdfstartview{/#1}%
3858     \fi
3859   }

3860   \def\HyPat@NonNegativeReal/{%
3861     \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3862   }

3863   \define@key{Hyp}{pdfremotestartview}{%
3864     \ifx\#1\%
3865       \def\@pdfremotestartview{/Fit}%
3866     \else
3867       \hypercalcbpdef\@pdfremotestartview{#1}%
3868       \edef\@pdfremotestartview{\@pdfremotestartview}%
3869       \Hy@Match\@pdfremotestartview%

```



```

3870      ^ (XYZ -?(null|\HyPat@NonNegativeReal/) %
3871      -?(null|\HyPat@NonNegativeReal/) %
3872      (null|\HyPat@NonNegativeReal/)|%
3873      Fit(|B|%
3874      (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
3875      R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3876      \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3877      )$%
3878  }{}{%
3879      \Hy@Warning{%
3880          Invalid value '@pdfremotestartview'\MessageBreak
3881          of 'pdfremotestartview'\MessageBreak
3882          is replaced by 'Fit'%
3883      }%
3884      \let\@pdfremotestartview\@empty
3885  }%
3886  \ifx\@pdfremotestartview\@empty
3887      \def\@pdfremotestartview{/Fit}%
3888  \else
3889      \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3890  \fi
3891  \fi
3892 }
3893 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3894 \define@key{Hyp}{pdftoolbar}[true]{%
3895   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3896 }
3897 \define@key{Hyp}{pdfmenubar}[true]{%
3898   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3899 }
3900 \define@key{Hyp}{pdfwindowui}[true]{%
3901   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3902 }
3903 \define@key{Hyp}{pdffitwindow}[true]{%
3904   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3905 }
3906 \define@key{Hyp}{pdfcenterwindow}[true]{%
3907   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3908 }
3909 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3910   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3911 }
3912 \define@key{Hyp}{pdfa}[true]{%
3913   \Hy@boolkey{pdfa}{#1}%
3914 }
3915 \define@key{Hyp}{pdfnewwindow}[true]{%
3916   \def\Hy@temp{#1}%
3917   \ifx\Hy@temp\@empty
3918     \Hy@newwindowsetfalse
3919   \else
3920     \Hy@newwindowsettrue
3921     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3922   \fi
3923 }
3924 \def\Hy@SetNewWindow{%
3925   \ifHy@newwindowset
3926     /NewWindow %

```

```

3927 \ifHy@newwindow true\else false\fi
3928 \fi
3929 }
3930 \Hy@DefNameKey{pdfpagelayout}{}%
3931 \do{SinglePage}{}%
3932 \do{OneColumn}{}%
3933 \do{TwoColumnLeft}{}%
3934 \do{TwoColumnRight}{}%
3935 \do{TwoPageLeft}{PDF 1.5}%
3936 \do{TwoPageRight}{PDF 1.5}%
3937 }
3938 \define@key{Hyp}{pdflang}{}%
3939 \def\@pdflang{#1}%
3940 }
3941 \define@key{Hyp}{pdfpagelabels}[true]{%
3942 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3943 }
3944 \define@key{Hyp}{pdfescapeform}[true]{%
3945 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3946 }

```

Default values:

```

3947 \def\@linkbordercolor{1 0 0}
3948 \def\@urlbordercolor{0 1 1}
3949 \def\@menubordercolor{1 0 0}
3950 \def\@filebordercolor{0 .5 .5}
3951 \def\@runbordercolor{0 .7 .7}
3952 \def\@citebordercolor{0 1 0}
3953 \def\@pdfhighlight{/I}
3954 \def\@pdftitle{}
3955 \def\@pdfauthor{}
3956 \let\@pdfproducer\relax
3957 \def\@pdfcreator{LaTeX with hyperref package}
3958 \def\@pdfcreationdate{}
3959 \def\@pdfmoddate{}
3960 \def\@pdfsubject{}
3961 \def\@pdfkeywords{}
3962 \def\@pdftrapped{}
3963 \def\@pdfpagescrop{}
3964 \def\@pdfstartview{/Fit}
3965 \def\@pdfremotestartview{/Fit}
3966 \def\@pdfstartpage{1}
3967 \def\@pdfprintpagerange{}
3968 \def\@pdflang{}
3969 \let\PDF@SetupDoc\@empty
3970 \let\PDF@FinishDoc\@empty
3971 \let\phantomsection\@empty
3972 \let\special@paper\@empty
3973 \def\HyperDestNameFilter#1{#1}
3974 \Hy@AtBeginDocument{%
3975 \begingroup
3976 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3977 \dimen@=\x\relax
3978 \ifdim\dimen@>\z@
3979 \else
3980 \dimen@=11in\relax
3981 \Hy@WarningNoLine{%
3982 Height of page (\expandafter\string\x) %

```

```

3983      is invalid (\the\x),\MessageBreak
3984      using 1lin%
3985    }%
3986  \fi
3987  \dimen@=0.99626401\dimen@
3988  \xdef\Hy@pageheight{\strip@pt\dimen@}%
3989  \endgroup
3990 }
3991 \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.

```

3992 \let\hyper@normalise\ExecuteOptions
3993 \let\ExecuteOptions\hypersetup
3994 \Hy@RestoreCatcodes
3995 \InputIfFileExists{hyperref.cfg}{\{}}{}
3996 \Hy@SetCatcodes
3997 \let\ExecuteOptions\hyper@normalise
3998 \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.

```

3999 \SetupKeyvalOptions{family=Hyp}
4000 \DeclareLocalOptions{%
4001   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4002 }

```

Add option tex4ht if package tex4ht is loaded.

```

4003 \@ifpackageloaded{tex4ht}{%
4004   \@ifpackagewith{hyperref}{tex4ht}{\{}}{}%
4005   \PassOptionsToPackage{tex4ht}{hyperref}%
4006 }%
4007 }{}
4008 \let\ReadBookmarks\relax
4009 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

4010 \Hy@AtBeginDocument{%
4011   \ifHy@draft
4012     \let\hyper@@anchor\@gobble
4013     \gdef\hyper@link#1#2#3{#3}%
4014     \let\hyper@anchorstart\@gobble
4015     \let\hyper@anchorend\@empty
4016     \let\hyper@linkstart\@gobbletwo
4017     \let\hyper@linkend\@empty
4018     \def\hyper@linkurl#1#2{#1}%
4019     \def\hyper@linkfile#1#2#3{#1}%
4020     \def\hyper@link@{#1}#2#3{}%
4021     \def\Acrobatmenu#1#2{\leavevmode#2}%
4022     \let\PDF@SetupDoc\@empty
4023     \let\PDF@FinishDoc\@empty
4024     \let\@fifthoffive\@secondoftwo
4025     \let\@secondoffive\@secondoftwo
4026     \let\ReadBookmarks\relax
4027     \let\WriteBookmarks\relax
4028     \Hy@WarningNoLine{Draft mode on}%
4029   \fi

```

```

4030 \Hy@DisableOption{draft}%
4031 \Hy@DisableOption{nolinks}%
4032 \Hy@DisableOption{final}%
4033 }

```

15.1 PDF/A

```

4034 \Hy@DisableOption{pdfa}
4035 \ifHy@pdfa
4036 \kvsetkeys{Hyp}{pdfversion=1.4}%
4037 \def\Hy@Acrobatmenu#1#2{%
4038   \leavevmode
4039   \begingroup
4040     \edef\x{#1}%
4041     \@onelevel@sanitize\x
4042     \ifx\x\Hy@NextPage
4043       \let\y=Y%
4044     \else
4045       \ifx\x\Hy@PrevPage
4046         \let\y=Y%
4047       \else
4048         \ifx\x\Hy@FirstPage
4049           \let\y=Y%
4050         \else
4051           \ifx\x\Hy@LastPage
4052             \let\y=Y%
4053           \else
4054             \let\y=N%
4055           \fi
4056         \fi
4057       \fi
4058     \fi
4059   \expandafter\endgroup
4060   \ifx\y Y%
4061   \else
4062     \Hy@Error{%
4063       PDF/A: Named action ‘#1’ is not permitted%
4064     }\@ehc
4065     {#2}%
4066     \expandafter\@gobble
4067   \fi
4068 }%
4069 \def\Hy@temp#1{%
4070   \expandafter\def\csname Hy@#1\endcsname{#1}%
4071   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4072 }%
4073 \Hy@temp{NextPage}%
4074 \Hy@temp{PrevPage}%
4075 \Hy@temp{FirstPage}%
4076 \Hy@temp{LastPage}%
4077 \else
4078 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4079 \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.

```
4080 \Hy@nextfalse
4081 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
4082 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
4083 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
4084 \ifHy@next
4085   \let\texttilde\~%
4086 \fi

4087 \def\Hy@wrapper@babel#1#2{%
4088   \begingroup
4089     \Hy@safe@activetrue
4090     \set@display@protect
4091     \edef\x{#2}%
4092     \@onelevel@sanitize\x
4093     \toks@{#1}%
4094     \edef\x{\endgroup\the\toks@{\x}}%
4095     \x
4096 }
4097 \def\Hy@WrapperDef#1{%
4098   \begingroup
4099     \escapechar=\m@ne
4100     \xdef\Hy@gtemp{%
4101       \expandafter\noexpand\csname HyWrap@string#1\endcsname
4102     }%
4103   \endgroup
4104   \edef#1{%
4105     \noexpand\Hy@wrapper@babel
4106     \expandafter\noexpand\Hy@gtemp
4107   }%
4108   \expandafter\def\Hy@gtemp
4109 }

4110 \ifHy@figures
4111   \Hy@Info{Hyper figures ON}%
4112 \else
4113   \Hy@Info{Hyper figures OFF}%
4114 \fi
4115 \ifHy@nesting
4116   \Hy@Info{Link nesting ON}%
4117 \else
4118   \Hy@Info{Link nesting OFF}%
4119 \fi
4120 \ifHy@hyperindex
4121   \Hy@Info{Hyper index ON}%
4122 \else
4123   \Hy@Info{Hyper index OFF}%
4124 \fi
4125 \ifHy@plainpages
4126   \Hy@Info{Plain pages ON}%
4127 \else
4128   \Hy@Info{Plain pages OFF}%
4129 \fi
4130 \ifHy@backref
4131   \Hy@Info{Backreferencing ON}%
4132 \else
```

```

4133 \Hy@Info{Backreferencing OFF}%
4134 \fi
4135 \ifHy@typexml
4136 \Hy@AtEndOfPackage{%
4137   \RequirePackage{color}%
4138   \RequirePackage{nameref}%
4139 }%
4140 \fi
4141 \Hy@DisableOption{typexml}
4142 \ifHy@implicit
4143 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4144 \else
4145 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4146 \def\MaybeStopEarly{%
4147   \Hy@Message{Stopped early}%
4148   \Hy@AtBeginDocument{%
4149     \PDF@FinishDoc
4150     \gdef\PDF@FinishDoc{}%
4151   }%
4152   \endinput
4153 }%
4154 \Hy@AtBeginDocument{%
4155   \let\autoref\ref
4156   \let\autopageref\pageref
4157   \ifx\@pdfpagemode\@empty
4158     \gdef\@pdfpagemode{UseNone}%
4159   \fi
4160   \global\Hy@backreffalse
4161 }%
4162 \Hy@AtEndOfPackage{%
4163   \global\let\ReadBookmarks\relax
4164   \global\let\WriteBookmarks\relax
4165 }%
4166 \fi
4167 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

4168 \Hy@AtEndOfPackage{%
4169   \@ifpackageloaded{tex4ht}{%
4170     \def\Hy@driver{htex4ht}%
4171     \Hy@texhttrue
4172   }{}%

```

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.

```

4173 \ifx\Hy@driver\@empty
4174 \else
4175   \def\Hy@temp{hpdfTeX}%
4176   \ifpdf
4177     \ifx\Hy@driver\Hy@temp
4178     \else
4179       \Hy@WarningNoLine{%
4180         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4181         pdfTeX is running in PDF mode.\MessageBreak
4182         Forcing driver ‘\Hy@temp.def’%
4183       }%
4184       \let\Hy@driver\Hy@temp

```

```

4185 \fi
4186 \else
4187 \ifx\Hy@driver\Hy@temp
4188 \Hy@WarningNoLine{%
4189   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4190   pdfTeX is not running in PDF mode.\MessageBreak
4191   Using default driver%
4192 }%
4193 \let\Hy@driver\@empty
4194 \fi
4195 \fi
4196 \fi
4197 \ifx\Hy@driver\@empty
4198 \else
4199 \def\Hy@temp{hxtex}%
4200 \ifxetex
4201 \ifx\Hy@driver\Hy@temp
4202 \else
4203 \Hy@WarningNoLine{%
4204   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4205   XeTeX is running.\MessageBreak
4206   Forcing driver ‘\Hy@temp.def’ for XeTeX%
4207 }%
4208 \let\Hy@driver\Hy@temp
4209 \fi
4210 \fi
4211 \fi
4212 \ifx\Hy@driver\@empty
4213 \else
4214 \def\Hy@temp{hvtexhtm}%
4215 \ifvtexhtml
4216 \ifx\Hy@driver\Hy@temp
4217 \else
4218 \Hy@WarningNoLine{%
4219   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4220   VTeX is running in HTML mode.\MessageBreak
4221   Forcing driver ‘\Hy@temp.def’%
4222 }%
4223 \let\Hy@driver\Hy@temp
4224 \fi
4225 \else
4226 \ifx\Hy@driver\Hy@temp
4227 \Hy@WarningNoLine{%
4228   Wrong driver ‘\Hy@driver.def’;\MessageBreak
4229   VTeX is not running in HTML mode.\MessageBreak
4230   Using default driver%
4231 }%
4232 \let\Hy@driver\@empty
4233 \fi
4234 \fi
4235 \fi

```

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

```

4236 \def\HyOpt@DriverType{%
4237 \ifx\Hy@driver\@empty
4238 \def\HyOpt@DriverType{ (autodetected)}%
4239 \providecommand*{\Hy@defaultdriver}{hypertex}%
4240 \ifpdf

```

```

4241 \def\Hy@driver{hpdtex}%
4242 \else
4243 \ifxetex
4244 \def\Hy@driver{hxetex}%
4245 \else
4246 \ifvtexhtml
4247 \def\Hy@driver{hvtexhtm}%
4248 \def\MaybeStopEarly{%
4249 \Hy@Message{Stopped early}%
4250 \Hy@AtBeginDocument{%
4251 \PDF@FinishDoc
4252 \gdef\PDF@FinishDoc{}}%
4253 }%
4254 \endinput
4255 }%
4256 \else
4257 \ifvtexpdf
4258 \def\Hy@driver{hvtex}%
4259 \else
4260 \ifvtexps
4261 \def\Hy@driver{hvtex}%
4262 \else
4263 \ifx\HyOpt@DriverFallback\ltx@empty
4264 \let\Hy@driver\Hy@defaultdriver
4265 \def\HyOpt@DriverType{ (default)}%
4266 \else
4267 \begingroup
4268 \toks@{\expandafter{\HyOpt@DriverFallback}%
4269 \edef\x{\endgroup
4270 \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4271 }%
4272 \x
4273 \ifx\Hy@driver\ltx@empty
4274 \let\Hy@driver\Hy@defaultdriver
4275 \def\HyOpt@DriverType{ (default)}%
4276 \else
4277 \def\HyOpt@DriverType{ (fallback)}%
4278 \fi
4279 \fi
4280 \fi
4281 \fi
4282 \fi
4283 \fi
4284 \fi
4285 \ifx\Hy@driver\Hy@defaultdriver
4286 \def\Hy@temp{hdvwind}%
4287 \ifx\Hy@temp\Hy@driver
4288 \kvsetkeys{Hyp}{colorlinks}%
4289 \PassOptionsToPackage{dviwindo}{color}%
4290 \fi
4291 \fi
4292 \fi
4293 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4294 \chardef\Hy@VersionChecked=0 %
4295 \input{\Hy@driver.def}%
4296 \ifcase\Hy@VersionChecked
4297 \Hy@VersionCheck{\Hy@driver.def}%

```



```

4298 \fi
4299 \let\@unprocessedoptions\relax
4300 \Hy@RestoreCatcodes
4301 \Hy@DisableOption{tex4ht}%
4302 \Hy@DisableOption{pdftex}%
4303 \Hy@DisableOption{nativepdf}%
4304 \Hy@DisableOption{dvipdfm}%
4305 \Hy@DisableOption{dvipdfmx}%
4306 \Hy@DisableOption{dvipdfmx-outline-open}%
4307 \Hy@DisableOption{pdfmark}%
4308 \Hy@DisableOption{dvips}%
4309 \Hy@DisableOption{hypertex}%
4310 \Hy@DisableOption{vtex}%
4311 \Hy@DisableOption{vtexpdfmark}%
4312 \Hy@DisableOption{dviwindo}%
4313 \Hy@DisableOption{dvipsone}%
4314 \Hy@DisableOption{textures}%
4315 \Hy@DisableOption{latex2html}%
4316 \Hy@DisableOption{ps2pdf}%
4317 \Hy@DisableOption{xetex}%
4318 \Hy@DisableOption{pdfversion}%
4319 }

```

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

```

4320 \newif\ifHy@DvipdfmxOutlineOpen
4321 \ifxetex
4322   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4323   \else
4324     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4325     \Hy@DvipdfmxOutlineOpentruetrue
4326   \fi
4327 \fi
4328 \begingroup\expandafter\expandafter\expandafter\endgroup
4329 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4330 \else
4331   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4332     \Hy@DvipdfmxOutlineOpentruetrue
4333   \fi
4334 \fi

```

15.2.2 Bookmarks

```

4335 \def\WriteBookmarks{0}
4336 \def\@bookmarkopenstatus#1{%
4337   \ifHy@bookmarksopen

```

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

```

4338   \ifnum#1<\expandafter\@firstofone\expandafter
4339     {\number\@bookmarkopenlevel} % explicit space
4340   \else
4341     -%
4342   \fi
4343 \else
4344   -%
4345 \fi
4346 }

```

```

4347 \ifHy@bookmarks
4348   \Hy@Info{Bookmarks ON}%
4349   \ifx\@pdfpagemode\@empty
4350     \def\@pdfpagemode{UseOutlines}%
4351   \fi
4352 \else
4353   \def\@bookmarkopenstatus#1{%
4354     \Hy@Info{Bookmarks OFF}%
4355     \Hy@AtEndOfPackage{%
4356       \global\let\ReadBookmarks\relax
4357       \global\let\WriteBookmarks\relax
4358     }%
4359     \ifx\@pdfpagemode\@empty
4360       \def\@pdfpagemode{UseNone}%
4361     \fi
4362 \fi
4363 \Hy@DisableOption{bookmarks}

  Add wrapper for setting standard catcodes (babel's shorthands).
4364 \def\Hy@CatcodeWrapper#1{%
4365   \def\Hy@endWrap{%
4366     \def\TMP@EnsureCode##1##2{%
4367       \edef\Hy@endWrap{%
4368         \Hy@endWrap
4369         \catcode##1 \the\catcode##1\relax
4370       }%
4371       \catcode##1 ##2\relax
4372     }%
4373     \TMP@EnsureCode{10}{12}% ^^J
4374     \TMP@EnsureCode{33}{12}% !
4375     \TMP@EnsureCode{34}{12}% "
4376     \TMP@EnsureCode{36}{3}% $ (math)
4377     \TMP@EnsureCode{38}{4}% & (alignment)
4378     \TMP@EnsureCode{39}{12}% '
4379     \TMP@EnsureCode{40}{12}% (
4380     \TMP@EnsureCode{41}{12}% )
4381     \TMP@EnsureCode{42}{12}% *
4382     \TMP@EnsureCode{43}{12}% +
4383     \TMP@EnsureCode{44}{12}% ,
4384     \TMP@EnsureCode{45}{12}% -
4385     \TMP@EnsureCode{46}{12}% .
4386     \TMP@EnsureCode{47}{12}% /
4387     \TMP@EnsureCode{58}{12}% :
4388     \TMP@EnsureCode{59}{12}% ;
4389     \TMP@EnsureCode{60}{12}% <
4390     \TMP@EnsureCode{61}{12}% =
4391     \TMP@EnsureCode{62}{12}% >
4392     \TMP@EnsureCode{63}{12}% ?
4393     \TMP@EnsureCode{91}{12}% [
4394     \TMP@EnsureCode{93}{12}% ]
4395     \TMP@EnsureCode{94}{7}% ^ (superscript)
4396     \TMP@EnsureCode{95}{8}% _ (subscript)
4397     \TMP@EnsureCode{96}{12}% '
4398     \TMP@EnsureCode{124}{12}% |
4399     \TMP@EnsureCode{126}{13}% ~ (active)
4400     ##1\relax
4401   \Hy@endWrap
4402 }

```

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

```

4403 \Hy@AtBeginDocument{%
4404   \ifHy@ocgcolorlinks
4405     \kvsetkeys{Hyp}{colorlinks}%
4406     \ifHy@pdfa
4407       \Hy@Warning{%
4408         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4409         using 'colorlinks' instead of 'ocgcolorlinks'%
4410       }%
4411       \Hy@ocgcolorlinksfalse
4412     \fi
4413   \fi
4414   \ifHy@ocgcolorlinks
4415   \else
4416     \Hy@DisableOption{ocgcolorlinks}%
4417   \fi
4418   \ifHy@colorlinks
4419     \def\@pdfborder{0 0 0}%
4420     \let\@pdfborderstyle\@empty
4421     \ifHy@typexml
4422     \else
4423       \Hy@CatcodeWrapper{%
4424         \RequirePackage{color}%
4425       }%
4426     \fi
4427     \def\Hy@colorlink#1{%
4428       \begingroup
4429       \HyColor@UseColor#1%
4430     }%
4431     \def\Hy@endcolorlink{\endgroup}%
4432     \Hy@Info{Link coloring ON}%
4433   \else
4434     \ifHy@frenchlinks
4435       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4436       \def\Hy@endcolorlink{\endgroup}%
4437       \Hy@Info{French linking ON}%
4438     \else

```

for grouping consistency:

```

4439     \def\Hy@colorlink#1{\begingroup}%
4440     \def\Hy@endcolorlink{\endgroup}%
4441     \Hy@Info{Link coloring OFF}%
4442   \fi
4443 \fi
4444 \Hy@DisableOption{colorlinks}%
4445 \Hy@DisableOption{frenchlinks}%
4446 \ifHy@texht
4447   \long\def\@firstoffive#1#2#3#4#5{#1}%
4448   \long\def\@secondoffive#1#2#3#4#5{#2}%
4449   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4450   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4451   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4452   \providecommand*\@safe@activestruel{%
4453     \providecommand*\@safe@activesfalse{}}%
4454   \def\T@ref#1{%
4455     \Hy@safe@activestruel
4456     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%

```

```

4457 \Hy@safe@activesfalse
4458 }%
4459 \def\T@pageref#1{%
4460 \Hy@safe@activetrue
4461 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4462 \Hy@safe@activesfalse
4463 }%
4464 \else
4465 \ifHy@typexml
4466 \else
4467 \Hy@CatcodeWrapper{%
4468 \RequirePackage{nameref}%
4469 }%
4470 \fi
4471 \fi
4472 \DeclareRobustCommand\ref{%
4473 \@ifstar\@refstar\T@ref
4474 }%
4475 \DeclareRobustCommand\pageref{%
4476 \@ifstar\@pagerefstar\T@pageref
4477 }%
4478 % \@ifclassloaded{memoir}{%
4479 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4480 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4481 % }%
4482 % }\ltx@secondoftwo
4483 % {%
4484 % \DeclareRobustCommand*{\nameref}{%
4485 % \@ifstar\@mem@titlerefno link\@mem@titleref
4486 % }%
4487 % }{%
4488 \DeclareRobustCommand*{\nameref}{%
4489 \@ifstar\@namerefstar\T@nameref
4490 }%
4491 % }%
4492 }
4493 \Hy@AtBeginDocument{%
4494 \ifHy@texht
4495 \else
4496 \Hy@CatcodeWrapper{%
4497 \ReadBookmarks
4498 }%
4499 \fi
4500 }
4501 \ifHy@backref
4502 \RequirePackage{backref}%
4503 \else
4504 \let\Hy@backout\@gobble
4505 \fi
4506 \Hy@DisableOption{backref}
4507 \Hy@DisableOption{pagebackref}
4508 \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`.

```

4509 \begingroup
4510 \endlinechar=-1 %
4511 \catcode'\^^A=14 %
4512 \catcode'\^^M\active
4513 \catcode'\%\active
4514 \catcode'\#\active
4515 \catcode'\_\active
4516 \catcode'\$\active
4517 \catcode'\&\active
4518 \gdef\hyper@normalise{^^A
4519   \begingroup
4520   \catcode'\^^M\active
4521   \def^^M{ }^^A
4522   \catcode'\%\active
4523   \let%\@percentchar
4524   \let%\@percentchar
4525   \catcode'\#\active
4526   \def#{\hyper@hash}^^A
4527   \def\#{\hyper@hash}^^A
4528   \@makeother\&^^A
4529   \edef&{\string&}^^A
4530   \edef&{\string&}^^A
4531   \edef\textunderscore{\string_}^^A
4532   \let_\textunderscore
4533   \catcode'\_\active
4534   \let_\textunderscore
4535   \let~\hyper@tilde
4536   \let~\hyper@tilde
4537   \let\textasciitilde\hyper@tilde
4538   \let\\@backslashchar
4539   \edef${\string$}^^A
4540   \Hy@safe@activetrue
4541   \hyper@n@rmalise
4542 }^^A
4543 \catcode'\#=6 ^^A
4544 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4545 \gdef\hyper@n@rmalise#1#2{^^A
4546   \def\Hy@tempa{#2}^^A
4547   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4548     \Hy@ReturnAfterElseFi{^^A
4549       \hyper@@normalise{#1}^^A
4550     }^^A
4551   \else
4552     \Hy@ReturnAfterFi{^^A
4553       \hyper@@normalise{#1}{#2}^^A
4554     }^^A
4555   \fi
4556 }^^A
4557 \gdef\hyper@@normalise#1#2{^^A
4558   \edef\Hy@tempa{^^A
4559     \endgroup
4560     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4561   }^^A

```

```

4562 \Hy@tempa
4563 }^^A
4564 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4565 #1^^A
4566 \ifx\limits#2\limits
4567 \else
4568 \Hy@ReturnAfterFi{^^A
4569 \Hy@RemovePercentCr #2\@nil
4570 }^^A
4571 \fi
4572 }^^A
4573 \endgroup
4574 \providecommand*\hyper@chars{%
4575 \let\#\hyper@hash
4576 \let\%\@percentchar
4577 \Hy@safe@activetrue
4578 }

4579 \def\hyperlink#1#2{%
4580 \hyper@@link{}\{#1\}{#2}%
4581 }

4582 \def\Hy@VerboseLinkStart#1#2{%
4583 \ifHy@verbose
4584 \begingroup
4585 \Hy@safe@activetrue
4586 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4587 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4588 \xdef\Hy@VerboseGlobalTemp{%
4589 \Hy@VerboseGlobalTemp, %
4590 line \the\inputlineno
4591 }%
4592 \endgroup
4593 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4594 \@onelevel@sanitize\Hy@VerboseLinkInfo
4595 \fi
4596 }

4597 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4598 \def\Hy@VerboseLinkStop{%
4599 \ifHy@verbose
4600 \begingroup
4601 \edef\x{\endgroup
4602 \write\m@ne{%
4603 Package 'hyperref' Info: %
4604 End of reference \Hy@VerboseLinkInfo.%
4605 }%
4606 }%
4607 \x
4608 \fi
4609 }

4610 \def\Hy@VerboseAnchor#1{%
4611 \ifHy@verbose
4612 \begingroup
4613 \Hy@safe@activetrue
4614 \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4615 \endgroup
4616 \fi
4617 }

```

```

4618 \def\Hy@AllowHyphens{%
4619   \relax
4620   \ifhmode
4621     \penalty\@M
4622     \hskip\z@skip
4623   \fi
4624 }

4625 \DeclareRobustCommand*\href[1][]{%
4626   \begingroup
4627   \setkeys{href}{#1}%
4628   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4629 }

4630 \def\Hy@href#{%
4631   \hyper@normalise\href@
4632 }

4633 \begingroup
4634   \catcode'\$=6 %
4635   \catcode'\#=12 %
4636   \gdef\href$1{\expandafter\href@split$1##\}%
4637   \gdef\href@split$1#$2#$3\\$4{%
4638     \hyper@@link{$1}{$2}{$3}{$4}%
4639   \endgroup
4640 }%
4641 \endgroup

```

Option ‘page’.

```

4642 \define@key{href}{page}{%
4643   \def\Hy@href@page{#1}%
4644 }

4645 \let\Hy@href@page\@empty
4646 \newcount\c@Hy@tempcnt
4647 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4648 \def\Hy@MakeRemoteAction{%
4649   \ifx\Hy@href@page\@empty
4650     \def\Hy@href@page{0}%
4651   \else
4652     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4653     \ifnum\c@Hy@tempcnt<\@ne
4654       \Hy@Warning{%
4655         Invalid page number (\theHy@tempcnt)\MessageBreak
4656         for remote PDF file.\MessageBreak
4657         Using page 1%
4658       }%
4659     \def\Hy@href@page{0}%
4660   \else
4661     \global\advance\c@Hy@tempcnt\m@ne
4662     \edef\Hy@href@page{\theHy@tempcnt}%
4663   \fi
4664 }

```

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.

```

4665 \ifx\Hy@href@nextactionraw\@empty
4666 \else
4667   \Hy@newwindowsettrue
4668   \Hy@newwindowtrue
4669 \fi
4670 }

```

Option ‘pdfremotestartview’.

```
4671 \define@key{href}{pdfremotestartview}{%  
4672   \setkeys{Hyp}{pdfremotestartview={#1}}}%  
4673 }
```

Option ‘pdfnewwindow’.

```
4674 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow  
4675 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
4676 \newif\ifHy@href@ismap  
4677 \define@key{href}{ismap}[true]{%  
4678   \ltx@ifundefined{Hy@href@ismap#1}{%  
4679     \Hy@Error{%  
4680       Invalid value (#1) for key ‘ismap’.\MessageBreak  
4681       Permitted values are ‘true’ or ‘false’.\MessageBreak  
4682       Ignoring ‘ismap’%  
4683     }\@ehc  
4684   }{%  
4685     \csname Hy@href@ismap#1\endcsname  
4686   }%  
4687 }
```

Option ‘nextactionraw’.

```
4688 \let\Hy@href@nextactionraw\@empty  
4689 \define@key{href}{nextactionraw}{%  
4690   \edef\Hy@href@nextactionraw{#1}%  
4691   \ifx\Hy@href@nextactionraw\@empty  
4692     \else  
4693       \Hy@Match\Hy@href@nextactionraw{%  
4694         ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|]  
4695         \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?])$%  
4696       }{%  
4697         \Hy@Warning{Invalid value for ‘nextactionraw’.\MessageBreak  
4698         \Hy@href@nextactionraw.\MessageBreak  
4699         The action is discarded%  
4700       }%  
4701     }%  
4702     \ifx\Hy@href@nextactionraw\@empty  
4703       \else  
4704         \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%  
4705       \fi  
4706     \fi  
4707   }  
4708 \def\HyPat@ObjRef/{.+}
```

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

```
4709 \RequirePackage{url}  
4710 \let\HyOrg@url\url  
4711 \def\Hurl{\begingroup \Url}  
4712 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}  
4713 \def\nolinkurl@#1{\Hurl{#1}}  
4714 \DeclareRobustCommand*\url{\hyper@normalise\url@}  
4715 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}  
  
4716 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}  
4717 \providecommand\hyper@image[2]{#2}  
  
4718 \def\hypertarget#1#2{%  
4719   \ifHy@nesting
```



```

4720 \hyper@@anchor{#1}{#2}%
4721 \else
4722 \hyper@@anchor{#1}{\relax}#2%
4723 \fi
4724 }

```

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

```

4725 \DeclareRobustCommand*{\hyperref}{%
4726 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4727 }
4728 \def\Hy@babelnormalise#1[#2]{%
4729 \begingroup
4730 \Hy@safe@activetrue
4731 \edef\Hy@tempa{%
4732 \endgroup
4733 \noexpand#1[#2]}%
4734 }%
4735 \Hy@tempa
4736 }
4737 \def\@hyperref{\hyper@normalise\@hyperref}
4738 \def\@hyperref#1#2#3{%
4739 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4740 \expandafter\tryhyper@link\ref@one\{#1}%
4741 }
4742 \def\tryhyper@link#1\#2{%
4743 \hyper@@link{#2}{#1}%
4744 }
4745 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4746 \def\@hyperdef#1#2#3{%, category, name, text
4747 \ifx\#1\%
4748 \def\Hy@AnchorName{#2}%
4749 \else
4750 \def\Hy@AnchorName{#1.#2}%
4751 \fi
4752 \ifHy@nesting
4753 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4754 \else
4755 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4756 \fi
4757 }

```

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

```

4758 \def\label@hyperref[#1]{%
4759 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4760 }%
4761 \def\label@@hyperref#1#2#3{%
4762 \ifx#1\relax
4763 \protect\G@refundefinedtrue
4764 \latex@warning{%
4765 Hyper reference ‘#2’ on page \thepage \space undefined%
4766 }%

```

```

4767 \hyper@@link{}{??}{#3}%
4768 \else
4769 \hyper@@link{\expandafter\@fifthoffive#1}%
4770 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4771 \fi
4772 }
4773 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4774                               % anchor text
4775 \@bsphack
4776 \ifx\#2\%
4777 \def\Hy@AnchorName{#3}%
4778 \else
4779 \def\Hy@AnchorName{#2.#3}%
4780 \fi
4781 \if@filesw
4782 \protected@write\@auxout{}{%
4783 \string\newlabel{#1}{\{#\}\}\{\Hy@AnchorName\}\}}%
4784 }%
4785 \fi
4786 \@esphack
4787 \ifHy@nesting
4788 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4789 \else
4790 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#4}%
4791 \fi
4792 }

```

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.

```

4793 \def\hyper@@link{\let\Hy@reserved@a\relax
4794 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
4795 }
4796 \def\hyper@link@[#1]#2#3#4{%
4797 \begingroup
4798 \protected@edef\Hy@tempa{#2}%
4799 \Hy@safe@activetrue
4800 \edef\x{#3}%
4801 \ifx\Hy@tempa\@empty
4802 \toks0{\hyper@link{#1}}%
4803 \else
4804 \toks0{\expandafter\hyper@readexternallink#2\{#1\}}%
4805 \fi
4806 \toks2{%
4807 \Hy@safe@activesfalse
4808 #4%
4809 }%
4810 \edef\Hy@tempa{\the\toks2}%
4811 \edef\x{\endgroup
4812 \ifx\Hy@tempa\@empty
4813 \noexpand\Hy@Warning{Suppressing empty link}%
4814 \else
4815 \the\toks0 {\x}{\the\toks2}%

```

```

4816 \fi
4817 }%
4818 \x
4819 }

```

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.

```

4820 \def\hyper@readexternallink#1\|#2#3#4{%
4821 \begingroup
4822 \let\\\relax
4823 \expandafter\endgroup
4824 \expandafter\@hyper@@readexternallink#1\|#2#{#3}#{#4}%
4825 }
4826 \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.

```

4827 \@hyper@readexternallink#{#2}#{#3}#{#4}#1::\#{#1}%
4828 }

```

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

```

4829 \def\@pdftempwordfile{file}%
4830 \def\@pdftempwordrun{run}%
4831 \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:

```

4832 \ifx\\\#6\\\%
4833 \@hyper@linkfile file:#7\#{#3}#{#2}#{#7}%
4834 \else
4835 \ifx\\\#4\\\%
4836 \@hyper@linkfile file:#7\#{#3}#{#2}#{#7}%
4837 \else

```

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

```

4838 \def\@pdftempa{#4}%
4839 \ifx\@pdftempa\@pdftempwordfile
4840 \@hyper@linkfile#7\#{#3}#{#2}#{#7}%
4841 \else

```

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

```

4842 \ifx\@pdftempa\@pdftempwordrun
4843 \ifHy@pdfa
4844 \Hy@Error{%

```

```

4845         PDF/A: Launch action is prohibited%
4846     }\@ehc
4847     \begingroup
4848     \leavevmode
4849     #2%
4850     \endgroup
4851     \else
4852     \@hyper@launch#7\{\#3}\{\#2}%
4853     \fi
4854     \else

```

otherwise its a URL

```

4855     \hyper@linkurl{\#3}\{\#7\ifx\#2\\\else\hyper@hash#2\fi}%
4856     \fi
4857     \fi
4858     \fi
4859     \fi
4860 }

```

By default, turn run: into file:

```

4861 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
4862 \hyper@linkurl{\#2}\{%
4863 \Hy@linkfileprefix
4864 #1%
4865 \ifx\#3\\\%
4866 \else
4867 \hyper@hash
4868 #3%
4869 \fi
4870 }%
4871 }

```

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

```

4872 \def\@hyper@linkfile file:#1\#2#3#4{%
4873 %file url,link string, name, original uri
4874 \filename@parse{\#1}%
4875 \ifx\filename@ext\relax
4876 \edef\filename@ext{\XR@ext}%
4877 \fi
4878 \def\use@file{\filename@area\filename@base.\filename@ext}%
4879 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4880 \hyper@linkfile{\#2}\{\use@file}\{\#3}%
4881 }{%
4882 \ifx\@baseurl\@empty
4883 \hyper@linkurl{\#2}\{%
4884 #4\ifx\#3\\\else\hyper@hash#3\fi
4885 }%
4886 \else
4887 \hyper@linkurl{\#2}\{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
4888 \fi
4889 }%
4890 }

4891 \def\Hy@IfStringEndsWith#1#2{%
4892 \begingroup
4893 \edef\x{\#1}%
4894 \@onelevel@sanitize\x
4895 \edef\x{.\x$}%

```

```

4896 \edef\y{#2}%
4897 \@onelevel@sanitize\y
4898 \edef\y{.\y$}%
4899 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4900 \endgroup
4901 \ifx\relax##2\relax
4902 \expandafter\ltx@secondoftwo
4903 \else
4904 \expandafter\ltx@firstoftwo
4905 \fi
4906 }%
4907 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4908 }

4909 \def\Hy@StringLocalhost{localhost}
4910 \@onelevel@sanitize\Hy@StringLocalhost
4911 \def\Hy@CleanupFile#1{%
4912 \edef#1{#1}%
4913 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
4914 }
4915 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4916 \begingroup
4917 \toks@{\endgroup}%
4918 \def\x{#1}%
4919 \ifx\x\@empty
4920 \def\x{#2}%
4921 \ifx\x\@empty
4922 \toks@{\endgroup\def#5{/#3}}%
4923 \else
4924 \@onelevel@sanitize\x
4925 \ifx\x\Hy@StringLocalhost
4926 \toks@{\endgroup\def#5{/#3}}%
4927 \fi
4928 \fi
4929 \fi
4930 \the\toks@
4931 }

```

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.

```

4932 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4933 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4934 \ifx\#1\%
4935 #2\Hy@Warning{Ignoring empty anchor}%
4936 \else
4937 \def\anchor@spot{#2#3}%
4938 \let\put@me@back\@empty
4939 \ifx\relax#2\relax
4940 \else
4941 \ifHy@nesting
4942 \else
4943 \ifcat a\noexpand#2\relax
4944 \else

```

```

4945     \ifcat 0\noexpand#2 \relax
4946     \else
4947 %       \typeout{Anchor start is not alphanumeric %
4948 %           on input line\the\inputlineno%
4949 %       }%
4950     \let\anchor@spot\@empty
4951     \def\put@me@back{##2##3}%
4952     \fi
4953     \fi
4954     \fi
4955     \fi
4956     \ifHy@activeanchor
4957     \anchor@spot
4958     \else
4959     \hyper@anchor{##1}%
4960     \fi
4961     \expandafter\put@me@back
4962     \fi
4963     \let\anchor@spot\@empty
4964 }
4965 \def\anchor@spot{}

```

18 Compatibility with the *LaTeX2html* 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.

```

4966 \let\htmladdimg\hyperimage
4967 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4968 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4969 \def\htmlref#1#2{% anchor text, label
4970   \label@hyperref[{#2}]{#1}%
4971 }

```

This is really too much. The *LaTeX2html* 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.

```

4972 \def\@latextohtmlX{%
4973   \let\hhyperref\hyperref
4974   \def\hyperref##1##2##3##4{% anchor text for HTML
4975     % text to print before label in print
4976     % label
4977     % post-label text in print
4978     ##2\ref{##4}##3%
4979   }%
4980 }

```

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.

```
4981 \RequirePackage{bitset}
```

Each flag has an 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

```
4982 \def\HyField@NewFlag#1#2{%
4983   \lowercase{\HyField@NewOption{#2}}%
4984   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4985 }
```

`\HyField@NewFlagOnly`

```
4986 \def\HyField@NewFlagOnly#1#2{%
4987   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4988 }
```

`\HyField@NewOption` #1: option name

```
4989 \def\HyField@NewOption#1{%
4990   \expandafter\newif\csname ifFld@#1\endcsname
4991   \define@key{Field}{#1}[true]{%
4992     \lowercase{\Field@boolkey{##1}}{#1}%
4993   }%
4994 }
```

`\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

```
4995 \def\HyField@NewBitsetFlag#1#2#3#4{%
4996   \begingroup
4997   \count@=#4\relax
4998   \advance\count@\m@ne
4999   \def\x##1{%
5000     \endgroup
5001     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5002     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5003       \expandafter\edef\csname HyField@#3@##1\endcsname{%
5004         (\number#4) #2%
5005       }%
5006     \else
5007       \expandafter\edef\csname HyField@#3@##1\endcsname{%
5008         \csname HyField@#3@##1\endcsname
5009         /#2%
5010       }%
5011     \fi
```

```

5012 }%
5013 \expandafter\x\expandafter{\the\count@}%
5014 }

```

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

```

5015 \def\HyField@UseFlag#1#2{%
5016 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5017 }

```

\HyField@@UseFlag

```

5018 \def\HyField@@UseFlag#1#2{%
5019 \bitsetSetValue{HyField@#2}{%
5020 \csname HyField@#2@#1\endcsname
5021 }{%
5022 \csname ifFld@#1\endcsname 1\else 0\fi
5023 }%
5024 }

```

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

```

5025 \def\HyField@SetFlag#1#2{%
5026 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5027 }

```

\HyField@@SetFlag

```

5028 \def\HyField@@SetFlag#1#2{%
5029 \bitsetSetValue{HyField@#2}{%
5030 \csname HyField@#2@#1\endcsname
5031 }{1}%
5032 }

```

\HyField@PrintFlags

```

5033 \def\HyField@PrintFlags#1#2{%
5034 \ifHy@verbose
5035 \begingroup
5036 \let\Hy@temp\@empty
5037 \let\MessageBreak\relax
5038 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5039 \bitsetGetSetBitList{HyField@#1}\do{%
5040 \edef\Hy@temp{%
5041 \Hy@temp
5042 \csname HyField@#1@\x\endcsname\MessageBreak
5043 }%
5044 }%
5045 \edef\x{\endgroup
5046 \noexpand\Hy@Info{%
5047 Field flags: %
5048 \expandafter\ifx\@car#1\@nil S\else/\fi
5049 #1 %
5050 \bitsetGetDec{HyField@#1} %
5051 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5052 \Hy@temp
5053 for #2%
5054 }%
5055 }\x
5056 \fi
5057 }

```


19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5058 \HyField@NewFlag{Ff}{ReadOnly}{1}  
5059 \HyField@NewFlag{Ff}{Required}{2}  
5060 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5061 \HyField@NewFlag{Ff}{NoToggleToOff}{15}  
5062 \HyField@NewFlag{Ff}{Radio}{16}  
5063 \HyField@NewFlag{Ff}{Pushbutton}{17}  
5064 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5065 \HyField@NewFlag{Ff}{Multiline}{13}  
5066 \HyField@NewFlag{Ff}{Password}{14}  
5067 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4  
5068 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
5069 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4  
5070 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4  
5071 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
5072 \HyField@NewFlag{Ff}{Combo}{18}  
5073 \HyField@NewFlag{Ff}{Edit}{19}  
5074 \HyField@NewFlag{Ff}{Sort}{20}  
5075 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4  
5076 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4  
5077 \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.

```
5078 \newif\ifFld@popdown  
5079 \define@key{Field}{popdown}[true]{%  
5080 \lowercase{\Field@boolkey{#1}}{popdown}%  
5081 }
```

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.

```
5082 \HyField@NewFlag{F}{Invisible}{1}  
5083 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2  
5084 \HyField@NewFlag{F}{Print}{3}% PDF 1.2  
5085 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2  
5086 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3  
5087 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3  
5088 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4  
5089 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5  
5090 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7  
  
5091 \ifHy@pdfa  
5092 \def\HyField@PDFAFflagWarning#1#2{%  
5093 \Hy@Warning{%  
5094 PDF/A: Annotation flag ‘#1’ must\MessageBreak  
5095 be set to ‘#2’%  
5096 }%
```

```

5097 }%
5098 \Fld@invisiblefalse
5099 \def\Fld@invisibletrue{%
5100   \HyField@PDFAFFlagWarning{invisible}{false}%
5101 }%
5102 \Fld@hiddenfalse
5103 \def\Fld@hiddenttrue{%
5104   \HyField@PDFAFFlagWarning{hidden}{false}%
5105 }%
5106 \Fld@printrtrue
5107 \def\Fld@printfalse{%
5108   \HyField@PDFAFFlagWarning{print}{true}%
5109 }%
5110 \Fld@nozoomtrue
5111 \def\Fld@nozoomfalse{%
5112   \HyField@PDFAFFlagWarning{nozoom}{true}%
5113 }%
5114 \Fld@norotatetrue
5115 \def\Fld@norotatefalse{%
5116   \HyField@PDFAFFlagWarning{norotate}{true}%
5117 }%
5118 \Fld@noviewfalse
5119 \def\Fld@noviewtrue{%
5120   \HyField@PDFAFFlagWarning{noview}{false}%
5121 }%
5122 \fi

```

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

```

5123 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5124 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5125 \HyField@NewFlag{Submit}{GetMethod}{4}
5126 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5127 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5128 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5129 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5130 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5131 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5132 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5133 \HyField@NewFlag{Submit}{ExclFKey}{12}
5134 \HyField@NewFlag{Submit}{EmbedForm}{14}

5135 \define@key{Field}{export}{%
5136   \lowercase{\def\Hy@temp{#1}}%
5137   \@ifundefined{Fld@export@\Hy@temp}{%
5138     \@onelevel@sanitize\Hy@temp
5139     \Hy@Error{%
5140       Unknown export format '\Hy@temp'.\MessageBreak
5141       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5142     }\@ehc
5143   }{%
5144     \let\Fld@export\Hy@temp
5145   }%
5146 }
5147 \def\Fld@export{fdf}
5148 \@namedef{Fld@export@fdf}{0}%
5149 \@namedef{Fld@export@html}{1}%
5150 \@namedef{Fld@export@xfdf}{2}%
5151 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```
5152 \def\HyField@FlagsSubmit{%
5153   \bitsetReset{HyField@Submit}%
5154   \ifcase\@nameuse{Fld@export@\Fld@export} %
5155     % FDF
5156     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5157     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5158     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5159     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5160     \HyField@UseFlag{Submit}{CanonicalFormat}%
5161     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5162     \HyField@UseFlag{Submit}{ExclFKey}%
5163     \HyField@UseFlag{Submit}{EmbedForm}%
5164   \or % HTML
5165     \HyField@SetFlag{Submit}{ExportFormat}%
5166     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5167     \HyField@UseFlag{Submit}{GetMethod}%
5168     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5169     \HyField@UseFlag{Submit}{CanonicalFormat}%
5170   \or % XFDF
5171     \HyField@SetFlag{Submit}{XFDF}%
5172     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5173     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5174     \HyField@UseFlag{Submit}{CanonicalFormat}%
5175   \or % PDF
5176     \HyField@SetFlag{Submit}{SubmitPDF}%
5177     \HyField@UseFlag{Submit}{GetMethod}%
5178   \fi
5179   \HyField@PrintFlags{Submit}{submit button field}%
5180   \bitsetIsEmpty{HyField@Submit}{%
5181     \def\Fld@submitflags{%
5182     }{%
5183       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5184     }%
5185   }
```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
5186 \def\HyField@FlagsAnnot#1{%
5187   \bitsetReset{HyField@F}%
5188   \HyField@UseFlag{F}{Invisible}%
5189   \HyField@UseFlag{F}{Hidden}%
5190   \HyField@UseFlag{F}{Print}%
5191   \HyField@UseFlag{F}{NoZoom}%
5192   \HyField@UseFlag{F}{NoRotate}%
5193   \HyField@UseFlag{F}{NoView}%
5194   \HyField@UseFlag{F}{Locked}%
5195   \HyField@UseFlag{F}{ToggleNoView}%
5196   \HyField@UseFlag{F}{LockedContents}%
5197   \HyField@PrintFlags{F}{#1}%
5198   \bitsetIsEmpty{HyField@F}{%
5199     \def\Fld@annotflags{%
5200     }{%
5201       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
```

```

5202 }%
5203 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5204 \def\HyField@FlagsPushButton{%
5205 \HyField@FlagsAnnot{push button field}%
5206 \bitsetReset{HyField@Ff}%
5207 \HyField@UseFlag{Ff}{ReadOnly}%
5208 \HyField@UseFlag{Ff}{Required}%
5209 \HyField@UseFlag{Ff}{NoExport}%
5210 \HyField@SetFlag{Ff}{Pushbutton}%
5211 \HyField@PrintFlags{Ff}{push button field}%
5212 \bitsetIsEmpty{HyField@Ff}{%
5213 \def\Fld@flags{%
5214 }{%
5215 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5216 }%
5217 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5218 \def\HyField@FlagsCheckBox{%
5219 \HyField@FlagsAnnot{check box field}%
5220 \bitsetReset{HyField@Ff}%
5221 \HyField@UseFlag{Ff}{ReadOnly}%
5222 \HyField@UseFlag{Ff}{Required}%
5223 \HyField@UseFlag{Ff}{NoExport}%
5224 \HyField@PrintFlags{Ff}{check box field}%
5225 \bitsetIsEmpty{HyField@Ff}{%
5226 \def\Fld@flags{%
5227 }{%
5228 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5229 }%
5230 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5231 \def\HyField@FlagsRadioButton{%
5232 \HyField@FlagsAnnot{radio button field}%
5233 \bitsetReset{HyField@Ff}%
5234 \HyField@UseFlag{Ff}{ReadOnly}%
5235 \HyField@UseFlag{Ff}{Required}%
5236 \HyField@UseFlag{Ff}{NoExport}%
5237 \HyField@UseFlag{Ff}{NoToggleToOff}%
5238 \HyField@SetFlag{Ff}{Radio}%
5239 \HyField@UseFlag{Ff}{RadiosInUnison}%
5240 \HyField@PrintFlags{Ff}{radio button field}%
5241 \bitsetIsEmpty{HyField@Ff}{%
5242 \def\Fld@flags{%
5243 }{%
5244 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5245 }%

```

5246 }

19.1.7 Text fields

\HyField@FlagsText

```
5247 \def\HyField@FlagsText{%
5248   \HyField@FlagsAnnot{text field}%
5249   \bitsetReset{HyField@Ff}%
5250   \HyField@UseFlag{Ff}{ReadOnly}%
5251   \HyField@UseFlag{Ff}{Required}%
5252   \HyField@UseFlag{Ff}{NoExport}%
5253   \HyField@UseFlag{Ff}{Multiline}%
5254   \HyField@UseFlag{Ff}{Password}%
5255   \HyField@UseFlag{Ff}{FileSelect}%
5256   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5257   \HyField@UseFlag{Ff}{DoNotScroll}%
5258   \ifFld@comb
5259     \ifcase0\ifFld@multiline
5260       \else\ifFld@password
5261       \else\ifFld@fileselect
5262       \else 1\fi\fi\fi\relax
5263     \Hy@Error{%
5264       Field option 'comb' cannot used together with\MessageBreak
5265       'multiline', 'password', or 'fileselect'%
5266     }\@ehc
5267   \else
5268     \HyField@UseFlag{Ff}{Comb}%
5269   \fi
5270 \fi
5271 \HyField@UseFlag{Ff}{RichText}%
5272 \HyField@PrintFlags{Ff}{text field}%
5273 \bitsetIsEmpty{HyField@Ff}{%
5274   \def\Fld@flags{%
5275   }{%
5276   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5277 }%
5278 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
5279 \def\HyField@FlagsChoice{%
5280   \HyField@FlagsAnnot{choice field}%
5281   \bitsetReset{HyField@Ff}%
5282   \HyField@UseFlag{Ff}{ReadOnly}%
5283   \HyField@UseFlag{Ff}{Required}%
5284   \HyField@UseFlag{Ff}{NoExport}%
5285   \HyField@UseFlag{Ff}{Combo}%
5286   \ifFld@combo
5287     \HyField@UseFlag{Ff}{Edit}%
5288   \fi
5289   \HyField@UseFlag{Ff}{Sort}%
5290   \HyField@UseFlag{Ff}{MultiSelect}%
5291   \ifFld@combo
5292     \ifFld@edit
5293     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5294   \fi
5295 }
```

```

5294 \fi
5295 \fi
5296 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5297 \HyField@PrintFlags{Ff}{choice field}%
5298 \bitsetIsEmpty{HyField@Ff}{%
5299 \def\Fld@flags{%
5300 }{%
5301 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5302 }%
5303 }

```

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`.

```

5304 \def\HyField@PDFChoices#1{%
5305 \begingroup
5306 \gdef\Fld@choices{%
5307 \def\HyTmp@optlist{%
5308 \let\HyTmp@optitem\relax
5309 \count@=0 %
5310 \kv@parse{#1}{%
5311 \Hy@pdfstringdef\kv@key\kv@key
5312 \ifx\kv@value\relax
5313 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5314 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5315 \else
5316 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5317 \fi
5318 \else
5319 \Hy@pdfstringdef\kv@value\kv@value
5320 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5321 \fi
5322 \edef\HyTmp@optlist{%
5323 \HyTmp@optlist
5324 \HyTmp@optitem{\the\count@}{\kv@key}0%
5325 }%
5326 \advance\count@ by 1 %
5327 \@gobbletwo
5328 }%
5329 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5330 \ifFld@multiselect
5331 \HyField@@PDFChoices{DV}\Fld@default
5332 \HyField@@PDFChoices{V}\Fld@value
5333 \else
5334 \ifx\Fld@default\relax
5335 \else
5336 \pdfstringdef\Hy@gtemp\Fld@default
5337 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5338 \fi
5339 \ifx\Fld@value\relax
5340 \else
5341 \pdfstringdef\Hy@gtemp\Fld@value
5342 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5343 \fi
5344 \fi

```

```

5345 \endgroup
5346 }

```

\HyField@@PDFChoices

```

5347 \def\HyField@@PDFChoices#1#2{%
5348   \ifx#2\relax
5349   \else
5350     \count@=0 %
5351     \def\HyTmp@optitem##1##2##3{%
5352       \def\HyTmp@key{##2}%
5353       \ifx\HyTmp@key\Hy@gtemp
5354         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5355           \HyTmp@optlist
5356           \HyTmp@optitem{##1}{##2}1%
5357         }%
5358         \let\HyTmp@found=Y%
5359       \else
5360         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5361           \HyTmp@optlist
5362           \HyTmp@optitem{##1}{##2}##3%
5363         }%
5364       \fi
5365     }%
5366     \expandafter\comma@parse\expandafter{#2}{%
5367       \pdfstringdef\Hy@gtemp\comma@entry
5368       \let\HyTmp@found=N %
5369       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5370       \HyTmp@optlist
5371       \ifx\HyTmp@found Y%
5372         \advance\count@ by 1 %
5373       \else
5374         \@onelevel@sanitize\comma@entry
5375         \PackageWarning{hyperref}{%
5376           \string\ChoiceBox: Ignoring value '\comma@entry',%
5377           \MessageBreak
5378           it cannot be found in the choices%
5379         }%
5380       \fi
5381       \@gobble
5382     }%
5383     \def\HyTmp@optitem##1##2##3{%
5384       \ifnum##3=1 %
5385         (##2)%
5386       \fi
5387     }%
5388     \ifcase\count@
5389     \or
5390       \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5391     \else
5392       \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5393       \ifx#1V%
5394         \def\HyTmp@optitem##1##2##3{%
5395           \ifnum##3=1 %
5396             \@firstofone{ ##1}%
5397           \fi
5398         }%
5399       \edef\HyTmp@optlist{\HyTmp@optlist}%

```

```

5400     \xdef\Fld@choices{%
5401         \Fld@choices
5402         /I[\expandafter\@firstofone\HyTmp@optlist]%
5403     }%
5404     \fi
5405     \fi
5406     \fi
5407 }

```

19.3 Forms

\HyField@SetKeys

```

5408 \def\HyField@SetKeys{%
5409     \kvsetkeys{Field}%
5410 }

5411 \newif\ifFld@checked
5412 \newif\ifFld@disabled
5413 \Fld@checkedfalse
5414 \Fld@disabledfalse
5415 \newcount\Fld@menulength
5416 \newdimen\Fld@Width
5417 \newdimen\Fld@charsize
5418 \Fld@charsize=10\p@
5419 \def\Fld@maxlen{0}
5420 \def\Fld@align{0}
5421 \def\Fld@color{0 0 0 rg}
5422 \def\Fld@bcolor{1 1 1}
5423 \def\Fld@bordercolor{1 0 0}
5424 \def\Fld@bordersep{1\p@}
5425 \def\Fld@borderwidth{1}
5426 \def\Fld@borderstyle{S}
5427 \def\Fld@cbsymbol{4}
5428 \def\Fld@radiosymbol{H}
5429 \def\Fld@rotation{0}
5430 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5431 \def\endForm{\@endForm}
5432 \newif\ifForm@html
5433 \Form@htmlfalse
5434 \def\Form@boolkey#1#2{%
5435     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5436 }
5437 \define@key{Form}{action}{%
5438     \hyper@normalise\Hy@DefFormAction{#1}%
5439 }
5440 \def\Hy@DefFormAction{\def\Form@action}
5441 \def\enc@html{html}
5442 \define@key{Form}{encoding}{%
5443     \def\Hy@tempa{#1}%
5444     \ifx\Hy@tempa\enc@html
5445         \Form@htmltrue
5446         \def\Fld@export{html}%
5447     \else
5448         \Hy@Warning{%
5449             Form ‘encoding’ key with \MessageBreak
5450             unknown value ‘#1’%
5451         }%

```



```

5452 \Form@htmlfalse
5453 \fi
5454 }
5455 \define@key{Form}{method}{%
5456 \lowercase{\def\Hy@temp{#1}}%
5457 \@ifundefined{Form@method@\Hy@temp}{%
5458 \onelevel@sanitize\Hy@temp
5459 \Hy@Error{%
5460 Unknown method '\Hy@temp'.\MessageBreak
5461 Known values are 'post' and 'get'%
5462 } \@ehc
5463 }{%
5464 \let\Form@method\Hy@temp
5465 \ifcase\@nameuse{Form@method@\Hy@temp} %
5466 \Fld@getmethodfalse
5467 \else
5468 \Fld@getmethodtrue
5469 \fi
5470 }%
5471 }
5472 \def\Form@method{}
5473 \@namedef{Form@method@post}{0}
5474 \@namedef{Form@method@get}{1}
5475 \def\Fld@boolkey#1#2{%
5476 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5477 }
5478 \ifHy@texht
5479 \newtoks\Fld@toks
5480 \Fld@toks={ }%
5481 \def\Fld@addtoks#1#2{%
5482 \edef\@processme{\Fld@toks{\the\Fld@toks\space #1="#2"}}%
5483 \@processme
5484 }%
5485 \else
5486 \def\Hy@WarnHTMLFieldOption#1{%
5487 \Hy@Warning{%
5488 HTML field option '#1'\MessageBreak
5489 is ignored%
5490 }%
5491 }%
5492 \fi
5493 \def\Fld@checkequals#1=#2=#3\{\%
5494 \def\@currDisplay{#1}%
5495 \ifx\#2\%
5496 \def\@currValue{#1}%
5497 \else
5498 \def\@currValue{#2}%
5499 \fi
5500 }
5501 \define@key{Field}{loc}{%
5502 \def\Fld@loc{#1}%
5503 }
5504 \define@key{Field}{checked}[true]{%
5505 \lowercase{\Field@boolkey{#1}}{checked}%
5506 }
5507 \define@key{Field}{disabled}[true]{%
5508 \lowercase{\Field@boolkey{#1}}{disabled}%

```

```

5509 }
5510 \ifHy@texht
5511   \define@key{Field}{accesskey}{%
5512     \Field@addtoks{accesskey}{#1}%
5513   }%
5514   \define@key{Field}{tabkey}{%
5515     \Field@addtoks{tabkey}{#1}%
5516   }%
5517 \else
5518   \define@key{Field}{accesskey}{%
5519     \Hy@WarnHTMLFieldOption{accesskey}%
5520   }%
5521   \define@key{Field}{tabkey}{%
5522     \Hy@WarnHTMLFieldOption{tabkey}%
5523   }%
5524 \fi
5525 \define@key{Field}{name}{%
5526   \def\Fld@name{#1}%
5527 }
5528 \let\Fld@altname\relax
5529 \define@key{Field}{altname}{%
5530   \def\Fld@altname{#1}%
5531 }
5532 \let\Fld@mappingname\relax
5533 \define@key{Field}{mappingname}{%
5534   \def\Fld@mappingname{#1}%
5535 }
5536 \define@key{Field}{width}{%
5537   \def\Fld@width{#1}%
5538   \Field@Width#1\setbox0=\hbox{m}%
5539 }
5540 \define@key{Field}{maxlen}{%
5541   \def\Fld@maxlen{#1}%
5542 }
5543 \define@key{Field}{menulength}{%
5544   \Fld@menulength=#1\relax
5545 }
5546 \define@key{Field}{height}{%
5547   \def\Fld@height{#1}%
5548 }
5549 \define@key{Field}{charsize}{%
5550   \Fld@charsize#1%
5551 }
5552 \define@key{Field}{borderwidth}{%
5553   \def\Fld@borderwidth{#1}%
5554 }
5555 \define@key{Field}{borderstyle}{%
5556   \let\Hy@temp\Fld@borderstyle
5557   \def\Fld@borderstyle{#1}%
5558   \Hy@Match\Fld@borderstyle{%
5559     ~[SDBIU]$%
5560   }{}{%
5561     \Hy@Warning{%
5562       Invalid value '\@pdfborderstyle'\MessageBreak
5563       for option 'pdfborderstyle'. Valid values:\MessageBreak
5564       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5565       \space\space I (Inset), U (Underline)\MessageBreak

```

```

5566     Option setting is ignored%
5567   }%
5568   \let\Fld@borderstyle\Hy@temp
5569 }%
5570 }
5571 \define@key{Field}{bordersep}{%
5572   \def\Fld@bordersep{#1}%
5573 }
5574 \define@key{Field}{default}{%
5575   \def\Fld@default{#1}%
5576 }
5577 \define@key{Field}{align}{%
5578   \def\Fld@align{#1}%
5579 }
5580 \define@key{Field}{value}{%
5581   \def\Fld@value{#1}%
5582 }
5583 \define@key{Field}{checkboxsymbol}{%
5584   \Fld@DingDef\Fld@cbsymbol{#1}%
5585 }
5586 \define@key{Field}{radiosymbol}{%
5587   \Fld@DingDef\Fld@radiosymbol{#1}%
5588 }
5589 \def\Fld@DingDef#1#2{%
5590   \def\Fld@temp{}%
5591   \Fld@@DingDef#2\ding{}\@nil
5592   \let#1\Fld@temp
5593 }
5594 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5595   \expandafter\def\expandafter\Fld@temp\expandafter{%
5596     \Fld@temp
5597     #1%
5598   }%
5599   \ifx\#3\%
5600     \expandafter\@gobble
5601   \else
5602     \begingroup
5603       \lccode'0=#2\relax
5604       \lowercase{\endgroup
5605         \expandafter\def\expandafter\Fld@temp\expandafter{%
5606           \Fld@temp
5607           0%
5608         }%
5609       }%
5610       \expandafter\@firstofone
5611     \fi
5612     {%
5613       \Fld@@DingDef#3\@nil
5614     }%
5615   }
5616 \define@key{Field}{rotation}{%
5617   \def\Fld@rotation{#1}%
5618 }
5619 \define@key{Field}{backgroundcolor}{%
5620   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5621 }
5622 \define@key{Field}{bordercolor}{%

```

```

5623 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5624 }
5625 \define@key{Field}{color}{%
5626 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5627 }

5628 \def\Fld@onclick@code{}
5629 \def\Fld@format@code{}
5630 \def\Fld@validate@code{}
5631 \def\Fld@calculate@code{}
5632 \def\Fld@keystroke@code{}
5633 \def\Fld@onfocus@code{}
5634 \def\Fld@onblur@code{}
5635 \def\Fld@onmousedown@code{}
5636 \def\Fld@onmouseup@code{}
5637 \def\Fld@onenter@code{}
5638 \def\Fld@onexit@code{}
5639 \def\Hy@temp#1{%
5640 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5641 }
5642 \def\Hy@@temp#1#2{%
5643 \ifHy@pdfa
5644 \define@key{Field}{#2}{%
5645 \Hy@Error{%
5646 PDF/A: Additional action '#2' is prohibited%
5647 }\@ehc
5648 }%
5649 \else
5650 \define@key{Field}{#2}{%
5651 \def#1{##1}%
5652 }%
5653 \fi
5654 }
5655 \Hy@temp{keystroke}
5656 \Hy@temp{format}
5657 \Hy@temp{validate}
5658 \Hy@temp{calculate}
5659 \Hy@temp{onfocus}
5660 \Hy@temp{onblur}
5661 \Hy@temp{onenter}
5662 \Hy@temp{onexit}
5663 \ifHy@texht
5664 \def\Hy@temp#1{%
5665 \define@key{Field}{#1}{%
5666 \Field@addtoks{#1}{##1}%
5667 }%
5668 }%
5669 \else
5670 \def\Hy@temp#1{%
5671 \define@key{Field}{#1}{%
5672 \Hy@WarnHTMLFieldOption{#1}%
5673 }%
5674 }%
5675 \fi
5676 \Hy@temp{ondblclick}
5677 \Hy@temp{onmousedown}
5678 \Hy@temp{onmouseup}
5679 \Hy@temp{onmouseover}

```

```

5680 \Hy@temp{onmousemove}
5681 \Hy@temp{onmouseout}
5682 \Hy@temp{onkeydown}
5683 \Hy@temp{onkeyup}
5684 \Hy@temp{onselect}
5685 \Hy@temp{onchange}
5686 \Hy@temp{onkeypress}
5687 \ifHy@texht
5688   \define@key{Field}{onclick}{%
5689     \Field@addtoks{onclick}{#1}%
5690   }%
5691 \else
5692   \ifHy@pdfa
5693     \define@key{Field}{onclick}{%
5694       \Hy@Error{%
5695         PDF/A: Action 'onclick' is prohibited%
5696       } \@ehc
5697     }%
5698   \else
5699     \define@key{Field}{onclick}{%
5700       \def\Fld@onclick@code{#1}%
5701     }%
5702   \fi
5703 \fi

5704 \DeclareRobustCommand\TextField{%
5705   \@ifnextchar[{\@TextField}{\@TextField[]}%
5706 }
5707 \DeclareRobustCommand\ChoiceMenu{%
5708   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5709 }
5710 \DeclareRobustCommand\CheckBox{%
5711   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5712 }
5713 \DeclareRobustCommand\PushButton{%
5714   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5715 }
5716 \DeclareRobustCommand\Gauge{%
5717   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5718 }
5719 \DeclareRobustCommand\Submit{%
5720   \@ifnextchar[{\@Submit}{\@Submit[]}%
5721 }
5722 \DeclareRobustCommand\Reset{%
5723   \@ifnextchar[{\@Reset}{\@Reset[]}%
5724 }
5725 \def\LayoutTextField#1#2{% label, field
5726   #1 #2%
5727 }
5728 \def\LayoutChoiceField#1#2{% label, field
5729   #1 #2%
5730 }
5731 \def\LayoutCheckField#1#2{% label, field
5732   #1 #2%
5733 }
5734 \def\LayoutPushButtonField#1{% button
5735   #1%
5736 }

```

```

5737 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5738 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5739 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5740 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5741 \def\MakeButtonField#1{%
5742   \sbox0{%
5743     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5744   }%
5745   \@tempdima\ht0 %
5746   \advance\@tempdima by \Fld@borderwidth bp %
5747   \advance\@tempdima by \Fld@borderwidth bp %
5748   \ht0\@tempdima
5749   \@tempdima\dp0 %
5750   \advance\@tempdima by \Fld@borderwidth bp %
5751   \advance\@tempdima by \Fld@borderwidth bp %
5752   \dp0\@tempdima
5753   \box0\relax
5754 }
5755 \def\DefaultHeightofSubmit{14pt}
5756 \def\DefaultWidthofSubmit{2cm}
5757 \def\DefaultHeightofReset{14pt}
5758 \def\DefaultWidthofReset{2cm}
5759 \def\DefaultHeightofCheckBox{\baselineskip}
5760 \def\DefaultWidthofCheckBox{\baselineskip}
5761 \def\DefaultHeightofChoiceMenu{\baselineskip}
5762 \def\DefaultWidthofChoiceMenu{\baselineskip}
5763 \def\DefaultHeightofText{\baselineskip}
5764 \def\DefaultHeightofTextMultiline{4\baselineskip}
5765 \def\DefaultWidthofText{3cm}
5766 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5767 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5768 \def\DefaultOptionsofPushButton{print}
5769 \def\DefaultOptionsofCheckBox{print}
5770 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5771 \def\DefaultOptionsofListBox{print}
5772 \def\DefaultOptionsofComboBox{print,edit,sort}
5773 \def\DefaultOptionsofPopdownBox{print}
5774 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

5775 \ifHy@figures
5776   \Hy@Info{Hyper figures ON}%
5777 \else
5778   \Hy@Info{Hyper figures OFF}%
5779 \fi
5780 \ifHy@nesting
5781   \Hy@Info{Link nesting ON}%
5782 \else
5783   \Hy@Info{Link nesting OFF}%
5784 \fi
5785 \ifHy@hyperindex
5786   \Hy@Info{Hyper index ON}%
5787 \else
5788   \Hy@Info{Hyper index OFF}%

```

```

5789 \fi
5790 \ifHy@backref
5791   \Hy@Info{backreferencing ON}%
5792 \else
5793   \Hy@Info{backreferencing OFF}%
5794 \fi
5795 \ifHy@colorlinks
5796   \Hy@Info{Link coloring ON}%
5797 \else
5798   \Hy@Info{Link coloring OFF}%
5799 \fi
5800 \ifHy@ocgcolorlinks
5801   \Hy@Info{Link coloring with OCG ON}%
5802 \else
5803   \Hy@Info{Link coloring with OCG OFF}%
5804 \fi
5805 \ifHy@pdfa
5806   \Hy@Info{PDF/A mode ON}%
5807 \else
5808   \Hy@Info{PDF/A mode OFF}%
5809 \fi

```

21 Low-level utility macros

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

```

5810 \edef\hyper@hash{\string#}
5811 \edef\hyper@tilde{\string~}
5812 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5813 \def\@currentHref{Doc-Start}
5814 \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.

```

5815 \Hy@AtBeginDocument{%
5816   \Hy@pdfstringtrue
5817   \PDF@SetupDoc
5818   \let\PDF@SetupDoc\@empty
5819   \Hy@DisableOption{pdfpagescrop}%
5820   \Hy@DisableOption{pdfpagemode}%
5821   \Hy@DisableOption{pdfnonfullscreenpagemode}%
5822   \Hy@DisableOption{pdfdirection}%
5823   \Hy@DisableOption{pdfviewarea}%
5824   \Hy@DisableOption{pdfviewclip}%
5825   \Hy@DisableOption{pdfprintarea}%
5826   \Hy@DisableOption{pdfprintclip}%
5827   \Hy@DisableOption{pdfprintscaling}%
5828   \Hy@DisableOption{pdfduplex}%
5829   \Hy@DisableOption{pdfpicktraybypdfsize}%
5830   \Hy@DisableOption{pdfprintpagerange}%
5831   \Hy@DisableOption{pdfnumcopies}%
5832   \Hy@DisableOption{pdfstartview}%
5833   \Hy@DisableOption{pdfstartpage}%
5834   \Hy@DisableOption{pdftoolbar}%
5835   \Hy@DisableOption{pdfmenubar}%
5836   \Hy@DisableOption{pdfwindowui}%
5837   \Hy@DisableOption{pdfitwindow}%

```

```

5838 \Hy@DisableOption{pdfcenterwindow}%
5839 \Hy@DisableOption{pdfdisplaydoctitle}%
5840 \Hy@DisableOption{pdfpagelayout}%
5841 \Hy@DisableOption{pdflang}%
5842 \Hy@DisableOption{baseurl}%
5843 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5844 \Hy@pdfstringfalse
5845 }

```

Ignore star from referencing macros:

```

5846 \LetLtxMacro\NoHy@OrgRef\ref
5847 \DeclareRobustCommand*{\ref}{%
5848 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5849 }
5850 \LetLtxMacro\NoHy@OrgPageRef\pageref
5851 \DeclareRobustCommand*{\pageref}{%
5852 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5853 }

```

22 Localized nullifying of package

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

```

5854 \def\NoHyper{%
5855 \def\hyper@link@{##1}##2##3##4{##4}%
5856 \def\hyper@@anchor##1{%
5857 \global\let\hyper@livelink\hyper@link
5858 \gdef\hyper@link##1##2##3{##3}%
5859 \def\hyper@anchor##1{%
5860 \def\hyper@anchorstart##1{%
5861 \let\hyper@anchorend\@empty
5862 \def\hyper@linkstart##1##2{%
5863 \let\hyper@linkend\@empty
5864 \def\hyper@linkurl##1##2{##1}%
5865 \def\hyper@linkfile##1##2##3{##1}%
5866 \def\hyper@link@{##1}##2##3{%
5867 \let\Hy@backout\@gobble
5868 }
5869 \def\stop@hyper{%
5870 \def\hyper@link@{##1}##2##3##4{##4}%
5871 \let\Hy@backout\@gobble
5872 \def\hyper@@anchor##1{%
5873 \def\hyper@link##1##2##3{##3}%
5874 \def\hyper@anchor##1{%
5875 \def\hyper@anchorstart##1{%
5876 \let\hyper@anchorend\@empty
5877 \def\hyper@linkstart##1##2{%
5878 \let\hyper@linkend\@empty
5879 \def\hyper@linkurl##1##2{##1}%
5880 \def\hyper@linkfile##1##2##3{##1}%
5881 \def\hyper@link@{##1}##2##3{%
5882 }
5883 \def\endNoHyper{%
5884 \global\let\hyper@link\hyper@livelink

```



```

5885 }
5886 \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:

```

5887 \let\*nohyperref
5888 \RequirePackage{letltxmacro}[2008/06/13]
5889 \let\hyper@@anchor\@gobble
5890 \def\hyper@link#1#2#3{#3}%
5891 \let\hyper@anchorstart\@gobble
5892 \let\hyper@anchorend\@empty
5893 \let\hyper@linkstart\@gobbletwo
5894 \let\hyper@linkend\@empty
5895 \def\hyper@linkurl#1#2{#1}%
5896 \def\hyper@linkfile#1#2#3{#1}%
5897 \def\hyper@link@{#1}#2#3{#1}%
5898 \let\PDF@SetupDoc\@empty
5899 \let\PDF@FinishDoc\@empty
5900 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

5901 \def\Acrobatmenu#1#2{\leavevmode#2}
5902 \let\pdfstringdefDisableCommands\@gobbletwo
5903 \let\texorpdfstring\@firstoftwo
5904 \let\pdfbookmark\@undefined
5905 \newcommand\pdfbookmark[3]{}{}
5906 \let\phantomsection\@empty
5907 \let\hypersetup\@gobble
5908 \let\hyperbaseurl\@gobble
5909 \newcommand*{\href}[3]{}{#3}
5910 \let\hyperdef\@gobbletwo
5911 \let\hyperlink\@gobble
5912 \let\hypertarget\@gobble
5913 \def\hyperref{%
5914   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5915 }
5916 \long\def\@gobbleopt[#1]{}
5917 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5918 \LetLtxMacro\NoHy@OrgRef\ref
5919 \DeclareRobustCommand*\ref{%
5920   \ifstar\NoHy@OrgRef\NoHy@OrgRef
5921 }
5922 \LetLtxMacro\NoHy@OrgPageRef\pageref
5923 \DeclareRobustCommand*\pageref{%
5924   \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5925 }
5926 \end{nohyperref}

```

24 The Mangling Of Aux and Toc Files

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

```
5927 \<package>
5928 \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.

```
5929 \if@filesw
5930 \ifHy@typexml
5931 \immediate\closeout\@mainaux
5932 \immediate\openout\@mainaux\jobname.aux\relax
5933 \immediate\write\@auxout{<relaxxml>\relax}%
5934 \fi
5935 \immediate\write\@auxout{%
5936 \string\providecommand\string\HyperFirstAtBeginDocument{%
5937 \string\AtBeginDocument}^^J%
5938 \string\HyperFirstAtBeginDocument{%
5939 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5940 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5941 \string\gdef\string\contentsline%
5942 \string#1\string#2\string#3\string#4{%
5943 \string\oldcontentsline%
5944 {\string#1}{\string#2}{\string#3}}^^J%
5945 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5946 \string\gdef\string\newlabel\string#1\string#2{%
5947 \string\newlabelxx{\string#1}\string#2}^^J%
5948 \string\gdef\string\newlabelxx%
5949 \string#1\string#2\string#3\string#4\string#5\string#6{%
5950 \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.

```
5951 \string\AtEndDocument{%
5952 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5953 \string\let\string\contentsline\string\oldcontentsline^^J%
5954 \string\let\string\newlabel\string\oldnewlabel^^J%
5955 \string\fi%
5956 }^^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.

```
5957 \string\fi%
5958 }^^J%
5959 \string\global\string\let\string\hyper@last\relax^^J%
5960 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
5961 }%
5962 \fi
5963 \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.

```

5964 \ifx\hyper@last\@undefined
5965 \def\@starttoc#1{%
5966   \begingroup
5967   \makeatletter
5968   \IfFileExists{\jobname.#1}{%
5969     \Hy@WarningNoLine{%
5970       old #1 file detected, not used; run LaTeX again%
5971     }%
5972   }-%
5973   \if@filesw
5974     \expandafter\newwrite\csname tf@#1\endcsname
5975     \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5976   \fi
5977   \@nobreakfalse
5978   \endgroup
5979 }%
5980 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5981 \fi
5982 }

```

25 Title strings

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

```

5983 \ifHy@usetitle
5984 \let\HyOrg@title\title
5985 \let\HyOrg@author\author
5986 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5987 \def\Hy@scanopttitle[#1]{%
5988   \gdef\Hy@title{#1}%
5989   \HyOrg@title{#1}%
5990 }%
5991 \def\Hy@scantitle#1{%
5992   \gdef\Hy@title{#1}%
5993   \HyOrg@title{#1}%
5994 }%
5995 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5996 \def\Hy@scanoptauthor[#1]{%
5997   \gdef\Hy@author{#1}%
5998   \HyOrg@author{#1}%
5999 }%
6000 \def\Hy@scanauthor#1{%
6001   \gdef\Hy@author{#1}%
6002   \HyOrg@author{#1}%
6003 }%

```

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.

```

6004 \begingroup
6005 \def\process@me#1\@nil#2{%
6006   \expandafter\let\expandafter\x\csname @#2\endcsname
6007   \edef\y{\expandafter\strip@prefix\meaning\x}%
6008   \def\c##1#1##2\@nil{%
6009     \ifx\##1\%
6010     \else
6011       \expandafter\gdef\csname Hy@#2\endcsname

```

```

6012         \expandafter{\x}%
6013     \fi
6014 }%
6015 \expandafter\c\y\relax#1\@nil
6016 }%
6017 \expandafter\process@me\string\@latex@\@nil{title}%
6018 \expandafter\process@me\string\@latex@\@nil{author}%
6019 \endgroup
6020 \fi
6021 \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.

```

6022 \def\Hy@UseMaketitleString#1{%
6023 \ltx@ifundefined{Hy@#1}{-}{%
6024 \begingroup
6025 \let\Hy@saved@hook\pdfstringdefPreHook
6026 \pdfstringdefDisableCommands{%
6027 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6028 \let\newline\\%
6029 }%
6030 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6031 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6032 \csname Hy@#1\endcsname\@empty
6033 }%
6034 \fi
6035 \global\let\pdfstringdefPreHook\Hy@saved@hook
6036 \endgroup
6037 }%
6038 }
6039 \def\Hy@newline@title#1{ #1}
6040 \def\Hy@newline@author#1{, #1}
6041 \def\Hy@UseMaketitleInfos{%
6042 \Hy@UseMaketitleString{title}%
6043 \Hy@UseMaketitleString{author}%
6044 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6045 \RequirePackage{atbegshi}[2007/09/09]
6046 \def\Hy@EveryPageHook{}
6047 \def\Hy@EveryPageBoxHook{}
6048 \def\Hy@FirstPageHook{}
6049 \AtBeginShipout{%

```

```

6050 \Hy@EveryPageHook
6051 \ifx\Hy@EveryPageBoxHook\@empty
6052 \else
6053 \setbox\AtBeginShipoutBox=\vbox{%
6054 \offinterlineskip
6055 \Hy@EveryPageBoxHook
6056 \box\AtBeginShipoutBox
6057 }%
6058 \fi
6059 }
6060 \AtBeginShipoutFirst{%
6061 \Hy@FirstPageHook
6062 }
6063 \g@addto@macro\Hy@FirstPageHook{%
6064 \PDF@FinishDoc
6065 \gdef\PDF@FinishDoc{}}%
6066 }

```

27.1 PDF /PageLabels

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

```

6067 \ifHy@pagelabels
6068 \begingroup\expandafter\expandafter\expandafter\endgroup
6069 \expandafter\ifx\csname thepage\endcsname\relax
6070 \Hy@pagelabelsfalse
6071 \Hy@WarningNoLine{%
6072 Option 'pdfpagelabels' is turned off\MessageBreak
6073 because \string\thepage\space is undefined%
6074 }%
6075 \csname fi\endcsname
6076 \csname iffalse\expandafter\endcsname
6077 \fi

```

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

```

6078 \def\thispdfpagelabel#1{%
6079 \gdef\HyPL@thisLabel{#1}%
6080 }%
6081 \global\let\HyPL@thisLabel\relax

```

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

```

6082 \def\HyPL@Labels{}%

```

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

```

6083 \newcount\Hy@abspage
6084 \Hy@abspage=0 %

```

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

```

6085 \def\HyPL@LastType{init}%
6086 \def\HyPL@LastNumber{0}%
6087 \def\HyPL@LastPrefix{}%

```

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

```

6088 \def\HyPL@arabic{D}%
6089 \def\HyPL@Roman{R}%
6090 \def\HyPL@roman{r}%
6091 \def\HyPL@Alph{A}%
6092 \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.

```

6093 \def\HyPL@EveryPage{%
6094   \begingroup
6095   \ifx\HyPL@thisLabel\relax
6096     \let\HyPL@page\thepage
6097   \else
6098     \let\HyPL@page\HyPL@thisLabel
6099     \global\let\HyPL@thisLabel\relax
6100   \fi
6101   \let\HyPL@Type\relax
6102   \ifnum\the\c@page>0 %
6103     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6104   \fi
6105   \let\Hy@temp Y%
6106   \ifx\HyPL@Type\HyPL@LastType
6107   \else
6108     \let\Hy@temp N%
6109   \fi
6110   \ifx\HyPL@Type\relax
6111     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6112   \else
6113     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6114   \fi
6115   \ifx\HyPL@Prefix\HyPL@LastPrefix
6116   \else
6117     \let\Hy@temp N%
6118   \fi
6119   \if Y\Hy@temp
6120     \advance\c@page by -1 %
6121     \ifnum\HyPL@LastNumber=\the\c@page\relax
6122     \else
6123       \let\Hy@temp N%
6124     \fi
6125     \Hy@StepCount\c@page
6126   \fi
6127   \if N\Hy@temp
6128     \ifx\HyPL@Type\relax
6129       \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6130     \else
6131       \HyPL@storePageLabel{%
6132         \ifx\HyPL@Prefix\@empty
6133         \else
6134           /P(\HyPL@Prefix)%
6135         \fi
6136         /S/\csname HyPL\HyPL@Type\endcsname
6137         \ifnum\the\c@page=1 %
6138         \else
6139           \space/St \the\c@page
6140         \fi
6141       }%
6142     \fi
6143   \fi
6144   \xdef\HyPL@LastNumber{\the\c@page}%
6145   \global\let\HyPL@LastType\HyPL@Type
6146   \global\let\HyPL@LastPrefix\HyPL@Prefix
6147 \endgroup

```

```

6148 \Hy@GlobalStepCount\Hy@abspage
6149 }%

```

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

```

6150 \def\HyPL@CheckThePage#1\@nil{%
6151 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6152 }%

```

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

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

```

6153 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6154 \def\Hy@tempa{#4}%
6155 \def\Hy@tempb{\csname\endcsname\c@page}%
6156 \ifx\Hy@tempa\Hy@tempb
6157 \expandafter\ifx\csname HyPL#3\endcsname\relax
6158 \else
6159 \def\HyPL@Type{#3}%
6160 \def\HyPL@Prefix{#2}%
6161 \fi
6162 \else
6163 \begingroup
6164 \let\Hy@next\endgroup
6165 \let\HyPL@found\@undefined
6166 \def\arabic{\HyPL@Format{arabic}}%
6167 \def\Roman{\HyPL@Format{Roman}}%
6168 \def\roman{\HyPL@Format{roman}}%
6169 \def\Alph{\HyPL@Format{Alph}}%
6170 \def\alph{\HyPL@Format{alph}}%
6171 \protected@edef\Hy@temp{#1}%
6172 \ifx\HyPL@found\relax
6173 \toks@{\expandafter{\Hy@temp}}%
6174 \edef\Hy@next{\endgroup
6175 \noexpand\HyPL@@CheckThePage\the\toks@
6176 \noexpand\HyPL@found\relax\noexpand\@nil
6177 }%
6178 \fi
6179 \Hy@next
6180 \fi
6181 }%

```

`\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`.

```

6182 \def\HyPL@Format#1#2{%
6183 \ifx\HyPL@found\@undefined
6184 \expandafter\ifx\csname c@#2\endcsname\c@page
6185 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6186 \else
6187 \expandafter\noexpand\csname#1\endcsname{#2}%
6188 \fi
6189 \else
6190 \expandafter\noexpand\csname#1\endcsname{#2}%
6191 \fi
6192 }%

```

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

```
6193 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6194   \def\Hy@tempa{#3}%
6195   \def\Hy@tempb{\HyPL@found\relax}%
6196   \ifx\Hy@tempa\Hy@tempb
6197     \def\HyPL@Type{@#2}%
6198     \def\HyPL@Prefix{#1}%
6199   \fi
6200 }%
```

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

```
6201 \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`.

```
6202 \def\HyPL@Useless{0<</S/D>>}%
6203 \@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.

```
6204 \def\HyPL@SetPageLabels{%
6205   \@onelevel@sanitize\HyPL@Labels
6206   \ifx\HyPL@Labels\empty
6207   \else
6208     \ifx\HyPL@Labels\HyPL@Useless
6209     \else
6210       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6211     \fi
6212   \fi
6213 }%
```

```
6214 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6215 \fi
```

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

```
6216 \Hy@DisableOption{pdfpagelabels}
6217 </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`

```
6218 <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.

```
6219 <*vTeX>
6220 \providecommand*{\XR@ext}{pdf}
6221 \edef\Hy@VTeXversion{%
6222   \ifx\VTeXversion\undefined
6223     \z@
```



```

6224 \else
6225 \ifx\VTexversion\relax
6226 \z@
6227 \else
6228 \VTexversion
6229 \fi
6230 \fi
6231 }
6232 \begingroup
6233 \ifnum\Hy@VTexversion<660 %
6234 \gdef\Hy@PutCatalog#1{%
6235 \Hy@WarningNoLine{%
6236 VTeX 6.59g or above required for pdfpagelabels%
6237 }%
6238 }%
6239 \else
6240 \gdef\Hy@PutCatalog#1{%
6241 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6242 }%
6243 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6244 \ifx\#2\%
6245 \else
6246 \immediate\special{!pdfpagelabels #2}%
6247 \fi
6248 }%
6249 \fi
6250 \endgroup
6251 </vtex>

6252 <*pdfTeX | vtex>

```

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

```

6253 \ifHy@pagelabels
6254 \def\HyPL@StorePageLabel#1{%
6255 \toks@\expandafter{\HyPL@Labels}%
6256 \xdef\HyPL@Labels{%
6257 \the\toks@
6258 \the\Hy@abspage<<#1>>%
6259 }%
6260 }%

```

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.

```

6261 \RequirePackage{atveryend}[2009/12/07]%
6262 \AtVeryEndDocument{%
6263 \HyPL@SetPageLabels
6264 }%

6265 \fi
6266 </pdfTeX | vtex>

```

27.1.2 xetex

```

6267 <*xetex>
6268 \HyPsd@LoadUnicode
6269 \Hy@unicodetrue
6270 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode

```

```

6271 \else
6272   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6273 \fi
6274 \HyPsd@LoadStringEncoding
6275 \define@key{Hyp}{unicode}[true]{%
6276   \Hy@boolkey{unicode}{#1}%
6277   \ifHy@unicode
6278   \else
6279     \Hy@Warning{%
6280       XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6281       option setting 'unicode=false'%
6282     }%
6283     \Hy@unicodetrue
6284   \fi
6285 }
6286 \define@key{Hyp}{pdfencoding}{%
6287   \edef\HyPsd@temp{#1}%
6288   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6289     \let\HyPsd@pdfencoding\HyPsd@temp
6290   \else
6291     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6292       \let\HyPsd@pdfencoding\HyPsd@temp
6293     \else
6294       \Hy@Warning{%
6295         XeTeX driver only supports\MessageBreak
6296         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6297         setting 'pdfencoding=\HyPsd@temp'%
6298       }%
6299     \fi
6300   \fi
6301 }
6302 \let\HyXeTeX@CheckUnicode\relax
6303 \</xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6304 \<*pdfmarkbase>
6305 \begingroup
6306   \@ifundefined{headerps@out}{-}{%
6307     \toks@{\expandafter{\Hy@FirstPageHook}%
6308     \xdef\Hy@FirstPageHook{%
6309       \noexpand\headerps@out{%
6310         systemdict /pdfmark known%
6311         {%
6312           userdict /?pdfmark systemdict /exec get put%
6313         }{%
6314           userdict /?pdfmark systemdict /pop get put %
6315           userdict /pdfmark systemdict /cleartomark get put%
6316         }%
6317         ifelse%
6318       }%
6319       \the\toks@
6320     }%
6321   }%
6322 \endgroup
6323 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6324 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
6325 <*pdfmarkbase>
6326 \def\Hy@PutCatalog#1{%
6327   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}}%
6328 }
6329 </pdfmarkbase>

6330 <*pdfmarkbase | dvipdfm | xetex>
6331 \ifHy@pagelabels

```

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

```

6332 \def\HyPL@StorePageLabel#1{%
6333   \if@filesw
6334     \begingroup
6335     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6336     \immediate\write\@mainaux{%
6337       \string\HyPL@Entry{\Hy@tempa}%
6338     }%
6339     \endgroup
6340   \fi
6341 }%

```

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.

```

6342 \Hy@AtBeginDocument{%
6343   \if@filesw
6344     \immediate\write\@mainaux{%
6345       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6346     }%
6347   \fi
6348   \ifx\HyPL@Labels\@empty
6349     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6350   \else
6351     \HyPL@SetPageLabels
6352   \fi
6353   \let\HyPL@Entry\@gobble
6354 }%

```

`\HyPL@Entry`

```

6355 \def\HyPL@Entry#1{%
6356   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6357     \HyPL@Labels
6358     #1%
6359   }%
6360 }%

6361 \fi
6362 </pdfmarkbase | dvipdfm | xetex>

6363 <*package>
6364 \MaybeStopEarly

```

28 Automated L^AT_EX hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in

\label. This will fail badly if \theH<name> does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent \theH<name> for every \the<name>. We do make a trap to make \theH<name> be the same as \arabic{<name>}, if \theH<name> is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever L^AT_EX provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

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

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

Start with a fallback for equations

```

6365 \def\Hy@CounterExists#1{%
6366   \begingroup\expandafter\expandafter\expandafter\endgroup
6367   \expandafter\ifx\csname c@#1\endcsname\relax
6368     \expandafter\@gobble
6369   \else
6370     \begingroup\expandafter\expandafter\expandafter\endgroup
6371     \expandafter\ifx\csname the#1\endcsname\relax
6372       \expandafter\expandafter\expandafter\@gobble
6373     \else
6374       \expandafter\expandafter\expandafter\@firstofone
6375     \fi
6376   \fi
6377 }
6378 \Hy@CounterExists{section}{%
6379   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6380 }
6381 \Hy@CounterExists{part}{%
6382   \newcommand\theHpart{\arabic{part}}}%
6383 }
6384 \ltx@ifundefined{thechapter}{%
6385   \newcommand\theHsection   {\arabic{section}}}%
6386   \newcommand\theHfigure    {\arabic{figure}}}%
6387   \newcommand\theHtable     {\arabic{table}}}%
6388 }{%
6389   \newcommand\theHchapter   {\arabic{chapter}}}%
6390   \newcommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6391   \newcommand\theHtable     {\theHchapter.\arabic{table}}}%
6392   \newcommand\theHsection   {\theHchapter.\arabic{section}}}%
6393 }
6394 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
6395 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6396 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6397 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
6398 \newcommand\theHtheorem     {\theHsection.\arabic{theorem}}
6399 \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.

```

6400 \let\H@item\item
6401 \newcounter{Item}
6402 \def\theHItem{\arabic{Item}}

```

```

6403 \def\item{%
6404   \@hyper@itemfalse
6405   \if@nmbrlist\@hyper@itemtrue\fi
6406   \H@item
6407 }

6408 \newcommand\theHenumi    {\theHItem}
6409 \newcommand\theHenumii   {\theHItem}
6410 \newcommand\theHenumiii  {\theHItem}
6411 \newcommand\theHenumiv   {\theHItem}
6412 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6413 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6414 \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.

```

6415 \let\H@refstepcounter\refstepcounter
6416 \edef\name@of@eq{equation}%
6417 \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.

```

6418 \newif\if@hyper@item
6419 \newif\if@skiphyperref
6420 \@hyper@itemfalse
6421 \@skiphyperreffalse
6422 \def\refstepcounter#1{%
6423   \ifHy@pdfstring
6424   \else
6425     \H@refstepcounter{#1}%
6426     \edef\This@name{#1}%
6427     \ifx\This@name\name@of@slide
6428     \else
6429       \if@skiphyperref
6430       \else
6431         \if@hyper@item
6432           \stepcounter{Item}%
6433           \hyper@refstepcounter{Item}%
6434           \@hyper@itemfalse
6435         \else
6436           \hyper@refstepcounter{#1}%
6437         \fi
6438       \fi
6439     \fi
6440   \fi
6441 }
6442 \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.

```

6443 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6444 \def\hyper@refstepcounter#1{%
6445   \edef\This@name{#1}%
6446   \ifx\This@name\name@of@eq

```

```

6447 \ifundefined{theHequation}{%
6448 \make@stripped@name{theequation}%
6449 \let\theHequation\newname
6450 }{}%
6451 \fi
6452 \ifundefined{theH#1}{%
6453 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6454 }{}%
6455 \hyper@makecurrent{#1}%
6456 \ifmeasuring@
6457 \else
6458 \Hy@raisedlink{%
6459 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6460 }%
6461 \fi
6462 }

```

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`.

```

6463 \begingroup\expandafter\expandafter\expandafter\endgroup
6464 \expandafter\ifx\csname chapter\endcsname\relax
6465 \def\Hy@chapterstring{section}%
6466 \else
6467 \def\Hy@chapterstring{chapter}%
6468 \fi
6469 \def\Hy@appendixstring{appendix}
6470 \def\Hy@chapapp{\Hy@chapterstring}
6471 \let\HyOrg@appendix\appendix
6472 \def\appendix{%
6473 \ltx@ifundefined{chapter}%
6474 {\gdef\theHsection{\Alph{section}}}%
6475 {\gdef\theHchapter{\Alph{chapter}}}%
6476 \xdef\Hy@chapapp{\Hy@appendixstring}%
6477 \HyOrg@appendix
6478 }

```

`\Hy@Test@alph`

```

6479 \def\Hy@Test@alph#1{%
6480 \ifcase#1\or
6481 a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6482 k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6483 u\or v\or w\or x\or y\or z%
6484 \else
6485 \@ctrerr
6486 \fi
6487 }

```

`\Hy@Test@Alph`

```

6488 \def\Hy@Test@Alph#1{%
6489 \ifcase#1\or
6490 A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6491 K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or

```

```

6492   U\or V\or W\or X\or Y\or Z%
6493   \else
6494     \@ctrerr
6495   \fi
6496 }

```

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

```

6497 \def\hyper@makecurrent#1{%
6498   \begingroup
6499   \edef\Hy@param{#1}%
6500   \ifx\Hy@param\Hy@chapterstring
6501     \let\Hy@param\Hy@chapapp
6502   \fi
6503   \ifHy@hypertextnames
6504     \let\@number\@firstofone
6505     \def\@fnsymbol##1{fnsymbol\number##1}%
6506     \ifx\@alph\Hy@Test@alph
6507       \else
6508         \def\@alph{alph\number}%
6509       \fi
6510     \ifx\@Alph\Hy@Test@Alph
6511       \else
6512         \def\@Alph{Alph\number}%
6513       \fi
6514     \ifHy@naturalnames
6515       \let\textlatin\@firstofone
6516       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6517     \else
6518       \xdef\HyperGlobalCurrentHref{%
6519         \csname
6520           the%
6521           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6522           #1%
6523         \endcsname
6524       }%
6525     \fi
6526     \xdef\HyperGlobalCurrentHref{%
6527       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6528     }%
6529   \else
6530     \Hy@GlobalStepCount\Hy@linkcounter
6531     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6532   \fi
6533 \endgroup
6534 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6535 \ifHy@localanchorname
6536   \let\@currentHref\HyperLocalCurrentHref
6537 \else
6538   \global\let\@currentHref\HyperGlobalCurrentHref
6539 \fi
6540 }

```

\Hy@MakeCurrentHref

```

6541 \def\Hy@MakeCurrentHref#1{%
6542   \edef\HyperLocalCurrentHref{#1}%
6543   \@onelevel@sanitize\HyperLocalCurrentHref

```

```

6544 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6545 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6546 \ifHy@localanchorname
6547   \let\@currentHref\HyperLocalCurrentHref
6548 \else
6549   \global\let\@currentHref\HyperGlobalCurrentHref
6550 \fi
6551 }

```

`\Hy@MakeCurrentHrefAuto`

```

6552 \def\Hy@MakeCurrentHrefAuto#1{%
6553   \Hy@GlobalStepCount\Hy@linkcounter
6554   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6555 }

```

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

```

6556 \def\@currentHlabel{\@currentHref}

6557 \@ifpackageloaded{fancyvrb}{%
6558   \@ifpackagelater{fancyvrb}{1998/05/20}{%
6559     \def\FV@StepLineNo{%
6560       \FV@SetLineNo
6561       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6562       \FV@StepLineNo
6563     }%
6564   }%
6565 }{}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

6566 \Hy@AtBeginDocument{%
6567   \@ifclassloaded{revtex4}{%
6568     \@namedef{ver@lastpage.sty}{1994/06/25}%
6569   }{}%
6570   \@ifpackageloaded{lastpage}{%
6571     \ifHy@pageanchor
6572     \else
6573       \Hy@WarningNoLine{%
6574         The \string\pageref{LastPage} link doesn't work\MessageBreak
6575         with disabled option 'pageanchor'%
6576       }%
6577     \fi
6578     \def\lastpage@putlabel{%
6579       \addtocounter{page}{-1}%
6580       \if@filesw
6581         \begingroup

```



```

6582 \let\@number\@firstofone
6583 \ifHy@pageanchor
6584 \ifHy@hypertexnames
6585 \ifHy@plainpages
6586 \def\Hy@temp{\arabic{page}}%
6587 \else
6588 \Hy@unicodedefalse
6589 \pdfstringdef\Hy@temp{\thepage}%
6590 \fi
6591 \else
6592 \def\Hy@temp{\the\Hy@pagecounter}%
6593 \fi
6594 \fi
6595 \immediate\write\@auxout{%
6596 \string\newlabel
6597 {LastPage}{\thepage}{\thepage}%
6598 \ifHy@pageanchor page.\Hy@temp\fi}{}}%
6599 }%
6600 \endgroup
6601 \fi
6602 \addtocounter{page}{1}%
6603 }%
6604 \@ifclassloaded{revtex4}{%
6605 \begingroup
6606 \toks@{\expandafter{\lastpage@putlabel}%
6607 \edef\x{\endgroup
6608 \def\noexpand\lastpage@putlabel{%
6609 \noexpand\stepcounter{page}%
6610 \the\toks@
6611 \noexpand\addtocounter{page}\noexpand\m@ne
6612 }%
6613 }%
6614 \x
6615 }{}%
6616 }{}%
6617 }
6618 \</package>
6619 \<*check>
6620 \checkpackage{lastpage}[1994/06/25]
6621 \checkcommand\def\lastpage@putlabel{%
6622 \addtocounter{page}{-1}%
6623 \immediate\write\@auxout{%
6624 \string\newlabel{LastPage}{\thepage}{\thepage}%
6625 }%
6626 \addtocounter{page}{1}%
6627 }
6628 \</check>
6629 \<*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.

```

6630 \def\hypergetref#1{\getrefbykeydefault{#1}{\{??\}}
6631 \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:

```
6632 \@ifpackageloaded{titlesec}{%
6633   \def\ttl@Hy@steplink#1{%
6634     \Hy@MakeCurrentHrefAuto{#1*}%
6635     \edef\ttl@Hy@saveanchor{%
6636       \noexpand\Hy@raisedlink{%
6637         \noexpand\hyper@anchorstart{\@currentHref}%
6638         \noexpand\hyper@anchorend
6639         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6640         \noexpand\ttl@Hy@PatchSaveWrite
6641       }%
6642     }%
6643   }%
6644   \def\ttl@Hy@PatchSaveWrite{%
6645     \begingroup
6646     \toks@{\expandafter{\ttl@savewrite}}%
6647     \edef\x{\endgroup
6648       \def\noexpand\ttl@savewrite{%
6649         \let\noexpand\@currentHref
6650         \noexpand\ttl@Hy@SavedCurrentHref
6651         \the\toks@
6652       }%
6653     }%
6654     \x
6655   }%
6656   \def\ttl@Hy@refstepcounter#1{%
6657     \let\ttl@b\Hy@raisedlink
6658     \def\Hy@raisedlink##1{%
6659       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6660     }%
6661     \refstepcounter{#1}%
6662     \let\Hy@raisedlink\ttl@b
6663   }%
6664 }{}
```

Package titletoc support:

```
6665 \@ifpackageloaded{titletoc}{%
6666   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6667 }{}
```

32 Package varioref support

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

```
6668 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
6669 \@ifpackageloaded{varioref}{%
6670   \def\vref@pagenum#1#2{%
6671     \@ifundefined{r@#2}{%
6672       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6673     }{}%
6674     \edef#1{\getpagerefnumber{#2}}%
6675   }%
6676 }{}
```

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

```

6677 \def\Hy@varioref@refstepcounter#1{%
6678   \stepcounter{#1}%
6679   \protected@edef\@currentlabel{%
6680     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6681   }%
6682 }
6683 \AtBeginDocument{%
6684   \ifx\refstepcounter\Hy@varioref@refstepcounter
6685     \let\H@refstepcounter\refstepcounter
6686     \let\refstepcounter\Hy@saved@refstepcounter
6687   \fi
6688 }

```

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

```

6689 \ifpackageloaded{longtable}{%
6690   \begingroup
6691     \def\y{\LT@array}%
6692     \ifundefined{scr@LT@array}{%
6693       \ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
6694     }{\def\y{\scr@LT@array}}%
6695     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6696       \expandafter\endgroup
6697       \expandafter\def\y[##1]##2{%
6698         \H@refstepcounter{#1}%
6699         \hyper@makecurrent{table}%
6700         \let\Hy@LT@currentHref\@currentHref
6701         #2\@sharp####4%
6702       }%
6703     }%
6704     \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6705 \begingroup
6706   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6707     \endgroup
6708     \def\LT@start{%
6709       #1%
6710       \ifvoid\LT@foot#2\fi
6711       \let\@currentHref\Hy@LT@currentHref
6712       \Hy@raisedlink{%
6713         \hyper@anchorstart{\@currentHref}\hyper@anchorend
6714       }%
6715       #3%
6716     }%
6717   }%
6718   \expandafter\x\LT@start\@nil
6719 }{}

```

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.

```

6720 \let\new@refstepcounter\refstepcounter
6721 \let\H@equation\equation
6722 \let\H@endequation\endequation

6723 \@ifpackageloaded{amsmath}{%
6724   \long\def\Hy@temp{%
6725     \incr@eqnum
6726     \mathdisplay@push
6727     \st@rredfalse \global\@eqnswtrue
6728     \mathdisplay{equation}%
6729   }%
6730   \ifx\Hy@temp\equation
6731     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6732       \csname iftrue\endcsname
6733   \else
6734     \long\def\equation{%
6735       \mathdisplay@push
6736       \st@rredfalse \global\@eqnswtrue
6737       \mathdisplay{equation}%
6738       \incr@eqnum
6739     }%
6740   \fi
6741 \fi
6742 }{%
6743 \def\equation{%
6744   \let\refstepcounter\H@refstepcounter
6745   \H@equation
6746   \@ifundefined{theHequation}{%
6747     \make@stripped@name{\theequation}%
6748     \let\theHequation\newname
6749   }{}%
6750   \hyper@makecurrent{equation}%
6751   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
6752   \let\refstepcounter\new@refstepcounter
6753 }%
6754 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6755 }
```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```

6756 \newif\if@eqnstar
6757 \@eqnstarfalse
6758 \let\H@eqnarray\eqnarray
6759 \let\H@endeqnarray\endeqnarray
6760 \def\eqnarray{%
6761   \let\Hy@reserved@a\relax
6762   \def\@currentHref{}%
```

```

6763 \H@eqnarray
6764 \if@eqnstar
6765 \else
6766 \ifx\\ \@currentHref\\ %
6767 \else
6768 \ifundefined{theHequation}{%
6769 \make@stripped@name{\theequation}%
6770 \let\theHequation\newname
6771 }{%
6772 \hyper@makecurrent{equation}%
6773 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6774 \fi
6775 \fi
6776 }
6777 \def\endeqnarray{%
6778 \H@endeqnarray
6779 }

```

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.

```

6780 \@namedef{eqnarray*}{%
6781 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6782 }
6783 \@namedef{endeqnarray*}{%
6784 \nonumber\endeqnarray\@eqnstarfalse
6785 }

```

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

```

6786 \ltx@ifundefined{subeqnarray}{%
6787 \let\H@subeqnarray\subeqnarray
6788 \let\H@endsubeqnarray\endsubeqnarray
6789 \def\subeqnarray{%
6790 \let\Hy@reserved@a\relax
6791 \H@subeqnarray
6792 \ifundefined{theHequation}{%
6793 \make@stripped@name{\theequation}%
6794 \let\theHequation\newname
6795 }{%
6796 \hyper@makecurrent{equation}%
6797 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6798 }%
6799 \def\endsubeqnarray{%
6800 \H@endsubeqnarray
6801 }%
6802 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6803 }

```

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

```

6804 \def\make@stripped@name#1{%
6805 \begingroup
6806 \escapechar\m@ne
6807 \global\let\newname\@empty
6808 \protected@edef\Hy@tempa{#1}%
6809 \edef\@tempb{%
6810 \noexpand\@tfor\noexpand\Hy@tempa:=%
6811 \expandafter\strip@prefix\meaning\Hy@tempa
6812 }%
6813 \@tempb\do{%

```

```

6814 \if\Hy@tempa\else
6815 \if\Hy@tempa\else
6816 \xdef\newname{\newname\Hy@tempa}%
6817 \fi
6818 \fi
6819 }%
6820 \endgroup
6821 }

```

Support for amsmath's subequations:

```

6822 \begingroup\expandafter\expandafter\expandafter\endgroup
6823 \expandafter\ifx\csname subequations\endcsname\relax
6824 \else
6825 \let\HyOrg@subequations\subequations
6826 \def\subequations{%
6827 \stepcounter{equation}%
6828 \protected@edef\theHparentequation{%
6829 \ifundefined{theHequation}\theequation\theHequation
6830 }%
6831 \addtocounter{equation}{-1}%
6832 \HyOrg@subequations
6833 \def\theHequation{\theHparentequation\alph{equation}}%
6834 \ignorespaces
6835 }%
6836 \fi

```

Support for package amsthm (Daniel Müllner):

```

6837 \ifpackageloaded{amsthm}{%
6838 \def\@thm#1#2#3{%
6839 \ifhmode
6840 \unskip\unskip\par
6841 \fi
6842 \normalfont
6843 \trivlist
6844 \let\thmheadnl\relax
6845 \let\thm@swap\@gobble
6846 \thm@notefont{\fontseries\mddefault\upshape}%
6847 \thm@headpunct{.}% add period after heading
6848 \thm@headsep 5\p@ plus\p@ minus\p@\relax
6849 \thm@space@setup
6850 #1% style overrides
6851 \@topsep \thm@preskip % used by thm head
6852 \@topsepadd \thm@postskip % used by \@endparentv
6853 \def\dth@counter{#2}%
6854 \ifx\@empty\dth@counter
6855 \def\@tempa{%
6856 \@oparg{\@begintheorem{#3}{}}[]%
6857 }%
6858 \else
6859 \H@refstepcounter{#2}%
6860 \hyper@makecurrent{#2}%
6861 \let\Hy@dth@currentHref\@currentHref
6862 \def\@tempa{%
6863 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6864 }%
6865 \fi
6866 \@tempa
6867 }%

```

```

6868 \dth@everypar={%
6869 \@minipagefalse
6870 \global\@newlistfalse
6871 \@noparitemfalse
6872 \if@inlabel
6873 \global\@inlabelfalse
6874 \begingroup
6875 \setbox\z@\lastbox
6876 \ifvoid\z@
6877 \kern-\itemindent
6878 \fi
6879 \endgroup
6880 \ifx\@empty\dth@counter
6881 \else
6882 \Hy@raisedlink{%
6883 \hyper@anchorstart{%
6884 \ltx@ifundefined{Hy@dth@currentHref}%
6885 \@currentHref\Hy@dth@currentHref
6886 }\hyper@anchorend
6887 }%
6888 \fi
6889 \unhbox\@labels
6890 \fi
6891 \if@nobreak
6892 \@nobreakfalse \clubpenalty\@M
6893 \else
6894 \clubpenalty\@clubpenalty \everypar{}%
6895 \fi
6896 }%
6897 }{}

```

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.

```

6898 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6899 \ifHy@hyperfootnotes
6900 \newcounter{Hfootnote}%
6901 \let\H@@footnotetext\@footnotetext
6902 \let\H@@footnotemark\@footnotemark
6903 \def\@xfootnotenext[#1]{%
6904 \begingroup
6905 \csname c@\@mpfn\endcsname #1\relax
6906 \unrestored@protected@xdef\@thefnmark{\thempfn}%
6907 \endgroup
6908 \ifx\@footnotetext\@mpfootnotetext
6909 \expandafter\H@@mpfootnotetext
6910 \else
6911 \expandafter\H@@footnotetext
6912 \fi
6913 }%
6914 \def\@xfootnotemark[#1]{%
6915 \begingroup

```

```

6916 \c@footnote #1\relax
6917 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6918 \endgroup
6919 \H@@footnotemark
6920 }%
6921 \let\H@@mpfootnotetext\@mpfootnotetext
6922 \long\def\@mpfootnotetext#1{%
6923 \H@@mpfootnotetext{%
6924 \ifHy@nesting
6925 \expandafter\hyper@@@anchor\expandafter{%
6926 \Hy@footnote@currentHref
6927 }{#1}%
6928 \else
6929 \Hy@raisedlink{%
6930 \expandafter\hyper@@@anchor\expandafter{%
6931 \Hy@footnote@currentHref
6932 }{\relax}%
6933 }#1%
6934 \fi
6935 }%
6936 }%
6937 \long\def\@footnotetext#1{%
6938 \H@@@footnotetext{%
6939 \ifHy@nesting
6940 \expandafter\hyper@@@anchor\expandafter{%
6941 \Hy@footnote@currentHref
6942 }{#1}%
6943 \else
6944 \Hy@raisedlink{%
6945 \expandafter\hyper@@@anchor\expandafter{%
6946 \Hy@footnote@currentHref
6947 }{\relax}%
6948 }%
6949 \let\@currentHref\Hy@footnote@currentHref
6950 \let\@currentlabelname\@empty
6951 #1%
6952 \fi
6953 }%
6954 }%

```

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.

```

6955 \def\@footnotemark{%
6956 \leavevmode
6957 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6958 \stepcounter{Hfootnote}%
6959 \global\let\Hy@saved@currentHref\@currentHref
6960 \hyper@makecurrent{Hfootnote}%
6961 \global\let\Hy@footnote@currentHref\@currentHref
6962 \global\let\@currentHref\Hy@saved@currentHref
6963 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6964 \@makefnmark
6965 \hyper@linkend
6966 \ifhmode\spacefactor\@x@sf\fi
6967 \relax
6968 }%

```


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

```

6969 \ifpackageloaded{longtable}{%
6970 \CheckCommand*{\LT@p@ftntext}[1]{%
6971 \edef\@tempa{%
6972 \the\LT@p@ftn
6973 \noexpand\footnotetext[\the\c@footnote]%
6974 }%
6975 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6976 }%
6977 \long\def\LT@p@ftntext#1{%
6978 \edef\@tempa{%
6979 \the\LT@p@ftn
6980 \beginngroup
6981 \noexpand\c@footnote=\the\c@footnote\relax
6982 \noexpand\protected@xdef
6983 \noexpand\@thefnmark{\noexpand\thempfn}%
6984 \noexpand\protected@xdef\noexpand\@thefnmark{%
6985 \noexpand\thempfn
6986 }%
6987 \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6988 \expandafter{%
6989 \Hy@footnote@currentHref
6990 }%
6991 }%
6992 \global\LT@p@ftn\expandafter{%
6993 \@tempa{#1}%
6994 \endgroup
6995 }%
6996 }%
6997 \long\def\Hy@LT@footnotetext#1#2{%
6998 \H@@@footnotetext{%
6999 \ifHy@nesting
7000 \hyper@@anchor{#1}{#2}%
7001 \else
7002 \Hy@raisedlink{%
7003 \hyper@@anchor{#1}{\relax}%
7004 }%
7005 \def\@currentHref{#1}%
7006 \let\@currentlabelname\@empty
7007 #2%
7008 \fi
7009 }%
7010 }%
7011 }{}%
```

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

```

7012 \ifpackageloaded{fancyvrb}{%
7013 \def\V@@@footnotetext{%
7014 \insert\footins\bgroup
7015 \csname reset@font\endcsname
7016 \footnotesize
7017 \interlinepenalty\interfootnotelinepenalty
7018 \splittopskip\footnotesep
7019 \splitmaxdepth\dp\strutbox
```

```

7020 \floatingpenalty \@MM
7021 \hsize\columnwidth
7022 \@parboxrestore
7023 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7024 \@makefnmark{}%
7025 \rule{\z@}{\footnotesep}%
7026 \bgroup
7027 \aftergroup\V@@@footnotetext
7028 \Hy@raisedlink{%
7029   \expandafter\hyper@@anchor\expandafter{%
7030     \Hy@footnote@currentHref
7031   }\relax}%
7032 }%
7033 \let\@currentHref\Hy@footnote@currentHref
7034 \let\@currentlabelname\@empty
7035 \ignorespaces
7036 }%
7037 }{}%

```

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

```

7038 \def\Hy@temp#1{%
7039   \begingroup
7040   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7041   \endgroup
7042   \@footnotemark
7043 }%
7044 \ifx\Hy@temp\footref
7045   \def\footref#1{%
7046     \begingroup
7047     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7048     \endgroup
7049     \H@@footnotemark
7050   }%
7051 \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.

```

7052 \let\HyOrg@maketitle\maketitle
7053 \def\maketitle{%
7054   \let\Hy@saved@footnotemark\@footnotemark
7055   \let\Hy@saved@footnotetext\@footnotetext
7056   \let\@footnotemark\H@@footnotemark
7057   \let\@footnotetext\H@@footnotetext
7058   \@ifnextchar[\Hy@maketitle@optarg{% ]
7059     \HyOrg@maketitle
7060     \Hy@maketitle@end
7061   }%
7062 }%
7063 \def\Hy@maketitle@optarg[#1]{%
7064   \HyOrg@maketitle[#1]%
7065   \Hy@maketitle@end
7066 }%
7067 \def\Hy@maketitle@end{%
7068   \ifx\@footnotemark\H@@footnotemark
7069     \let\@footnotemark\Hy@saved@footnotemark
7070   \fi
7071   \ifx\@footnotetext\H@@footnotetext

```

```

7072 \let\@footnotetext\Hy@saved@footnotetext
7073 \fi
7074 }%

```

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

```

7075 \def\realfootnote{%
7076 \ifnextchar[\@xfootnote{%
7077 \stepcounter{\@mpfn}%
7078 \protected@xdef\@thefnmark{\thempfn}%
7079 \H@@@footnotemark\H@@@footnotetext
7080 }%
7081 }%

7082 \fi
7083 \Hy@DisableOption{hyperfootnotes}

7084 \</package>
7085 \<*check>
7086 \checklatex
7087 \checkcommand\def\@xfootnotenext[#1]{%
7088 \begingroup
7089 \csname c@\@mpfn\endcsname #1\relax
7090 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7091 \endgroup
7092 \@footnotetext
7093 }
7094 \checkcommand\def\@xfootnotemark[#1]{%
7095 \begingroup
7096 \c@footnote #1\relax
7097 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7098 \endgroup
7099 \@footnotemark
7100 }
7101 \checkcommand\def\@footnotemark{%
7102 \leavevmode
7103 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7104 \@makefnmark
7105 \ifhmode\spacefactor\@x@sf\fi
7106 \relax
7107 }
7108 \</check>
7109 \<*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.

```

7110 \def\caption{%
7111 \ifx\@captive\@undefined
7112 \latex@error{\noexpand\caption outside float}\@ehd
7113 \expandafter\@gobble
7114 \else
7115 \H@refstepcounter\@captive
7116 \let\Hy@tempa\@caption
7117 \ifundefined{float@caption}{%
7118 }{%
7119 \expandafter\ifx\csname @float@c@\@captive\endcsname

```

```

7120         \float@caption
7121     \let\Hy@tempa\Hy@float@caption
7122     \fi
7123 }%
7124 \expandafter\@firstofone
7125 \fi
7126 {\@dblarg{\Hy@tempa\@captype}}%
7127 }
7128 \long\def\@caption#1[#2]#3{%
7129 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7130     \csname iftrue\endcsname
7131     \global\let\@currentHref\hc@currentHref
7132 \else
7133     \hyper@makecurrent{\@captype}%
7134 \fi
7135 \@ifundefined{NR@gettitle}{%
7136     \def\@currentlabelname{#2}%
7137 }{%
7138     \NR@gettitle{#2}%
7139 }%
7140 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7141     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7142 }%
7143 \begingroup
7144 \@@parboxrestore
7145 \if@minipage
7146     \@setminipage
7147 \fi
7148 \normalsize
7149 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7150     \csname iftrue\endcsname
7151     \global\@capstartfalse
7152     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7153 \else
7154     \@makecaption{\csname fnum@#1\endcsname}{%
7155         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7156     \ifHy@nesting
7157     \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
7158 \else
7159     \Hy@raisedlink{%
7160         \expandafter\hyper@@@anchor\expandafter{%
7161             \@currentHref
7162         }\relax}%
7163 }%
7164 #3%
7165 \fi
7166 }%
7167 \fi
7168 \par
7169 \endgroup
7170 }

```

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.

```

7171 \let\Hy@float@caption\@caption
7172 \@ifpackageloaded{float}{%

```

```

7173 \def\Hy@float@caption{%
7174   \ifx\Hy@float@currentHref\@undefined
7175     \hyper@makecurrent{\@captive}%
7176     \global\let\Hy@float@currentHref\@currentHref
7177   \else
7178     \let\@currentHref\Hy@float@currentHref
7179   \fi
7180   \float@caption
7181 }%
7182 \let\HyOrg@float@makebox\float@makebox
7183 \renewcommand{\float@makebox}[1]{%
7184   \HyOrg@float@makebox{%
7185     #1\relax
7186     \ifx\Hy@float@currentHref\@undefined
7187       \else
7188         \expandafter\hyper@@anchor\expandafter{%
7189           \Hy@float@currentHref
7190         }\relax}%
7191     \global\let\Hy@float@currentHref\@undefined
7192   \fi
7193 }%
7194 }%
7195 }{}

7196 \end{package}
7197 \check
7198 \checklatex[1999/06/01 - 2000/06/01]
7199 \checkcommand\def\caption{%
7200   \ifx\@captive\@undefined
7201     \latex@error{\noexpand\caption outside float}\@ehd
7202     \expandafter\@gobble
7203   \else
7204     \refstepcounter{\@captive}
7205     \expandafter\@firstofone
7206   \fi
7207   {\@dblarg{\@caption\@captive}}%
7208 }
7209 \checkcommand\long\def\@caption#1[#2]#3{%
7210   \par
7211   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7212     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
7213   }%
7214   \begingroup
7215     \parboxrestore
7216     \if@minipage
7217       \setminipage
7218     \fi
7219     \normalsize
7220     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7221   \endgroup
7222 }
7223 \end{check}
7224 \end{package}

```

37 Bibliographic references

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

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

```

7225 \def\hyper@natlinkstart#1{%
7226   \Hy@backout{#1}%
7227   \hyper@linkstart{cite}{cite.#1}%
7228   \def\hyper@nat@current{#1}%
7229 }
7230 \def\hyper@natlinkend{%
7231   \hyper@linkend
7232 }
7233 \def\hyper@natlinkbreak#1#2{%
7234   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7235 }
7236 \def\hyper@natanchorstart#1{%
7237   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7238 }
7239 \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.

```

7240 \ltx@ifundefined{NAT@parse}{%
7241   \providecommand*\@extra@binfo{}%
7242   \providecommand*\@extra@b@citeb{}%
7243   \def\bibcite#1#2{%
7244     \@newl@bel{b}{#1\@extra@binfo}{%
7245       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7246     }%
7247   }%
7248   \gdef\@extra@binfo{}%

```

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

```

7249 \let\Hy@bibcite\bibcite
7250 \begingroup
7251   \ifundefined{bbl@cite@choice}{}{%
7252     \g@addto@macro\bbl@cite@choice{%
7253       \let\bibcite\Hy@bibcite
7254     }%
7255   }%
7256 \endgroup

```

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

```

7257 \providecommand*\@BIBLABEL{\@biblabel}%
7258 \def\@lbibitem[#1]#2{%
7259   \@skiphyperreftrue
7260   \H@item[%
7261     \ifx\Hy@raisedlink\@empty

```

```

7262     \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7263     \@BIBLABEL{#1}%
7264     \hyper@anchorend
7265   \else
7266     \Hy@raisedlink{%
7267       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7268     }%
7269     \@BIBLABEL{#1}%
7270   \fi
7271   \hfill
7272 }%
7273 \@skiphyperreffalse
7274 \if@filesw
7275   \begingroup
7276     \let\protect\noexpand
7277     \immediate\write\@auxout{%
7278       \string\bibcite{#2}{#1}%
7279     }%
7280   \endgroup
7281 \fi
7282 \ignorespaces
7283 }%

```

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

```

7284 \def\@bibitem#1{%
7285   \@skiphyperrefftrue\H@item\@skiphyperreffalse
7286   \Hy@raisedlink{%
7287     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7288   }%
7289   \if@filesw
7290     \begingroup
7291       \let\protect\noexpand
7292       \immediate\write\@auxout{%
7293         \string\bibcite{#1}{\the\value{\@listctr}}%
7294       }%
7295     \endgroup
7296   \fi
7297   \ignorespaces
7298 }%
7299 }{}

7300 \</package>
7301 \<*check>
7302 \checklatex
7303 \checkcommand\def\@lbibitem[#1]#2{%
7304   \item[\@biblabel{#1}\hfill]%
7305   \if@filesw
7306     {%
7307       \let\protect\noexpand
7308       \immediate\write\@auxout{%
7309         \string\bibcite{#2}{#1}%
7310       }%
7311     }%
7312   \fi
7313   \ignorespaces
7314 }
7315 \checkcommand\def\@bibitem#1{%

```

```

7316 \item
7317 \if@filesw
7318 \immediate\write\@auxout{%
7319 \string\bibcite{#1}{\the\value{\@listctr}}}%
7320 }%
7321 \fi
7322 \ignorespaces
7323 }
7324 \end{check}
7325 \end{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.

```

7326 \@ifclassloaded{revtex}{%
7327 \Hy@Info{*** compatibility with revtex **** }%
7328 \def\revtex@checking#1#2{%
7329 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7330 \expandafter\def\csname b@#1\endcsname{#2}%
7331 \@SetMaxRnhefLabel{#1}%
7332 \expandafter\let\csname b@#1\endcsname\T@temp
7333 }%

```

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

```

7334 \@ifundefined{@CITE}{\def@CITE{\@cite}}{}%
7335 \providecommand*{\@extra@b@citeb}{}%
7336 \def\CITE[#1]#2{%
7337 \let\@citea\@empty
7338 \leavevmode
7339 \unskip
7340 $\sim$%
7341 \scriptstyle
7342 \@CITE{%
7343 \@for\@citeb:=#2\do{%
7344 \@citea
7345 \def\@citea{,\penalty\@m\ }%
7346 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7347 \if@filesw
7348 \immediate\write\@auxout{\string\citation{\@citeb}}%
7349 \fi
7350 \@ifundefined{b@\@citeb\extra@b@citeb}{%
7351 \mbox{\reset@font\bfseries ?}%
7352 \G@refundefinedtrue
7353 \@latex@warning{%
7354 Citation '\@citeb' on page \thepage \space undefined%
7355 }%
7356 }{%
7357 {\csname b@\@citeb\extra@b@citeb\endcsname}%
7358 }%
7359 }%
7360 }{#1}%
7361 }$%
7362 }%

```

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.

```

7363 \def\citex[#1]#2{%

```



```

7364 \let\@citea\@empty
7365 \@cite{%
7366   \@for\@citeb:=#2\do{%
7367     \@citea
7368     \def\@citea{,\penalty\@m\ }%
7369     \edef\@citeb{\expandafter\@firstofone\@citeb}%
7370     \if@filesw
7371       \immediate\write\@auxout{\string\citation{\@citeb}}%
7372     \fi
7373     \ifundefined{b@\@citeb\@extra@b@citeb}{%
7374       \mbox{\reset@font\bfseries ?}%
7375       \G@refundefinedtrue
7376       \@latex@warning{%
7377         Citation '\@citeb' on page \thepage \space undefined%
7378       }%
7379     }{%
7380       \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7381     }%
7382   }%
7383 }{#1}%
7384 }%
7385 }{}

```

37.1 Package harvard

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

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

```

7386 \ifpackageloaded{harvard}{%
7387   \Hy@AtBeginDocument{%
7388     \Hy@Info{*** compatibility with harvard **** }%
7389     \Hy@raiselinksfalse
7390     \def\harvardcite#1#2#3#4{%
7391       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
7392       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
7393       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
7394       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7395     }%
7396     \def\HAR@citetoaux#1{%
7397       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7398       \ifHy@backref
7399         \ifx\@empty\@currentlabel
7400           \else
7401             \@bsphack
7402             \if@filesw
7403               \protected@write\@auxout{}{%
7404                 \string\@writefile{brf}{%
7405                   \string\backcite{#1}{%
7406                     {\thepage}{\@currentlabel}{\@currentHref}%
7407                   }%
7408                 }%
7409             }%
7410           \fi

```

```

7411     \@esphack
7412     \fi
7413   \fi
7414 }%
7415 \def\harvarditem{%
7416   \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7417 }%
7418 \def\@harvarditem[#1]#2#3#4#5\par{%
7419   \item[]%
7420   \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7421   \if@filesw
7422     \begingroup
7423     \def\protect##1{\string ##1\space}%
7424     \ifthenelse{\equal{#1}{\null}}{%
7425       {\def\next{{#4}{#2}{#3}}}%
7426       {\def\next{{#4}{#2}{#1}{#3}}}%
7427     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7428   \endgroup
7429   \fi
7430   \protect\hspace*{-\labelwidth}%
7431   \protect\hspace*{-\labelsep}%
7432   \ignorespaces
7433   #5%
7434   \ifHy@backref
7435     \newblock
7436     \backref{\csname br@#4\endcsname}%
7437   \fi
7438   \par
7439 }%

```

\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:

```

7440 \long\def\HAR@checkcitations#1#2#3#4{%
7441   \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7442   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7443     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7444     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7445       \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7446       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7447         \else
7448           \@tempwattrue
7449         \fi
7450       \else
7451         \@tempwattrue
7452       \fi
7453     \else
7454       \@tempwattrue
7455     \fi
7456   }%
7457 }%
7458 }{}

```

37.2 Package chicago

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

```

7459 \@ifpackageloaded{chicago}{%
\citeN
7460 \def\citeN{%
7461 \def\@citesep{-1000}%
7462 \def\@cite##1##2{##1}%
7463 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}}%
7464 \@citedata@opt
7465 }%

\shortciteN
7466 \def\shortciteN{%
7467 \def\@citesep{-1000}%
7468 \def\@cite##1##2{##1}%
7469 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}}%
7470 \@citedata@opt
7471 }%

\@citedata@opt
7472 \def\@citedata@opt{%
7473 \let\@cite@opt\@empty
7474 \@ifnextchar [{%
7475 \@tempwattrue
7476 \@citedatax@opt
7477 }{%
7478 \@tempwafalse
7479 \@citedatax[]%
7480 }%
7481 }%

\@citedatax@opt
7482 \def\@citedatax@opt[#1]{%
7483 \def\@cite@opt{, #1}%
7484 \@citedatax[{#1}]%
7485 }%

7486 }{}

```

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.

```

7487 \def\Hy@EveryPageAnchor{%
7488 \Hy@DistillerDestFix
7489 \ifHy@pageanchor
7490 \ifHy@hypertextnames
7491 \ifHy@plainpages
7492 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7493 \else
7494 \begingroup
7495 \let\@number\@firstofone

```

```

7496 \Hy@unicodedefalse
7497 \pdfstringdef\@the@H@page{\thepage}%
7498 \endgroup
7499 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7500 \fi
7501 \else
7502 \Hy@GlobalStepCount\Hy@pagecounter
7503 \def\Hy@TempPageAnchor{%
7504 \hyper@@anchor{page.\the\Hy@pagecounter}%
7505 }%
7506 \fi
7507 \vbox to 0pt{%
7508 \kern\voffset
7509 \kern\topmargin
7510 \kern-1bp\relax
7511 \hbox to 0pt{%
7512 \kern\hoffset
7513 \kern\ifodd\value{page}%
7514 \oddsidemargin
7515 \else
7516 \evensidemargin
7517 \fi
7518 \kern-1bp\relax
7519 \Hy@TempPageAnchor\relax
7520 \hss
7521 }%
7522 \vss
7523 }%
7524 \fi
7525 }
7526 \g@addto@macro\Hy@EveryPageBoxHook{%
7527 \Hy@EveryPageAnchor
7528 }

```

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.

```

7529 \def\addcontentsline#1#2#3{% toc extension, type, tag
7530 \begingroup
7531 \let\label\@gobble
7532 \ifx\@currentHref\@empty
7533 \Hy@Warning{%
7534 No destination for bookmark of \string\addcontentsline,%
7535 \MessageBreak destination is added%
7536 }%
7537 \phantomsection
7538 \fi
7539 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7540 \begingroup
7541 \def\Hy@tempa{#1}%
7542 \ifx\Hy@tempa\Hy@bookmarkstype
7543 \Hy@WarningNoLine{%
7544 bookmark level for unknown #2 defaults to 0%
7545 }%

```

```

7546     \else
7547         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7548     \fi
7549     \endgroup
7550     \expandafter\gdef\csname toclevel@#2\endcsname{0}%
7551 \fi
7552 \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
7553 \Hy@writebookmark{\csname the#2\endcsname}%
7554     {#3}%
7555     {\@currentHref}%
7556     {\Hy@toclevel}%
7557     {#1}%
7558 \ifHy@verbose
7559     \begingroup
7560         \def\Hy@tempa{#3}%
7561         \@onelevel@sanitize\Hy@tempa
7562         \let\temp@online\on@line
7563         \let\on@line\@empty
7564         \Hy@Info{%
7565             bookmark\temp@online:\MessageBreak
7566             thecounter {\csname the#2\endcsname}\MessageBreak
7567             text {\Hy@tempa}\MessageBreak
7568             reference {\@currentHref}\MessageBreak
7569             toclevel {\Hy@toclevel}\MessageBreak
7570             type {#1}%
7571         }%
7572     \endgroup
7573 \fi
7574 \addtocontents{#1}{%
7575     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7576 }%
7577 \endgroup
7578 }
7579 \def\contentsline#1#2#3#4{%
7580     \ifx\\#4\\%
7581         \csname l@#1\endcsname{#2}{#3}%
7582     \else
7583         \ifcase\Hy@linktoc % none
7584             \csname l@#1\endcsname{#2}{#3}%
7585         \or % section
7586             \csname l@#1\endcsname{%
7587                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7588             }{#3}%
7589         \or % page
7590             \csname l@#1\endcsname{{#2}}{%
7591                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7592             }%
7593         \else % all
7594             \csname l@#1\endcsname{%
7595                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7596             }{%
7597                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7598             }%
7599         \fi
7600     \fi
7601 }
7602 \end{package}

```

```

7603 <*check>
7604 \checklatex
7605 \checkcommand\def\addcontentsline#1#2#3{%
7606   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
7607 }
7608 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7609 </check>
7610 <*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.

```

7611 \let\H@definecounter\@definecounter
7612 \def\@definecounter#1{%
7613   \H@definecounter{#1}%
7614   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7615 }

```

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.

```

7616 \let\H@newctr\@newctr
7617 \def\@newctr#1[#2]{%
7618   \H@newctr#1[{#2}]%
7619   \expandafter\def\csname theH#1\endcsname{%
7620     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7621   }%
7622 }

```

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.

```

7623 \ifpackageloaded{amsmath}{%
7624   \def\Hy@make@anchor{%
7625     \Hy@MakeCurrentHrefAuto{AMS}%
7626     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7627   }%
7628   \def\Hy@make@df@tag@@#1{%
7629     \gdef\df@tag{%
7630       \maketag@@@{\Hy@make@anchor#1}%
7631       \def\@currentlabel{#1}%
7632     }%
7633   }%
7634   \def\Hy@make@df@tag@@@#1{%
7635     \gdef\df@tag{%
7636       \tagform@{\Hy@make@anchor#1}%
7637       \toks@{\xp{\p@equation{#1}}}%
7638       \edef\@currentlabel{\the\toks@}%
7639     }%
7640   }%

```

```

7641 \let\HyOrg@make@df@tag@@\make@df@tag@@
7642 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
7643 \let\make@df@tag@@\Hy@make@df@tag@@
7644 \let\make@df@tag@@@ \Hy@make@df@tag@@@
7645 }{}

```

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

```

7646 \ifpackagewith{hyperref}{pdfTeX}{%
7647   \let\H@seteqlabel\@seteqlabel
7648   \def\@seteqlabel#1{%
7649     \H@seteqlabel{#1}%
7650     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7651     \Hy@raisedlink{%
7652       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7653     }%
7654   }%
7655 }{}

```

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.

```

7656 \let\HyOrg@addtoreset\@addtoreset
7657 \def\@addtoreset#1#2{%
7658   \HyOrg@addtoreset{#1}{#2}%
7659   \expandafter\xdef\csname theH#1\endcsname{%
7660     \expandafter\noexpand
7661     \csname the\@ifundefined{theH#2}{H#2}\endcsname
7662     .\noexpand\the\noexpand\value{#1}%
7663   }%
7664 }

```

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

```

7665 </package>
7666 <*check>
7667 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7668 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7669   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7670     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7671       \@addtoreset{#2}{#3}%
7672       \xp\xdef\csname the#2\endcsname{%
7673         \xp\xnx\csname the#3\endcsname .\nx#1{#2}%
7674       }%
7675     }%
7676 }%

```

```

7677 }%
7678 </check>
7679 <*package>
7680 \ifpackageloaded{amsmath}{%
7681   \ifpackagelater{amsmath}{1999/12/14}{%
7682     \renewcommand*{\numberwithin}{3}[\arabic]{%
7683       \ifundefined{c@#2}{\@nocounterr{#2}}{%
7684         \ifundefined{c@#3}{\@nocnterr{#3}}{%
7685           \HyOrg@addtoreset{#2}{#3}%
7686           \@xp\xdef\csname the#2\endcsname{%
7687             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
7688           }%
7689           \@xp\xdef\csname theH#2\endcsname{%
7690             \@xp\@nx
7691             \csname the\ifundefined{theH#3}{H#3}\endcsname
7692             .\@nx#1{#2}%
7693           }%
7694         }%
7695       }%
7696     }%
7697   }{%
7698     \Hy@WarningNoLine{%
7699       \string\numberwithin\space of package ‘amsmath’ %
7700       only fixed\MessageBreak
7701       for version 2000/06/06 v2.12 or newer%
7702     }%
7703   }%
7704 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7705 \ifHy@figures
7706   \let\Hy@Gin@setfile\Gin@setfile
7707   \def\Gin@setfile#1#2#3{%
7708     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7709   }%
7710 \fi
7711 \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.

```

7712 \ifHy@hyperindex
7713   \def\HyInd@ParenLeft{({}%
7714   \def\HyInd@ParenRight{)}}%

```



```

7715 \def\hyperindexformat#1#2{%
7716   \let\HyOrg@hyperpage\hyperpage
7717   \let\hyperpage\@firstofone
7718   #1{\HyOrg@hyperpage{#2}}}%
7719   \let\hyperpage\HyOrg@hyperpage
7720 }%
7721 \Hy@nextfalse
7722 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7723 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7724 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7725 \begingroup
7726   \lccode'\|=\expandafter'\HyInd@EncapChar\relax
7727   \lccode'\|/'\relax
7728 \lowercase{\endgroup
7729 \ifHy@next
7730   \let\HyInd@org@wrindex\@wrindex
7731   \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
7732   \def\HyInd@@wrindex#1#2|#3|#4\{\%
7733     \ifx\|#3\%
7734       \HyInd@org@wrindex{#1}{#2|hyperpage}%
7735     \else
7736       \HyInd@@@wrindex{#1}{#2}#3\%
7737     \fi
7738   }%
7739   \def\HyInd@@@wrindex#1#2#3#4\{\%
7740   \def\Hy@temp@A{#3}%
7741   \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7742     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7743     \relax
7744     \HyInd@org@wrindex{#1}{%
7745       #2|hyperindexformat{/#3#4}%
7746     }%
7747   \else
7748     \ifx\|#4\%
7749       \ifx\Hy@temp@A\HyInd@ParenRight
7750         \HyInd@org@wrindex{#1}{#2|#3}%
7751       \else
7752         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
7753       \fi
7754     \else
7755       \HyInd@org@wrindex{#1}{%
7756         #2|#3hyperindexformat{/#4}%
7757       }%
7758     \fi
7759   \fi
7760 }%
7761 \else
7762   \def\@wrindex#1{\@@wrindex#1||\}%
7763   \def\@@wrindex#1|#2|#3\{\%
7764   \if@filesw
7765     \ifx\|#2\%
7766       \protected@write\@indexfile{}\%
7767       \string\indexentry{#1|hyperpage}{\thepage}%
7768     }%
7769   \else
7770     \HyInd@@@wrindex{#1}#2\%
7771   \fi

```

```

7772 \fi
7773 \endgroup
7774 \@esphack
7775 }%
7776 \def\HyInd@@@wrindex#1#2#3\{\{%
7777 \def\Hy@temp@A{#2}%
7778 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7779 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7780 \relax
7781 \protected@write\@indexfile{\}%
7782 \string\indexentry{%
7783 #1|hyperindexformat{/#2#3}%
7784 }\{thepage}%
7785 }%
7786 \else
7787 \ifx\#3\%
7788 \ifx\Hy@temp@A\HyInd@ParenRight
7789 \protected@write\@indexfile{\}%
7790 \string\indexentry{#1|#2}\{thepage}%
7791 }%
7792 \else
7793 \protected@write\@indexfile{\}%
7794 \string\indexentry{#1|#2hyperpage}\{thepage}%
7795 }%
7796 \fi
7797 \else
7798 \protected@write\@indexfile{\}%
7799 \string\indexentry{%
7800 #1|#2hyperindexformat{/#3}%
7801 }\{thepage}%
7802 }%
7803 \fi
7804 \fi
7805 }%
7806 \fi
7807 }%
7808 \fi
7809 \Hy@DisableOption{hyperindex}
7810 \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.

```

7811 \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.

```

7812 \def\hyperpage#1{%
7813 \HyInd@hyperpage#1\nohyperpage}\@nil
7814 }
7815 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7816 \HyInd@@@hyperpage{#1}%
7817 #2%
7818 \def\Hy@temp{#3}%
7819 \ifx\Hy@temp\@empty
7820 \else
7821 \Hy@ReturnAfterFi{%
7822 \HyInd@hyperpage#3\@nil

```

```

7823 }%
7824 \fi
7825 }
7826 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7827 \def\@hyperpage#1--#2--#3\{%
7828 \ifx\#2\%
7829 \@commahyperpage{#1}%
7830 \else
7831 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7832 \fi
7833 }
7834 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
7835 \def\@commahyperpage#1, #2,#3\{%
7836 \ifx\#2\%
7837 \HyInd@pagelink{#1}%
7838 \else
7839 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7840 \fi
7841 }

```

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

```

7842 \def\HyInd@pagelink#1{%
7843 \begingroup
7844 \toks@={}%
7845 \HyInd@removespaces#1 \@nil
7846 \endgroup
7847 }
7848 \def\HyInd@removespaces#1 #2\@nil{%
7849 \toks@=\expandafter{\the\toks@#1}%
7850 \ifx\#2\%
7851 \edef\x{\the\toks@}%
7852 \ifx\x\@empty
7853 \else
7854 \hyperlink{page.\the\toks@}{\the\toks@}%
7855 \fi
7856 \else
7857 \Hy@ReturnAfterFi{%
7858 \HyInd@removespaces#2\@nil
7859 }%
7860 \fi
7861 }

```

44 Compatibility with foiltex

```

7862 \@ifclassloaded{foils}{%
7863 \providecommand*\ext@table{lot}%
7864 \providecommand*\ext@figure{lof}%
7865 }{}

```

45 Compatibility with seminar slide package

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

```

7866 \@ifclassloaded{seminar}{%
7867 \Hy@seminarslides true\newcommand\theHslide{\arabic{slide}}%

```

```

7868 }{%
7869   \Hy@seminarslidesfalse
7870 }
7871 \@ifpackageloaded{slidesec}{%
7872   \newcommand\theHslidesection  {\arabic{slidesection}}%
7873   \newcommand\theHslidesubsection{%
7874     \theHslidesection.\arabic{slidesubsection}%
7875   }%
7876   \def\slide@heading[#1]#2{%
7877     \H@refstepcounter{slidesection}%
7878     \@addtoreset{slidesubsection}{slidesection}%
7879     \addtocontents{los}{%
7880       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
7881       {\@SCTR}{\slideheading.\theslidesection}%
7882     }%
7883     \def\Hy@tempa{#2}%
7884     \ifx\Hy@tempa\@empty
7885     \else
7886       {%
7887         \edef\@currentlabel{%
7888           \csname p@slidesection\endcsname\theslidesection
7889         }%
7890         \makeslideheading{#2}%
7891       }%
7892     \fi
7893     \gdef\theslideheading{#1}%
7894     \gdef\theslidesubheading{}%
7895     \ifHy@bookmarksnumbered
7896       \def\Hy@slidetitle{\theslidesection\space #1}%
7897     \else
7898       \def\Hy@slidetitle{#1}%
7899     \fi
7900     \ifHy@hypertexnames
7901       \ifHy@naturalnames
7902         \hyper@@anchor{slideheading.\theslidesection}{\relax}%
7903         \Hy@writebookmark
7904           {\theslidesection}%
7905           {\Hy@slidetitle}%
7906           {slideheading.\theslidesection}%
7907           {1}%
7908           {toc}%
7909       \else
7910         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7911         \Hy@writebookmark
7912           {\theslidesection}%
7913           {\Hy@slidetitle}%
7914           {slideheading.\theHslidesection}%
7915           {1}%
7916           {toc}%
7917       \fi
7918     \else
7919       \Hy@GlobalStepCount\Hy@linkcounter
7920       \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7921       \Hy@writebookmark
7922         {\theslidesection}%
7923         {\Hy@slidetitle}%
7924         {slideheading.\the\Hy@linkcounter}%

```

```

7925     {1}%
7926     {toc}%
7927   \fi
7928 }%
7929 \def\slide@subheading[#1]#2{%
7930   \H@refstepcounter{slidesubsection}%
7931   \addtocontents{los}{%
7932     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7933     {\@SCTR}{slideheading.\theslidesubsection}%
7934   }%
7935   \def\Hy@tempa{#2}%
7936   \ifx\Hy@tempa\@empty
7937   \else
7938     {%
7939       \edef\@currentlabel{%
7940         \csname p@slidesubsection\endcsname\theslidesubsection
7941       }%
7942       \makeslidesubheading{#2}%
7943     }%
7944   \fi
7945   \gdef\theslidesubheading{#1}%
7946   \ifHy@bookmarksnumbered
7947     \def\Hy@slidetitle{\theslidesubsection\space #1}%
7948   \else
7949     \def\Hy@slidetitle{#1}%
7950   \fi
7951   \ifHy@hypertextnames
7952     \ifHy@naturalnames
7953       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7954       \Hy@writebookmark
7955         {\theslidesubsection}%
7956         {\Hy@slidetitle}%
7957         {slideheading.\theslidesubsection}%
7958         {2}%
7959         {toc}%
7960     \else
7961       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7962       \Hy@writebookmark
7963         {\theslidesubsection}%
7964         {\Hy@slidetitle}%
7965         {slideheading.\theHslidesubsection}%
7966         {2}%
7967         {toc}%
7968     \fi
7969   \else
7970     \Hy@GlobalStepCount\Hy@linkcounter
7971     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7972     \Hy@writebookmark
7973       {\theslidesubsection}%
7974       {\Hy@slidetitle}%
7975       {slideheading.\the\Hy@linkcounter}%
7976       {1}%
7977       {toc}%
7978   \fi
7979 }%
7980 \providecommand*{\listslidenam}{List of Slides}%
7981 \def\listofslides{%

```

```

7982 \section*{%
7983 \listslidenam
7984 \@mkboth{%
7985 \expandafter\MakeUppercase\listslidenam
7986 }{%
7987 \expandafter\MakeUppercase\listslidenam
7988 }%
7989 }%
7990 \def\l@slide##1##2##3##4{%
7991 \slide@undottedcline{%
7992 \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
7993 }{%
7994 }%
7995 \let\l@subslide\l@slide
7996 \@startlos
7997 }%
7998 \def\slide@contents{%
7999 \def\l@slide##1##2##3##4{%
8000 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8001 }%
8002 \let\l@subslide\@gobblefour
8003 \@startlos
8004 }%
8005 \def\Slide@contents{%
8006 \def\l@slide##1##2##3##4{%
8007 \ifcase\lslide@flag
8008 \message{##1 ** \the\c@slidesection}%
8009 \ifnum##1>\c@slidesection
8010 \def\lslide@flag{1}%
8011 {%
8012 \large
8013 \slide@ccline{%
8014 \slidenumberline{$\Rightarrow\bullet$}%
8015 {\hyperlink{##4}{##2}}}%
8016 }{##3}%
8017 }%
8018 \else
8019 {%
8020 \large
8021 \slide@ccline{%
8022 \slidenumberline{$\surd\;\bullet$}%
8023 {\hyperlink{##4}{##2}}}%
8024 }{##3}%
8025 }%
8026 \fi
8027 \or
8028 \def\lslide@flag{2}%
8029 {%
8030 \large
8031 \slide@ccline{%
8032 \slidenumberline{$\bullet$}%
8033 {\hyperlink{##4}{##2}}}%
8034 }{##3}%
8035 }%
8036 \or
8037 {%
8038 \large

```

```

8039 \slide@cline{%
8040 \slidenumberline{$\bullet$}%
8041 {\hyperlink{##4}{##2}}%
8042 }{##3}%
8043 }%
8044 \fi
8045 }%
8046 \def\l@subslide##1##2##3##4{%
8047 \ifnum\lslide@flag=1 %
8048 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}}%
8049 \fi
8050 }%
8051 \def\lslide@flag{0}%
8052 \@startlos
8053 }%
8054 }{}

```

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.)

```

8055 \ifHy@texht
8056 \expandafter\endinput
8057 \fi
8058 \let\real@setref\@setref
8059 \def\@setref#1#2#3{% csname, extract group, refname
8060 \ifx#1\relax
8061 \protect\G@refundefinedtrue
8062 \nfss@text{\reset@font\bfseries ??}%
8063 \@latex@warning{%
8064 Reference ‘#3’ on page \thepage \space undefined%
8065 }%
8066 \else
8067 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8068 \fi
8069 }

```

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

```

8070 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8071 \begingroup
8072 \toks0={\hyper@@link{#5}{#4}}%
8073 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8074 \edef\x{\endgroup
8075 \the\toks0 {\the\toks1 }}%
8076 }%
8077 \x
8078 }
8079 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8080 \ifx#1\relax
8081 \protect\G@refundefinedtrue
8082 \nfss@text{\reset@font\bfseries ??}%
8083 \@latex@warning{%
8084 Reference ‘#3’ on page \thepage \space undefined%
8085 }%
8086 \else
8087 \protect\hyper@@link
8088 {\expandafter\@fifthoffive#1}%
8089 {page.\expandafter\@secondoffive#1}%

```

```

8090     {\expandafter\@secondoffive#1}%
8091 \fi
8092 }

8093 </package>
8094 <*check>
8095 \checklatex
8096 \checkcommand\def\@setref#1#2#3{%
8097   \ifx#1\relax
8098     \protect\G@refundefinedtrue
8099     \nfss@text{\reset@font\bfseries ??}%
8100     \@latex@warning{%
8101       Reference '#3' on page \thepage\space undefined%
8102     }%
8103   \else
8104     \expandafter#2#1\null
8105   \fi
8106 }
8107 </check>
8108 <*package>

```

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

```

8109 \def\HyRef@StarSetRef#1{%
8110   \begingroup
8111   \Hy@safe@activetrue
8112   \edef\x{#1}%
8113   \@onelevel@sanitize\x
8114   \edef\x{\endgroup
8115     \noexpand\HyRef@@StarSetRef
8116     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8117   }%
8118   \x
8119 }
8120 \def\HyRef@@StarSetRef#1#2#3{%
8121   \ifx#1\@undefined
8122     \let#1\relax
8123   \fi
8124   \real@setref#1#3{#2}%
8125 }
8126 \def\@refstar#1{%
8127   \HyRef@StarSetRef{#1}\@firstoffive
8128 }
8129 \def\@pagerefstar#1{%
8130   \HyRef@StarSetRef{#1}\@secondoffive
8131 }
8132 \def\@namerefstar#1{%
8133   \HyRef@StarSetRef{#1}\@thirdoffive
8134 }
8135 \Hy@AtBeginDocument{%
8136   \@ifpackageloaded{varioref}{%
8137     \def\@Refstar#1{%
8138       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8139     }%
8140     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8141       \MakeUppercase#1%
8142     }%
8143     \DeclareRobustCommand*\{Ref}{%

```



```

8144 \@ifstar\@Refstar\HyRef@Ref
8145 }%
8146 \def\HyRef@Ref#1{%
8147 \hyperref[#1]{\Ref*{#1}}%
8148 }%
8149 \def\vr@f#1{%
8150 \leavevmode\unskip\vref@space
8151 \hyperref[#1]{%
8152 \Ref*{#1}%
8153 \let\vref@space\nobreakspace
8154 \@vpageref\unskip}{#1}%
8155 }%
8156 }%
8157 \def\vr@f#1{%
8158 \leavevmode\unskip\vref@space
8159 \begingroup
8160 \let\T@pageref\@pagerefstar
8161 \hyperref[#1]{%
8162 \ref*{#1}%
8163 \vpageref\unskip}{#1}%
8164 }%
8165 \endgroup
8166 }%
8167 }{}%
8168 }
8169 \DeclareRobustCommand*\autopageref{%
8170 \@ifstar{%
8171 \HyRef@autopagerefname\pageref*%
8172 }\HyRef@autopageref
8173 }
8174 \def\HyRef@autopageref#1{%
8175 \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
8176 }
8177 \def\HyRef@autopagerefname{%
8178 \ltx@ifundefined{pageautorefname}{%
8179 \ltx@ifundefined{pagename}{%
8180 \Hy@Warning{No autoref name for 'page'}%
8181 }{%
8182 \pagename\nobreakspace
8183 }%
8184 }{}%
8185 \pageautorefname\nobreakspace
8186 }%
8187 }
8188 \DeclareRobustCommand*\autoref{%
8189 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8190 }
8191 \def\HyRef@autoref#1#2{%
8192 \begingroup
8193 \Hy@safe@activetrue
8194 \expandafter\HyRef@autosetref\csize r@#2\endcsize{#2}{#1}%
8195 \endgroup
8196 }
8197 \def\HyRef@autosetref#1#2#3{% link command, csize, refname
8198 \HyRef@ShowKeysRef{#2}%
8199 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8200 \edef\HyRef@thisref{%

```

```

8201 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8202 }%
8203 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8204 \Hy@safe@activesfalse
8205 #3{%
8206 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8207 }{%
8208 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8209 }{%
8210 \HyRef@currentHtag
8211 \expandafter\@firstoffive#1\@empty\@empty\@empty
8212 \null
8213 }%
8214 \else
8215 \protect\G@refundefinedtrue
8216 \nfss@text{\reset@font\bfseries ??}%
8217 \@latex@warning{%
8218 Reference '#2' on page \thepage\space undefined%
8219 }%
8220 \fi
8221 }
8222 \def\HyRef@testreftype#1.#2\.{%
8223 \ltx@ifundefined{#1autorefname}{%
8224 \ltx@ifundefined{#1name}{%
8225 \HyRef@StripStar#1\*\@nil{#1}%
8226 \ltx@ifundefined{\HyRef@name autorefname}{%
8227 \ltx@ifundefined{\HyRef@name name}{%
8228 \def\HyRef@currentHtag{%
8229 \Hy@Warning{No autoref name for '#1'}%
8230 }{%
8231 \edef\HyRef@currentHtag{%
8232 \expandafter\noexpand\csname\HyRef@name name\endcsname
8233 \noexpand~%
8234 }%
8235 }%
8236 }{%
8237 \edef\HyRef@currentHtag{%
8238 \expandafter\noexpand
8239 \csname\HyRef@name autorefname\endcsname
8240 \noexpand~%
8241 }%
8242 }%
8243 }{%
8244 \edef\HyRef@currentHtag{%
8245 \expandafter\noexpand\csname#1name\endcsname
8246 \noexpand~%
8247 }%
8248 }%
8249 }{%
8250 \edef\HyRef@currentHtag{%
8251 \expandafter\noexpand\csname#1autorefname\endcsname
8252 \noexpand~%
8253 }%
8254 }%
8255 }
8256 \def\HyRef@StripStar#1*\#2\@nil#3{%
8257 \def\HyRef@name{#2}%

```

```

8258 \ifx\HyRef@name\HyRef@CaseStar
8259 \def\HyRef@name{#1}%
8260 \else
8261 \def\HyRef@name{#3}%
8262 \fi
8263 }
8264 \def\HyRef@CaseStar{*\\}
8265 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8266 \let\HyRef@ShowKeysRef\@gobble
8267 \def\HyRef@ShowKeysInit{%
8268 \begingroup\expandafter\expandafter\expandafter\endgroup
8269 \expandafter\ifx\csname SK@@label\endcsname\relax
8270 \else
8271 \ifx\SK@ref\@empty
8272 \else
8273 \def\HyRef@ShowKeysRef{%
8274 \SK@\SK@\ref
8275 }%
8276 \fi
8277 \fi
8278 }
8279 \@ifpackageloaded{showkeys}{%
8280 \HyRef@ShowKeysInit
8281 }{%
8282 \Hy@AtBeginDocument{%
8283 \@ifpackageloaded{showkeys}{%
8284 \HyRef@ShowKeysInit
8285 }{}%
8286 }%
8287 }

```

Defaults for the names that \autoref uses.

```

8288 \providecommand*\AMSautorefname{\equationautorefname}
8289 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8290 \providecommand*\Itemautorefname{\itemautorefname}
8291 \providecommand*\itemautorefname{item}
8292 \providecommand*\equationautorefname{Equation}
8293 \providecommand*\footnoteautorefname{footnote}
8294 \providecommand*\itemautorefname{item}
8295 \providecommand*\figureautorefname{Figure}
8296 \providecommand*\tableautorefname{Table}
8297 \providecommand*\partautorefname{Part}
8298 \providecommand*\appendixautorefname{Appendix}
8299 \providecommand*\chapterautorefname{chapter}
8300 \providecommand*\sectionautorefname{section}
8301 \providecommand*\subsectionautorefname{subsection}
8302 \providecommand*\subsubsectionautorefname{subsubsection}
8303 \providecommand*\paragraphautorefname{paragraph}
8304 \providecommand*\subparagraphautorefname{subparagraph}
8305 \providecommand*\FancyVerbLineautorefname{line}
8306 \providecommand*\theoremautorefname{Theorem}
8307 \providecommand*\pageautorefname{page}
8308 \</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`.

```
8309 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8310 \RequirePackage{pdfTEXcmds}[2009/04/10]
8311 \begingroup\expandafter\expandafter\expandafter\endgroup
8312 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8313 \begingroup
8314 \catcode'\| =0 %
8315 \@makeother\| %
8316 |@firstofone{ |endgroup
8317 |def|Hy@pstringdef#1#2{%
8318 |begingroup
8319 |edef~{|string~}%
8320 |xdef|Hy@gtemp{#2}%
8321 |endgroup
8322 |let#1|Hy@gtemp
8323 |@onelevel@sanitize#1%
8324 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8325 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8326 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8327 }%
8328 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8329 #1%
8330 |ifx|\#2\| %
8331 |else
8332 \| %
8333 |Hy@ReturnAfterFi{%
8334 |Hy@ExchangeBackslash#2|@nil
8335 }%
8336 |fi
8337 }%
8338 }%
8339 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8340 #1%
8341 \ifx\#2\| %
8342 \else
8343 \@backslashchar(%
8344 \Hy@ReturnAfterFi{%
8345 \Hy@ExchangeLeftParenthesis#2\@nil
8346 }%
8347 \fi
8348 }%
8349 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8350 #1%
8351 \ifx\#2\| %
8352 \else
8353 \@backslashchar)%
8354 \Hy@ReturnAfterFi{%
```

```

8355      \Hy@ExchangeRightParenthesis#2\@nil
8356    }%
8357  \fi
8358 }%
8359 \else
8360 \def\Hy@pstringdef#1#2{%
8361   \begingroup
8362     \edef~{\string~}%
8363     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8364   \endgroup
8365   \let#1\Hy@gtemp
8366 }%
8367 \fi
8368 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8369 <*pdfTeX>
8370 \providecommand*{\XR@ext}{pdf}
8371 \Hy@setbreaklinks{true}
8372 \def\HyPat@ObjRef{%
8373   [0-9]*[1-9][0-9]* 0 R%
8374 }

```

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`

```

8375 \let\Hy@pdfminorversion\relax
8376 \begingroup\expandafter\expandafter\expandafter\endgroup
8377 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8378   \begingroup\expandafter\expandafter\expandafter\endgroup
8379   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8380     \else
8381       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8382     \fi
8383   \else
8384     \def\Hy@pdfminorversion{\pdfminorversion}%
8385   \fi
8386 \@ifundefined{Hy@pdfminorversion}{%
8387   \PackageInfo{hyperref}{%
8388     PDF version is not set, because pdfTeX is too old (<1.10a)%
8389   }%
8390 }{%
8391   \ifHy@ocgcolorlinks
8392     \ifnum\Hy@pdfminorversion<5 %
8393       \kvsetkeys{Hyp}{pdfversion=1.5}%
8394     \fi
8395   \fi
8396   \ifHy@setpdfversion
8397     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8398     \else
8399       \Hy@pdfminorversion=\Hy@pdfversion\relax
8400     \fi

```

```

8401 \PackageInfo{hyperref}{%
8402 \expandafter\string\Hy@pdfminorversion
8403 :=\number\Hy@pdfversion\space
8404 }%
8405 \fi
8406 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8407 }
8408 \Hy@DisableOption{pdfversion}%

8409 \ifHy@ocgcolorlinks
8410 \immediate\pdfobj{%
8411 <<%
8412 /Type/OCG%
8413 /Name(View)%
8414 /Usage<<%
8415 /Print<<%
8416 /PrintState/OFF%
8417 >>%
8418 /View<<%
8419 /ViewState/ON%
8420 >>%
8421 >>%
8422 >>%
8423 }%
8424 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8425 \immediate\pdfobj{%
8426 <<%
8427 /Type/OCG%
8428 /Name(Print)%
8429 /Usage<<%
8430 /Print<<%
8431 /PrintState/ON%
8432 >>%
8433 /View<<%
8434 /ViewState/OFF%
8435 >>%
8436 >>%
8437 >>%
8438 }%
8439 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8440 \immediate\pdfobj{%
8441 [%
8442 \OBJ@OCG@view\space\OBJ@OCG@print
8443 ]%
8444 }%
8445 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8446 \pdfcatalog{%
8447 /OCProperties<<%
8448 /OCGs \OBJ@OCGs
8449 /D<<%
8450 /OFF[\OBJ@OCG@print]%
8451 /AS[%
8452 <<%
8453 /Event/View%
8454 /OCGs \OBJ@OCGs
8455 /Category[/View]%
8456 >>%
8457 <<%

```

```

8458         /Event/Print%
8459         /OCGs \OBJ@OCGs
8460         /Category[/Print]%
8461     >>%
8462     <<%
8463         /Event/Export%
8464         /OCGs \OBJ@OCGs
8465         /Category[/Print]%
8466     >>%
8467     ]%
8468     >>%
8469     >>%
8470 }%
8471 \beginngroup
8472 \edef\x{\endgroup
8473 \pdfpageresources{%
8474     /Properties<<%
8475     /OCView \OBJ@OCG@view
8476     /OCPrint \OBJ@OCG@print
8477     >>%
8478     }%
8479     }%
8480 \x
8481 \Hy@AtBeginDocument{%
8482     \def\Hy@colorlink#1{%
8483         \beginngroup
8484         \ifHy@ocgcolorlinks
8485             \def\Hy@ocgcolor{#1}%
8486             \setbox0=\hbox\bgroup\color@beginngroup
8487         \else
8488             \HyColor@UseColor#1%
8489         \fi
8490     }%
8491     \def\Hy@endcolorlink{%
8492         \ifHy@ocgcolorlinks
8493             \color@endgroup\egroup
8494             \mbox{%
8495                 \pdfliteral page{/OC/OCPrint BDC}%
8496                 \rlap{\copy0}%
8497                 \pdfliteral page{EMC/OC/OCView BDC}%
8498                 \beginngroup
8499                 \expandafter\HyColor@UseColor\Hy@ocgcolor
8500                 \box0 %
8501                 \endgroup
8502                 \pdfliteral page{EMC}%
8503             }%
8504         \fi
8505     \endgroup
8506     }%
8507 }%
8508 \else
8509 \Hy@DisableOption{ocgcolorlinks}%
8510 \fi

```

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

```

8511 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8512 \ifx\pdfstartlink\@undefined% less than version 14
8513 \let\pdfstartlink\pdfannotlink

```

```

8514 \let\pdfinkmargin\@tempdima
8515 \let\pdfxform\pdfform
8516 \let\pdflastxform\pdfastform
8517 \let\pdfrefxform\pdfrefform
8518 \else
8519 \pdfinkmargin1pt %
8520 \fi

```

First set up the default linking

```
8521 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8522 \Hy@WrapperDef\new@pdfink#1{%
8523 \ifhmode
8524 \savesf\spacefactor
8525 \fi
8526 \Hy@SaveLastskip
8527 \Hy@VerboseAnchor{#1}%
8528 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8529 \Hy@DestName\Hy@pstringDest\@pdfview
8530 \Hy@RestoreLastskip
8531 \ifhmode
8532 \spacefactor\@savesf
8533 \fi
8534 }
8535 \let\pdf@endanchor\@empty

```

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

```

8536 \def\Hy@DestName#1#2{%
8537 \pdfdest name{#1}#2\relax
8538 }

```

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.

```

8539 \providecommand*\@pdfborder{0 0 1}
8540 \providecommand*\@pdfborderstyle{}
8541 \def\Hy@undefinedname{UNDEFINED}
8542 \def\find@pdfink#1#2{%
8543 \leavevmode
8544 \protected@edef\Hy@testname{#2}%
8545 \ifx\Hy@testname\@empty
8546 \Hy@Warning{%
8547 Empty destination name,\MessageBreak
8548 using '\Hy@undefinedname'%
8549 }%
8550 \let\Hy@testname\Hy@undefinedname
8551 \else
8552 \Hy@pstringdef\Hy@testname{%
8553 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8554 }%
8555 \fi
8556 \Hy@StartlinkName{%
8557 \ifHy@pdfa /F 4\fi
8558 \Hy@setpdfborder
8559 \ifx\@pdfhighlight\@empty

```



```

8560 \else
8561 /H\@pdfhighlight
8562 \fi
8563 \ifx\CurrentBorderColor\relax
8564 \else
8565 /C[\CurrentBorderColor]%
8566 \fi
8567 }\Hy@testname
8568 \expandafter\Hy@colorlink\csname @#1color\endcsname
8569 }
8570 \def\Hy@StartlinkName#1#2{%
8571 \pdfstartlink attr{#1}goto name{#2}\relax
8572 }
8573 \def\close@pdfink{%
8574 \Hy@endcolorlink
8575 \Hy@VerboseLinkStop
8576 \pdfendlink
8577 }
8578 \def\hyper@anchor#1{%
8579 \new@pdfink{#1}\anchor@spot\pdf@endanchor
8580 }
8581 \def\hyper@anchorstart#1{%
8582 \new@pdfink{#1}%
8583 \Hy@activeanchortrue
8584 }
8585 \def\hyper@anchorend{%
8586 \pdf@endanchor
8587 \Hy@activeanchorfalse
8588 }
8589 \def\hyper@linkstart#1#2{%
8590 \Hy@VerboseLinkStart{#1}{#2}%
8591 \ltx@ifundefined{@#1bordercolor}{%
8592 \let\CurrentBorderColor\relax
8593 }{%
8594 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8595 }%
8596 \find@pdfink{#1}{#2}%
8597 }
8598 \def\hyper@linkend{\close@pdfink}
8599 \def\hyper@link#1#2#3{%
8600 \Hy@VerboseLinkStart{#1}{#2}%
8601 \ltx@ifundefined{@#1bordercolor}{%
8602 \let\CurrentBorderColor\relax
8603 }{%
8604 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8605 }%
8606 \find@pdfink{#1}{#2}#3%
8607 \close@pdfink
8608 }
8609 \let\CurrentBorderColor\@linkbordercolor
8610 \def\hyper@linkurl#1#2{%
8611 \begingroup
8612 \Hy@pstringdef\Hy@pstringURI{#2}%
8613 \hyper@chars
8614 \leavevmode
8615 \pdfstartlink
8616 attr{%

```

```

8617 \Hy@setpdfborder
8618 \ifx\@pdfhighlight\@empty
8619 \else
8620 /H\@pdfhighlight
8621 \fi
8622 \ifx\@urlbordercolor\relax
8623 \else
8624 /C[\@urlbordercolor]%
8625 \fi
8626 }%
8627 user{%
8628 /Subtype/Link%
8629 \ifHy@pdfa /F 4\fi
8630 /A<<%
8631 /Type/Action%
8632 /S/URI%
8633 /URI(\Hy@pstringURI)%
8634 \ifHy@href@ismap
8635 /IsMap true%
8636 \fi
8637 \Hy@href@nextactionraw
8638 >>%
8639 }%
8640 \relax
8641 \Hy@colorlink\@urlcolor#1%
8642 \close@pdflink
8643 \endgroup
8644 }
8645 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8646 \begingroup
8647 \def\Hy@pstringF{#2}%
8648 \Hy@CleanupFile\Hy@pstringF
8649 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8650 \Hy@pstringdef\Hy@pstringD{#3}%
8651 \Hy@MakeRemoteAction
8652 \leavevmode
8653 \pdfstartlink
8654 attr{%
8655 \Hy@setpdfborder
8656 \ifx\@pdfhighlight\@empty
8657 \else
8658 /H\@pdfhighlight
8659 \fi
8660 \ifx\@filebordercolor\relax
8661 \else
8662 /C[\@filebordercolor]%
8663 \fi
8664 }%
8665 user {%
8666 /Subtype/Link%
8667 \ifHy@pdfa /F 4\fi
8668 /A<<%
8669 /F(\Hy@pstringF)%
8670 /S/GoToR%
8671 \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}

8672      \ifx\#3\%
8673      /D[\Hy@href@page\@pdfremotestartview]%
8674      \else
8675      /D[\Hy@pstringD)%
8676      \fi
8677      \Hy@href@nextactionraw
8678      >>%
8679      }%
8680      \relax
8681      \Hy@colorlink\@filecolor#1%
8682      \close@pdflink
8683      \endgroup
8684 }
8685 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8686 \begingroup
8687 \Hy@pstringdef\Hy@pstringF{#1}%
8688 \Hy@pstringdef\Hy@pstringP{#3}%
8689 \leavevmode
8690 \pdfstartlink
8691 attr{%
8692 \Hy@setpdfborder
8693 \ifx\@pdfhighlight\@empty
8694 \else
8695 /H\@pdfhighlight
8696 \fi
8697 \ifx\@runbordercolor\relax
8698 \else
8699 /C[\@runbordercolor]%
8700 \fi
8701 }%
8702 user {%
8703 /Subtype/Link%
8704 \ifHy@pdfa /F 4\fi
8705 /A<<%
8706 /F(\Hy@pstringF)%
8707 /S/Launch%
8708 \Hy@SetNewWindow
8709 \ifx\#3\%
8710 \else
8711 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8712 \fi
8713 \Hy@href@nextactionraw
8714 >>%
8715 }%
8716 \relax
8717 \Hy@colorlink\@runcolor#2%
8718 \close@pdflink
8719 \endgroup
8720 }

```

\@pdfproducer

```
8721 \ifx\@pdfproducer\relax
8722 \begingroup\expandafter\expandafter\expandafter\endgroup
8723 \expandafter\ifx\csname luatexversion\endcsname\relax
8724 \def\@pdfproducer{pdfTeX}%
8725 \ifx\eTeXversion\@undefined
8726 \else
8727 \ifx\eTeXversion\relax
8728 \else
8729 \ifnum\eTeXversion>0 %
8730 \def\@pdfproducer{pdfTeX}%
8731 \fi
8732 \fi
8733 \fi
8734 \ifx\pdfTeXversion\@undefined
8735 \else
8736 \ifnum\pdfTeXversion<100 %
8737 \edef\@pdfproducer{%
8738 \@pdfproducer
8739 \the\pdfTeXversion.\pdfTeXrevision
8740 }%
8741 \else
8742 \ifnum\pdfTeXversion<130 %
8743 \edef\@pdfproducer{%
8744 \@pdfproducer-%
8745 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8746 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8747 \pdfTeXrevision
8748 }%
8749 \else
8750 \ifnum\pdfTeXversion<140 %
8751 \else
8752 \def\@pdfproducer{pdfTeX}%
8753 \fi
8754 \edef\@pdfproducer{%
8755 \@pdfproducer-%
8756 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8757 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8758 \pdfTeXrevision
8759 }%
8760 \fi
8761 \fi
8762 \fi
8763 \else
8764 \begingroup
8765 \count@=\luatexversion
8766 \divide\count@ by 100 %
8767 \edef\x{\the\count@}%
8768 \count@=-\x\relax
8769 \multiply\count@ by 100 %
8770 \advance\count@ by \luatexversion
8771 \edef\x{\endgroup
8772 \def\noexpand\@pdfproducer{%
8773 LuaTeX-\x.\the\count@.\luatexrevision
8774 }%
8775 }%
8776 \x
```

8777 \fi
8778 \fi

\PDF@SetupDox

```
8779 \def\PDF@SetupDoc{%
8780   \ifx\@pdfpagescrop\@empty
8781   \else
8782     \edef\process@me{%
8783       \pdfpagesattr={%
8784         /CropBox[\@pdfpagescrop]%
8785         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8786         \else
8787           ^^J\the\pdfpagesattr
8788         \fi
8789       }%
8790     }%
8791     \process@me
8792   \fi
8793   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8794   \pdfcatalog{%
8795     /PageMode/\@pdfpagemode
8796     \ifx\@baseurl\@empty
8797     \else
8798       /URI<</Base(\Hy@pstringB)>>%
8799     \fi
8800   }%
8801   \ifx\@pdfstartpage\@empty
8802   \else
8803     \ifx\@pdfstartview\@empty
8804     \else
8805       openaction goto page\@pdfstartpage{\@pdfstartview}%
8806     \fi
8807   \fi
8808   \edef\Hy@temp{%
8809     \ifHy@toolbar\else /HideToolbar true\fi
8810     \ifHy@menubar\else /HideMenubar true\fi
8811     \ifHy>windowui\else /HideWindowUI true\fi
8812     \ifHy@fitwindow /FitWindow true\fi
8813     \ifHy@centerwindow /CenterWindow true\fi
8814     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8815     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8816     \Hy@UseNameKey{Direction}\@pdfdirection
8817     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8818     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8819     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8820     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8821     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8822     \Hy@UseNameKey{Duplex}\@pdfduplex
8823     \ifx\@pdfpicktraybypdfsize\@empty
8824     \else
8825       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8826     \fi
8827     \ifx\@pdfprintpagerange\@empty
8828     \else
8829       /PrintPageRange\@pdfprintpagerange}%
8830   \fi
8831   \ifx\@pdfnumcopies\@empty
```

```

8832 \else
8833 /NumCopies \@pdfnumcopies
8834 \fi
8835 }%
8836 \pdfcatalog{%
8837 \ifx\Hy@temp\@empty
8838 \else
8839 /ViewerPreferences<<\Hy@temp>>%
8840 \fi
8841 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8842 \ifx\@pdflang\@empty
8843 \else
8844 /Lang(\@pdflang)%
8845 \fi
8846 }%
8847 }

```

\PDF@FinishDoc

```

8848 \def\PDF@FinishDoc{%
8849 \Hy@UseMaketitleInfos
8850 \HyInfo@GenerateAddons
8851 \pdfinfo{%
8852 /Author(\@pdfauthor)%
8853 /Title(\@pdftitle)%
8854 /Subject(\@pdfsubject)%
8855 /Creator(\@pdfcreator)%
8856 \ifx\@pdfcreationdate\@empty
8857 \else
8858 /CreationDate(\@pdfcreationdate)%
8859 \fi
8860 \ifx\@pdfmoddate\@empty
8861 \else
8862 /ModDate(\@pdfmoddate)%
8863 \fi
8864 \ifx\@pdfproducer\relax
8865 \else
8866 /Producer(\@pdfproducer)%
8867 \fi
8868 /Keywords(\@pdfkeywords)%
8869 \ifx\@pdftrapped\@empty
8870 \else
8871 /Trapped/\@pdftrapped
8872 \fi
8873 \HyInfo@Addons
8874 }%
8875 \Hy@DisableOption{pdfauthor}%
8876 \Hy@DisableOption{pdftitle}%
8877 \Hy@DisableOption{pdfsubject}%
8878 \Hy@DisableOption{pdfcreator}%
8879 \Hy@DisableOption{pdfcreationdate}%
8880 \Hy@DisableOption{pdfmoddate}%
8881 \Hy@DisableOption{pdfproducer}%
8882 \Hy@DisableOption{pdfkeywords}%
8883 \Hy@DisableOption{pdftrapped}%
8884 \Hy@DisableOption{pdfinfo}%
8885 }

```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpagetransi-

tion is used. First previous /Trans entries are removed. If a new /Trans key exists, it is appended to \pdfpageattr.

```

8886 \def\hyper@pagetransition{%
8887 \ifx\@pdfpagetransition\relax
8888 \else
8889 \expandafter\Hy@RemoveTransPageAttr
8890 \the\pdfpageattr^^J/Trans{}}>>\END
8891 \ifx\@pdfpagetransition\@empty
8892 \else
8893 \edef\@processme{%
8894 \global\pdfpageattr{%
8895 \the\pdfpageattr
8896 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8897 }%
8898 }%
8899 \@processme
8900 \fi
8901 \fi
8902 }

```

\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.

```

8903 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8904 \ifx\#2\%
8905 \global\pdfpageattr{#1}%
8906 \else
8907 \Hy@RemoveTransPageAttr#1#4\END
8908 \fi
8909 }

```

\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.

```

8910 \def\hyper@pageduration{%
8911 \ifx\@pdfpageduration\relax
8912 \else
8913 \expandafter
8914 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{}} \END
8915 \ifx\@pdfpageduration\@empty
8916 \else
8917 \edef\@processme{%
8918 \global\pdfpageattr{%
8919 \the\pdfpageattr
8920 ^^J/Dur \@pdfpageduration\space
8921 }%
8922 }%
8923 \@processme
8924 \fi
8925 \fi
8926 }

```

\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.

```

8927 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8928   \ifx\#2\%
8929     \global\pdfpageattr{#1}%
8930   \else
8931     \Hy@RemoveDurPageAttr#1#4\END
8932   \fi
8933 }

```

`\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).

```

8934 \def\hyper@pagehidden{%
8935   \ifHy@useHidKey
8936     \expandafter
8937     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
8938   \ifHy@pdfpagehidden
8939     \edef\@processme{%
8940       \global\pdfpageattr{%
8941         \the\pdfpageattr
8942         ^^J/Hid true % SPACE
8943       }%
8944     }%
8945     \@processme
8946   \fi
8947 \fi
8948 }

```

`\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.

```

8949 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8950   \ifx\#2\%
8951     \global\pdfpageattr{#1}%
8952   \else
8953     \Hy@RemoveHidPageAttr#1#4\END
8954   \fi
8955 }

8956 \g@addto@macro\Hy@EveryPageHook{%
8957   \hyper@pagetransition
8958   \hyper@pageduration
8959   \hyper@pagehidden
8960 }

```

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

```

8961 \</pdfTeX>
8962 \<*pdfTeX | xetex>
8963 \Hy@AtBeginDocument{%
8964   \ifHy@setpagesize
8965     \expandafter\@firstofone
8966   \else
8967     \expandafter\@gobble
8968   \fi
8969 }%
8970 \@ifclassloaded{seminar}{%

```



```

8971 <*pdftex>
8972   \setlength{\pdfhorigin}{1truein}%
8973   \setlength{\pdfvorigin}{1truein}%
8974 </pdftex>
8975   \ifportrait
8976     \ifdim\paperwidth=\z@
8977     \else
8978       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8979     \fi
8980     \ifdim\paperheight=\z@
8981     \else
8982       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8983     \fi
8984   \else
8985     \ifdim\paperheight=\z@
8986     \else
8987       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8988     \fi
8989     \ifdim\paperwidth=\z@
8990     \else
8991       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8992     \fi
8993   \fi
8994 }{%
8995   \ltx@ifundefined{stockwidth}{%
8996     \ifdim\paperwidth>\z@
8997       \setlength{\pdfpagewidth}{\paperwidth}%
8998     \fi
8999     \ifdim\paperheight>\z@
9000       \setlength{\pdfpageheight}{\paperheight}%
9001     \fi
9002   }{%
9003     \ifdim\stockwidth>\z@
9004       \setlength{\pdfpagewidth}{\stockwidth}%
9005     \fi
9006     \ifdim\stockheight>\z@
9007       \setlength{\pdfpageheight}{\stockheight}%
9008     \fi
9009   }%
9010 }%
9011 }%
9012 \Hy@DisableOption{setpagesize}%
9013 }
9014 </pdftex | xetex>
9015 <*pdftex>
9016 \def\Acrobatmenu#1#2{%
9017   \Hy@Acrobatmenu{#1}{#2}{%
9018     \pdfstartlink
9019     attr{%
9020       \Hy@setpdfborder
9021       \ifx\@pdfhighlight\@empty
9022       \else
9023         /H\@pdfhighlight
9024       \fi
9025       \ifx\@menubordercolor\relax
9026       \else
9027         /C[\@menubordercolor]%

```

```

9028     \fi
9029   }%
9030   user{%
9031     /Subtype/Link%
9032     \ifHy@pdfa /F 4\fi
9033     /A<<%
9034     /S/Named%
9035     /N/#1%
9036     \Hy@href@nextactionraw
9037     >>%
9038   }%
9039   \relax
9040   \Hy@colorlink\@menucolor#2%
9041   \close@pdflink
9042 }%
9043 }

```

46.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdfTeX—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

```

9044 \def\Hy@FixNotFirstPage{%
9045   \gdef\Hy@FixNotFirstPage{%
9046     \setbox\AtBeginShipoutBox=\hbox{%
9047       \copy\AtBeginShipoutBox
9048     }%
9049   }%
9050 }
9051 \AtBeginShipout{\Hy@FixNotFirstPage}
9052 \</pdfTeX>

```

46.3 hypertex

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

href: `html:`

name: `html:`

end: `html:`

image: `html:`

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

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

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

```

9053 \*hypertext
9054 \providecommand*\XR@ext{}\dvi
9055 \def\PDF@FinishDoc{}
9056 \def\PDF@SetupDoc{%
9057   \ifx\@baseurl\@empty
9058     \else
9059       \special{html:<base href="\@baseurl">}%
9060     \fi
9061 }
9062 \Hy@WrapperDef\hyper@anchor#1{%
9063   \Hy@SaveLastskip
9064   \Hy@VerboseAnchor{#1}%
9065   \begingroup
9066     \let\protect=\string
9067     \hyper@chars
9068     \special{html:<a name=%
9069       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9070   \endgroup
9071   \Hy@activeanchortrue
9072   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9073   \special{html:</a>}%
9074   \Hy@activeanchorfalse
9075   \Hy@RestoreLastskip
9076 }
9077 \Hy@WrapperDef\hyper@anchorstart#1{%
9078   \Hy@SaveLastskip
9079   \Hy@VerboseAnchor{#1}%
9080   \begingroup
9081     \hyper@chars
9082     \special{html:<a name=%
9083       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9084   \endgroup
9085   \Hy@activeanchortrue
9086 }
9087 \def\hyper@anchorend{%
9088   \special{html:</a>}%
9089   \Hy@activeanchorfalse
9090   \Hy@RestoreLastskip
9091 }
9092 \def\@urltype{url}
9093 \def\hyper@linkstart#1#2{%
9094   \Hy@VerboseLinkStart{#1}{#2}%
9095   \expandafter\Hy@colorlink\csname @#1color\endcsname
9096   \def\Hy@tempa{#1}%
9097   \ifx\Hy@tempa\@urltype

```

```

9098 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9099 \else
9100 \begingroup
9101 \hyper@chars
9102 \special{html:<a href=%
9103 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9104 \endgroup
9105 \fi
9106 }
9107 \def\hyper@linkend{%
9108 \special{html:</a>}%
9109 \Hy@endcolorlink
9110 }
9111 \def\hyper@linkfile#1#2#3{%
9112 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
9113 }
9114 \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.

```

9115 \leavevmode
9116 \ifHy@raiselinks
9117 \Hy@SaveSpaceFactor
9118 \Hy@SaveSavedSpaceFactor
9119 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9120 \Hy@RestoreSavedSpaceFactor
9121 \@linkdim\dp\@tempboxa
9122 \lower\@linkdim\hbox{%
9123 \hyper@chars
9124 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9125 }%
9126 \Hy@colorlink\@urlcolor
9127 \Hy@RestoreSpaceFactor
9128 #1%
9129 \Hy@SaveSpaceFactor
9130 \@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).

```

9131 \advance\@linkdim by -6.5\p@
9132 \raise\@linkdim\hbox{\special{html:</a>}}%
9133 \Hy@endcolorlink
9134 \Hy@RestoreSpaceFactor
9135 \else
9136 \begingroup
9137 \hyper@chars
9138 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9139 \Hy@colorlink\@urlcolor#1%
9140 \special{html:</a>}%
9141 \Hy@endcolorlink
9142 \endgroup
9143 \fi
9144 }

```

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

```

9145 \def\hyper@link#1#2#3{%
9146 \Hy@VerboseLinkStart{#1}{#2}%

```

```

9147 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
9148 }

9149 \def\hyper@image#1#2{%
9150 \begingroup
9151 \hyper@chars
9152 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9153 \endgroup
9154 }
9155 </hypertex>
9156 <*dviwindo>

```

46.4 dviwindo

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

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

```

9157 \providecommand*\XR@ext}{dvi}
9158 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9159 \Hy@WrapperDef\hyper@anchor#1{%
9160 \Hy@SaveLastskip
9161 \Hy@VerboseAnchor{#1}%
9162 \begingroup
9163 \let\protect=\string
9164 \special{mark: #1}%
9165 \endgroup
9166 \Hy@activeanchortrue
9167 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9168 \Hy@activeanchorfalse
9169 \Hy@RestoreLastskip
9170 }
9171 \Hy@WrapperDef\hyper@anchorstart#1{%
9172 \Hy@SaveLastskip
9173 \Hy@VerboseAnchor{#1}%
9174 \special{mark: #1}%
9175 \Hy@activeanchortrue
9176 }
9177 \def\hyper@anchorend{%
9178 \Hy@activeanchorfalse
9179 \Hy@RestoreLastskip
9180 }
9181 \def\hyper@linkstart#1#2{%
9182 \Hy@VerboseLinkStart{#1}{#2}%
9183 \expandafter\Hy@colorlink\csname @#1color\endcsname
9184 \special{button: %
9185 10000000 %
9186 \number\baselineskip\space
9187 #2%
9188 }%
9189 }

```

```

9190 \def\hyper@linkend{%
9191   \Hy@endcolorlink
9192 }
9193 \def\hyper@link#1#2#3{%
9194   \Hy@VerboseLinkStart{#1}{#2}%
9195   \leavevmode
9196   \ifHy@raiselinks
9197     \Hy@SaveSpaceFactor
9198     \Hy@SaveSavedSpaceFactor
9199     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9200     \Hy@RestoreSavedSpaceFactor
9201     \@linkdim\dp\@tempboxa
9202     \lower\@linkdim\hbox{%
9203       \special{button: %
9204         \number\wd\@tempboxa\space
9205         \number\ht\@tempboxa\space
9206         #2%
9207       }%
9208       \expandafter\Hy@colorlink\csname @#1color\endcsname
9209       \Hy@RestoreSpaceFactor
9210       #3%
9211       \Hy@SaveSpaceFactor
9212       \Hy@endcolorlink
9213     }%
9214     \@linkdim\ht\@tempboxa
9215     \advance\@linkdim by -6.5\p@
9216     \raise\@linkdim\hbox{}%
9217     \Hy@RestoreSpaceFactor
9218   \else
9219     \special{button: %
9220       \number\wd\@tempboxa\space
9221       \number\ht\@tempboxa\space
9222       #2%
9223     }%
9224     \expandafter\Hy@colorlink\csname @#1color\endcsname
9225     #3%
9226     \Hy@endcolorlink
9227   \fi
9228 }
9229 \def\hyper@linkurl#1#2{%
9230   \begingroup
9231   \hyper@chars
9232   \leavevmode
9233   \ifHy@raiselinks
9234     \Hy@SaveSpaceFactor
9235     \Hy@SaveSavedSpaceFactor
9236     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9237     \Hy@RestoreSavedSpaceFactor
9238     \@linkdim\dp\@tempboxa
9239     \lower\@linkdim\hbox{%
9240       \special{button: %
9241         \number\wd\@tempboxa\space
9242         \number\ht\@tempboxa\space
9243         launch: \wwwbrowser\space
9244         #2%
9245       }%
9246       \Hy@colorlink\@urlcolor

```

```

9247     \Hy@RestoreSpaceFactor
9248     #1%
9249     \Hy@SaveSpaceFactor
9250     \Hy@endcolorlink
9251   }%
9252   \@linkdim\ht\@tempboxa
9253   \advance\@linkdim by -6.5\p@
9254   \raise\@linkdim\hbox{}%
9255   \Hy@RestoreSpaceFactor
9256 \else
9257   \special{button: %
9258     \number\wd\@tempboxa\space
9259     \number\ht\@tempboxa\space
9260     launch: \wwwbrowser\space
9261     #2%
9262   }%
9263   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9264 \fi
9265 \endgroup
9266 }
9267 \def\hyper@linkfile#1#2#3{%
9268 \begingroup
9269 \hyper@chars
9270 \leavevmode
9271 \ifHy@raiselinks
9272   \Hy@SaveSpaceFactor
9273   \Hy@SaveSavedSpaceFactor
9274   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9275   \Hy@RestoreSavedSpaceFactor
9276   \@linkdim\dp\@tempboxa
9277   \lower\@linkdim\hbox{%
9278     \special{button: %
9279       \number\wd\@tempboxa\space
9280       \number\ht\@tempboxa\space
9281       #3,%
9282       file: #2%
9283     }%
9284     \Hy@colorlink\@filecolor
9285     \Hy@RestoreSpaceFactor
9286     #1%
9287     \Hy@SaveSpaceFactor
9288     \Hy@endcolorlink
9289   }%
9290   \@linkdim\ht\@tempboxa
9291   \advance\@linkdim by -6.5\p@
9292   \raise\@linkdim\hbox{}%
9293   \Hy@RestoreSpaceFactor
9294 \else
9295   \special{button: %
9296     \number\wd\@tempboxa\space
9297     \number\ht\@tempboxa\space
9298     #3,%
9299     file: #2%
9300   }%
9301   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9302 \fi
9303 \endgroup

```

```

9304 }
9305 \ifx\@pdfproducer\relax
9306 \def\@pdfproducer{dviwindo + Distiller}%
9307 \fi
9308 \HyInfo@AddonUnsupportedtrue
9309 \def\PDF@FinishDoc{%
9310 \Hy@UseMaketitleInfos
9311 \HyInfo@TrappedUnsupported
9312 \special{PDF: Keywords \@pdfkeywords}%
9313 \special{PDF: Title \@pdftitle}%
9314 \special{PDF: Creator \@pdfcreator}%
9315 \ifx\@pdfcreationdate\@empty
9316 \else
9317 \special{PDF: CreationDate \@pdfcreationdate}%
9318 \fi
9319 \ifx\@pdfmoddate\@empty
9320 \else
9321 \special{PDF: ModDate \@pdfmoddate}%
9322 \fi
9323 \special{PDF: Author \@pdfauthor}%
9324 \ifx\@pdfproducer\relax
9325 \else
9326 \special{PDF: Producer \@pdfproducer}%
9327 \fi
9328 \special{PDF: Subject \@pdfsubject}%
9329 \Hy@DisableOption{pdfauthor}%
9330 \Hy@DisableOption{pdftitle}%
9331 \Hy@DisableOption{pdfsubject}%
9332 \Hy@DisableOption{pdfcreator}%
9333 \Hy@DisableOption{pdfcreationdate}%
9334 \Hy@DisableOption{pdfmoddate}%
9335 \Hy@DisableOption{pdfproducer}%
9336 \Hy@DisableOption{pdfkeywords}%
9337 \Hy@DisableOption{pdftrapped}%
9338 \Hy@DisableOption{pdfinfo}%
9339 }
9340 \def\PDF@SetupDoc{%
9341 \ifx\@baseurl\@empty
9342 \else
9343 \special{PDF: Base \@baseurl}%
9344 \fi
9345 \ifx\@pdfpagescrop\@empty\else
9346 \special{PDF: BBox \@pdfpagescrop}%
9347 \fi
9348 \def\Hy@temp{%
9349 \ifx\@pdfstartpage\@empty
9350 \else
9351 \ifx\@pdfstartview\@empty
9352 \else
9353 \edef\Hy@temp{%
9354 ,Page=\@pdfstartpage
9355 ,View=\@pdfstartview
9356 }%
9357 \fi
9358 \fi
9359 \edef\Hy@temp{%
9360 \noexpand\pdfmark{%

```



```

9361 pdfmark=/DOCVIEW,%
9362 PageMode=/\@pdfpagemode
9363 \Hy@temp
9364 }%
9365 }%
9366 \Hy@temp
9367 \ifx\@pdfpagescrop\@empty
9368 \else
9369 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9370 \fi
9371 \edef\Hy@temp{%
9372 \ifHy@toolbar\else /HideToolbar true\fi
9373 \ifHy@menubar\else /HideMenubar true\fi
9374 \ifHy@windowui\else /HideWindowUI true\fi
9375 \ifHy@fitwindow /FitWindow true\fi
9376 \ifHy@centerwindow /CenterWindow true\fi
9377 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9378 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfmonfullscreenpagemode
9379 \Hy@UseNameKey{Direction}\@pdfdirection
9380 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9381 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9382 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9383 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9384 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9385 \Hy@UseNameKey{Duplex}\@pdfduplex
9386 \ifx\@pdfpicktraybypdfsize\@empty
9387 \else
9388 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9389 \fi
9390 \ifx\@pdfprintpagerange\@empty
9391 \else
9392 /PrintPageRange[\@pdfprintpagerange]%
9393 \fi
9394 \ifx\@pdfnumcopies\@empty
9395 \else
9396 /NumCopies \@pdfnumcopies
9397 \fi
9398 }%
9399 \pdfmark{pdfmark=/PUT,%
9400 Raw={%
9401 \string{Catalog\string}<<%
9402 \ifx\Hy@temp\@empty
9403 \else
9404 /ViewerPreferences<<\Hy@temp>>%
9405 \fi
9406 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9407 \ifx\@pdflang\@empty
9408 \else
9409 /Lang(\@pdflang)%
9410 \fi
9411 >>%
9412 }%
9413 }%
9414 }
9415 </dviwindo>
9416 <*\dvi pdfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
9417 \providecommand*{\XR@ext}{pdf}
9418 \Hy@setbreaklinks{true}
9419 \def\HyPat@ObjRef{%
9420   @[- ]+%
9421 }
9422 \newsavebox{\pdfm@box}
9423 \def\@pdfm@mark#1{\special{pdf:#1}}
9424 \Hy@WrapperDef\@pdfm@dest#1{%
9425   \Hy@SaveLastskip
9426   \Hy@VerboseAnchor{#1}%
9427   \begingroup
9428     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9429     \def\x{XYZ}%
9430     \ifx\x\@pdfview
9431       \def\x{XYZ @xpos @ypos null}%
9432     \else
9433       \def\x{FitH}%
9434       \ifx\x\@pdfview
9435         \def\x{FitH @ypos}%
9436       \else
9437         \def\x{FitBH}%
9438         \ifx\x\@pdfview
9439           \def\x{FitBH @ypos}%
9440         \else
9441           \def\x{FitV}%
9442           \ifx\x\@pdfview
9443             \def\x{FitV @xpos}%
9444           \else
9445             \def\x{FitBV}%
9446             \ifx\x\@pdfview
9447               \def\x{FitBV @xpos}%
9448             \else
9449               \def\x{Fit}%
9450               \ifx\x\@pdfview
9451                 \let\x\@pdfview
9452               \else
9453                 \def\x{FitB}%
9454                 \ifx\x\@pdfview
9455                   \let\x\@pdfview
9456                 \else
9457                   \def\x{FitR}%
9458                   \ifx\x\@pdfview
9459                     \Hy@Warning{'pdfview=FitR' is not supported}%
9460                     \def\x{XYZ @xpos @ypos null}%
9461                   \else
9462                     \@onelevel@sanitize\@pdfview
9463                     \Hy@Warning{%
9464                       Unknown value '\@pdfview' for pdfview%
9465                     }%
9466                     \def\x{XYZ @xpos @ypos null}%
9467                   \fi
9468                 \fi
9469               \fi
9470             \fi
```

```

9471      \fi
9472      \fi
9473      \fi
9474      \fi
9475      \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9476 \endgroup
9477 \Hy@RestoreLastskip
9478 }
9479 \providecommand*\@pdfview{XYZ}
9480 \providecommand*\@pdfborder{0 0 1}
9481 \providecommand*\@pdfborderstyle{}
9482 \def\hyper@anchor#1{%
9483   \@pdfm@dest{#1}%
9484 }
9485 \def\hyper@anchorstart#1{%
9486   \Hy@activeanchortrue
9487   \@pdfm@dest{#1}%
9488 }
9489 \def\hyper@anchorend{%
9490   \Hy@activeanchorfalse
9491 }
9492 \newcounter{Hy@AnnotLevel}
9493 \ifHy@ocgcolorlinks
9494   \def\OBJ@OCG@view{@OCG@view}%
9495   \@pdfm@mark{%
9496     obj \OBJ@OCG@view <<%
9497       /Type/OCG%
9498       /Name(View)%
9499       /Usage<<%
9500       /Print<<%
9501       /PrintState/OFF%
9502       >>%
9503       /View<<%
9504       /ViewState/ON%
9505       >>%
9506       >>%
9507       >>%
9508   }%
9509   \@pdfm@mark{close \OBJ@OCG@view}%
9510   \def\OBJ@OCG@print{@OCG@print}%
9511   \@pdfm@mark{%
9512     obj \OBJ@OCG@print <<%
9513       /Type/OCG%
9514       /Name(Print)%
9515       /Usage<<%
9516       /Print<<%
9517       /PrintState/ON%
9518       >>%
9519       /View<<%
9520       /ViewState/OFF%
9521       >>%
9522       >>%
9523       >>%
9524   }%
9525   \@pdfm@mark{close \OBJ@OCG@print}%
9526   \def\OBJ@OCGs{@OCGs}%
9527   \@pdfm@mark{%

```

```

9528 obj \OBJ@OCGs [%
9529   \OBJ@OCG@view\space\OBJ@OCG@print
9530   ]%
9531 }%
9532 \@pdfm@mark{close \OBJ@OCGs}%
9533 \@pdfm@mark{%
9534   put @catalog <<%
9535     /OCProperties<<%
9536     /OCGs \OBJ@OCGs
9537     /D<<%
9538     /OFF[\OBJ@OCG@print]%
9539     /AS[%
9540       <<%
9541         /Event/View%
9542         /OCGs \OBJ@OCGs
9543         /Category[/View]%
9544       >>%
9545       <<%
9546         /Event/Print%
9547         /OCGs \OBJ@OCGs
9548         /Category[/Print]%
9549       >>%
9550       <<%
9551         /Event/Export%
9552         /OCGs \OBJ@OCGs
9553         /Category[/Print]%
9554       >>%
9555     ]%
9556   >>%
9557 >>%
9558 >>%
9559 }%
9560 \AtBeginShipout{%
9561   \setbox\AtBeginShipoutBox=\hbox{%
9562     \copy\AtBeginShipoutBox
9563     \@pdfm@mark{%
9564       put @resources <<%
9565         /Properties<<%
9566         /OCView \OBJ@OCG@view
9567         /OCPrint \OBJ@OCG@print
9568       >>%
9569     >>%
9570   }%
9571 }%
9572 }%
9573 \Hy@AtBeginDocument{%
9574   \def\Hy@colorlink#1{%
9575     \begingroup
9576     \ifHy@ocgcolorlinks
9577       \def\Hy@ocgcolor{#1}%
9578       \setbox0=\hbox\bgroup\color@begingroup
9579     \else
9580       \HyColor@UseColor#1%
9581     \fi
9582   }%
9583   \def\Hy@endcolorlink{%
9584     \ifHy@ocgcolorlinks

```

```

9585 \color@endgroup\egroup
9586 \mbox{%
9587 \@pdfm@mark{content /OC/OCPrint BDC}%
9588 \rlap{\copy0}%
9589 \@pdfm@mark{content EMC/OC/OCView BDC}%
9590 \begingroup
9591 \expandafter\HyColor@UseColor\Hy@ocgcolor
9592 \box0 %
9593 \endgroup
9594 \@pdfm@mark{content EMC}%
9595 }%
9596 \fi
9597 \endgroup
9598 }%
9599 }%
9600 \else
9601 \Hy@DisableOption{ocgcolorlinks}%
9602 \fi

9603 \def\Hy@BeginAnnot#1{%
9604 \stepcounter{Hy@AnnotLevel}%
9605 \ifnum\value{Hy@AnnotLevel}=\@ne
9606 #1%
9607 \fi
9608 }

9609 \def\Hy@endAnnot{%
9610 \ifnum\value{Hy@AnnotLevel}=\@ne
9611 \Hy@endcolorlink
9612 \@pdfm@mark{eann}%
9613 \fi
9614 \addtocounter{Hy@AnnotLevel}\m@ne
9615 }

9616 \def\Hy@undefinedname{UNDEFINED}
9617 \def\hyper@linkstart#1#2{%
9618 \Hy@VerboseLinkStart{#1}{#2}%
9619 \Hy@BeginAnnot{%
9620 \protected@edef\Hy@testname{#2}%
9621 \ifx\Hy@testname\@empty
9622 \Hy@Warning{%
9623 Empty destination name,\MessageBreak
9624 using '\Hy@undefinedname'%
9625 }%
9626 \let\Hy@testname\Hy@undefinedname
9627 \else
9628 \Hy@pstringdef\Hy@testname{%
9629 \expandafter\HyperDestNameFilter\expandafter{%
9630 \Hy@testname
9631 }%
9632 }%
9633 \fi
9634 \@pdfm@mark{%
9635 bann<<%
9636 /Type/Annot%
9637 /Subtype/Link%
9638 \ifHy@pdfa /F 4\fi
9639 \Hy@setpdfborder
9640 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9641 \else

```

```

9642      /C[\csname @#1bordercolor\endcsname]%
9643      \fi
9644      /A<<%
9645      /S/GoTo%
9646      /D(\Hy@testname)%
9647      \Hy@href@nextactionraw
9648      >>%
9649      >>%
9650      }%
9651      \expandafter\Hy@colorlink\csname @#1color\endcsname
9652      }%
9653      }
9654      \def\hyper@linkend{\Hy@EndAnnot}%
9655      \def\hyper@link#1#2#3{%
9656      \hyper@linkstart{#1}{#2}#3\hyper@linkend
9657      }
9658      \def\hyper@linkfile#1#2#3{%
9659      \leavevmode
9660      \Hy@BeginAnnot{%
9661      \def\Hy@pstringF{#2}%
9662      \Hy@CleanupFile\Hy@pstringF
9663      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9664      \Hy@pstringdef\Hy@pstringD{#3}%
9665      \Hy@MakeRemoteAction
9666      \@pdfm@mark{%
9667      bann<<%
9668      /Type/Annot%
9669      /Subtype/Link%
9670      \ifHy@pdfa /F 4\fi
9671      \Hy@setpdfborder
9672      \ifx\@filebordercolor\relax
9673      \else
9674      /C[\@filebordercolor]%
9675      \fi
9676      /A<<%
9677      /S/GoToR%
9678      /F(\Hy@pstringF)%
9679      /D%
9680      \ifx\#3\%
9681      [\Hy@href@page\@pdfremotestartview]%
9682      \else
9683      (\Hy@pstringD)%
9684      \fi
9685      \Hy@SetNewWindow
9686      \Hy@href@nextactionraw
9687      >>%
9688      >>%
9689      }%
9690      \Hy@colorlink\@filecolor
9691      }%
9692      #1%
9693      \Hy@EndAnnot
9694      }
9695      \def\hyper@linkurl#1#2{%
9696      \leavevmode
9697      \Hy@BeginAnnot{%
9698      \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

9699 \pdfmark{mark{%
9700   bann<<%
9701     /Type/Annot%
9702     /Subtype/Link%
9703     \ifHy@pdfa /F 4\fi
9704     \Hy@setpdfborder
9705     \ifx\@urlbordercolor\relax
9706       \else
9707         /C[\@urlbordercolor]%
9708       \fi
9709     /A<<%
9710     /S/URI%
9711     /URI(\Hy@pstringURI)%
9712     \ifHy@href@ismap
9713       /IsMap true%
9714     \fi
9715     \Hy@href@nextactionraw
9716   >>%
9717   >>%
9718   }%
9719   \Hy@colorlink\@urlcolor
9720 }%
9721 #1%
9722 \Hy@EndAnnot
9723 }
9724 \def\Acrobatmenu#1#2{%
9725   \Hy@Acrobatmenu{#1}{#2}{%
9726     \Hy@BeginAnnot{%
9727       \pdfmark{mark{%
9728         bann<<%
9729           /Type/Annot%
9730           /Subtype/Link%
9731           \ifHy@pdfa /F 4\fi
9732           /A<<%
9733           /S/Named%
9734           /N/#1%
9735           \Hy@href@nextactionraw
9736         >>%
9737         \Hy@setpdfborder
9738         \ifx\@menubordercolor\relax
9739           \relax
9740           /C[\@menubordercolor]%
9741         \fi
9742         >>%
9743       }%
9744       \Hy@colorlink\@menucolor
9745     }%
9746     #2%
9747     \Hy@EndAnnot
9748   }%
9749 }
9750 \ifx\pdfproducer\relax
9751   \def\pdfproducer{dvipdfm}%

```

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

```

9752 \begingroup\expandafter\expandafter\expandafter\endgroup
9753 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9754   \else

```

```

9755 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9756 \fi
9757 \fi
9758 \def\PDF@FinishDoc{%
9759 \Hy@UseMaketitleInfos
9760 \HyInfo@GenerateAddons
9761 \@pdfm@mark{%
9762 docinfo<<%
9763 /Title(\@pdftitle)%
9764 /Subject(\@pdfsubject)%
9765 /Creator(\@pdfcreator)%
9766 \ifx\@pdfcreationdate\@empty
9767 \else
9768 /CreationDate(\@pdfcreationdate)%
9769 \fi
9770 \ifx\@pdfmoddate\@empty
9771 \else
9772 /ModDate(\@pdfmoddate)%
9773 \fi
9774 /Author(\@pdfauthor)%
9775 \ifx\@pdfproducer\relax
9776 \else
9777 /Producer(\@pdfproducer)%
9778 \fi
9779 /Keywords(\@pdfkeywords)%
9780 \ifx\@pdftrapped\@empty
9781 \else
9782 /Trapped/\@pdftrapped
9783 \fi
9784 \HyInfo@Addons
9785 >>%
9786 }%
9787 \Hy@DisableOption{pdfauthor}%
9788 \Hy@DisableOption{pdftitle}%
9789 \Hy@DisableOption{pdfsubject}%
9790 \Hy@DisableOption{pdfcreator}%
9791 \Hy@DisableOption{pdfcreationdate}%
9792 \Hy@DisableOption{pdfmoddate}%
9793 \Hy@DisableOption{pdfproducer}%
9794 \Hy@DisableOption{pdfkeywords}%
9795 \Hy@DisableOption{pdftrapped}%
9796 \Hy@DisableOption{pdfinfo}%
9797 }

9798 \def\PDF@SetupDoc{%
9799 \edef\Hy@temp{%
9800 \ifHy@toolbar\else /HideToolbar true\fi
9801 \ifHy@menubar\else /HideMenubar true\fi
9802 \ifHy>windowui\else /HideWindowUI true\fi
9803 \ifHy@fitwindow /FitWindow true\fi
9804 \ifHy@centerwindow /CenterWindow true\fi
9805 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9806 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9807 \Hy@UseNameKey{Direction}\@pdfdirection
9808 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9809 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9810 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9811 \Hy@UseNameKey{PrintClip}\@pdfprintclip

```



```

9812 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9813 \Hy@UseNameKey{Duplex}\@pdfduplex
9814 \ifx\@pdfpicktraybypdfsize\@empty
9815 \else
9816 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9817 \fi
9818 \ifx\@pdfprintpagerange\@empty
9819 \else
9820 /PrintPageRange[\@pdfprintpagerange]%
9821 \fi
9822 \ifx\@pdfnumcopies\@empty
9823 \else
9824 /NumCopies \@pdfnumcopies
9825 \fi
9826 }%
9827 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9828 \@pdfm@mark{%
9829 docview<<%
9830 \ifx\@pdfstartpage\@empty
9831 \else
9832 \ifx\@pdfstartview\@empty
9833 \else
9834 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9835 \fi
9836 \fi
9837 \ifx\@baseurl\@empty
9838 \else
9839 /URI<</Base(\Hy@pstringB)>>%
9840 \fi
9841 /PageMode/\@pdfpagemode
9842 \ifx\Hy@temp\@empty
9843 \else
9844 /ViewerPreferences<<\Hy@temp>>%
9845 \fi
9846 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9847 \ifx\@pdflang\@empty
9848 \else
9849 /Lang(\@pdflang)%
9850 \fi
9851 >>%
9852 }%
9853 \ifx\@pdfpagescrop\@empty
9854 \else
9855 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9856 \fi
9857 }
9858 </dvi pdfm | xetex>

```

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

```

9859 <*dvi pdfm>
9860 \AtBeginShipoutFirst{%
9861 \ifHy@setpagesize
9862 \begingroup
9863 \@ifundefined{stockwidth}{%
9864 \ifdim\paperwidth>z@
9865 \ifdim\paperheight>z@
9866 \special{papersize=\the\paperwidth,\the\paperheight}%

```

```

9867     \fi
9868     \fi
9869   }{%
9870     \ifdim\stockwidth>\z@
9871       \ifdim\stockheight>\z@
9872         \special{papersize=\the\stockwidth,\the\stockheight}%
9873       \fi
9874     \fi
9875   }%
9876 \endgroup
9877 \fi
9878 \Hy@DisableOption{setpagesize}%
9879 }
9880 \</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.

```

9881 \<*vtexhtml>
9882 \providecommand*{\XR@ext}{htm}
9883 \RequirePackage{vtexhtml}
9884 \newif\if@Localurl
9885 \def\PDF@FinishDoc{}
9886 \def\PDF@SetupDoc{%
9887   \ifx\@baseurl\@empty
9888     \else
9889       \special{!direct <base href="\@baseurl">}%
9890   \fi
9891 }
9892 \def\@urltype{url}
9893 \def\hyper@link#1#2#3{%
9894   \Hy@VerboseLinkStart{#1}{#2}%
9895   \leavevmode
9896   \special{!direct <a href=%
9897     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9898   #3%
9899   \special{!direct </a>}%
9900 }
9901 \def\hyper@linkurl#1#2{%
9902   \begingroup
9903     \hyper@chars
9904     \leavevmode
9905     \MathBSuppress=1\relax
9906     \special{!direct <a href=%
9907       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9908     #1%
9909     \MathBSuppress=0\relax
9910     \special{!direct </a>}%
9911   \endgroup
9912 }
9913 \def\hyper@linkfile#1#2#3{%
9914   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
9915 }
9916 \def\hyper@linkstart#1#2{%
9917   \Hy@VerboseLinkStart{#1}{#2}%
9918   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype

```

```

9919 \@Localurltrue
9920 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9921 \else
9922 \@Localurlfalse
9923 \begingroup
9924 \hyper@chars
9925 \special{!aref \HyperDestNameFilter{#2}}%
9926 \endgroup
9927 \fi
9928 }
9929 \def\hyper@linkend{%
9930 \if@Localurl
9931 \special{!endaref}%
9932 \else
9933 \special{!direct </a>}%
9934 \fi
9935 }
9936 \Hy@WrapperDef\hyper@anchorstart#1{%
9937 \Hy@SaveLastskip
9938 \Hy@VerboseAnchor{#1}%
9939 \begingroup
9940 \hyper@chars
9941 \special{!aname #1}%
9942 \special{!direct <a name=%
9943 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9944 \endgroup
9945 \Hy@Activeanchortrue
9946 }
9947 \def\hyper@anchorend{%
9948 \special{!direct </a>}%
9949 \Hy@Activeanchorfalse
9950 \Hy@RestoreLastskip
9951 }
9952 \Hy@WrapperDef\hyper@anchor#1{%
9953 \Hy@SaveLastskip
9954 \Hy@VerboseAnchor{#1}%
9955 \begingroup
9956 \let\protect=\string
9957 \hyper@chars
9958 \leavevmode
9959 \special{!aname #1}%
9960 \special{!direct <a name=%
9961 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9962 \endgroup
9963 \Hy@Activeanchortrue
9964 \bgroup\anchor@spot\egroup
9965 \special{!direct </a>}%
9966 \Hy@Activeanchorfalse
9967 \Hy@RestoreLastskip
9968 }
9969 \def\@Form[#1]{%
9970 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9971 }
9972 \def\@endForm{}
9973 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9974 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
9975 }

```

```

9976 \def\@TextField[#1]#2{% parameters, label
9977 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
9978 }
9979 \def\@CheckBox[#1]#2{% parameters, label
9980 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
9981 }
9982 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9983 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
9984 }
9985 \def\@PushButton[#1]#2{% parameters, label
9986 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
9987 }
9988 \def\@Reset[#1]#2{%
9989 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9990 }
9991 \def\@Submit[#1]#2{%
9992 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
9993 }
9994 \</vtexhtml>
9995 \< *vtex>

```

VTeX version 6.68 supports \mediawidth and \mediaheight. The \ifx construct is better than a \csname, because it avoids the definition and the hash table entry of a previous undefined macro.

```

9996 \ifx\mediaheight\@undefined
9997 \else
9998 \ifx\mediaheight\relax
9999 \else
10000 \ifHy@setpagesize
10001 \providecommand*\VTeXInitMediaSize{%
10002 \ltx@ifundefined{stockwidth}{%
10003 \ifdim\paperheight>0pt %
10004 \setlength\mediaheight\paperheight
10005 \fi
10006 \ifdim\paperheight>0pt %
10007 \setlength\mediawidth\paperwidth
10008 \fi
10009 }{%
10010 \ifdim\stockheight>0pt %
10011 \setlength\mediaheight\stockheight
10012 \fi
10013 \ifdim\stockwidth>0pt %
10014 \setlength\mediawidth\stockwidth
10015 \fi
10016 }%
10017 }%
10018 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10019 \fi
10020 \Hy@DisableOption{setpagesize}%
10021 \fi
10022 \fi

```

Older versions of VTeX require xyz in lower case.

```

10023 \providecommand*\@pdfview{xyz}
10024 \providecommand*\@pdfborder{0 0 1}
10025 \providecommand*\@pdfborderstyle{}
10026 \let\CurrentBorderColor\@linkbordercolor
10027 \Hy@WrapperDef\hyper@anchor#1{%

```

```

10028 \Hy@SaveLastskip
10029 \Hy@VerboseAnchor{#1}%
10030 \begingroup
10031 \let\protect=\string
10032 \hyper@chars
10033 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10034 \endgroup
10035 \Hy@activeanchortrue
10036 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10037 \Hy@activeanchorfalse
10038 \Hy@RestoreLastskip
10039 }
10040 \Hy@WrapperDef\hyper@anchorstart#1{%
10041 \Hy@SaveLastskip
10042 \Hy@VerboseAnchor{#1}%
10043 \begingroup
10044 \hyper@chars
10045 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10046 \endgroup
10047 \Hy@activeanchortrue
10048 }
10049 \def\hyper@anchorend{%
10050 \Hy@activeanchorfalse
10051 \Hy@RestoreLastskip
10052 }
10053 \def\@urltype{url}
10054 \def\Hy@undefinedname{UNDEFINED}
10055 \def\hyper@linkstart#1#2{%
10056 \Hy@VerboseLinkStart{#1}{#2}%
10057 \Hy@pstringdef\Hy@pstringURI{#2}%
10058 \expandafter\Hy@colorlink\csname @#1color\endcsname
10059 \ltx@ifundefined{@#1bordercolor}{%
10060 \let\CurrentBorderColor\relax
10061 }{%
10062 \edef\CurrentBorderColor{%
10063 \csname @#1bordercolor\endcsname
10064 }%
10065 }%
10066 \def\Hy@tempa{#1}%
10067 \ifx\Hy@tempa\@urltype
10068 \special{!%
10069 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10070 \ifHy@href@ismap
10071 /IsMap true%
10072 \fi
10073 \Hy@href@nextactionraw
10074 >;%
10075 a=<%
10076 \ifHy@pdfa /F 4\fi
10077 \Hy@setpdfborder
10078 \ifx\CurrentBorderColor\relax
10079 \else
10080 /C [\CurrentBorderColor]%
10081 \fi
10082 >%
10083 }%
10084 \else

```

```

10085 \protected@edef\Hy@testname{#2}%
10086 \ifx\Hy@testname\@empty
10087 \Hy@Warning{%
10088     Empty destination name,\MessageBreak
10089     using '\Hy@undefinedname'%
10090 }%
10091 \let\Hy@testname\Hy@undefinedname
10092 \fi
10093 \special{!%
10094     aref \expandafter\HyperDestNameFilter
10095     \expandafter{\Hy@testname};%
10096 a=<%
10097     \ifHy@pdfa /F 4\fi
10098     \Hy@setpdfborder
10099     \ifx\CurrentBorderColor\relax
10100     \else
10101         /C [\CurrentBorderColor]%
10102     \fi
10103     >%
10104 }%
10105 \fi
10106 }
10107 \def\hyper@linkend{%
10108     \special{!endaref}%
10109     \Hy@endcolorlink
10110 }
10111 \def\hyper@linkfile#1#2#3{%
10112     \leavevmode
10113     \def\Hy@pstringF{#2}%
10114     \Hy@CleanupFile\Hy@pstringF
10115     \special{!%
10116         aref <%
10117         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
10118         f=\Hy@pstringF>#3;%
10119         a=<%
10120             \ifHy@pdfa /F 4\fi
10121             \Hy@setpdfborder
10122             \ifx\@filebordercolor\relax
10123             \else
10124                 /C [\@filebordercolor]%
10125             \fi
10126             >%
10127         }%
10128         \Hy@colorlink\@filecolor#1\Hy@endcolorlink
10129     \special{!endaref}%
10130 }
10131 \def\hyper@linkurl#1#2{%
10132     \begingroup
10133     \Hy@pstringdef\Hy@pstringURI{#2}%
10134     \hyper@chars
10135     \leavevmode
10136     \special{!%
10137         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10138         \ifHy@href@ismap
10139             /IsMap true%
10140         \fi
10141         \Hy@href@nextactionraw

```

```

10142     >,%
10143     a=<%
10144         \ifHy@pdfa /F 4\fi
10145         \Hy@setpdfborder
10146         \ifx\@urlbordercolor\relax
10147         \else
10148             /C [\@urlbordercolor]%
10149         \fi
10150     >%
10151 }%
10152 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10153 \special{!endaref}%
10154 \endgroup
10155 }
10156 \def\hyper@link#1#2#3{%
10157 \Hy@VerboseLinkStart{#1}{#2}%
10158 \ltx@ifundefined{@#1bordercolor}{%
10159     \let\CurrentBorderColor\relax
10160 }{%
10161     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10162 }%
10163 \leavevmode
10164 \protected@edef\Hy@testname{#2}%
10165 \ifx\Hy@testname\@empty
10166     \Hy@Warning{%
10167         Empty destination name,\MessageBreak
10168         using '\Hy@undefinedname'%
10169     }%
10170     \let\Hy@testname\Hy@undefinedname
10171 \fi
10172 \special{!%
10173     aref \expandafter\HyperDestNameFilter
10174         \expandafter{\Hy@testname};%
10175     a=<%
10176         \ifHy@pdfa /F 4\fi
10177         \Hy@setpdfborder
10178         \ifx\CurrentBorderColor\relax
10179         \else
10180             /C [\CurrentBorderColor]%
10181         \fi
10182     >%
10183 }%
10184 \expandafter
10185 \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
10186 \special{!endaref}%
10187 }
10188 \def\hyper@image#1#2{%
10189 \hyper@linkurl{#2}{#1}%
10190 }
10191 \def\@hyper@launch run:#1\#2#3{%
10192 \Hy@pstringdef\Hy@pstringF{#1}%
10193 \Hy@pstringdef\Hy@pstringP{#3}%
10194 \leavevmode
10195 \special{!aref %
10196     <u=%
10197     /Type/Action%
10198     /S/Launch%

```

```

10199 /F(\Hy@pstringF)%
10200 \Hy@SetNewWindow
10201 \ifx\#3\%
10202 \else
10203 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10204 \fi
10205 \Hy@href@nextactionraw
10206 >;%
10207 a=<%
10208 \ifHy@pdfa /F 4\fi
10209 \Hy@setpdfborder
10210 \ifx\@runbordercolor\relax
10211 \else
10212 /C[\@runbordercolor]%
10213 \fi
10214 >%
10215 }%
10216 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
10217 \special{!endaref}%
10218 }
10219 \def\Acrobatmenu#1#2{%
10220 \Hy@Acrobatmenu{#1}{#2}{%
10221 \special{!%
10222 aref <u=/S /Named /N /#1>;%
10223 a=<%
10224 \ifHy@pdfa /F 4\fi
10225 \Hy@setpdfborder
10226 \ifx\@menubordercolor\relax
10227 \else
10228 /C[\@menubordercolor]%
10229 \fi
10230 >%
10231 }%
10232 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
10233 \special{!endaref}%
10234 }%
10235 }

```

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

The code below makes sense for V_TE_X 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{...}{...}` globally.

```

10236 \ifnum\Hy@VTeXversion<702 %
10237 \else
10238 \def\hyper@pagetransition{%
10239 \ifx\@pdfpagetransition\relax
10240 \else
10241 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

10242 \else
10243 \hvtex@parse@trans\@pdfpagetransition
10244 \fi
10245 \fi
10246 }%

```

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

Syntax of $\text{\texttt{VT\TeX}} \text{\texttt{\special{!trans <transition_effect>}}}$:

```

<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:

```

10247 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10248 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10249 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10250 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10251 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10252 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10253 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10254 \def\hvtex@param@dimension{/Dm}%
10255 \def\hvtex@param@direction{/Di}%
10256 \def\hvtex@param@duration{/D}%
10257 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

10258 \def\hvtex@gettoken{%
10259   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10260 }%

```

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

```

10261 \def\hvtex@gettoken@#1 #2\@nil{%
10262   \edef\hvtex@token{#1}%
10263   \edef\hvtex@buffer{#2}%
10264 }%
10265 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10266 \let\hvtex@trans@code\@empty
10267 \let\hvtex@param@dimension\@empty
10268 \let\hvtex@param@direction\@empty
10269 \let\hvtex@param@duration\@empty
10270 \let\hvtex@param@motion\@empty
10271 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10272 \hvtex@gettoken
10273 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10274   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10275   \else
10276   \hvtex@gettoken
10277   \fi
10278   \fi
10279   \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10280   \hvtex@trans@params
10281 }%

```

Reentrant macro to parse optional parameters.

```

10282 \def\hvtex@trans@params{%
10283   \ifx\hvtex@buffer\@empty
10284   \else
10285     \hvtex@gettoken
10286     \let\hvtex@trans@par\hvtex@token
10287     \ifx\hvtex@buffer\@empty
10288     \else
10289       \hvtex@gettoken
10290       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. \TeX special takes it in milliseconds.

```

10291       \let\hvtex@param@duration\hvtex@token
10292     \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10293       \expandafter\edef\expandafter\hvtex@param@motion
10294       \expandafter{\expandafter\@gobble\hvtex@token}%
10295     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

10296       \expandafter\edef\expandafter\hvtex@param@dimension
10297       \expandafter{\expandafter\@gobble\hvtex@token}%
10298     \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).

```

10299       \let\hvtex@param@direction\hvtex@token
10300       \fi\fi\fi
10301     \fi
10302   \fi
10303   \ifx\hvtex@buffer\@empty
10304     \let\next\hvtex@produce@trans
10305   \else
10306     \let\next\hvtex@trans@params
10307   \fi
10308   \next
10309 }%

```

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

```

10310 \def\hvtex@produce@trans{%
10311   \let\vtex@trans@special\@empty
10312   \if S\hvtex@trans@code
10313     \edef\vtex@trans@special{\hvtex@trans@code
10314       \hvtex@param@dimension\hvtex@param@motion}%
10315   \else\if B\hvtex@trans@code
10316     \edef\vtex@trans@special{%
10317       \hvtex@trans@code\hvtex@param@dimension

```

```

10318 }%
10319 \else\if X\hvtex@trans@code
10320 \edef\vtex@trans@special{%
10321 \hvtex@trans@code\hvtex@param@motion
10322 }%
10323 \else\if W\hvtex@trans@code
10324 \edef\vtex@trans@special{%
10325 \hvtex@trans@code\hvtex@param@direction
10326 }%
10327 \else\if D\hvtex@trans@code
10328 \let\vtex@trans@special\hvtex@trans@code
10329 \else\if R\hvtex@trans@code
10330 \let\vtex@trans@special\hvtex@trans@code
10331 \else\if G\hvtex@trans@code
10332 \edef\vtex@trans@special{%
10333 \hvtex@trans@code\hvtex@param@direction
10334 }%
10335 \fi\fi\fi\fi\fi\fi
10336 \ifx\vtex@trans@special\@empty
10337 \else
10338 \ifx\hvtex@param@duration\@empty
10339 \else
10340 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10341 \multiply\dimen@\@m
10342 \edef\vtex@trans@special{%
10343 \vtex@trans@special,\strip@pt\dimen@
10344 }%
10345 \fi

```

And all the mess is just for this.

```

10346 \special{!trans \vtex@trans@special}%
10347 \fi
10348 }%
10349 \def\hyper@pageduration{%
10350 \ifx\@pdfpageduration\relax
10351 \else
10352 \ifx\@pdfpageduration\@empty
10353 \special{!duration-}%
10354 \else
10355 \special{!duration \@pdfpageduration}%
10356 \fi
10357 \fi
10358 }%
10359 \def\hyper@pagehidden{%
10360 \ifHy@useHidKey
10361 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10362 \fi
10363 }%
10364 \g@addto@macro\Hy@EveryPageBoxHook{%
10365 \hyper@pagetransition
10366 \hyper@pageduration
10367 \hyper@pagehidden
10368 }%
10369 \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

```

10370 \ifx\@pdfproducer\relax
10371 \def\@pdfproducer{VTeX}%
10372 \ifnum\Hy@VTeXversion>\z@
10373 \count@\VTeXversion
10374 \divide\count@ 100 %
10375 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10376 \multiply\count@ -100 %
10377 \advance\count@\VTeXversion
10378 \edef\@pdfproducer{%
10379 \@pdfproducer
10380 .\ifnum\count@<10 0\fi\the\count@
10381 \ifx\VTeXOS\@undefined\else
10382 \ifnum\VTeXOS>0 %
10383 \ifnum\VTeXOS<6 %
10384 \space(%
10385 \ifcase\VTeXOS
10386 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10387 \fi
10388 )%
10389 \fi
10390 \fi
10391 \fi
10392 ,\space
10393 \ifnum\OpMode=\@one PDF\else PS\fi
10394 \space backend%
10395 \ifx\gexmode\@undefined\else
10396 \ifnum\gexmode>\z@\space with GeX\fi
10397 \fi
10398 }%
10399 \fi
10400 \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).

```

10401 \def\PDF@SetupDoc{%
10402 \ifx\@pdfpagescrop\@empty
10403 \else

```

```

10404 \special{!pdinfo b=<\@pdfpagescrop>}%
10405 \fi
10406 \ifx\@pdfstartpage\@empty
10407 \else
10408 \ifx\@pdfstartview\@empty
10409 \else
10410 \special{!onopen Page\@pdfstartpage}%
10411 \fi
10412 \fi
10413 \special{!pdinfo p=</\@pdfpagemode>}%
10414 \ifx\@baseurl\@empty
10415 \else
10416 \special{!pdinfo u=<<</Base (\@baseurl)>>>}%
10417 \fi
10418 \special{!pdinfo v=<<<%
10419 \ifHy@toolbar\else /HideToolbar true\fi
10420 \ifHy@menubar\else /HideMenubar true\fi
10421 \ifHy>windowui\else /HideWindowUI true\fi
10422 \ifHy@fitwindow /FitWindow true\fi
10423 \ifHy@centerwindow /CenterWindow true\fi
10424 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10425 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10426 \Hy@UseNameKey{Direction}\@pdfdirection
10427 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10428 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10429 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10430 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10431 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10432 \Hy@UseNameKey{Duplex}\@pdfduplex
10433 \ifx\@pdfpicktraybypdfsize\@empty
10434 \else
10435 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10436 \fi
10437 \ifx\@pdfprintpagerange\@empty
10438 \else
10439 /PrintPageRange[\@pdfprintpagerange]%
10440 \fi
10441 \ifx\@pdfnumcopies\@empty
10442 \else
10443 /NumCopies \@pdfnumcopies
10444 \fi
10445 >>>}%
10446 \ifx\@pdfpagelayout\@empty
10447 \else
10448 \special{!pdinfo l=</\@pdfpagelayout\space>}%
10449 \fi
10450 }%
10451 \HyInfo@AddonUnsupportedtrue
10452 \def\PDF@FinishDoc{%
10453 \Hy@UseMaketitleInfos
10454 \HyInfo@TrappedUnsupported
10455 \special{!pdinfo a=<\@pdfauthor>}%
10456 \special{!pdinfo t=<\@pdftitle>}%
10457 \special{!pdinfo s=<\@pdfsubject>}%
10458 \special{!pdinfo c=<\@pdfcreator>}%
10459 \ifx\@pdfproducer\relax
10460 \else

```

```

10461 \special{!pdfinfo r=<\@pdfproducer>}%
10462 \fi
10463 \special{!pdfinfo k=<\@pdfkeywords>}%
10464 \Hy@DisableOption{pdfauthor}%
10465 \Hy@DisableOption{pdftitle}%
10466 \Hy@DisableOption{pdfsubject}%
10467 \Hy@DisableOption{pdfcreator}%
10468 \Hy@DisableOption{pdfcreationdate}%
10469 \Hy@DisableOption{pdfmoddate}%
10470 \Hy@DisableOption{pdfproducer}%
10471 \Hy@DisableOption{pdfkeywords}%
10472 \Hy@DisableOption{pdftrapped}%
10473 \Hy@DisableOption{pdfinfo}%
10474 }
10475 </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.

```

10476 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10477 <package>\providecommand*{\Hy@DistillerDestFix}{%
10478 <*pdfmark | dviwindo>
10479 \def\Hy@DistillerDestFix{%
10480 \begingroup
10481 \let\x\literalps@out

```

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

```

10482 \ifnum \@ifundefined{OpMode}{0}{%
10483 \ifundefined{gexmode}{0}{%
10484 \ifnum\gexmode>0 \OpMode\else 0\fi
10485 }>1 %
10486 \def\x##1{%
10487 \immediate\special{!##1}%
10488 }%
10489 \fi
10490 \x{%
10491 /product where{%
10492 pop %
10493 product(Distiller)search{%
10494 pop pop pop %
10495 version(.)search{%
10496 exch pop exch pop%
10497 (3011)eq{%
10498 gsave %
10499 newpath 0 0 moveto closepath clip%
10500 /Courier findfont 10 scalefont setfont %
10501 72 72 moveto(.).show %
10502 grestore%

```

```

10503         }if%
10504         }{pop}ifelse%
10505         }{pop}ifelse%
10506     }if%
10507 }%
10508 \endgroup
10509 }
10510 </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

```

```

10511 <*pdfmark>
10512 \Hy@breaklinks@unsupported
10513 \def\HyPat@ObjRef{%
10514   \{[~{]}+\}%
10515 }
10516 \Hy@WrapperDef\hyper@anchor#1{%
10517   \Hy@SaveLastskip
10518   \Hy@VerboseAnchor{#1}%
10519   \begingroup
10520     \pdfmark[\anchor@spot]{%
10521       pdfmark=/DEST,%
10522       linktype=anchor,%
10523       View=/\@pdfview \@pdfviewparams,%
10524       DestAnchor={#1}%
10525     }%
10526   \endgroup
10527   \Hy@RestoreLastskip
10528 }
10529 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10530 \Hy@WrapperDef\hyper@anchorstart#1{%
10531   \Hy@SaveLastskip
10532   \Hy@VerboseAnchor{#1}%
10533   \literalps@out{H.S}%
10534   \Hy@AllowHyphens
10535   \xdef\hyper@currentanchor{#1}%
10536   \Hy@activeanchortrue
10537 }
10538 \def\hyper@anchorend{%
10539   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10540   \pdfmark{%
10541     pdfmark=/DEST,%
10542     linktype=anchor,%
10543     View=/\@pdfview \@pdfviewparams,%

```

```

10544   DestAnchor=\hyper@currentanchor,%
10545 }%
10546 \Hy@activeanchorfalse
10547 \Hy@RestoreLastskip
10548 }
10549 \def\hyper@linkstart#1#2{%
10550 \Hy@VerboseLinkStart{#1}{#2}%
10551 \ifHy@breaklinks
10552 \else
10553 \leavevmode
10554 \Hy@SaveSpaceFactor
10555 \hbox\bgroup
10556 \Hy@RestoreSpaceFactor
10557 \fi
10558 \expandafter\Hy@colorlink\csname @#1color\endcsname
10559 \literalps@out{H.S}%
10560 \Hy@AllowHyphens
10561 \xdef\hyper@currentanchor{#2}%
10562 \gdef\hyper@currentlinktype{#1}%
10563 }
10564 \def\hyper@linkend{%
10565 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10566 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10567 \let\Hy@tempcolor\relax
10568 }{%
10569 \edef\Hy@tempcolor{%
10570 \csname @\hyper@currentlinktype bordercolor\endcsname
10571 }%
10572 }%
10573 \pdfmark{%
10574 pdfmark=/ANN,%
10575 linktype=link,%
10576 Subtype=/Link,%
10577 PDFAFlags=4,%
10578 Dest=\hyper@currentanchor,%
10579 AcroHighlight=\@pdfhighlight,%
10580 Border=\@pdfborder,%
10581 BorderStyle=\@pdfborderstyle,%
10582 Color=\Hy@tempcolor,%
10583 Raw=H.B%
10584 }%
10585 \Hy@endcolorlink
10586 \ifHy@breaklinks
10587 \else
10588 \Hy@SaveSpaceFactor
10589 \egroup
10590 \Hy@RestoreSpaceFactor
10591 \fi
10592 }

```

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.

```

10593 \begingroup
10594 \catcode'P=12 %
10595 \catcode'T=12 %
10596 \lowercase{\endgroup
10597 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```



```

10598 }
10599 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

10600 \def\hyper@pagetransition{%
10601   \ifx\@pdfpagetransition\relax
10602   \else
10603     \ifx\@pdfpagetransition\@empty
10604       % 1. Does an old entry have to be deleted?
10605       % 2. If 1=yes, how to delete?
10606     \else
10607       \pdfmark{%
10608         pdfmark=/PUT,%
10609         Raw={%
10610           \string{ThisPage\string}%
10611           <</Trans << /S /\@pdfpagetransition\space >> >>%
10612         }%
10613       }%
10614     \fi
10615   \fi
10616 }

```

\hyper@pageduration

```

10617 \def\hyper@pageduration{%
10618   \ifx\@pdfpageduration\relax
10619   \else
10620     \ifx\@pdfpageduration\@empty
10621       % 1. Does an old entry have to be deleted?
10622       % 2. If 1=yes, how to delete?
10623     \else
10624       \pdfmark{%
10625         pdfmark=/PUT,%
10626         Raw={%
10627           \string{ThisPage\string}%
10628           <</Dur \@pdfpageduration>>%
10629         }%
10630       }%
10631     \fi
10632   \fi
10633 }

```

\hyper@pagehidden

```

10634 \def\hyper@pagehidden{%
10635   \ifHy@useHidKey
10636     \pdfmark{%
10637       pdfmark=/PUT,%
10638       Raw={%
10639         \string{ThisPage\string}%
10640         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10641       }%
10642     }%
10643   \fi
10644 }

10645 \g@addto@macro\Hy@EveryPageBoxHook{%
10646   \hyper@pagetransition
10647   \hyper@pageduration

```

```

10648 \hyper@pagehidden
10649 }

10650 \def\hyper@image#1#2{%
10651 \hyper@linkurl{#2}{#1}%
10652 }

10653 \def\Hy@undefinedname{UNDEFINED}
10654 \def\hyper@link#1#2#3{%
10655 \Hy@VerboseLinkStart{#1}{#2}%
10656 \ltx@ifundefined{@#1bordercolor}{%
10657 \let\Hy@tempcolor\relax
10658 }{%
10659 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10660 }%
10661 \begingroup
10662 \protected@edef\Hy@testname{#2}%
10663 \ifx\Hy@testname\@empty
10664 \Hy@Warning{%
10665 Empty destination name,\MessageBreak
10666 using '\Hy@undefinedname'%
10667 }%
10668 \let\Hy@testname\Hy@undefinedname
10669 \fi
10670 \pdfmark[{#3}]{%
10671 Color=\Hy@tempcolor,%
10672 linktype={#1},%
10673 AcroHighlight=\@pdfhighlight,%
10674 Border=\@pdfborder,%
10675 BorderStyle=\@pdfborderstyle,%
10676 pdfmark=/ANN,%
10677 Subtype=/Link,%
10678 PDFAFlags=4,%
10679 Dest=\Hy@testname
10680 }%
10681 \endgroup
10682 }

10683 \newtoks\pdf@docset
10684 \def\PDF@FinishDoc{%
10685 \Hy@UseMaketitleInfos
10686 \Hy@Info@GenerateAddons
10687 \let\Hy@temp\@empty
10688 \ifx\@pdfcreationdate\@empty
10689 \else
10690 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10691 \fi
10692 \ifx\@pdfmoddate\@empty
10693 \else
10694 \expandafter\def\expandafter\Hy@temp\expandafter{%
10695 \Hy@temp
10696 ModDate=\@pdfmoddate,%
10697 }%
10698 \fi
10699 \ifx\@pdfproducer\relax
10700 \else
10701 \expandafter\def\expandafter\Hy@temp\expandafter{%
10702 \Hy@temp
10703 Producer=\@pdfproducer,%
10704 }%

```

```

10705 \fi
10706 \expandafter
10707 \pdfmark\expandafter{%
10708   \Hy@temp
10709   pdfmark=/DOCINFO,%
10710   Title=\@pdftitle,%
10711   Subject=\@pdfsubject,%
10712   Creator=\@pdfcreator,%
10713   Author=\@pdfauthor,%
10714   Keywords=\@pdfkeywords,%
10715   Trapped=\@pdftrapped
10716 }%
10717 \ifx\HyInfo@Addons\@empty
10718 \else
10719   \pdfmark{%
10720     pdfmark=/DOCINFO,%
10721     Raw={\HyInfo@Addons}%
10722   }%
10723 \fi
10724 \Hy@DisableOption{pdfauthor}%
10725 \Hy@DisableOption{pdftitle}%
10726 \Hy@DisableOption{pdfsubject}%
10727 \Hy@DisableOption{pdfcreator}%
10728 \Hy@DisableOption{pdfcreationdate}%
10729 \Hy@DisableOption{pdfmoddate}%
10730 \Hy@DisableOption{pdfproducer}%
10731 \Hy@DisableOption{pdfkeywords}%
10732 \Hy@DisableOption{pdftrapped}%
10733 \Hy@DisableOption{pdfinfo}%
10734 }
10735 \def\PDF@SetupDoc{%
10736   \def\Hy@temp{}%
10737   \ifx\@pdfstartpage\@empty
10738   \else
10739     \ifx\@pdfstartview\@empty
10740     \else
10741       \edef\Hy@temp{%
10742         ,Page=\@pdfstartpage
10743         ,View=\@pdfstartview
10744       }%
10745     \fi
10746   \fi
10747   \edef\Hy@temp{%
10748     \noexpand\pdfmark{%
10749       pdfmark=/DOCVIEW,%
10750       PageMode=\/\@pdfpagemode
10751     }\Hy@temp
10752   }%
10753 }%
10754 \Hy@temp
10755 \ifx\@pdfpagescrop\@empty
10756 \else
10757   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10758 \fi
10759 \edef\Hy@temp{%
10760   \ifHy@toolbar\else /HideToolbar true\fi
10761   \ifHy@menubar\else /HideMenubar true\fi

```

```

10762 \ifHy@windowui\else /HideWindowUI true\fi
10763 \ifHy@fitwindow /FitWindow true\fi
10764 \ifHy@centerwindow /CenterWindow true\fi
10765 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10766 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10767 \Hy@UseNameKey{Direction}\@pdfdirection
10768 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10769 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10770 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10771 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10772 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10773 \Hy@UseNameKey{Duplex}\@pdfduplex
10774 \ifx\@pdfpicktraybypdfsize\@empty
10775 \else
10776 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10777 \fi
10778 \ifx\@pdfprintpagerange\@empty
10779 \else
10780 /PrintPageRange[\@pdfprintpagerange]%
10781 \fi
10782 \ifx\@pdfnumcopies\@empty
10783 \else
10784 /NumCopies \@pdfnumcopies
10785 \fi
10786 }%
10787 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10788 \pdfmark{%
10789 pdfmark=/PUT,%
10790 Raw={%
10791 \string{Catalog\string}<<%
10792 \ifx\Hy@temp\@empty
10793 \else
10794 /ViewerPreferences<<\Hy@temp>>%
10795 \fi
10796 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10797 \ifx\@pdflang\@empty
10798 \else
10799 /Lang(\@pdflang)%
10800 \fi
10801 \ifx\@baseurl\@empty
10802 \else
10803 /URI<</Base(\Hy@pstringB)>>%
10804 \fi
10805 >>%
10806 }%
10807 }%
10808 }
10809 </pdfmark>
10810 <*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.

```

10811 \newif\ifHy@pdfmarkerror
10812 \def\pdfmark{\@ifnextchar{\@pdfmark@}{\pdfmark@[]}}

```

```

10813 \def\pdfmark@[#1]#2{%
10814   \Hy@pdfmarkerrorfalse
10815   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10816   \@processme
10817   \let\pdf@type\relax
10818   \kvsetkeys{PDF}{#2}%
10819   \ifHy@pdfmarkerror
10820   \else
10821     \ifx\pdf@type\relax
10822       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10823       \ifx\#1\%
10824       \else
10825         \pdf@rect{#1}%
10826       \fi
10827     \else
10828       \ifx\#1\%
10829         \literalps@out{%
10830           [\the\pdf@toks\space\pdf@type\space pdfmark%
10831           ]%
10832         \else
10833           \ltx@ifundefined{@\pdf@linktype color}{%
10834             \Hy@colorlink\@linkcolor
10835           }{%
10836             \expandafter\Hy@colorlink
10837               \csname @\pdf@linktype color\endcsname
10838           }%
10839           \pdf@rect{#1}%
10840           \literalps@out{%
10841             [\the\pdf@toks\space\pdf@type\space pdfmark%
10842             ]%
10843             \Hy@endcolorlink
10844           \fi
10845         \fi
10846       \fi
10847 }

```

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}

10848 \newsavebox{\pdf@box}
10849 \providecommand*{\Hy@setouterhbox}{\sbox}
10850 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10851 \def\Hy@DEST{/DEST}
10852 \def\pdf@rect#1{%
10853   \begingroup
10854   \chardef\x=1 %
10855   \def\Hy@temp{#1}%
10856   \ifx\Hy@temp\ltx@empty
10857     \chardef\x=0 %
10858   \else

```

```

10859 \def\y{\anchor@spot}%
10860 \ifx\Hy@temp\y
10861 \def\y{\relax}%
10862 \ifx\anchor@spot\y
10863 \chardef\x=0 %
10864 \fi
10865 \fi
10866 \fi
10867 \expandafter\endgroup
10868 \ifcase\x
10869 \literalps@out{H.S}%
10870 \literalps@out{H.R}%
10871 \else
10872 \leavevmode
10873 \Hy@SaveSpaceFactor
10874 \ifHy@breaklinks
10875 \Hy@setouterhbox\pdf@box{%
10876 \Hy@RestoreSpaceFactor
10877 \Hy@AllowHyphens#1%
10878 \Hy@SaveSpaceFactor
10879 }%
10880 \else
10881 \sbox\pdf@box{%
10882 \Hy@RestoreSpaceFactor
10883 #1%
10884 \Hy@SaveSpaceFactor
10885 }%
10886 \fi
10887 \dimen@\ht\pdf@box
10888 \ifdim\dp\pdf@box=\z@
10889 \literalps@out{H.S}%
10890 \else
10891 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10892 \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...).

```

10893 \ifHy@breaklinks
10894 \expandafter\Hy@breaklinksunhbox
10895 \else
10896 \expandafter\box
10897 \fi
10898 \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

10899 \ifdim\dimen@=\z@
10900 \literalps@out{H.R}%
10901 \else
10902 \raise\dimen@\hbox{\literalps@out{H.R}}%
10903 \fi
10904 \Hy@RestoreSpaceFactor
10905 \fi
10906 \ifx\pdf@type\Hy@DEST
10907 \else

```

```

10908 \pdf@addtoksx{H.B}%
10909 \fi
10910 }

```

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.

```

10911 \newtoks\pdf@toks
10912 \newtoks\pdf@defaulttoks
10913 \pdf@defaulttoks={}%
10914 \def\pdf@addtoks#1#2{%
10915 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10916 \@processme
10917 }
10918 \def\pdf@addtoksx#1{%
10919 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10920 \@processme
10921 }
10922 \def\PDFdefaults#1{%
10923 \pdf@defaulttoks={#1}%
10924 }

```

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

```

10925 % what is the type of pdfmark?
10926 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10927 % what is the link type?
10928 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10929 \def\pdf@linktype{link}
10930 % parameter is a stream of PDF
10931 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10932 % parameter is a name
10933 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10934 % parameter is a array
10935 \define@key{PDF}{Border}{%
10936 \edef\Hy@temp{#1}%
10937 \ifx\Hy@temp\@empty
10938 \else
10939 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10940 \fi
10941 }
10942 \let\Hy@BorderArrayPatch\@empty
10943 % parameter is a dictionary
10944 \define@key{PDF}{BorderStyle}{%
10945 \edef\Hy@temp{#1}%
10946 \ifx\Hy@temp\@empty
10947 \else
10948 \pdf@addtoks{<<#1>>}{BS}%
10949 \fi
10950 }
10951 % parameter is a array
10952 \define@key{PDF}{Color}{%
10953 \ifx\relax#1\relax
10954 \else
10955 \pdf@addtoks{[#1]}{Color}% hash-ok
10956 \fi
10957 }
10958 % parameter is a string
10959 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10960 % parameter is a integer

```

```

10961 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10962 % parameter is a array
10963 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10964 % parameter is a string
10965 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10966 % parameter is a string or file
10967 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10968 % parameter is a destination
10969 \define@key{PDF}{Dest}{%
10970   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10971   \ifx\Hy@pstringDest\@empty
10972     \Hy@pdfmarkerrortrue
10973     \Hy@Warning{Destination with empty name ignored}%
10974   \else
10975     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10976   \fi
10977 }
10978 \define@key{PDF}{DestAnchor}{%
10979   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10980   \ifx\Hy@pstringDest\@empty
10981     \Hy@pdfmarkerrortrue
10982     \Hy@Warning{Destination with empty name ignored}%
10983   \else
10984     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10985   \fi
10986 }
10987 % parameter is a string
10988 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10989 % parameter is a string
10990 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10991 % parameter is a int
10992 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10993 \define@key{PDF}{PDFAFlags}{%
10994   \ifHy@pdfa
10995     \pdf@addtoks{#1}{F}%
10996   \fi
10997 }
10998 % parameter is a name
10999 \define@key{PDF}{AcroHighlight}{%
11000   \begingroup
11001     \edef\x{#1}%
11002     \expandafter\endgroup\ifx\x\@empty
11003     \else
11004       \pdf@addtoks{#1}{H}%
11005     \fi
11006 }
11007 % parameter is a string
11008 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11009 % parameter is a string
11010 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11011 % parameter is a string
11012 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11013 % parameter is a string
11014 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11015 % parameter is a Boolean
11016 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11017 % parameter is a integer or name

```



```

11018 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11019 % parameter is a name
11020 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11021 % parameter is a string
11022 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11023 % parameter is a array
11024 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11025 % parameter is a integer
11026 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11027 % parameter is a name
11028 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11029 % parameter is a string
11030 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11031 % parameter is a string
11032 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11033 % parameter is a string
11034 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11035 % parameter is an array
11036 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11037 % parameter is a string
11038 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11039 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11040 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11041 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11042 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11043 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11044 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11045 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11046 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11047 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11048 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11049 \define@key{PDF}{Trapped}{%
11050   \edef\Hy@temp{#1}%
11051   \ifx\Hy@temp\empty
11052   \else
11053     \pdf@addtoks{/#1}{Trapped}%
11054   \fi
11055 }
11056
11057 </pdfmarkbase>
11058 <*pdfmark>
11059 \def\Acrobatmenu#1#2{%
11060   \Hy@Acrobatmenu{#1}{#2}%
11061   \pdfmark[{#2}] {%
11062     linktype=menu,%
11063     pdfmark=/ANN,%
11064     AcroHighlight=\@pdfhighlight,%
11065     Border=\@pdfborder,%
11066     BorderStyle=\@pdfborderstyle,%
11067     Action={<< /Subtype /Named /N /#1 >>},%
11068     Subtype=/Link,%
11069     PDFAMFlags=4%
11070   }%
11071 }%
11072 }

```

And now for some useful examples:

```
11073 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11074 \def\PDFNextPage@[#1]#2{%
11075   \pdfmark[{#2}]{%
11076     #1,%
11077     Border=\@pdfborder,%
11078     BorderStyle=\@pdfborderstyle,%
11079     Color=.2 .1 .5,%
11080     pdfmark=/ANN,%
11081     Subtype=/Link,%
11082     PDFAFlags=4,%
11083     Page=/Next%
11084   }%
11085 }
11086 \def\PDFPreviousPage{%
11087   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11088 }
11089 \def\PDFPreviousPage@[#1]#2{%
11090   \pdfmark[{#2}]{%
11091     #1,%
11092     Border=\@pdfborder,%
11093     BorderStyle=\@pdfborderstyle,%
11094     Color=.4 .4 .1,%
11095     pdfmark=/ANN,%
11096     Subtype=/Link,%
11097     PDFAFlags=4,%
11098     Page=/Prev%
11099   }%
11100 }
11101 \def\PDFOpen#1{%
11102   \pdfmark{#1,pdfmark=/DOCVIEW}%
11103 }
```

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

```
11104 \def\hyper@linkurl#1#2{%
11105   \begingroup
11106     \Hy@pstringdef\Hy@pstringURI{#2}%
11107     \hyper@chars
11108     \leavevmode
11109     \pdfmark[{#1}]{%
11110       pdfmark=/ANN,%
11111       linktype=url,%
11112       AcroHighlight=\@pdfhighlight,%
11113       Border=\@pdfborder,%
11114       BorderStyle=\@pdfborderstyle,%
11115       Color=\@urlbordercolor,%
11116       Action={<<%
11117         /Subtype/URI%
11118         /URI(\Hy@pstringURI)%
11119         \ifHy@href@ismap
11120           /IsMap true%
11121         \fi
11122       >>},%
11123       Subtype=/Link,%
11124       PDFAFlags=4%
11125     }%
11126   \endgroup
11127 }
```

```

11128 \def\hyper@linkfile#1#2#3{%
11129   \begingroup
11130   \def\Hy@pstringF{#2}%
11131   \Hy@CleanupFile\Hy@pstringF
11132   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11133   \Hy@pstringdef\Hy@pstringD{#3}%
11134   \Hy@MakeRemoteAction
11135   \leavevmode
11136   \pdfmark[{#1}]{%
11137     pdfmark=/ANN,%
11138     Subtype=/Link,%
11139     PDFAFlags=4,%
11140     AcroHighlight=\@pdfhighlight,%
11141     Border=\@pdfborder,%
11142     BorderStyle=\@pdfborderstyle,%
11143     linktype=file,%
11144     Color=\@filebordercolor,%
11145     Action={%
11146       <<%
11147         /S/GoToR%
11148         \Hy@SetNewWindow
11149         /F(\Hy@pstringF)%
11150         /D%
11151         \ifx\#3\%
11152           [\Hy@href@page\@pdfremotestartview]%
11153         \else
11154           (\Hy@pstringD)cvn%
11155         \fi
11156         \Hy@href@nextactionraw
11157       >>%
11158     }%
11159   }%
11160   \endgroup
11161 }
11162 \def\@hyper@launch run:#1\#2#3{%
11163   \begingroup
11164   \Hy@pstringdef\Hy@pstringF{#1}%
11165   \Hy@pstringdef\Hy@pstringP{#3}%
11166   \leavevmode
11167   \pdfmark[{#2}]{%
11168     pdfmark=/ANN,%
11169     Subtype=/Link,%
11170     PDFAFlags=4,%
11171     AcroHighlight=\@pdfhighlight,%
11172     Border=\@pdfborder,%
11173     BorderStyle=\@pdfborderstyle,%
11174     linktype=run,%
11175     Color=\@runbordercolor,%
11176     Action={%
11177       <<%
11178         /S/Launch%
11179         \Hy@SetNewWindow
11180         /F(\Hy@pstringF)%
11181         \ifx\#3\%
11182         \else
11183           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11184         \fi

```

```

11185      \Hy@href@nextactionraw
11186      >>%
11187    }%
11188  }%
11189 \endgroup
11190 }
11191 </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.

```

11192 < *dvips>
11193 \providecommand*{\XR@ext}{pdf}
11194 \def\Hy@raisedlink{}
11195 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11196 \def\headerps@out#1{\special{! #1}}%
11197 \input{pdfmark.def}%
11198 \ifx\@pdfproducer\relax
11199   \def\@pdfproducer{dvips + Distiller}%
11200 \fi
11201 \providecommand*\@pdfborder{0 0 1}
11202 \providecommand*\@pdfborderstyle{}
11203 \providecommand*\@pdfview{XYZ}
11204 \providecommand*\@pdfviewparams{ H.V}
11205 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11206 \g@addto@macro\Hy@FirstPageHook{%
11207   \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.

```

11208   /DvipsToPDF{72.27 mul Resolution div} def%
11209   /PDFToDvips{72.27 div Resolution mul} def%
11210   /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.

```

11211   /BorderArrayPatch{%
11212     [exch{%
11213       dup dup type/integertype eq exch type/realtype eq or%
11214       {BPToDvips}if%

```

```

11215 }forall]%
11216 }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.

```

11217 /HyperBorder {1 PDFToDvips} def%
11218 /H.V {pdf@hoff pdf@voff null} def%
11219 /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

```

11220 /H.S {%
11221   currentpoint %
11222   HyperBorder add /pdf@lly exch def %
11223   dup DvipsToPDF 72 add /pdf@hoff exch def %
11224   HyperBorder sub /pdf@llx exch def%
11225 } 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`

```

11226 /H.L {%
11227   2 sub dup%
11228   /HyperBasePt exch def %
11229   PDFToDvips /HyperBaseDvips exch def %
11230   currentpoint %
11231   HyperBaseDvips sub /pdf@ury exch def%
11232   /pdf@urx exch def%
11233 } def%
11234 /H.A {%
11235   H.L %
11236 % |pdf@voff| = the distance from the top of the page to a point
11237 % |\baselineskip| above the current point in PDF coordinates
11238   currentpoint exch pop %
11239   vsize 72 sub exch DvipsToPDF %
11240   HyperBasePt sub % baseline skip
11241   sub /pdf@voff exch def%
11242 } def%
11243 /H.R {%
11244   currentpoint %
11245   HyperBorder sub /pdf@ury exch def %
11246   HyperBorder add /pdf@urx exch def %
11247 % |pdf@voff| = the distance from the top of the page to the current point, in
11248 % PDF coordinates
11249   currentpoint exch pop vsize 72 sub %
11250   exch DvipsToPDF sub /pdf@voff exch def%
11251 } def%
11252 }%
11253 }
11254 \AtBeginShipoutFirst{%
11255   \ifHy@setpagesize
11256     \begingroup
11257     \@ifundefined{stockwidth}{%
11258       \ifdim\paperwidth>\z@

```

```

11259     \ifdim\paperheight>\z@
11260     \special{papersize=\the\paperwidth,\the\paperheight}%
11261     \fi
11262   \fi
11263 }{%
11264   \ifdim\stockwidth>\z@
11265   \ifdim\stockheight>\z@
11266     \special{papersize=\the\stockwidth,\the\stockheight}%
11267     \fi
11268   \fi
11269 }%
11270 \endgroup
11271 \fi
11272 \Hy@DisableOption{setpagesize}%
11273 }
11274 </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.

```

11275 <*vtexpdfmark>
11276 \providecommand*{\XR@ext}{pdf}
11277 \def\Hy@raisedlink{}
11278 \def\literalps@out#1{\special{pS:#1}}%
11279 \def\headerps@out#1{\immediate\special{pS:#1}}%
11280 \input{pdfmark.def}%
11281 \ifx\@pdfproducer\relax
11282   \ifnum\OpMode=\@ne
11283     \def\@pdfproducer{VTeX}%
11284   \else
11285     \def\@pdfproducer{VTeX + Distiller}%
11286   \fi
11287 \fi
11288 \providecommand*\@pdfborder{0 0 1}
11289 \providecommand*\@pdfborderstyle{}
11290 \providecommand*\@pdfview{XYZ}
11291 \providecommand*\@pdfviewparams{ H.V}

11292 \g@addto@macro\Hy@FirstPageHook{%
11293   \headerps@out{%
11294     /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.

```

11295   /HyperBorder {1} def%
11296   /H.V {pdf@hoff pdf@voff null} def%
11297   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11298   /H.S {%
11299     currentpoint %
11300     HyperBorder sub%

```

```

11301    /pdf@lly exch def %
11302    dup 72 add /pdf@hoff exch def %
11303    HyperBorder sub%
11304    /pdf@llx exch def%
11305    } def%

```

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

```

11306    /H.L {%
11307        2 sub%
11308        /HyperBasePt exch def %
11309        currentpoint %
11310        HyperBasePt add HyperBorder add%
11311        /pdf@ury exch def %
11312        HyperBorder add%
11313        /pdf@urx exch def%
11314    } def%
11315    /H.A {%
11316        H.L %
11317        currentpoint exch pop %
11318        vsize 72 sub exch %
11319        HyperBasePt add add%
11320        /pdf@voff exch def%
11321    } def%

```

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

```

11322    /H.R {%
11323        currentpoint %
11324        HyperBorder add%
11325        /pdf@ury exch def %
11326        HyperBorder add%
11327        /pdf@urx exch def %
11328        currentpoint exch pop vsize 72 sub add%
11329        /pdf@voff exch def%
11330    } def%
11331    }%
11332 }
11333 </vtxpdfmark>

```

46.11 Textures

```

11334 <*textures>
11335 \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.

```

11336 \begingroup
11337   \obeylines %
11338   \gdef\Hy@ps@CR{\noexpand
11339   }%
11340 \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`.

```
11341 \def\literalps@out#1{%
11342   \special{postscript 0 0 transform}%
11343   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11344 }%
11345 %
```

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.

```
11346 \def\headerps@out#1{%
11347   \special{%
11348     prepostscript TeXdict begin\Hy@ps@CR
11349     #1\Hy@ps@CR
11350     end%
11351   }%
11352 }%
11353 %
```

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.

```
11354 \g@addto@macro\Hy@FirstPageHook{%
11355   \headerps@out{%
11356     /betterpdfmark {%
11357       systemdict begin %
11358       dup /BP eq%
11359       {cleartomark gsave nulldevice []}%
11360       {dup /EP eq%
11361         {cleartomark cleartomark grestore}%
11362         {cleartomark}%
11363       }ifelse%
11364     }ifelse %
11365   end%
11366 }def\Hy@ps@CR
11367 ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11368 }% end of \headerps@out
11369 }% end of \AtBeginShipoutFirst
11370 %
11371 \input{pdfmark.def}%
11372 %
11373 \ifx\@pdfproducer\relax
11374   \def\@pdfproducer{Textures + Distiller}%
11375 \fi
11376 \providecommand*\@pdfborder{0 0 1}
11377 \providecommand*\@pdfborderstyle{}
11378 \providecommand*\@pdfview{XYZ}
11379 \providecommand*\@pdfviewparams{ H.V}
11380 %
```


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 .

```
11381 \Hy@AtBeginDocument{%
```

```
11382 \headerps@out{%
```

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

```
11383 /vsize {\Hy@pageheight} def%
11384 /DvipsToPDF {} def%
11385 /PDFToDvips {} def%
11386 /BPToDvips {} def%
11387 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11388 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11389 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11390 /H.S {%
11391   currentpoint %
11392   HyperBorder add /pdf@lly exch def %
11393   dup DvipsToPDF 72 add /pdf@hoff exch def %
11394   HyperBorder sub /pdf@llx exch def%
11395 } def\Hy@ps@CR
11396 /H.L {%
11397   2 sub %
11398   PDFToDvips /HyperBase exch def %
11399   currentpoint %
11400   HyperBase sub /pdf@ury exch def%
11401   /pdf@urx exch def%
11402 } def\Hy@ps@CR
11403 /H.A {%
11404   H.L %
11405   currentpoint exch pop %
11406   vsize 72 sub exch DvipsToPDF %
11407   HyperBase sub % baseline skip
11408   sub /pdf@voff exch def%
11409 } def\Hy@ps@CR
11410 /H.R {%
11411   currentpoint %
11412   HyperBorder sub /pdf@ury exch def %
11413   HyperBorder add /pdf@urx exch def %
11414   currentpoint exch pop vsize 72 sub %
11415   exch DvipsToPDF sub /pdf@voff exch def%
11416 } def\Hy@ps@CR
11417 }%
11418 }
```

```
11419 \Hy@AtBeginDocument{%
```

```
11420 \ifHy@colorlinks
```

```
11421 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
```

```
11422 \fi
```

```
11423 }
```

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.

```
11424 \expandafter\let\expandafter\keepPDF@SetupDoc
```

```
11425 \csname PDF@SetupDoc\endcsname
```

```
11426 \def\PDF@SetupDoc{%
```

```
11427 \ifx\@baseurl\@empty
```

```

11428 \else
11429 \special{html:<base href="\@baseurl">}%
11430 \fi
11431 \keepPDF@SetupDoc
11432 }
11433 \Hy@WrapperDef\hyper@anchor#1{%
11434 \Hy@SaveLastskip
11435 \Hy@VerboseAnchor{#1}%
11436 \begingroup
11437 \let\protect=\string
11438 \special{html:<a name=%
11439 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11440 \endgroup
11441 \Hy@activeanchortrue
11442 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11443 \special{html:</a>}%
11444 \Hy@activeanchorfalse
11445 \Hy@RestoreLastskip
11446 }
11447 \Hy@WrapperDef\hyper@anchorstart#1{%
11448 \Hy@SaveLastskip
11449 \Hy@VerboseAnchor{#1}%
11450 \begingroup
11451 \hyper@chars
11452 \special{html:<a name=%
11453 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11454 \endgroup
11455 \Hy@activeanchortrue
11456 }
11457 \def\hyper@anchorend{%
11458 \special{html:</a>}%
11459 \Hy@activeanchorfalse
11460 \Hy@RestoreLastskip
11461 }
11462 \def\@urlltype{url}
11463 \def\hyper@linkstart#1#2{%
11464 \Hy@VerboseLinkStart{#1}{#2}%
11465 \expandafter\Hy@colorlink\csname @#1color\endcsname
11466 \def\Hy@tempa{#1}%
11467 \ifx\Hy@tempa\@urlltype
11468 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11469 \else
11470 \begingroup
11471 \hyper@chars
11472 \special{%
11473 html:<a href=%
11474 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>
11475 }%
11476 \endgroup
11477 \fi
11478 }
11479 \def\hyper@linkend{%
11480 \special{html:</a>}%
11481 \Hy@endcolorlink
11482 }
11483 \def\hyper@linkfile#1#2#3{%
11484 \hyper@linkurl{#1}{%

```

```

11485 \Hy@linkfileprefix#2\ifx\|#3\\\else\##3\fi
11486 }%
11487 }
11488 \def\hyper@linkurl#1#2{%
11489 \leavevmode
11490 \ifHy@raiselinks
11491 \Hy@SaveSpaceFactor
11492 \Hy@SaveSavedSpaceFactor
11493 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11494 \Hy@RestoreSavedSpaceFactor
11495 \@linkdim\dp\@tempboxa
11496 \lower\@linkdim\hbox{%
11497 \hyper@chars
11498 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11499 }%
11500 \Hy@colorlink\@urlcolor
11501 \Hy@RestoreSpaceFactor
11502 #1%
11503 \Hy@SaveSpaceFactor
11504 \@linkdim\ht\@tempboxa
11505 \advance\@linkdim by -6.5\p@
11506 \raise\@linkdim\hbox{\special{html:</a>}}%
11507 \Hy@endcolorlink
11508 \Hy@RestoreSpaceFactor
11509 \else
11510 \begingroup
11511 \hyper@chars
11512 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11513 \Hy@colorlink\@urlcolor#1%
11514 \special{html:</a>}%
11515 \Hy@endcolorlink
11516 \endgroup
11517 \fi
11518 }

```

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

```

11519 \def\hyper@link#1#2#3{%
11520 \Hy@VerboseLinkStart{#1}{#2}%
11521 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
11522 }
11523 \def\hyper@image#1#2{%
11524 \begingroup
11525 \hyper@chars
11526 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11527 \endgroup
11528 }
11529 </textures>

```

46.12 dvipsone

```

11530 % \subsection{dvipsone driver}
11531 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11532 % |\special| commands.
11533 <*dvipsone>
11534 \providecommand*{\XR@ext}{pdf}
11535 \def\Hy@raisedlink{}
11536 \providecommand*\@pdfborder{0 0 1}
11537 \providecommand*\@pdfborderstyle{}

```

```

11538 \def\literalps@out#1{\special{ps:#1}}%
11539 \def\headerps@out#1{\special{headertext=#1}}%
11540 \input{pdfmark.def}%
11541 \ifx\@pdfproducer\relax
11542   \def\@pdfproducer{dvipsone + Distiller}%
11543 \fi
11544 \HyInfo@AddonUnsupportedtrue
11545 \def\PDF@FinishDoc{%
11546   \Hy@UseMaketitleInfos
11547   \HyInfo@TrappedUnsupported
11548   \special{PDF: Keywords \@pdfkeywords}%
11549   \special{PDF: Title \@pdftitle}%
11550   \special{PDF: Creator \@pdfcreator}%
11551   \ifx\@pdfcreationdate\@empty
11552     \else
11553     \special{PDF: CreationDate \@pdfcreationdate}%
11554   \fi
11555   \ifx\@pdfmoddate\@empty
11556     \else
11557     \special{PDF: ModDate \@pdfmoddate}%
11558   \fi
11559   \special{PDF: Author \@pdfauthor}%
11560   \ifx\@pdfproducer\relax
11561     \else
11562     \special{PDF: Producer \@pdfproducer}%
11563   \fi
11564   \special{PDF: Subject \@pdfsubject}%
11565   \Hy@DisableOption{pdfauthor}%
11566   \Hy@DisableOption{pdftitle}%
11567   \Hy@DisableOption{pdfsubject}%
11568   \Hy@DisableOption{pdfcreator}%
11569   \Hy@DisableOption{pdfcreationdate}%
11570   \Hy@DisableOption{pdfmoddate}%
11571   \Hy@DisableOption{pdfproducer}%
11572   \Hy@DisableOption{pdfkeywords}%
11573   \Hy@DisableOption{pdftrapped}%
11574   \Hy@DisableOption{pdfinfo}%
11575 }
11576 \def\PDF@SetupDoc{%
11577   \def\Hy@temp{}%
11578   \ifx\@pdfstartpage\@empty
11579     \else
11580     \ifx\@pdfstartview\@empty
11581       \else
11582       \edef\Hy@temp{%
11583         ,Page=\@pdfstartpage
11584         ,View=\@pdfstartview
11585       }%
11586     \fi
11587   \fi
11588   \edef\Hy@temp{%
11589     \noexpand\pdfmark{%
11590       pdfmark=/DOCVIEW,%
11591       PageMode=/\@pdfpagemode
11592     }\Hy@temp
11593   }%
11594 }%

```

```

11595 \Hy@temp
11596 \ifx\@pdfpagescrop\@empty
11597 \else
11598 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11599 \fi
11600 \edef\Hy@temp{%
11601 \ifHy@toolbar\else /HideToolbar true\fi
11602 \ifHy@menubar\else /HideMenubar true\fi
11603 \ifHy>windowui\else /HideWindowUI true\fi
11604 \ifHy@fitwindow /FitWindow true\fi
11605 \ifHy@centerwindow /CenterWindow true\fi
11606 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11607 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11608 \Hy@UseNameKey{Direction}\@pdfdirection
11609 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11610 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11611 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11612 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11613 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11614 \Hy@UseNameKey{Duplex}\@pdfduplex
11615 \ifx\@pdfpicktraybypdfsize\@empty
11616 \else
11617 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11618 \fi
11619 \ifx\@pdfprintpagerange\@empty
11620 \else
11621 /PrintPageRange[\@pdfprintpagerange]%
11622 \fi
11623 \ifx\@pdfnumcopies\@empty
11624 \else
11625 /NumCopies \@pdfnumcopies
11626 \fi
11627 }%
11628 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11629 \pdfmark{%
11630 pdfmark=/PUT,%
11631 Raw={%
11632 \string{Catalog}\string}<<%
11633 \ifx\Hy@temp\@empty
11634 \else
11635 /ViewerPreferences<<\Hy@temp>>%
11636 \fi
11637 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11638 \ifx\@pdflang\@empty
11639 \else
11640 /Lang(\@pdflang)%
11641 \fi
11642 \ifx\@baseurl\@empty
11643 \else
11644 /URI<</Base(\Hy@pstringB)>>%
11645 \fi
11646 >>%
11647 }%
11648 }%
11649 }
11650 \providecommand*\@pdfview{XYZ}
11651 \providecommand*\@pdfviewparams{ %

```

```

11652 gsave revscl currentpoint grestore %
11653 72 add exch pop null exch null%
11654 }
11655 \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 .

```

11656 \g@addto@macro\Hy@FirstPageHook{%
11657   \headerps@out{%

```

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

```

11658   /DvipsToPDF { 65781 div } def%
11659   /PDFToDvips { 65781 mul } def%
11660   /BPToDvips{65781 mul}def%
11661   /HyperBorder { 1 PDFToDvips } def%
11662   /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.

```

11663   /BorderArrayPatch{%
11664     [exch{%
11665       dup dup type/integertype eq exch type/realtype eq or%
11666       {BPToDvips}if%
11667     }forall]%
11668   }def%
11669   /H.S {%
11670     currentpoint %
11671     HyperBorder add /pdf@lly exch def %
11672     dup DvipsToPDF 72 add /pdf@hoff exch def %
11673     HyperBorder sub /pdf@llx exch def%
11674   } def%
11675   /H.L {%
11676     2 sub %
11677     PDFToDvips /HyperBase exch def %
11678     currentpoint %
11679     HyperBase sub /pdf@ury exch def%
11680     /pdf@urx exch def%
11681   } def%
11682   /H.A {%
11683     H.L %
11684     currentpoint exch pop %
11685     HyperBase sub % baseline skip
11686     DvipsToPDF /pdf@voff exch def%
11687   } def%
11688   /H.R {%
11689     currentpoint %
11690     HyperBorder sub /pdf@ury exch def %
11691     HyperBorder add /pdf@urx exch def %
11692     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11693   } def%
11694   }%
11695 }
11696 \end{dvipsone}

```

46.13 TeX4ht

```

11697 \<tex4ht>
11698 \providecommand*{\XR@ext}{html}
11699 \def\Hy@raisedlink{}
11700 \@ifpackageloaded{tex4ht}{%
11701   \Hy@InfoNoLine{tex4ht is already loaded}%
11702 }{%
11703   \RequirePackage{htex4ht}{tex4ht}%
11704 }
11705 \hyperlinkfileprefix{}
11706 \def\PDF@FinishDoc{}
11707 \def\PDF@SetupDoc{%
11708   \ifx\@baseurl\@empty
11709     \else
11710       \special{t4ht=<base href="\@baseurl">}%
11711     \fi
11712 }
11713 \Hy@WrapperDef\hyper@anchor#1{%
11714   \Hy@SaveLastskip
11715   \Hy@VerboseAnchor{#1}%
11716   \begingroup
11717     \let\protect=\string
11718     \special{t4ht=<a name=%
11719       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11720   \endgroup
11721   \Hy@activeanchortrue
11722   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11723   \special{t4ht=</a>}%
11724   \Hy@activeanchorfalse
11725   \Hy@RestoreLastskip
11726 }
11727 \Hy@WrapperDef\hyper@anchorstart#1{%
11728   \Hy@SaveLastskip
11729   \Hy@VerboseAnchor{#1}%
11730   \begingroup
11731     \hyper@chars\special{t4ht=<a name=%
11732       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11733   \endgroup
11734   \Hy@activeanchortrue
11735 }
11736 \def\hyper@anchorend{%
11737   \special{t4ht=</a>}%
11738   \Hy@activeanchorfalse
11739   \Hy@RestoreLastskip
11740 }
11741 \def\@urltype{url}
11742 \def\hyper@linkstart#1#2{%
11743   \Hy@VerboseLinkStart{#1}{#2}%
11744   \expandafter\Hy@colorlink\csname @#1color\endcsname
11745   \def\Hy@tempa{#1}%
11746   \ifx\Hy@tempa\@urltype
11747     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11748   \else
11749     \begingroup
11750       \hyper@chars
11751       \special{t4ht=<a href=%
11752         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
11753     \endgroup

```

```

11754 \fi
11755 }
11756 \def\hyper@linkend{%
11757 \special{t4ht=</a>}%
11758 \Hy@endcolorlink
11759 }
11760 \def\hyper@linkfile#1#2#3{%
11761 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
11762 }
11763 \def\hyper@linkurl#1#2{%
11764 \leavevmode
11765 \ifHy@raiselinks
11766 \Hy@SaveSpaceFactor
11767 \Hy@SaveSavedSpaceFactor
11768 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11769 \Hy@RestoreSavedSpaceFactor
11770 \@linkdim\dp\@tempboxa
11771 \lower\@linkdim\hbox{%
11772 \begingroup
11773 \hyper@chars
11774 \special{%
11775 t4ht=<a href=\hyper@quote#2\hyper@quote>%
11776 }%
11777 \endgroup
11778 }%
11779 \Hy@colorlink\@urlcolor
11780 \Hy@RestoreSpaceFactor
11781 #1%
11782 \Hy@SaveSpaceFactor
11783 \Hy@endcolorlink
11784 \@linkdim\ht\@tempboxa
11785 \advance\@linkdim by -6.5\p@
11786 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11787 \Hy@RestoreSpaceFactor
11788 \else
11789 \begingroup
11790 \hyper@chars
11791 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11792 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11793 \special{t4ht=</a>}%
11794 \endgroup
11795 \fi
11796 }

```

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

```

11797 \def\hyper@link#1#2#3{%
11798 \Hy@VerboseLinkStart{#1}{#2}%
11799 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
11800 }
11801 \def\hyper@image#1#2{%
11802 \begingroup
11803 \hyper@chars
11804 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11805 \endgroup
11806 }
11807 \let\autoref\ref
11808 \ifx \rEfLiNK \UnDef
11809 \def\rEfLiNK #1#2{#2}%

```



```

11810 \fi
11811 \def\backref#1{}

Fix for tex4ht.
11812 \AtBeginDocument{%
11813 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
11814 \expandafter\def\csname Make:Label\endcsname#1#2{%
11815 \ifhmode
11816 \Hy@SaveSpaceFactor
11817 \else
11818 \global\Hy@SavedSpaceFactor=1000 %
11819 \fi
11820 \Hy@OrgMakeLabel{#1}{%
11821 \Hy@RestoreSpaceFactor
11822 #2%
11823 \Hy@SaveSpaceFactor
11824 }%
11825 \Hy@RestoreSpaceFactor
11826 }%
11827 }
11828 </tex4ht>
11829 <*tex4htcfg>
11830 \IfFileExists{\jobname.cfg}{\endinput}{}
11831 \Preamble{html}
11832 \begin{document}%
11833 \EndPreamble
11834 \def\TeX{\TeX}
11835 \def\OMEGA{\Omega}
11836 \def\LaTeX{\LaTeX}
11837 \def\LaTeXe{\LaTeX2e}
11838 \def\TeXe{\TeX}
11839 \def\MF{Metafont}
11840 \def\MP{MetaPost}
11841 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

11842 <*pdfmark>
11843 \long\def\@Form[#1]{%
11844 \g@addto@macro\Hy@FirstPageHook{%
11845 \headerps@out{%
11846 [%
11847 /_objdef{pdfDocEncoding}%
11848 /type/dict%
11849 /OBJ pdfmark%
11850 [%
11851 {pdfDocEncoding}%
11852 <<%
11853 /Type/Encoding%
11854 /Differences[%
11855 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11856 /tilde %
11857 39/quotesingle %
11858 96/grave %
11859 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11860 /fraction/guilsingleft/guilsingright/minus/perthousand%

```

11861 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11862 /quoteright/quotesingbase/trademark/fi/fl/Lslash/OE/Scaron%
11863 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11864 164/currency %
11865 166/brokenbar %
11866 168/dieresis/copyright/ordfeminine %
11867 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11868 /twosuperior/threesuperior/acute/mu %
11869 183/periodcentered/cedilla/onesuperior/ordmasculine %
11870 188/onequarter/onehalf/threequarters %
11871 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11872 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11873 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11874 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11875 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11876 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11877 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11878 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11879 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11880 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11881]%
11882 >>%
11883 /PUT pdfmark%
11884 [%
11885 /_objdef{ZaDb}%
11886 /type/dict%
11887 /OBJ pdfmark%
11888 [%
11889 {ZaDb}%
11890 <<%
11891 /Type/Font%
11892 /Subtype/Type1%
11893 /Name/ZaDb%
11894 /BaseFont/ZapfDingbats%
11895 >>%
11896 /PUT pdfmark%
11897 [%
11898 /_objdef{Helv}%
11899 /type/dict%
11900 /OBJ pdfmark%
11901 [%
11902 {Helv}%
11903 <<%
11904 /Type/Font%
11905 /Subtype/Type1%
11906 /Name/Helv%
11907 /BaseFont/Helvetica%
11908 /Encoding{pdfDocEncoding}%
11909 >>%
11910 /PUT pdfmark%
11911 [%
11912 /_objdef{aform}%
11913 /type/dict%
11914 /OBJ pdfmark%
11915 [%
11916 /_objdef{afields}%
11917 /type/array%

```

11918 /OBJ pdfmark%
11919 {%
11920 [%
11921   /BBox[0 0 100 100]%
11922   /_objdef{Check}%
11923 /BP pdfmark %
11924 1 0 0 setrgbcolor%
11925 /ZapfDingbats 80 selectfont %
11926 20 20 moveto%
11927 (4)show%
11928 [/EP pdfmark%
11929 [%
11930   /BBox[0 0 100 100]%
11931   /_objdef{Cross}%
11932 /BP pdfmark %
11933 1 0 0 setrgbcolor%
11934 /ZapfDingbats 80 selectfont %
11935 20 20 moveto%
11936 (8)show%
11937 [/EP pdfmark%
11938 [%
11939   /BBox[0 0 250 100]%
11940   /_objdef{Submit}%
11941 /BP pdfmark %
11942 0.6 setgray %
11943 0 0 250 100 rectfill %
11944 1 setgray %
11945 2 2 moveto %
11946 2 98 lineto %
11947 248 98 lineto %
11948 246 96 lineto %
11949 4 96 lineto %
11950 4 4 lineto %
11951 fill %
11952 0.34 setgray %
11953 248 98 moveto %
11954 248 2 lineto %
11955 2 2 lineto %
11956 4 4 lineto %
11957 246 4 lineto %
11958 246 96 lineto %
11959 fill%
11960 /Helvetica 76 selectfont %
11961 0 setgray %
11962 8 22.5 moveto%
11963 (Submit)show%
11964 [/EP pdfmark%
11965 [%
11966   /BBox[0 0 250 100]%
11967   /_objdef{SubmitP}%
11968 /BP pdfmark %
11969 0.6 setgray %
11970 0 0 250 100 rectfill %
11971 0.34 setgray %
11972 2 2 moveto %
11973 2 98 lineto %
11974 248 98 lineto %

```

```

11975 246 96 lineto %
11976 4 96 lineto %
11977 4 4 lineto %
11978 fill %
11979 1 setgray %
11980 248 98 moveto %
11981 248 2 lineto %
11982 2 2 lineto %
11983 4 4 lineto %
11984 246 4 lineto %
11985 246 96 lineto %
11986 fill%
11987 /Helvetica 76 selectfont %
11988 0 setgray %
11989 10 20.5 moveto%
11990 (Submit)show%
11991 [/EP pdfmark%
11992 } ?pdfmark%
11993 [%
11994 {aform}%
11995 <<%
11996 /Fields{afields}%
11997 /DR<<%
11998 /Font<<%
11999 /ZaDb{ZaDb}%
12000 /Helv{Helv}%
12001 >>%
12002 >>%
12003 /DA(/Helv 10 Tf 0 g)%
12004 /CO{corder}%
12005 \ifHy@pdfa
12006 \else
12007 /NeedAppearances true%
12008 \fi
12009 >>%
12010 /PUT pdfmark%
12011 [%
12012 {Catalog}%
12013 <<%
12014 /AcroForm{aform}%
12015 >>%
12016 /PUT pdfmark%
12017 [%
12018 /__objdef{corder}%
12019 /type/array%
12020 /OBJ pdfmark% dps
12021 }}%
12022 \kvsetkeys{Form}{#1}%
12023 }
12024 \def\@endForm{}
12025 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12026 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12027 }
12028 \def\@TextField[#1]#2{% parameters, label
12029 \def\Fld@name{#2}%
12030 \def\Fld@default{}%
12031 \let\Fld@value\@empty

```

```

12032 \def\Fld@width{\DefaultWidthofText}%
12033 \def\Fld@height{%
12034   \ifFld@multiline
12035     \DefaultHeightofTextMultiline
12036   \else
12037     \DefaultHeightofText
12038   \fi
12039 }%
12040 \begingroup
12041   \expandafter\HyField@SetKeys\expandafter{%
12042     \DefaultOptionsofText,#1%
12043   }%
12044   \HyField@FlagsText
12045   \ifFld@hidden\def\Fld@width{1sp}\fi
12046   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12047   \LayoutTextField{#2}{%
12048     \Hy@escapeform\PDFForm@Text
12049     \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12050       pdfmark=/ANN,Raw={\PDFForm@Text}%
12051     }%
12052   }%
12053 \endgroup
12054 }
12055 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12056   \def\Fld@name{#2}%
12057   \let\Fld@default\relax
12058   \let\Fld@value\relax
12059   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12060   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12061   \begingroup
12062     \Fld@menulength=0 %
12063     \@tempdima\z@
12064     \@for\@curropt:=#3\do{%
12065       \expandafter\Fld@checkequals\@curropt==\%
12066       \Hy@StepCount\Fld@menulength
12067       \settowidth{\@tempdimb}{\@currDisplay}%
12068       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12069     }%
12070     \advance\@tempdima by 15\p@
12071     \begingroup
12072       \HyField@SetKeys{#1}%
12073     \edef\x{\endgroup
12074       \noexpand\expandafter
12075       \noexpand\HyField@SetKeys
12076       \noexpand\expandafter{%
12077         \expandafter\noexpand\curname DefaultOptionsof%
12078         \ifFld@radio
12079           Radio%
12080         \else
12081           \ifFld@combo
12082             \ifFld@popdown
12083               PopdownBox%
12084             \else
12085               ComboBox%
12086             \fi
12087           \else
12088             ListBox%

```

```

12089         \fi
12090     \fi
12091     \endcsname
12092 }%
12093 }\x
12094 \HyField@SetKeys{#1}%
12095 \ifFld@hidden\def\Fld@width{1sp}\fi
12096 \ifx\Fld@value\relax
12097     \let\Fld@value\Fld@default
12098 \fi
12099 \LayoutChoiceField{#2}{%
12100     \ifFld@radio
12101         \HyField@FlagsRadioButton
12102         \@@Radio{#3}%
12103     \else
12104         \begingroup
12105         \HyField@FlagsChoice
12106         \ifdim\Fld@width<\@tempdima
12107             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12108             \edef\Fld@width{\the\@tempdima}%
12109         \fi
12110         \ifFld@combo
12111         \else
12112             \@tempdima=\the\Fld@menulength\Fld@charsize
12113             \advance\@tempdima by \Fld@borderwidth bp %
12114             \advance\@tempdima by \Fld@borderwidth bp %
12115             \edef\Fld@height{\the\@tempdima}%
12116         \fi
12117         \@@ListBox{#3}%
12118     \endgroup
12119 \fi
12120 }%
12121 \endgroup
12122 }
12123 \def\@@Radio#1{%
12124     \Fld@listcount=0 %
12125     \@for\@curropt=#1\do{%
12126         \expandafter\Fld@checkequals\@curropt==\%
12127         \Hy@StepCount\Fld@listcount
12128         \@currDisplay\space
12129         \Hy@escapeform\PDFForm@Radio
12130         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12131             pdfmark=/ANN,%
12132             Raw={%
12133                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12134             }%
12135         } % deliberate space between radio buttons
12136     }%
12137 }
12138 \newcount\Fld@listcount
12139 \def\@@ListBox#1{%
12140     \HyField@PDFChoices{#1}%
12141     \Hy@escapeform\PDFForm@List
12142     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12143         pdfmark=/ANN,Raw={\PDFForm@List}%
12144     }%
12145 }

```

```

12146 \def\@PushButton[#1]#2{% parameters, label
12147   \def\Fld@name{#2}%
12148   \begingroup
12149   \expandafter\HyField@SetKeys\expandafter{%
12150     \DefaultOptionsofPushButton,#1%
12151   }%
12152   \ifHy@pdfa
12153     \Hy@Error{%
12154       PDF/A: Push button with JavaScript is prohibited%
12155     }\@ehc
12156     \LayoutPushButtonField{%
12157       \leavevmode
12158       \MakeButtonField{#2}%
12159     }%
12160   \else
12161     \HyField@FlagsPushButton
12162     \ifFld@hidden\def\Fld@width{1sp}\fi
12163     \LayoutPushButtonField{%
12164       \leavevmode
12165       \Hy@escapeform\PDFForm@Push
12166       \pdfmark[\MakeButtonField{#2}]{%
12167         pdfmark=/ANN,Raw={\PDFForm@Push}%
12168       }%
12169     }%
12170   \fi
12171 \endgroup
12172 }
12173 \def\@Submit[#1]#2{%
12174   \def\Fld@width{\DefaultWidthofSubmit}%
12175   \def\Fld@height{\DefaultHeightofSubmit}%
12176   \begingroup
12177   \expandafter\HyField@SetKeys\expandafter{%
12178     \DefaultOptionsofSubmit,#1%
12179   }%
12180   \HyField@FlagsPushButton
12181   \HyField@FlagsSubmit
12182   \ifFld@hidden\def\Fld@width{1sp}\fi
12183   \Hy@escapeform\PDFForm@Submit
12184   \pdfmark[\MakeButtonField{#2}]{%
12185     pdfmark=/ANN,%
12186     Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12187   }%
12188 \endgroup
12189 }
12190 \def\@Reset[#1]#2{%
12191   \def\Fld@width{\DefaultWidthofReset}%
12192   \def\Fld@height{\DefaultHeightofReset}%
12193   \begingroup
12194   \expandafter\HyField@SetKeys\expandafter{%
12195     \DefaultOptionsofReset,#1%
12196   }%
12197   \leavevmode
12198   \ifHy@pdfa
12199     \Hy@Error{%
12200       PDF/A: Reset action is prohibited%
12201     }\@ehc
12202     \MakeButtonField{#2}%

```

```

12203 \else
12204 \HyField@FlagsPushButton
12205 \ifFld@hidden\def\Fld@width{1sp}\fi
12206 \Hy@escapeform\PDFForm@Reset
12207 \pdfmark[\MakeButtonField{#2}]{%
12208 pdfmark=/ANN,Raw={\PDFForm@Reset}%
12209 }%
12210 \fi
12211 \endgroup
12212 }%
12213 \def\@CheckBox[#1]#2{% parameters, label
12214 \def\Fld@name{#2}%
12215 \def\Fld@default{0}%
12216 \begingroup
12217 \def\Fld@width{\DefaultWidthofCheckBox}%
12218 \def\Fld@height{\DefaultHeightofCheckBox}%
12219 \expandafter\HyField@SetKeys\expandafter{%
12220 \DefaultOptionsofCheckBox,#1%
12221 }%
12222 \HyField@FlagsCheckBox
12223 \ifFld@hidden\def\Fld@width{1sp}\fi
12224 \LayoutCheckField{#2}{%
12225 \Hy@escapeform\PDFForm@Check
12226 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12227 pdfmark=/ANN,Raw={\PDFForm@Check}%
12228 }%
12229 }%
12230 \endgroup
12231 }
12232 \pdfmark

```

47.2 HyperTeX

```

12233 \hypertex
12234 \def\@Form[#1]{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12235 \def\@endForm{}
12236 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12237 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12238 }
12239 \def\@TextField[#1]#2{% parameters, label
12240 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12241 }
12242 \def\@CheckBox[#1]#2{% parameters, label
12243 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12244 }
12245 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12246 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12247 }
12248 \def\@PushButton[#1]#2{% parameters, label
12249 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12250 }
12251 \def\@Reset[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12252 \def\@Submit[#1]#2{\Hy@Message{Sorry, HyperTeX does not support FORMs}}
12253 \hypertex

```

47.3 TeX4ht

```

12254 \tex4ht
12255 \def\@Form[#1]{%

```



```

12256 \kvsetkeys{Form}{#1}%
12257 \HCode{<form action="\Form@action" method="\Form@method">}%
12258 }
12259 \def\@endForm{\HCode{</form>}}
12260 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12261 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12262 }
12263 \def\@TextField[#1]#2{% parameters, label
12264 \let\Hy@reserved@a\@empty
12265 \def\Fld@name{#2}%
12266 \def\Fld@default{}%
12267 \bgroup
12268 \Field@toks={ }%
12269 \kvsetkeys{Field}{#1}%
12270 \HCode{<label for="\Fld@name">#2</label>}%
12271 \ifFld@password
12272 \@@PasswordField
12273 \else
12274 \@@TextField
12275 \fi
12276 \egroup
12277 }
12278 \def\@@PasswordField{%
12279 \HCode{%
12280 <input type="password" %
12281 id="\Fld@name" %
12282 name="\Fld@name" %
12283 \ifFld@hidden type="hidden" \fi
12284 value="\Fld@default" %
12285 \the\Field@toks
12286 >%
12287 }%
12288 }
12289 \def\@@TextField{%
12290 \ifFld@multiline
12291 \HCode{<textarea %
12292 \ifFld@readonly readonly \fi
12293 id="\Fld@name" %
12294 name="\Fld@name" %
12295 \ifFld@hidden type="hidden" \fi
12296 \the\Field@toks>%
12297 }%
12298 \Fld@default
12299 \HCode{</textarea>}}%
12300 \else
12301 \HCode{<input type="text" %
12302 \ifFld@readonly readonly \fi
12303 id="\Fld@name" %
12304 name="\Fld@name" %
12305 \ifFld@hidden type="hidden" \fi
12306 value="\Fld@default" %
12307 \the\Field@toks>%
12308 }%
12309 \fi
12310 }
12311 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12312 \def\Fld@name{#2}%

```

```

12313 \def\Fld@default{ }%
12314 \let\Hy@reserved@a\relax
12315 \begingroup
12316 \expandafter\Fld@findlength#3\\%
12317 \Field@toks={ }%
12318 \kvsetkeys{Field}{#1}%
12319 #2%
12320 \ifFld@radio
12321 \expandafter\@@Radio#3\\%
12322 \else
12323 \expandafter\@@Menu#3\\%
12324 \fi
12325 \endgroup
12326 }
12327 \def\Fld@findlength#1\\{%
12328 \Fld@menulength=0 %
12329 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12330 }
12331 \def\@@Menu#1\\{%
12332 \HCode{<select size="\the\Fld@menulength" %
12333 name="\Fld@name" %
12334 \the\Field@toks>%
12335 }%
12336 \@for\@curropt:=#1\do{%
12337 \expandafter\Fld@checkequals\@curropt==\\%
12338 \HCode{<option %
12339 \ifx\@curropt\Fld@default selected \fi
12340 value="\@currValue">\@currDisplay</option>%
12341 }%
12342 }%
12343 \HCode{</select>}%
12344 }
12345 \def\@@Radio#1\\{%
12346 \@for\@curropt:=#1\do{%
12347 \expandafter\Fld@checkequals\@curropt==\\%
12348 \HCode{<input type="radio" %
12349 \ifx\@curropt\Fld@default checked \fi
12350 name="\Fld@name" %
12351 value="\@currValue" %
12352 \the\Field@toks>%
12353 }%
12354 \@currDisplay
12355 }%
12356 }
12357 \def\@PushButton[#1]#2{% parameters, label
12358 \def\Fld@name{#2}%
12359 \bgroup
12360 \Field@toks={ }%
12361 \kvsetkeys{Field}{#1}%
12362 \HCode{<input type="button" %
12363 name="\Fld@name" %
12364 value="#2" %
12365 \the\Field@toks>%
12366 }%
12367 \HCode{</button>}%
12368 \egroup
12369 }

```

```

12370 \def\@Submit[#1]#2{%
12371   \HCode{<button type="submit">#2</button>}%
12372 }
12373 \def\@Reset[#1]#2{%
12374   \HCode{<button type="reset">#2</button>}%
12375 }
12376 \def\@CheckBox[#1]#2{% parameters, label
12377   \let\Hy@reserved@a\@empty
12378   \def\Fld@name{#2}%
12379   \def\Fld@default{0}%
12380   \bgroup
12381     \Field@toks={ }%
12382     \kvsetkeys{Field}{#1}%
12383     \HCode{<input type="checkbox" %
12384       \ifFld@checked checked \fi
12385       \ifFld@disabled disabled \fi
12386       \ifFld@readonly readonly \fi
12387       name="\Fld@name" %
12388       \ifFld@hidden type="hidden" \fi
12389       value="\Fld@default" %
12390       \the\Field@toks>%
12391       #2%
12392     }%
12393   \egroup
12394 }
12395 </tex4ht>

```

47.4 pdfTeX

```

12396 (*pdftex)
12397 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12398   \Hy@Message{Sorry, pdftex does not support FORM gauges}%
12399 }
12400 \def\MakeFieldObject#1#2{\sbox0{#1}%
12401   \immediate\pdfxform0 %
12402   \expandafter\edef\csname #2Object\endcsname{%
12403     \the\pdfastxform\space 0 R%
12404   }%
12405   \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
12406 }%
12407 \def\HyField@afields{}
12408 \begingroup\expandafter\expandafter\expandafter\endgroup
12409 \expandafter\ifx\csname pdfastlink\endcsname\relax
12410   \let\HyField@AddToFields\relax
12411   \PackageInfo{hyperref}{%
12412     You need pdfTeX 1.40.0 for setting the /Fields entry.%
12413     \MessageBreak
12414     Adobe Reader/Acrobat accepts an empty /Field array,%
12415     \MessageBreak
12416     but other PDF viewers might complain%
12417   }%
12418 \else
12419   \def\HyField@AuxAddToFields#1{%
12420     \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12421     \Hy@AtBeginDocument{%
12422       \if@filesw
12423         \immediate\write\@mainaux{%
12424           \string\providecommand\string\HyField@AuxAddToFields[1]{}%

```

```

12425 }%
12426 \fi
12427 \let\HyField@AfterAuxOpen\@firstofone
12428 \def\HyField@AuxAddToFields#1{%
12429 \xdef\HyField@afields{%
12430 \ifx\HyField@afields\@empty
12431 \else
12432 \HyField@afields
12433 \space
12434 \fi
12435 #1 0 R%
12436 }%
12437 }%
12438 }%
12439 \def\HyField@AddToFields{%
12440 \expandafter\HyField@@AddToFields\expandafter{%
12441 \the\pdfastlink
12442 }%
12443 }%
12444 \def\HyField@@AddToFields#1{%
12445 \HyField@AfterAuxOpen{%
12446 \if@filesw
12447 \write\@mainaux{%
12448 \string\HyField@AuxAddToFields{#1}%
12449 }%
12450 \fi
12451 }%
12452 }%
12453 \fi
12454 \def\@Form[#1]{%
12455 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12456 \kvsetkeys{Form}{#1}%
12457 \Hy@FormObjects
12458 \ifnum\pdfTeXversion>13 %
12459 \pdfrefobj\OBJ@pdfdocencoding
12460 \pdfrefobj\OBJ@ZaDb
12461 \pdfrefobj\OBJ@Helv
12462 \fi
12463 \AtVeryEndDocument{%
12464 \immediate\pdfobj{%
12465 <<%
12466 /Fields[\HyField@afields]%
12467 /DR<<%
12468 /Font<<%
12469 /ZaDb \OBJ@ZaDb\space 0 R%
12470 /Helv \OBJ@Helv\space 0 R%
12471 >>%
12472 >>%
12473 /DA(/Helv 10 Tf 0 g)%
12474 \ifHy@pdfa
12475 \else
12476 /NeedAppearances true%
12477 \fi
12478 >>%
12479 }%
12480 \edef\OBJ@acroform{\the\pdfastobj}%
12481 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%

```

```

12482 }%
12483 \MakeFieldObject{%

Same as \ding{123} of package pifont.
12484 \begingroup
12485 \fontfamily{pzd}%
12486 \fontencoding{U}%
12487 \fontseries{m}%
12488 \fontshape{n}%
12489 \selectfont
12490 \char123 %
12491 \endgroup
12492 }{Ding}%
12493 \MakeFieldObject{%
12494 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12495 }{Submit}%
12496 \MakeFieldObject{%
12497 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12498 }{SubmitP}%
12499 }
12500 \def\@endForm{}
12501 \def\@TextField[#1]#2{% parameters, label
12502 \def\Fld@name{#2}%
12503 \def\Fld@default{}%
12504 \let\Fld@value\@empty
12505 \def\Fld@width{\DefaultWidthofText}%
12506 \def\Fld@height{%
12507 \ifFld@multiline
12508 \DefaultHeightofTextMultiline
12509 \else
12510 \DefaultHeightofText
12511 \fi
12512 }%
12513 \begingroup
12514 \expandafter\HyField@SetKeys\expandafter{%
12515 \DefaultOptionsofText,#1%
12516 }%
12517 \PDFForm@Name
12518 \HyField@FlagsText
12519 \ifFld@hidden\def\Fld@width{1sp}\fi
12520 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12521 \LayoutTextField{#2}{%
12522 \Hy@escapeform\PDFForm@Text
12523 \pdfstartlink user {\PDFForm@Text}\relax
12524 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12525 \HyField@AddToFields
12526 }%
12527 \endgroup
12528 }
12529 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12530 \def\Fld@name{#2}%
12531 \let\Fld@default\relax
12532 \let\Fld@value\relax
12533 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12534 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12535 \begingroup
12536 \Fld@menulength=0 %
12537 \@tempdima\z@

```

```

12538 \@for\@curropt:=#3\do{%
12539   \expandafter\Fld@checkequals\@curropt==\\%
12540   \Hy@StepCount\Fld@menulength
12541   \settowidth{\@tempdimb}{\@currDisplay}%
12542   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12543 }%
12544 \advance\@tempdima by 15\p@
12545 \begingroup
12546   \HyField@SetKeys{#1}%
12547 \edef\x{\endgroup
12548   \noexpand\expandafter
12549   \noexpand\HyField@SetKeys
12550   \noexpand\expandafter{%
12551     \expandafter\noexpand\csname DefaultOptionsof%
12552       \ifFld@radio
12553         Radio%
12554       \else
12555         \ifFld@combo
12556           \ifFld@popdown
12557             PopdownBox%
12558           \else
12559             ComboBox%
12560           \fi
12561         \else
12562           ListBox%
12563         \fi
12564       \fi
12565     \endcsname
12566   }%
12567 }\x
12568 \HyField@SetKeys{#1}%
12569 \PDFForm@Name
12570 \ifFld@hidden\def\Fld@width{1sp}\fi
12571 \ifx\Fld@value\relax
12572   \let\Fld@value\Fld@default
12573 \fi
12574 \LayoutChoiceField{#2}{%
12575   \ifFld@radio
12576     \HyField@FlagsRadioButton
12577     \@@Radio{#3}%
12578   \else
12579     \begingroup
12580     \HyField@FlagsChoice
12581     \ifdim\Fld@width<\@tempdima
12582       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12583       \edef\Fld@width{\the\@tempdima}%
12584     \fi
12585     \ifFld@combo
12586     \else
12587       \@tempdima=\the\Fld@menulength\Fld@charsize
12588       \advance\@tempdima by \Fld@borderwidth bp %
12589       \advance\@tempdima by \Fld@borderwidth bp %
12590       \edef\Fld@height{\the\@tempdima}%
12591     \fi
12592     \@@ListBox{#3}%
12593   \endgroup
12594 \fi

```

```

12595 }%
12596 \endgroup
12597 }
12598 \def\@@Radio#1{%
12599 \Fld@listcount=0 %
12600 \@for\@curropt:=#1\do{%
12601 \expandafter\Fld@checkequals\@curropt==\%
12602 \Hy@StepCount\Fld@listcount
12603 \@currDisplay\space
12604 \leavevmode
12605 \Hy@escapeform\PDFForm@Radio
12606 \pdfstartlink user {%
12607 \PDFForm@Radio
12608 /AP<<%
12609 /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.

```

12610 /\@currValue\space \DingObject
12611 >>%
12612 >>%
12613 }%
12614 \relax
12615 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12616 \ifnum\Fld@listcount=1 %
12617 \HyField@AddToFields
12618 \fi
12619 \space % deliberate space between radio buttons
12620 }%
12621 }
12622 \newcount\Fld@listcount
12623 \def\@@ListBox#1{%
12624 \HyField@PDFChoices{#1}%
12625 \leavevmode
12626 \Hy@escapeform\PDFForm@List
12627 \pdfstartlink user {\PDFForm@List}\relax
12628 \MakeChoiceField{\Fld@width}{\Fld@height}%
12629 \pdfendlink
12630 \HyField@AddToFields
12631 }
12632 \def\@PushButton[#1]#2{% parameters, label
12633 \def\Fld@name{#2}%
12634 \begingroup
12635 \expandafter\HyField@SetKeys\expandafter{%
12636 \DefaultOptionsofPushButton,#1%
12637 }%
12638 \PDFForm@Name
12639 \ifHy@pdfa
12640 \Hy@Error{%
12641 PDF/A: Push button with JavaScript is prohibited%
12642 }\@ehc
12643 \LayoutPushButtonField{%
12644 \leavevmode
12645 \MakeButtonField{#2}%
12646 }%
12647 \else
12648 \HyField@FlagsPushButton

```

```

12649     \ifFld@hidden\def\Fld@width{1sp}\fi
12650     \LayoutPushButtonField{%
12651     \leavevmode
12652     \Hy@escapeform\PDFForm@Push
12653     \pdfstartlink user {\PDFForm@Push}\relax
12654     \MakeButtonField{#2}%
12655     \pdfendlink
12656     \HyField@AddToFields
12657     }%
12658     \fi
12659 \endgroup
12660 }
12661 \def\@Submit[#1]#2{%
12662 \def\Fld@width{\DefaultWidthofSubmit}%
12663 \def\Fld@height{\DefaultHeightofSubmit}%
12664 \begingroup
12665 \expandafter\HyField@SetKeys\expandafter{%
12666 \DefaultOptionsofSubmit,#1%
12667 }%
12668 \HyField@FlagsPushButton
12669 \HyField@FlagsSubmit
12670 \ifFld@hidden\def\Fld@width{1sp}\fi
12671 \leavevmode
12672 \Hy@escapeform\PDFForm@Submit
12673 \pdfstartlink user {%
12674 \PDFForm@Submit
12675 /AP<</N \SubmitObject/D \SubmitPObject>>%
12676 }%
12677 \relax
12678 \MakeButtonField{#2}%
12679 \pdfendlink
12680 \HyField@AddToFields
12681 \endgroup
12682 }
12683 \def\@Reset[#1]#2{%
12684 \def\Fld@width{\DefaultWidthofReset}%
12685 \def\Fld@height{\DefaultHeightofReset}%
12686 \begingroup
12687 \expandafter\HyField@SetKeys\expandafter{%
12688 \DefaultOptionsofReset,#1%
12689 }%
12690 \leavevmode
12691 \ifHy@pdfa
12692 \Hy@Error{%
12693 PDF/A: Reset action is prohibited%
12694 }\@ehc
12695 \MakeButtonField{#2}%
12696 \else
12697 \HyField@FlagsPushButton
12698 \ifFld@hidden\def\Fld@width{1sp}\fi
12699 \Hy@escapeform\PDFForm@Reset
12700 \pdfstartlink user {\PDFForm@Reset}\relax
12701 \MakeButtonField{#2}%
12702 \pdfendlink
12703 \HyField@AddToFields
12704 \fi
12705 \endgroup

```



```

12706 }
12707 \def\@CheckBox[#1]#2{% parameters, label
12708   \def\Fld@name{#2}%
12709   \def\Fld@default{0}%
12710   \begingroup
12711     \def\Fld@width{\DefaultWidthofCheckBox}%
12712     \def\Fld@height{\DefaultHeightofCheckBox}%
12713     \expandafter\HyField@SetKeys\expandafter{%
12714       \DefaultOptionsofCheckBox,#1%
12715     }%
12716     \PDFForm@Name
12717     \HyField@FlagsCheckBox
12718     \ifFld@hidden\def\Fld@width{1sp}\fi
12719     \LayoutCheckField{#2}{%
12720       \Hy@escapeform\PDFForm@Check
12721       \pdfstartlink user {\PDFForm@Check}\relax
12722       \MakeCheckField{\Fld@width}{\Fld@height}%
12723       \pdfendlink
12724       \HyField@AddToFields
12725     }%
12726   \endgroup
12727 }
12728 \def\Hy@FormObjects{%
12729   \pdfobj {%
12730     <<%
12731       /Type/Encoding%
12732       /Differences[%
12733         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12734         /ring/tilde %
12735         39/quotesingle %
12736         96/grave %
12737         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12738         /fraction/guilsingleft/guilsingright/minus/perthousand%
12739         /quotedblbase/quotedblleft/quotedblright/quoteleft%
12740         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12741         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12742         164/currency %
12743         166/brokenbar %
12744         168/dieresis/copyright/ordfeminine %
12745         172/logicalnot/.notdef/registered/macron/degree/plusminus%
12746         /twosuperior/threesuperior/acute/mu %
12747         183/periodcentered/cedilla/onesuperior/ordmasculine %
12748         188/onequarter/onehalf/threequarters %
12749         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12750         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12751         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12752         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12753         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12754         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12755         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12756         /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12757         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12758         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12759       ]%
12760     >>%
12761   }%
12762   \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%

```

```

12763 \pdfobj{%
12764   <<%
12765     /Type/Font%
12766     /Subtype/Type1%
12767     /Name/ZaDb%
12768     /BaseFont/ZapfDingbats%
12769   >>%
12770 }%
12771 \xdef\OBJ@ZaDb{\the\pdfastobj}%
12772 \pdfobj{%
12773   <<%
12774     /Type/Font%
12775     /Subtype/Type1%
12776     /Name/Helv%
12777     /BaseFont/Helvetica%
12778     /Encoding \OBJ@pdfdocencoding\space 0 R%
12779   >>%
12780 }%
12781 \xdef\OBJ@Helv{\the\pdfastobj}%
12782 \global\let\Hy@FormObjects\relax
12783 }
12784 \pdfTeX

```

47.5 dvipdfm, xetex

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

```

12785 \ifdvipdfm | xetex

```

\@Gauge

```

12786 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12787   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12788 }

```

\@Form

```

12789 \def\@Form[#1]{%
12790   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12791   \kvsetkeys{Form}{#1}%
12792   \Hy@FormObjects
12793   \@pdfm@mark{obj @afields []}%
12794   \@pdfm@mark{obj @corder []}%
12795   \@pdfm@mark{%
12796     obj @aform <<%
12797       /Fields @afields%
12798       /DR<<%
12799       /Font<<%
12800       /ZaDb @OBJZaDb%
12801       /Helv @OBJHelv%
12802     >>%
12803     >>%
12804     /DA(/Helv 10 Tf 0 g)%
12805     /CO @corder%
12806     \ifHy@pdfa
12807     \else
12808       /NeedAppearances true%
12809     \fi
12810     >>%

```

```

12811 }%
12812 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
12813 }

```

\@endForm

```

12814 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

12815 \def\dvipdfm@setdim{%
12816   height \the\ht\pdfm@box\space
12817   width \the\wd\pdfm@box\space
12818   depth \the\dp\pdfm@box\space
12819 }

```

\HyField@AnnotCount

```

12820 \newcount\HyField@AnnotCount
12821 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

12822 \def\HyField@AdvanceAnnotCount{%
12823   \global\advance\HyField@AnnotCount\@ne
12824 }

```

\HyField@TheAnnotCount

```

12825 \def\HyField@TheAnnotCount{%
12826   \the\HyField@AnnotCount
12827 }

```

\@TextField

```

12828 \def\@TextField[#1]#2{% parameters, label
12829   \def\Fld@name{#2}%
12830   \def\Fld@default{}%
12831   \let\Fld@value\@empty
12832   \def\Fld@width{\DefaultWidthofText}%
12833   \def\Fld@height{%
12834     \ifFld@multiline
12835       \DefaultHeightofTextMultiline
12836     \else
12837       \DefaultHeightofText
12838     \fi
12839   }%
12840   \begingroup
12841     \expandafter\HyField@SetKeys\expandafter{%
12842       \DefaultOptionsofText,#1%
12843     }%
12844     \PDFForm@Name
12845     \HyField@FlagsText
12846     \ifFld@hidden\def\Fld@width{1sp}\fi
12847     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12848     \setbox\pdfm@box=\hbox{%
12849       \MakeTextField{\Fld@width}{\Fld@height}%
12850     }%
12851     \HyField@AdvanceAnnotCount
12852     \LayoutTextField{#2}{%
12853       \Hy@escapeform\PDFForm@Text
12854       \@pdfm@mark{%

```

```

12855      ann @text\HyField@TheAnnotCount\space
12856      \dvipdfm@setdim << \PDFForm@Text >>%
12857    }%
12858  }%
12859  \unhbox\pdfm@box
12860  \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12861  % record in @afields array
12862  \endgroup
12863 }

```

\@ChoiceMenu

```

12864 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12865   \def\Fld@name{#2}%
12866   \let\Fld@default\relax
12867   \let\Fld@value\relax
12868   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12869   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12870   \begingroup
12871     \Fld@menulength=0 %
12872     \@tempdima\z@
12873     \@for\@curropt:=#3\do{%
12874       \expandafter\Fld@checkequals\@curropt==\%
12875       \Hy@StepCount\Fld@menulength
12876       \settowidth{\@tempdimb}{\@currDisplay}%
12877       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12878     }%
12879     \advance\@tempdima by 15\p@
12880     \begingroup
12881       \HyField@SetKeys{#1}%
12882     \edef\x{\endgroup
12883       \noexpand\expandafter
12884       \noexpand\HyField@SetKeys
12885       \noexpand\expandafter{%
12886         \expandafter\noexpand\csname DefaultOptionsof%
12887           \ifFld@radio
12888             Radio%
12889           \else
12890             \ifFld@combo
12891               \ifFld@popdown
12892                 PopdownBox%
12893               \else
12894                 ComboBox%
12895             \fi
12896           \else
12897             ListBox%
12898           \fi
12899         \fi
12900       \endcsname
12901     }%
12902   }\x
12903   \HyField@SetKeys{#1}%
12904   \PDFForm@Name
12905   \ifFld@hidden\def\Fld@width{1sp}\fi
12906   \ifx\Fld@value\relax
12907     \let\Fld@value\Fld@default
12908   \fi
12909   \LayoutChoiceField{#2}{%

```

```

12910 \ifFld@radio
12911 \HyField@FlagsRadioButton
12912 \@@Radio{#3}%
12913 \else
12914 \begingroup
12915 \HyField@FlagsChoice
12916 \ifdim\Fld@width<\@tempdima
12917 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12918 \edef\Fld@width{\the\@tempdima}%
12919 \fi
12920 \ifFld@combo
12921 \else
12922 \@tempdima=\the\Fld@menulength\Fld@charsize
12923 \advance\@tempdima by \Fld@borderwidth bp %
12924 \advance\@tempdima by \Fld@borderwidth bp %
12925 \edef\Fld@height{\the\@tempdima}%
12926 \fi
12927 \@@ListBox{#3}%
12928 \endgroup
12929 \fi
12930 }%
12931 \endgroup
12932 }

```

\@@Radio

```

12933 \def\@@Radio#1{%
12934 \Fld@listcount=0 %
12935 \setbox\pdfm@box=\hbox{%
12936 \MakeRadioField{\Fld@width}{\Fld@height}%
12937 }%
12938 \@for\@curropt:=#1\do{%
12939 \expandafter\Fld@checkequals\@curropt==\%
12940 \Hy@StepCount\Fld@listcount
12941 \@currDisplay\space
12942 \leavevmode
12943 \Hy@escapeform\PDFForm@Radio
12944 \ifnum\Fld@listcount=1 %
12945 \HyField@AdvanceAnnotCount
12946 \fi
12947 \@pdfm@mark{%
12948 ann %
12949 \ifnum\Fld@listcount=1 %
12950 @radio\HyField@TheAnnotCount%
12951 \space
12952 \fi
12953 \dvipdfm@setdim
12954 <<%
12955 \PDFForm@Radio
12956 /AP<</N<</\@currValue /null>>>>%
12957 >>%
12958 }%
12959 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12960 \ifnum\Fld@listcount=1 %
12961 \@pdfm@mark{%
12962 put @afields @radio\HyField@TheAnnotCount
12963 }%
12964 \fi

```

```

12965 }%
12966 }

\Fld@listcount
12967 \newcount\Fld@listcount

@@@Listbox
12968 \def\@@Listbox#1{%
12969   \HyField@PDFChoices{#1}%
12970   \setbox\pdfm@box=\hbox{%
12971     \MakeChoiceField{\Fld@width}{\Fld@height}%
12972   }%
12973   \leavevmode
12974   \Hy@escapeform\PDFForm@List
12975   \HyField@AdvanceAnnotCount
12976   \@pdfm@mark{%
12977     ann @list\HyField@TheAnnotCount\space
12978     \dvipdfm@setdim
12979     <<\PDFForm@List>>%
12980   }%
12981   \unhbox\pdfm@box
12982   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12983 }

\@PushButton
12984 \def\@PushButton[#1]#2{% parameters, label
12985   \def\Fld@name{#2}%
12986   \begingroup
12987     \expandafter\HyField@SetKeys\expandafter{%
12988       \DefaultOptionsofPushButton,#1%
12989     }%
12990     \PDFForm@Name
12991     \ifHy@pdfa
12992       \Hy@Error{%
12993         PDF/A: Push button with JavaScript is prohibited%
12994       }\@ehc
12995       \LayoutPushButtonField{%
12996         \leavevmode
12997         \MakeButtonField{#2}%
12998       }%
12999     \else
13000       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13001       \HyField@FlagsPushButton
13002       \ifFld@hidden\def\Fld@width{1sp}\fi
13003       \HyField@AdvanceAnnotCount
13004       \LayoutPushButtonField{%
13005         \leavevmode
13006         \Hy@escapeform\PDFForm@Push
13007         \@pdfm@mark{%
13008           ann @push\HyField@TheAnnotCount\space
13009           \dvipdfm@setdim
13010           <<\PDFForm@Push>>%
13011         }%
13012       }%
13013       \unhbox\pdfm@box
13014       \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13015     \fi

```

```

13016 \endgroup
13017 }

\@Submit
13018 \def\@Submit[#1]#2{%
13019 \def\Fld@width{\DefaultWidthofSubmit}%
13020 \def\Fld@height{\DefaultHeightofSubmit}%
13021 \begingroup
13022 \expandafter\HyField@SetKeys\expandafter{%
13023 \DefaultOptionsofSubmit,#1%
13024 }%
13025 \HyField@FlagsPushButton
13026 \HyField@FlagsSubmit
13027 \ifFld@hidden\def\Fld@width{1sp}\fi
13028 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13029 \leavevmode
13030 \Hy@escapeform\PDFForm@Submit
13031 \HyField@AdvanceAnnotCount
13032 \@pdfm@mark{%
13033 ann @submit\HyField@TheAnnotCount\space
13034 \dvipdfm@setdim
13035 <<\PDFForm@Submit>>%
13036 }%
13037 \unhbox\pdfm@box%
13038 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13039 \endgroup
13040 }

\@Reset
13041 \def\@Reset[#1]#2{%
13042 \def\Fld@width{\DefaultWidthofReset}%
13043 \def\Fld@height{\DefaultHeightofReset}%
13044 \begingroup
13045 \expandafter\HyField@SetKeys\expandafter{%
13046 \DefaultOptionsofReset,#1%
13047 }%
13048 \leavevmode
13049 \ifHy@pdfa
13050 \Hy@Error{%
13051 PDF/A: Reset action is prohibited%
13052 }\@ehc
13053 \MakeButtonField{#2}%
13054 \else
13055 \HyField@FlagsPushButton
13056 \ifFld@hidden\def\Fld@width{1sp}\fi
13057 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13058 \Hy@escapeform\PDFForm@Reset
13059 \HyField@AdvanceAnnotCount
13060 \@pdfm@mark{%
13061 ann @reset\HyField@TheAnnotCount\space
13062 \dvipdfm@setdim
13063 <<\PDFForm@Reset>>%
13064 }%
13065 \unhbox\pdfm@box
13066 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13067 \fi
13068 \endgroup

```

```

13069 }

\@CheckBox

13070 \def\@CheckBox[#1]#2{% parameters, label
13071   \def\Fld@name{#2}%
13072   \def\Fld@default{0}%
13073   \begingroup
13074     \def\Fld@width{\DefaultWidthofCheckBox}%
13075     \def\Fld@height{\DefaultHeightofCheckBox}%
13076     \expandafter\HyField@SetKeys\expandafter{%
13077       \DefaultOptionsofCheckBox,#1%
13078     }%
13079     \PDFForm@Name
13080     \HyField@FlagsCheckBox
13081     \ifFld@hidden\def\Fld@width{1sp}\fi
13082     \setbox\pdfm@box=\hbox{%
13083       \MakeCheckField{\Fld@width}{\Fld@height}%
13084     }%
13085     \HyField@AdvanceAnnotCount
13086     \LayoutCheckField{#2}{%
13087       \Hy@escapeform\PDFForm@Check
13088       \@pdfm@mark{%
13089         ann @check\HyField@TheAnnotCount\space
13090         \dvipdfm@setdim
13091         <<\PDFForm@Check>>%
13092       }%
13093       \unhbox\pdfm@box
13094       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13095     }%
13096   \endgroup
13097 }

13098 \def\Hy@FormObjects{%
13099   \@pdfm@mark{obj @OBJpdfdocencoding%
13100     <<%
13101       /Type/Encoding%
13102       /Differences[%
13103         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13104         39/quotesingle %
13105         96/grave %
13106         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13107         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13108         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13109         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13110         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13111         164/currency %
13112         166/brokenbar %
13113         168/dieresis/copyright/ordfeminine %
13114         172/logicalnot/.notdef/registered/macron/degree/plusminus%
13115         /twosuperior/threesuperior/acute/mu %
13116         183/periodcentered/cedilla/onesuperior/ordmasculine %
13117         188/onequarter/onehalf/threequarters %
13118         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13119         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13120         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13121         /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13122         /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13123         /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%

```



```

13124      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13125      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13126      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13127      /thorn/ydieresis%
13128      ]%
13129      >>%
13130      }%
13131      \@pdfm@mark{obj @OBJZaDb%
13132      <<%
13133      /Type/Font%
13134      /Subtype/Type1%
13135      /Name/ZaDb%
13136      /BaseFont/ZapfDingbats%
13137      >>%
13138      }%
13139      \@pdfm@mark{obj @OBJHelv%
13140      <<%
13141      /Type/Font%
13142      /Subtype/Type1%
13143      /Name/Helv%
13144      /BaseFont/Helvetica%
13145      /Encoding @OBJpdfdocencoding%
13146      >>%
13147      }%
13148      \global\let\Hy@FormObjects\relax
13149      }
13150      </dvipdfm | xetex>

```

47.6 Common forms part

```

13151 <*pdfmform>

```

\Hy@escapestring

```

13152 \begingroup\expandafter\expandafter\expandafter\endgroup
13153 \expandafter\ifx\csname pdfescapestring\endcsname\relax
13154   \let\Hy@escapestring\@firstofone
13155   \def\Hy@escapeform#1{%
13156     \ifHy@escapeform
13157       \def\Hy@escapestring##1{%
13158         \noexpand\Hy@escapestring{\noexpand##1}%
13159       }%
13160       \edef\Hy@temp{#1}%
13161       \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13162       \def\Hy@escapestring##1{%
13163         \@ifundefined{Hy@esc@\string##1}{%
13164           ##1%
13165           \ThisShouldNotHappen
13166         }{%
13167           \csname Hy@esc@\string##1\endcsname
13168         }%
13169       }%
13170     \else
13171       \let\Hy@escapestring\@firstofone
13172     \fi
13173   }%
13174   \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13175     \ifx\#3\%

```

```

13176 \else
13177 \expandafter
13178 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13179 \Hy@ReturnAfterFi{%
13180 \Hy@@escapeform#3\@nil
13181 }%
13182 \fi
13183 }%
13184 \else
13185 \def\Hy@escapeform#1{%
13186 \ifHy@escapeform
13187 \let\Hy@escapestring\pdfescapestring
13188 \else
13189 \let\Hy@escapestring\@firstofone
13190 \fi
13191 }%
13192 \Hy@escapeform{}}%
13193 \fi

```

\PDFForm@Name

```

13194 \def\PDFForm@Name{%
13195 \PDFForm@@Name\Fld@name
13196 \ifx\Fld@altname\relax
13197 \else
13198 \PDFForm@@Name\Fld@altname
13199 \fi
13200 \ifx\Fld@mappingname\relax
13201 \else
13202 \PDFForm@@Name\Fld@mappingname
13203 \fi
13204 }

```

\PDFForm@@Name

```

13205 \def\PDFForm@@Name#1{%
13206 \begingroup
13207 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
13208 \ifHy@unicode
13209 \Hy@unicodedefalse
13210 \fi
13211 \fi
13212 \HyPsd@XeTeXBigCharstrue
13213 \pdfstringdef\Hy@gtemp#1%
13214 \endgroup
13215 \let#1\Hy@gtemp
13216 }

```

\Fld@additionalactions

```

13217 \def\Fld@@additionalactions{%
K input (keystroke) format
13218 \ifx\Fld@keystroke@code\@empty
13219 \else
13220 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13221 \fi
F display format
13222 \ifx\Fld@format@code\@empty

```

```

13223 \else
13224 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13225 \fi

V validation
13226 \ifx\Fld@validate@code\@empty
13227 \else
13228 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13229 \fi

C calculation
13230 \ifx\Fld@calculate@code\@empty
13231 \else
13232 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13233 \fi

Fo receiving the input focus
13234 \ifx\Fld@onfocus@code\@empty
13235 \else
13236 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13237 \fi

Bl loosing the input focus (blurred)
13238 \ifx\Fld@onblur@code\@empty
13239 \else
13240 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13241 \fi

D pressing the mouse button (down)
13242 \ifx\Fld@onmousedown@code\@empty
13243 \else
13244 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13245 \fi

U releasing the mouse button (up)
13246 \ifx\Fld@onmouseup@code\@empty
13247 \else
13248 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13249 \fi

E cursor enters the annotation's active area.
13250 \ifx\Fld@onenter@code\@empty
13251 \else
13252 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13253 \fi

X cursor exits the annotation's active area.
13254 \ifx\Fld@onexit@code\@empty
13255 \else
13256 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13257 \fi
13258 }
13259 \def\Fld@additionalactions{%
13260 \if\Fld@@additionalactions-%
13261 \else
13262 \ifHy@pdfa
13263 \else
13264 /AA<<\Fld@@additionalactions>>%
13265 \fi
13266 \fi
13267 }

```

\Fld@annotnames

```
13268 \def\Fld@annotnames{%
13269 /T(\Fld@name)%
13270 \ifx\Fld@altname\relax
13271 \else
13272 /TU(\Fld@altname)%
13273 \fi
13274 \ifx\Fld@mappingname\relax
13275 \else
13276 /TM(\Fld@mappingname)%
13277 \fi
13278 }
```

\PDFForm@Check

```
13279 \def\PDFForm@Check{%
13280 /Subtype/Widget%
13281 \Fld@annotflags
13282 \Fld@annotnames
13283 /FT/Btn%
13284 \Fld@flags
13285 /Q \Fld@align
13286 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13287 /MK<<%
13288 \ifnum\Fld@rotation=\z@
13289 \else
13290 /R \Fld@rotation
13291 \fi
13292 \ifx\Fld@bordercolor\relax
13293 \else
13294 /BC[\Fld@bordercolor]%
13295 \fi
13296 \ifx\Fld@bcolor\relax
13297 \else
13298 /BG[\Fld@bcolor]%
13299 \fi
13300 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13301 >>%
13302 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13303 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13304 /H/P%
13305 \ifFld@checked /V/Yes\else /V/Off\fi
13306 \Fld@additionalactions
13307 }
```

\PDFForm@Push

```
13308 \ifHy@pdfa
13309 \else
13310 \def\PDFForm@Push{%
13311 /Subtype/Widget%
13312 \Fld@annotflags
13313 \Fld@annotnames
13314 /FT/Btn%
13315 \Fld@flags
13316 /H/P%
13317 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13318 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13319 \ifx\Fld@bordercolor\relax\else 1\fi
```

```

13320         \space
13321     \else
13322         /MK<<%
13323         \ifnum\Fld@rotation=\z@
13324         \else
13325             /R \Fld@rotation
13326         \fi
13327         \ifx\Fld@bordercolor\relax
13328         \else
13329             /BC[\Fld@bordercolor]%
13330         \fi
13331         >>%
13332     \fi
13333     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13334     \Fld@additionalactions
13335 }%
13336 \fi

```

\PDFForm@List

```

13337 \def\PDFForm@List{%
13338     /Subtype/Widget%
13339     \Fld@annotflags
13340     \Fld@annotnames
13341     /FT/Ch%
13342     \Fld@flags
13343     /Q \Fld@align
13344     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13345     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13346         \ifx\Fld@bordercolor\relax\else 1\fi
13347         \ifx\Fld@bcolor\relax \else 1\fi
13348         \space
13349     \else
13350         /MK<<%
13351         \ifnum\Fld@rotation=\z@
13352         \else
13353             /R \Fld@rotation
13354         \fi
13355         \ifx\Fld@bordercolor\relax
13356         \else
13357             /BC[\Fld@bordercolor]%
13358         \fi
13359         \ifx\Fld@bcolor\relax
13360         \else
13361             /BG[\Fld@bcolor]%
13362         \fi
13363         >>%
13364     \fi
13365     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13366         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13367     \Fld@choices
13368     \Fld@additionalactions
13369 }

```

\PDFForm@Radio

```

13370 \def\PDFForm@Radio{%
13371     /Subtype/Widget%
13372     \Fld@annotflags

```

```

13373 \Fld@annotnames
13374 /FT/Btn%
13375 \Fld@flags
13376 /H/P%
13377 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13378 /MK<<%
13379 \ifnum\Fld@rotation=\z@
13380 \else
13381 /R \Fld@rotation
13382 \fi
13383 \ifx\Fld@bordercolor\relax
13384 \else
13385 /BC[\Fld@bordercolor]%
13386 \fi
13387 \ifx\Fld@bcolor\relax
13388 \else
13389 /BG[\Fld@bcolor]%
13390 \fi
13391 /CA(\Fld@radiosymbol)%
13392 >>%
13393 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13394 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13395 \ifx\@currValue\Fld@default
13396 /V/\Fld@default
13397 \else
13398 /V/Off%
13399 \fi
13400 \Fld@additionalactions
13401 }

```

\PDFForm@Text

```

13402 \def\PDFForm@Text{%
13403 /Subtype/Widget%
13404 \Fld@annotflags
13405 \Fld@annotnames
13406 /FT/Tx%
13407 \Fld@flags
13408 /Q \Fld@align
13409 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13410 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13411 \ifx\Fld@bordercolor\relax\else 1\fi
13412 \ifx\Fld@bcolor\relax \else 1\fi
13413 \space
13414 \else
13415 /MK<<%
13416 \ifnum\Fld@rotation=\z@
13417 \else
13418 /R \Fld@rotation
13419 \fi
13420 \ifx\Fld@bordercolor\relax
13421 \else
13422 /BC[\Fld@bordercolor]%
13423 \fi
13424 \ifx\Fld@bcolor\relax
13425 \else
13426 /BG[\Fld@bcolor]%
13427 \fi

```

```

13428   >>%
13429   \fi
13430   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13431     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13432   /DV(\Hy@escapestring{\Fld@default})%
13433   /V(\Hy@escapestring{\Fld@value})%
13434   \Fld@additionalactions
13435   \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13436 }

```

\PDFForm@Submit

```

13437 \def\PDFForm@Submit{%
13438   /Subtype/Widget%
13439   \Fld@annotflags
13440   \Fld@annotnames
13441   /FT/Btn%
13442   \Fld@flags
13443   /H/P%
13444   /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
13445   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13446     \ifx\Fld@bordercolor\relax\else 1\fi
13447     \space
13448   \else
13449     /MK<<%
13450     \ifnum\Fld@rotation=\z@
13451     \else
13452       /R \Fld@rotation
13453     \fi
13454     \ifx\Fld@bordercolor\relax
13455     \else
13456       /BC[\Fld@bordercolor]%
13457     \fi
13458   >>%
13459   \fi
13460   /A<<%
13461   /S/SubmitForm%
13462   /F<<%
13463   /FS/URL%
13464   /F(\Hy@escapestring{\Form@action})%
13465   >>%
13466   \Fld@submitflags
13467   >>%
13468   \Fld@additionalactions
13469 }

```

\PDFForm@Reset

```

13470 \ifHy@pdfa
13471 \else
13472   \def\PDFForm@Reset{%
13473     /Subtype/Widget%
13474     \Fld@annotflags
13475     \Fld@annotnames
13476     /FT/Btn%
13477     \Fld@flags
13478     /H/P%
13479     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13480     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

13481         \ifx\Fld@bordercolor\relax\else 1\fi
13482         \space
13483     \else
13484         /MK<<%
13485         \ifnum\Fld@rotation=\z@
13486         \else
13487         /R \Fld@rotation
13488         \fi
13489         \ifx\Fld@bordercolor\relax
13490         \else
13491         /BC[\Fld@bordercolor]%
13492         \fi
13493     % /CA (Clear)
13494     % /AC (Done)
13495     >>%
13496     \fi
13497     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13498     /A<</S/ResetForm>>%
13499     \Fld@additionalactions
13500 }%
13501 \fi

13502 </pdfform>
13503 <*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`

```

13504 \def\phantomsection{%
13505   \Hy@MakeCurrentHrefAuto{section*}%
13506   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13507 }
13508 </package>

```

48.1 Bookmarks

```
13509 <*outlines>
```

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

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

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

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

```

13510 \def\Hy@writebookmark#1#2#3#4#5{%
13511   % section number, text, label, level, file
13512   \ifx\WriteBookmarks\relax%
13513   \else
13514     \ifnum#4>\Hy@bookmarksdepth\relax
13515     \else
13516       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13517     \fi
13518   \fi
13519 }
13520 \def\Hy@currentbookmarklevel{0}
13521 \def\Hy@numberline#1{#1 }
13522 \def\@@writetorep#1#2#3#4#5{%
13523   \begingroup
13524     \edef\Hy@tempa{#5}%
13525     \ifx\Hy@tempa\Hy@bookmarkstype
13526       \edef\Hy@level{#4}%
13527       \ifx\Hy@levelcheck Y%
13528         \@tempcnta\Hy@level\relax
13529         \advance\@tempcnta by -1 %
13530         \ifnum\Hy@currentbookmarklevel<\@tempcnta
13531           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13532           \advance\@tempcnta by 1 %
13533           \Hy@Warning{%
13534             Difference (\the\@tempcnta) between bookmark levels is %
13535             greater \MessageBreak than one, level fixed%
13536           }%
13537           \@tempcnta\Hy@currentbookmarklevel
13538           \advance\@tempcnta by 1 %
13539           \edef\Hy@level{\the\@tempcnta}%
13540         \fi
13541       \else
13542         \global\let\Hy@levelcheck Y%
13543       \fi
13544       \global\let\Hy@currentbookmarklevel\Hy@level
13545       \@tempcnta\Hy@level\relax
13546       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13547       \advance\@tempcnta by -1 %
13548       \edef\Hy@tempa{#3}%
13549       \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13550       \ifx\Hy@tempa\Hy@tempb
13551         \Hy@Warning{%
13552           The anchor of a bookmark and its parent's must not%
13553           \MessageBreak be the same. Added a new anchor%
13554         }%
13555       \phantomsection
13556     \fi
13557     \ifHy@bookmarksnumbered
13558       \let\numberline\Hy@numberline
13559       \let\booknumberline\Hy@numberline
13560       \let\partnumberline\Hy@numberline
13561       \let\chapternumberline\Hy@numberline
13562     \else

```

```

13563 \let\numberline\@gobble
13564 \let\booknumberline\@gobble
13565 \let\partnumberline\@gobble
13566 \let\chapternumberline\@gobble
13567 \fi
13568 \HyPsd@XeTeXBigCharstrue
13569 \pdfstringdef\Hy@tempa{#2}%
13570 \HyPsd@SanitizeForOutFile\Hy@tempa
13571 \if@filesw
13572 \stepcounter{bookmark@seq@number}%
13573 \ifundefined{@outlinefile}{%
13574 }{%
13575 \protected@write{@outlinefile}{{%
13576 \protect\BOOKMARK
13577 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13578 {\Hy@tempa}{\Hy@tempb}%
13579 \@percentchar\space\thebookmark@seq@number
13580 }%
13581 }%
13582 \fi
13583 \fi
13584 \endgroup
13585 }
13586 \newcounter{bookmark@seq@number}

13587 \begingroup
13588 \lccode'('= '{%
13589 \lccode'('= '}%
13590 \lccode'1=\z@
13591 \lccode'2=\z@
13592 \lccode'3=\z@
13593 \lccode'5=\z@
13594 \lccode'7=\z@
13595 \lccode'\#=\z@
13596 \lccode'\='=\z@
13597 \lccode'\{=\z@
13598 \lccode'\}=\z@
13599 \lowercase{%
13600 \endgroup
13601 \def\HyPsd@SanitizeForOutFile#1{%
13602 \@onelevel@sanitize\Hy@tempa
13603 \escapechar'\%
13604 \edef\Hy@tempa{%
13605 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13606 }%
13607 \edef\Hy@tempa{%
13608 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13609 }%
13610 }%
13611 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13612 #1%
13613 \ifx\#2\%
13614 \expandafter\ltx@gobble
13615 \else
13616 \expandafter\ltx@firstofone
13617 \fi
13618 {%
13619 \string\173%

```

```

13620 \HyPsd@SanitizeOut@BraceLeft#2\@nil
13621 }%
13622 }%
13623 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13624 #1%
13625 \ifx\#2\%
13626 \expandafter\ltx@gobble
13627 \else
13628 \expandafter\ltx@firstofone
13629 \fi
13630 {%
13631 \string\175%
13632 \HyPsd@SanitizeOut@BraceRight#2\@nil
13633 }%
13634 }%
13635 }

```

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

```

13636 \newcommand{\currentpdfbookmark}{%
13637 \pdfbookmark[\Hy@currentbookmarklevel]%
13638 }
13639 \newcommand{\subpdfbookmark}{%
13640 \@tempcnta\Hy@currentbookmarklevel
13641 \Hy@StepCount\@tempcnta
13642 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13643 }
13644 \newcommand{\belowpdfbookmark}[2]{%
13645 \@tempcnta\Hy@currentbookmarklevel
13646 \Hy@StepCount\@tempcnta
13647 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13648 \advance\@tempcnta by -1 %
13649 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13650 }

```

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.

```

13651 \renewcommand[3][0]{%
13652 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
13653 \hyper@anchorstart{#3.#1}\hyper@anchorend
13654 }
13655 \def\BOOKMARK{%
13656 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
13657 }
13658 \def\@BOOKMARK[#1]{%
13659 \@ifnextchar[{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
13660 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

13661 \RequirePackage{rerunfilecheck}[2009/12/10]
13662 \def\Hy@OutlineRerunCheck{%
13663 \RerunFileCheck{\jobname.out}{%
13664 \immediate\closeout\@outlinefile
13665 }{%

```

```

13666   Rerun to get outlines right\MessageBreak
13667   or use package 'bookmark'%
13668 }%
13669 }

```

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.

```

13670 ⟨*vtex⟩
13671 \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.

```

13672 \begingroup
13673   \catcode'\'=12 %
13674   \ifnum\Hy@VTeXversion<650 %
13675     \catcode'\=12 %
13676     \gdef\hv@pdf@char#1#2#3{%
13677       \char
13678       \ifcase'#1#2#3 %
13679         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13680         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13681         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13682         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13683         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13684         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13685         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13686         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13687         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13688         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13689         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13690         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13691         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13692         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13693         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13694         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13695         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13696         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13697         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13698         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13699         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13700         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13701         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13702         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13703         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13704         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13705         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
13706         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13707         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13708         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13709         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13710         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%

```

```

13711 \fi
13712 }%
13713 \else
13714 \gdef\hv@pdf@char{\char'}%
13715 \fi
13716 \endgroup

```

\@@BOOKMARK

```

13717 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13718 \expandafter\edef\csname @count@#3\endcsname{%
13719 \the\@serial@counter
13720 }%
13721 \edef\@mycount{\the\@serial@counter}%
13722 \Hy@StepCount\@serial@counter
13723 \edef\@parcount{%
13724 \expandafter\ifx\csname @count@#5\endcsname\relax
13725 0%
13726 \else
13727 \csname @count@#5\endcsname
13728 \fi
13729 }%
13730 \immediate\special{%
13731 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13732 s=\ifx#2-c\else o\fi,t=#4%
13733 }%
13734 }%

```

\ReadBookmarks

```

13735 \def\ReadBookmarks{%
13736 \begingroup
13737 \def\0{\hv@pdf@char 0}%
13738 \def\1{\hv@pdf@char 1}%
13739 \def\2{\hv@pdf@char 2}%
13740 \def\3{\hv@pdf@char 3}%
13741 \def\({}%
13742 \def\)}%
13743 \def\do##1{%
13744 \ifnum\catcode'##1=\active
13745 \@makeother##1%
13746 \else
13747 \ifnum\catcode'##1=6 %
13748 \@makeother##1%
13749 \fi
13750 \fi
13751 }%
13752 \dospecials
13753 \Hy@safe@activetrue
13754 \InputIfFileExists{\jobname.out}{-}{-}%
13755 \endgroup
13756 \ifx\WriteBookmarks\relax
13757 \else
13758 \if@filesw
13759 \newwrite\@outlinefile
13760 \Hy@OutlineRerunCheck
13761 \immediate\openout\@outlinefile=\jobname.out\relax
13762 \ifHy@typexml
13763 \immediate\write\@outlinefile{<relaxxml>\relax}%

```

```

13764 \fi
13765 \fi
13766 \fi
13767 }

13768 </vtex>
13769 <!*vtex>
13770 \def\ReadBookmarks{%
13771 \begingroup
13772 \def\do##1{%
13773 \ifnum\catcode'##1=\active
13774 \@makeother##1%
13775 \else
13776 \ifnum\catcode'##1=6 %
13777 \@makeother##1%
13778 \fi
13779 \fi
13780 }%
13781 \dospecials
13782 \Hy@safe@activetrue
13783 \escapechar='\'%
13784 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13785 \calc@bm@number{##5}%
13786 }%
13787 \InputIfFileExists{\jobname.out}{-}{-}%
13788 \ifx\WriteBookmarks\relax
13789 \global\let\WriteBookmarks\relax
13790 \fi
13791 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13792 \def\Hy@temp{##4}%
13793 <*pdftex>
13794 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13795 \Hy@OutlineName{\Hy@pstringName{%
13796 ##2\check@bm@number{##3}}%
13797 }{%
13798 \expandafter\strip@prefix\meaning\Hy@temp
13799 }%
13800 </pdftex>
13801 <*pdfmark>
13802 \pdfmark{%
13803 pdfmark=/OUT,%
13804 Count={##2\check@bm@number{##3}},%
13805 Dest={##3},%
13806 Title=\expandafter\strip@prefix\meaning\Hy@temp
13807 }%
13808 </pdfmark>
13809 <*dvipdfm|xetex>
13810 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13811 \@pdfm@mark{%
13812 outline \ifHy@DvipdfmxOutlineOpen
13813 [%
13814 \ifnum##21>\z@
13815 \else
13816 -%
13817 \fi
13818 ] %
13819 \fi
13820 ##1<<%

```

```

13821      /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13822      /A<<%
13823      /S/GoTo%
13824      /D(\Hy@pstringName)%
13825      >>%
13826      >>%
13827      }%
13828 </dvipdfm | xetex>
13829 }%
13830 {%
13831   \def\WriteBookmarks{0}%
13832   \InputIfFileExists{\jobname.out}{-}{-}%
13833 }%
13834 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
13835 \ifx\WriteBookmarks\relax
13836 \else
13837   \if@filesw
13838     \newwrite\@outlinefile
13839     \Hy@OutlineRerunCheck
13840     \immediate\openout\@outlinefile=\jobname.out\relax
13841     \ifHy@typexml
13842       \immediate\write\@outlinefile{<relaxxml>\relax}%
13843     \fi
13844   \fi
13845 \fi
13846 \endgroup
13847 }
13848 <*pdftex>
13849 \def\Hy@OutlineName#1#2#3#4{%
13850   \pdfoutline goto name{#2}count#3{#4}%
13851 }
13852 </pdftex>
13853 \def\check@bm@number#1{%
13854   \expandafter\ifx\csname B_#1\endcsname\relax
13855     0%
13856   \else
13857     \csname B_#1\endcsname
13858   \fi
13859 }
13860 \def\calc@bm@number#1{%
13861   \@tempcnta=\check@bm@number{#1}\relax
13862   \advance\@tempcnta by 1 %
13863   \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
13864 }
13865 </!vtex>

13866 \ifHy@implicit
13867 \else
13868   \expandafter\endinput
13869 \fi

13870 </outlines>
13871 <*outlines | hypertex>

13872 \newlength\Hy@SectionHShift
13873 \def\Hy@SectionAnchorHref#1{%
13874   \ifx\protect\@typeset@protect
13875     \Hy@@@SectionAnchor{#1}%
13876   \fi

```

```

13877 }
13878 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
13879   \leavevmode
13880   \hbox to 0pt{%
13881     \kern-\Hy@SectionHShift
13882     \Hy@raisedlink{%
13883       \hyper@anchorstart{#1}\hyper@anchorend
13884     }%
13885     \hss
13886   }%
13887 }
13888 \let\H@old@ssect\@ssect
13889 \def\@ssect#1#2#3#4#5{%
13890   \Hy@MakeCurrentHrefAuto{section*}%
13891   \setlength{\Hy@SectionHShift}{#1}%
13892   \begingroup
13893     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13894     \toks\tw@\expandafter{%
13895       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13896       #5%
13897     }%
13898   \edef\x{\endgroup
13899     \the\toks@{\the\toks\tw@}%
13900   }\x
13901 }
13902 \let\H@old@schapter\@schapter
13903 \def\@schapter#1{%
13904   \begingroup
13905     \let\@mkboth\@gobbletwo
13906     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13907     \Hy@raisedlink{%
13908       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13909     }%
13910   \endgroup
13911   \H@old@schapter{#1}%
13912 }

```

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:

```

13913 \ltx@ifundefined{@chapter}{}{%
13914   \let\Hy@org@chapter\@chapter
13915   \def\@chapter{%
13916     \def\Hy@next{%
13917       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13918       \Hy@raisedlink{%
13919         \hyper@anchorstart{\@currentHref}\hyper@anchorend
13920       }%
13921     }%
13922     \ifnum\c@secnumdepth>\m@ne
13923       \ltx@ifundefined{if@mainmatter}{%
13924         \iftrue{\csname if@mainmatter\endcsname}%
13925         \let\Hy@next\relax
13926       }%
13927     }%
13928     \Hy@next
13929     \Hy@org@chapter
13930   }%

```



```

13931 }
13932 \let\H@old@part\@part
13933 \begingroup\expandafter\expandafter\expandafter\endgroup
13934 \expandafter\ifx\csname chapter\endcsname\relax
13935 \let\Hy@secnum@part\z@
13936 \else
13937 \let\Hy@secnum@part\m@ne
13938 \fi
13939 \def\@part{%
13940 \ifnum\Hy@secnum@part>\c@secnumdepth
13941 \phantomsection
13942 \fi
13943 \H@old@part
13944 }

13945 \let\H@old@spart\@spart
13946 \def\@spart#1{%
13947 \Hy@MakeCurrentHrefAuto{part*}%
13948 \Hy@raisedlink{%
13949 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13950 }%
13951 \H@old@spart{#1}%
13952 }

13953 \let\H@old@sect\@sect
13954 \def\@sect#1#2#3#4#5#6[#7]#8{%
13955 \ifnum #2>\c@secnumdepth
13956 \expandafter\@firstoftwo
13957 \else
13958 \expandafter\@secondoftwo
13959 \fi
13960 {%
13961 \Hy@MakeCurrentHrefAuto{section*}%
13962 \setlength{\Hy@SectionHShift}{#3}%
13963 \begingroup
13964 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13965 \toks\tw@\expandafter{%
13966 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13967 #8%
13968 }%
13969 \edef\x{\endgroup
13970 \the\toks@\the\toks\tw@}%
13971 }\x
13972 }{%
13973 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13974 }%
13975 }

13976 </outlines | hypertext>
13977 <*outlines>

13978 \expandafter\def\csname Parent-4\endcsname{}
13979 \expandafter\def\csname Parent-3\endcsname{}
13980 \expandafter\def\csname Parent-2\endcsname{}
13981 \expandafter\def\csname Parent-1\endcsname{}
13982 \expandafter\def\csname Parent0\endcsname{}
13983 \expandafter\def\csname Parent1\endcsname{}
13984 \expandafter\def\csname Parent2\endcsname{}
13985 \expandafter\def\csname Parent3\endcsname{}
13986 \expandafter\def\csname Parent4\endcsname{}

```

13987 </outlines>

49 Compatibility with koma-script classes

13988 <*outlines | hypertex>

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

```
13989 \def\Hy@tempa{%
13990   \def\@addchap[##1]##2{%
13991     \typeout{##2}%
13992     \if@twoside
13993       \@mkboth{##1}{}%
13994     \else
13995       \@mkboth{}{##1}%
13996     \fi
13997     \addtocontents{lof}{\protect\addvspace{10\p@}}%
13998     \addtocontents{lot}{\protect\addvspace{10\p@}}%
13999     \Hy@MakeCurrentHrefAuto{\Hy@chapapp}%
14000     \Hy@raisedlink{%
14001       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14002     }%
14003     \if@twocolumn
14004       \@topnewpage[\@makeschapterhead{##2}]%
14005     \else
14006       \@makeschapterhead{##2}%
14007       \@afterheading
14008     \fi
14009     \addcontentsline{toc}{chapter}{##1}%
14010   }%
14011 }
14012 \@ifclassloaded{scrbook}{%
14013   \@ifclasslater{scrbook}{2001/01/01}{%
14014     \let\Hy@tempa\@empty
14015   }{}%
14016 }{%
14017   \@ifclassloaded{scrreprt}{%
14018     \@ifclasslater{scrreprt}{2001/01/01}{%
14019       \let\Hy@tempa\@empty
14020     }{}%
14021   }{}%
14022   \let\Hy@tempa\@empty
14023 }%
14024 }%
14025 \Hy@tempa
14026 </outlines | hypertex>
```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

14027 <*pd1enc>

14028 \DeclareFontEncoding{PD1}{-}{-}

Accents

14029 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14030 \DeclareTextAccent{\'}{PD1}{\textacute}
14031 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14032 \DeclareTextAccent{\~}{PD1}{\texttilde}
14033 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14034 \DeclareTextAccent{\r}{PD1}{\textring}
14035 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14036 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14037 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14038 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14039 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14040 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14041 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14042 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14043 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14044 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14045 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14046 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14047 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14048 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14049 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14050 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14051 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14052 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14053 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14054 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14055 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14056 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14057 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14058 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14059 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14060 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14061 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14062 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14063 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14064 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14065 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}}{#1}
14066 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}}{#1}
14067 \DeclareTextCommand{\newtie}{PD1}[1]{%
14068 \TextSymbolUnavailable{\newtie{#1}}}{#1}%
14069 }

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

14070 % U+0009 (CHARACTER TABULATION)
14071 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14072 % U+000A (LINE FEED)
14073 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14074 % U+000D (CARRIAGE RETURN)
14075 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

14076 % U+02D8 BREVE; breve
14077 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14078 % U+02C7 CARON; caron
14079 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14080 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex

14081 \DeclareTextCommand{\textcirc{}}{PD1}{\032}% U+02C6
14082 % U+02D9 DOT ABOVE; dotaccent
14083 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14084 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14085 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14086 % U+02DB OGONEK; ogonek
14087 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14088 % U+02DA RING ABOVE; ring
14089 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14090 % U+02DC SMALL TILDE; ilde, *tilde
14091 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14092 % U+0022 QUOTATION MARK; quotedbl
14093 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14094 % U+0023 NUMBER SIGN; numbersign
14095 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14096 % U+0024 DOLLAR SIGN; dollar
14097 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14098 % U+0025 PERCENT SIGN; percent
14099 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14100 % U+0026 AMPERSAND; ampersand
14101 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14102 % U+0028 LEFT PARENTHESIS; parenleft
14103 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14104 % U+0029 RIGHT PARENTHESIS; parenright
14105 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14106 % U+002E FULL STOP; period
14107 \DeclareTextCommand{\textdotbelow}{PD1}{\string\.\}% \056 U+002E

\057: U+002F SOLIDUS; slash
\060: U+0030 DIGIT ZERO; zero

...
\071: U+0039 DIGIT NINE; nine
\072: U+003A COLON; colon
\073: U+003B SEMICOLON; semicolon
14108 % U+003C LESS-THAN SIGN; less
14109 \DeclareTextCommand{\textless}{PD1}{\string\<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal
14110 % U+003E GREATER-THAN SIGN; greater
14111 \DeclareTextCommand{\textgreater}{PD1}{\string\>}% \076 U+003E

\077: U+003F QUESTION MARK; question
\100: U+0040 COMMERCIAL AT; at
\101: U+0041 LATIN CAPITAL LETTER A; A

...
\132: U+005A LATIN CAPITAL LETTER Z; Z
\133: U+005B LEFT SQUARE BRACKET; bracketleft
14112 % U+005C REVERSE SOLIDUS; backslash

14113 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
\135: U+005D RIGHT SQUARE BRACKET; bracketright
14114 % U+005E CIRCUMFLEX ACCENT; asciicircum
14115 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
14116 % U+005F LOW LINE; underscore
14117 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
14118 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
14119 % U+0060 GRAVE ACCENT; grave
14120 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
\141: U+0061 LATIN SMALL LETTER A; a
...
\150: U+0068 LATIN SMALL LETTER H; h
14121 % U+0069 LATIN SMALL LETTER I; i
14122 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
\152: U+006A LATIN SMALL LETTER J; j
...
\172: U+007A LATIN SMALL LETTER Z; z
14123 % U+007B LEFT CURLY BRACKET; braceleft
14124 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
14125 % U+007C VERTICAL LINE; *bar, verticalbar
14126 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
14127 % U+007D RIGHT CURLY BRACKET; braceright
14128 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
14129 % U+007E TILDE; asciitilde
14130 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
Slot \177 (0x7F) is undefined in PDFDocEncoding.
14131 % U+2022 BULLET; bullet
14132 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
14133 % U+2020 DAGGER; dagger
14134 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
14135 % U+2021 DOUBLE DAGGER; daggerdbl
14136 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
14137 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
14138 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
14139 % U+2014 EM DASH; emdash
14140 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
14141 % U+2013 EN DASH; endash
14142 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
14143 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
14144 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
14145 % U+2044 FRACTION SLASH; fraction
14146 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
14147 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
lingleft
14148 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
14149 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
ingright
14150 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
14151 % U+2212 MINUS SIGN; minus
14152 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14153 % U+2030 PER MILLE SIGN; perthousand
14154 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14155 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14156 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14157 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14158 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C

14159 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14160 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14161 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14162 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14163 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14164 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14165 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14166 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14167 % U+2122 TRADE MARK SIGN; trademark
14168 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14169 % U+FB01 LATIN SMALL LIGATURE FI; fi
14170 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14171 % U+FB02 LATIN SMALL LIGATURE FL; fl
14172 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14173 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14174 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14175 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14176 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14177 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14178 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14179 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14180 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
14181 \DeclareTextCommand{\IJ}{PD1}{\230}
14182 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14183 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14184 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14185 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14186 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14187 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14188 % U+0153 LATIN SMALL LIGATURE OE; oe
14189 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14190 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14191 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14192 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14193 \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.
14194 % U+20AC EURO SIGN; *Euro, euro
14195 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14196 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14197 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14198 % U+00A2 CENT SIGN; cent
14199 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14200 % U+00A3 POUND SIGN; sterling
14201 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14202 % U+00A4 CURRENCY SIGN; currency
14203 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14204 % U+00A5 YEN SIGN; yen
14205 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14206 % U+00A6 BROKEN BAR; brokenbar
14207 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14208 % U+00A7 SECTION SIGN; section
14209 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14210 % U+00A8 DIAERESIS; dieresis
14211 \DeclareTextCommand{\textasciidiieresis}{PD1}{\250}% U+00A8
14212 % U+00A9 COPYRIGHT SIGN; copyright
14213 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9

14214 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14215 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14216 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14217 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14218 % U+00AC NOT SIGN; logicalnot
 14219 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14220 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14221 % U+00AE REGISTERED SIGN; registered
 14222 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14223 % U+00AF MACRON; *macron, overscore
 14224 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 14225 % U+00B0 DEGREE SIGN; degree
 14226 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 14227 % U+00B1 PLUS-MINUS SIGN; plusminus
 14228 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 14229 % U+00B2 SUPERSCRIPT TWO; twosuperior
 14230 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
 14231 % U+00B3 SUPERSCRIPT THREE; threesuperior
 14232 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
 14233 % U+00B4 ACUTE ACCENT; acute
 14234 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 14235 % U+00B5 MICRO SIGN; mu, mu1
 14236 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 14237 % U+00B6 PILCROW SIGN; paragraph
 14238 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 14239 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14240 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 14241 % U+00B8 CEDILLA; cedilla
 14242 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 14243 % U+00B9 SUPERSCRIPT ONE; onesuperior
 14244 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
 14245 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 14246 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 14247 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 14248 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 14249 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 14250 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 14251 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 14252 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 14253 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 14254 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 14255 % U+00BF INVERTED QUESTION MARK; questiondown
 14256 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
 14257 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 14258 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
 14259 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 14260 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
 14261 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 14262 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
 14263 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 14264 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
 14265 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 14266 \DeclareTextCompositeCommand{\\"}{PD1}{A}{\304}% U+00C4
 14267 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring

14268 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14269 % U+00C6 LATIN CAPITAL LETTER AE; AE
14270 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14271 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14272 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14273 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14274 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14275 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14276 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14277 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14278 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14279 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14280 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14281 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14282 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14283 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14284 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14285 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14286 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14287 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14288 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14289 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14290 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14291 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14292 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14293 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14294 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14295 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14296 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14297 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14298 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14299 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14300 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14301 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14302 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14303 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14304 % U+00D7 MULTIPLICATION SIGN; multiply
14305 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14306 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14307 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14308 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14309 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14310 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14311 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14312 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14313 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14314 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14315 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14316 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14317 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14318 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14319 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14320 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14321 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14322 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14323 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14324 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute

14325 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14326 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14327 \DeclareTextCompositeCommand{\~}{PD1}{a}{\342}% U+00E2
14328 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14329 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14330 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14331 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14332 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14333 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14334 % U+00E6 LATIN SMALL LETTER AE; ae
14335 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14336 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14337 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14338 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14339 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8
14340 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14341 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14342 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14343 \DeclareTextCompositeCommand{\~}{PD1}{e}{\352}% U+00EA
14344 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14345 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14346 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14347 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14348 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
14349 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14350 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14351 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14352 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14353 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE
14354 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE
14355 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14356 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14357 \DeclareTextCompositeCommand{\'}{PD1}{i}{\357}% U+00EF
14358 % U+00F0 LATIN SMALL LETTER ETH; eth
14359 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14360 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14361 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14362 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14363 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2
14364 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14365 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14366 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14367 \DeclareTextCompositeCommand{\~}{PD1}{o}{\364}% U+00F4
14368 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14369 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14370 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14371 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14372 % U+00F7 DIVISION SIGN; divide
14373 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14374 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14375 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14376 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14377 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9
14378 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14379 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14380 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14381 \DeclareTextCompositeCommand{\~}{PD1}{u}{\373}% U+00FB

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14382 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14383 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
14384 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14385 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
14386 % U+00FE LATIN SMALL LETTER THORN; thorn
14387 \DeclareTextCommand{th}{PD1}{\376}% U+00FE
14388 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14389 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14390 \DeclareTextCommand{ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

14391 \DeclareTextCommand{\SS}{PD1}{SS}
14392 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

14393 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14394 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14395 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14396 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14397 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14398 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14399 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14400 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

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Aliases (math names)

```

14401 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14402 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14403 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14404 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14405 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14406 \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).

```

14407 \DeclareTextCompositeCommand{k}{PD1}{a}{a}% aogonek
14408 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
14409 \DeclareTextCompositeCommand{k}{PD1}{e}{e}% eogonek
14410 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
14411 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
14412 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
14413 \DeclareTextCompositeCommand{.}{PD1}{z}{z}% zdot
14414 \DeclareTextCompositeCommand{k}{PD1}{A}{A}% Aogonek
14415 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
14416 \DeclareTextCompositeCommand{k}{PD1}{E}{E}% Eogonek
14417 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
14418 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
14419 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
14420 \DeclareTextCompositeCommand{.}{PD1}{Z}{Z}% Zdot
14421 </pdlenc>

```

50.2 PU encoding

```

14422 <*puenc>
14423 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 NFSS2 accents

```

14424 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14425 \DeclareTextCommand{'}{PU}[1]{\#1\83\000}% U+0300
14426 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb

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14427 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
14428 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14429 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
14430 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14431 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
14432 % U+0304 COMBINING MACRON; macroncmb
14433 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14434 % U+0306 COMBINING BREVE; brevecmb
14435 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14436 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14437 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14438 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14439 % U+0308 COMBINING DIAERESIS; dieresiscmb
14440 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14441 % U+030A COMBINING RING ABOVE; ringcmb
14442 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14443 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14444 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14445 % U+030C COMBINING CARON; caroncmb
14446 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14447 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14448 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14449 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14450 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14451 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14452 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
14453 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14454 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14455 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14456 % U+0327 COMBINING CEDILLA; cedillacmb
14457 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14458 % U+0328 COMBINING OGONEK; ogonekcmb
14459 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14460 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14461 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14462 % U+20DD COMBINING ENCLOSING CIRCLE
14463 \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.

```

14464 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
14465 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textacute}
14466 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
14467 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
14468 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14469 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14470 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14471 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14472 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14473 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14474 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14475 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14476 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14477 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14478 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14479 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14480 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14481 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}

```

```

14482 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
14483 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
14484 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14485 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
14486 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
14487 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
14488 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14489 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14490 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14491 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14492 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14493 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14494 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14495 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14496 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14497 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14498 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14499 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14500 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14501 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14502 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14503 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14504 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
14505 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14506 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14507 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14508 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
14509 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14510 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14511 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14512 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14513 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14514 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14515 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14516 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

14517 % U+0009 (CHARACTER TABULATION)
14518 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14519 % U+000A (LINE FEED)
14520 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14521 % U+000D (CARRIAGE RETURN)
14522 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
14523 % U+0022 QUOTATION MARK; quotedbl
14524 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14525 % U+0023 NUMBER SIGN; numbersign
14526 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14527 % U+0024 DOLLAR SIGN; dollar
14528 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14529 % U+0025 PERCENT SIGN; percent
14530 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14531 % U+0026 AMPERSAND; ampersand

```

14532 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14533 % U+0027 APOSTROPHE; quotesingle
14534 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14535 % U+0028 LEFT PARENTHESIS; parenleft
14536 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14537 % U+0029 RIGHT PARENTHESIS; parenright
14538 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
14539 % U+002A ASTERISK; asterisk
14540 \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
14541 % U+003C LESS-THAN SIGN; less
14542 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal
14543 % U+003E GREATER-THAN SIGN; greater
14544 \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
14545 % U+005C REVERSE SOLIDUS; backslash
14546 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C

\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
14547 % U+005E CIRCUMFLEX ACCENT; asciicircum
14548 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
14549 % U+005F LOW LINE; underscore
14550 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
14551 % U+0060 GRAVE ACCENT; grave
14552 \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
14553 % U+0069 LATIN SMALL LETTER I; i
14554 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069
14555 \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
14556 % U+007B LEFT CURLY BRACKET; braceleft
14557 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
14558 % U+007C VERTICAL LINE; *bar, verticalbar
14559 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C

14560 % U+007D RIGHT CURLY BRACKET; braceright
 14561 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14562 % U+007E TILDE; asciitilde
 14563 \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
 14564 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14565 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 14566 % U+00A2 CENT SIGN; cent
 14567 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 14568 % U+00A3 POUND SIGN; sterling
 14569 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 14570 % U+00A4 CURRENCY SIGN; currency
 14571 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 14572 % U+00A5 YEN SIGN; yen
 14573 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 14574 % U+00A6 BROKEN BAR; brokenbar
 14575 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 14576 % U+00A7 SECTION SIGN; section
 14577 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 14578 % U+00A8 DIAERESIS; diaeresis
 14579 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 14580 % U+00A9 COPYRIGHT SIGN; copyright
 14581 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
 14582 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14583 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 14584 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 14585 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 14586 % U+00AC NOT SIGN; logicalnot
 14587 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 14588 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 14589 % U+00AE REGISTERED SIGN; registered
 14590 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 14591 % U+00AF MACRON; *macron, overscore
 14592 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 14593 % U+00B0 DEGREE SIGN; degree
 14594 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 14595 % U+00B1 PLUS-MINUS SIGN; plusminus
 14596 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 14597 % U+00B2 SUPERSCRIPT TWO; twosuperior
 14598 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
 14599 % U+00B3 SUPERSCRIPT THREE; threesuperior
 14600 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
 14601 % U+00B4 ACUTE ACCENT; acute
 14602 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 14603 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 14604 % U+00B5 MICRO SIGN; mu, mu1
 14605 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 14606 % U+00B6 PILCROW SIGN; paragraph
 14607 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 14608 % U+00B7 MIDDLE DOT; middot, *periodcentered
 14609 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 14610 % U+00B8 CEDILLA; cedilla

14611 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
14612 % U+00B9 SUPERSCRIPT ONE; onesuperior
14613 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
14614 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14615 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
14616 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
14617 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
14618 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14619 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
14620 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14621 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
14622 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14623 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
14624 % U+00BF INVERTED QUESTION MARK; questiondown
14625 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
14626 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14627 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
14628 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14629 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
14630 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14631 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
14632 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14633 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
14634 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14635 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
14636 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14637 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
14638 % U+00C6 LATIN CAPITAL LETTER AE; AE
14639 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
14640 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14641 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
14642 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14643 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
14644 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14645 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
14646 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14647 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
14648 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14649 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
14650 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14651 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
14652 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14653 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
14654 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14655 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
14656 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14657 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
14658 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14659 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
14660 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14661 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
14662 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14663 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
14664 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14665 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
14666 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex

14667 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\324}% U+00D4
14668 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14669 \DeclareTextCompositeCommand{\-}{PU}{O}{\80\325}% U+00D5
14670 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14671 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
14672 % U+00D7 MULTIPLICATION SIGN; multiply
14673 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14674 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14675 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
14676 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14677 \DeclareTextCompositeCommand{\' }{PU}{U}{\80\331}% U+00D9
14678 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14679 \DeclareTextCompositeCommand{\' }{PU}{U}{\80\332}% U+00DA
14680 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14681 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
14682 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14683 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
14684 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14685 \DeclareTextCompositeCommand{\' }{PU}{Y}{\80\335}% U+00DD
14686 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14687 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
14688 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14689 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
14690 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14691 \DeclareTextCompositeCommand{\' }{PU}{a}{\80\340}% U+00E0
14692 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14693 \DeclareTextCompositeCommand{\' }{PU}{a}{\80\341}% U+00E1
14694 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14695 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
14696 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14697 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
14698 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14699 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
14700 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14701 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
14702 % U+00E6 LATIN SMALL LETTER AE; ae
14703 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
14704 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14705 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
14706 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14707 \DeclareTextCompositeCommand{\' }{PU}{e}{\80\350}% U+00E8
14708 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14709 \DeclareTextCompositeCommand{\' }{PU}{e}{\80\351}% U+00E9
14710 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14711 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
14712 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14713 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
14714 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14715 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\354}% U+00EC
14716 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\354}% U+00EC
14717 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14718 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\355}% U+00ED
14719 \DeclareTextCompositeCommand{\' }{PU}{i}{\80\355}% U+00ED
14720 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14721 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14722 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14723 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis

14724 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
14725 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
14726 % U+00F0 LATIN SMALL LETTER ETH; eth
14727 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
14728 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14729 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
14730 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14731 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
14732 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14733 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\363}% U+00F3
14734 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14735 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\364}% U+00F4
14736 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otild
14737 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
14738 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14739 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
14740 % U+00F7 DIVISION SIGN; divide
14741 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
14742 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14743 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
14744 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14745 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
14746 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14747 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\372}% U+00FA
14748 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14749 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB
14750 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14751 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC
14752 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14753 \DeclareTextCompositeCommand{\`}{PU}{y}{\80\375}% U+00FD
14754 % U+00FE LATIN SMALL LETTER THORN; thorn
14755 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
14756 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14757 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

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

14758 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
14759 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
14760 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
14761 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
14762 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
14763 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
14764 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
14765 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
14766 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
14767 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
14768 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
14769 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
14770 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
14771 \DeclareTextCompositeCommand{\`}{PU}{C}{\81\006}% U+0106
14772 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
14773 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\007}% U+0107
14774 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
14775 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108
14776 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
14777 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109

14778 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
14779 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
14780 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
14781 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
14782 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
14783 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
14784 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
14785 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
14786 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
14787 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
14788 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
14789 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
14790 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
14791 \DeclareTextCompositeCommand{\DJ}{PU}{\81\020}% U+0110
14792 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
14793 \DeclareTextCompositeCommand{\dj}{PU}{\81\021}% U+0111
14794 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
14795 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
14796 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
14797 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
14798 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
14799 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
14800 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
14801 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
14802 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
14803 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
14804 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
14805 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
14806 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
14807 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
14808 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
14809 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
14810 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
14811 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
14812 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
14813 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
14814 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
14815 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
14816 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
14817 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
14818 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
14819 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
14820 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
14821 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
14822 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
14823 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
14824 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
14825 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
14826 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
14827 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
14828 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
14829 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
14830 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
14831 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
14832 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
14833 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125

14834 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
14835 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
14836 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
14837 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
14838 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
14839 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
14840 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
14841 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14842 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
14843 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
14844 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
14845 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
14846 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14847 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14848 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
14849 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
14850 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
14851 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14852 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14853 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
14854 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
14855 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
14856 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14857 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14858 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
14859 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
14860 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14861 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
14862 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
14863 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
14864 % U+0133 LATIN SMALL LIGATURE IJ; ij
14865 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
14866 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
14867 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
14868 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
14869 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14870 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14871 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
14872 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
14873 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
14874 \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`.

14875 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
14876 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
14877 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
14878 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
14879 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
14880 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
14881 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
14882 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
14883 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
14884 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
14885 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron

14886 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
14887 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
14888 \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.
14889 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
14890 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
14891 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
14892 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
14893 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14894 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
14895 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14896 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
14897 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
14898 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
14899 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
14900 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
14901 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
14902 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
14903 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
14904 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
14905 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
14906 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
14907 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
14908 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
14909 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
14910 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
14911 % U+014A LATIN CAPITAL LETTER ENG; Eng
14912 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
14913 % U+014B LATIN SMALL LETTER ENG; eng
14914 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
14915 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
14916 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
14917 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
14918 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
14919 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
14920 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
14921 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
14922 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
14923 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
14924 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
14925 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
14926 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
14927 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14928 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
14929 % U+0153 LATIN SMALL LIGATURE OE; oe
14930 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
14931 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
14932 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
14933 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
14934 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
14935 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent

14936 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
14937 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
14938 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
14939 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
14940 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
14941 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
14942 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
14943 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
14944 \DeclareTextCompositeCommand{\`}{PU}{S}{\81\132}% U+015A
14945 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
14946 \DeclareTextCompositeCommand{\`}{PU}{s}{\81\133}% U+015B
14947 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
14948 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
14949 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
14950 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
14951 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
14952 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
14953 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
14954 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
14955 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14956 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
14957 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14958 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
14959 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
14960 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
14961 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
14962 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
14963 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
14964 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
14965 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
14966 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
14967 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
14968 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
14969 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
14970 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
14971 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
14972 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
14973 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
14974 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
14975 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
14976 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
14977 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
14978 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
14979 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
14980 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
14981 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
14982 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
14983 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
14984 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
14985 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
14986 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
14987 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac-
cute, Uhungarumlaut
14988 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
14989 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblac-
ute, uhun-
garumlaut

14990 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 14991 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 14992 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 14993 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 14994 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 14995 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 14996 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 14997 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 14998 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 14999 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15000 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15001 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15002 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15003 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15004 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170}% U+0178
 15005 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15006 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15007 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15008 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15009 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15010 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15011 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15012 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15013 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15014 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15015 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15016 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15017 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15018 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

15019 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15020 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15021 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15022 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15023 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15024 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15025 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15026 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15027 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15028 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15029 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15030 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15031 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15032 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15033 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15034 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15035 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 15036 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15037 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15038 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15039 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 15040 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15041 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 15042 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 15043 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 15044 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron

15045 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15046 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15047 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15048 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15049 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15050 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15051 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15052 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15053 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15054 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15055 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15056 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15057 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15058 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15059 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15060 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15061 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15062 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
15063 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15064 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15065 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15066 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15067 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15068 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15069 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslashacute, Ostrokeacute
15070 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15071 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslashacute, ostrokeacute
15072 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15073 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15074 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15075 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15076 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15077 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15078 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15079 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15080 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15081 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15082 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15083 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15084 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15085 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15086 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15087 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15088 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15089 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15090 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15091 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15092 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15093 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15094 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15095 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15096 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15097 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15098 % U+021E LATIN CAPITAL LETTER H WITH CARON
15099 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E

15100 % U+021F LATIN SMALL LETTER H WITH CARON
 15101 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15102 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15103 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15104 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15105 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15106 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15107 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15108 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15109 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15110 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15111 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15112 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15113 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15114 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15115 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15116 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15117 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15118 % U+0237 LATIN SMALL LETTER DOTLESS J
 15119 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

15120 % U+02C7 CARON; caron
 15121 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 15122 % U+02D8 BREVE; breve
 15123 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 15124 % U+02D9 DOT ABOVE; dotaccent
 15125 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 15126 % U+02DA RING ABOVE; ring
 15127 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 15128 % U+02DB OGONEK; ogonek
 15129 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 15130 % U+02DC SMALL TILDE; ilde, *tilde
 15131 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 15132 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 15133 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 15134 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 15135 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 15136 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 15137 % U+02F7 MODIFIER LETTER LOW TILDE
 15138 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

15139 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15140 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 15141 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15142 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 15143 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15144 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 15145 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15146 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 15147 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 15148 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

15149 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 15150 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374

15151 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
15152 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
15153 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
15154 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
15155 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
15156 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
15157 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
15158 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
15159 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
15160 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
15161 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrantonos
15162 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
15163 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
15164 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
15165 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
15166 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
15167 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis
15168 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
15169 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
15170 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
15171 % U+0392 GREEK CAPITAL LETTER BETA; Beta
15172 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
15173 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
15174 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
15175 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
15176 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
15177 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
15178 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
15179 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
15180 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
15181 % U+0397 GREEK CAPITAL LETTER ETA; Eta
15182 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
15183 % U+0398 GREEK CAPITAL LETTER THETA; Theta
15184 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
15185 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
15186 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
15187 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
15188 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
15189 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
15190 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
15191 % U+039C GREEK CAPITAL LETTER MU; Mu
15192 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
15193 % U+039D GREEK CAPITAL LETTER NU; Nu
15194 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
15195 % U+039E GREEK CAPITAL LETTER XI; Xi
15196 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
15197 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
15198 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
15199 % U+03A0 GREEK CAPITAL LETTER PI; Pi
15200 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
15201 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
15202 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
15203 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
15204 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
15205 % U+03A4 GREEK CAPITAL LETTER TAU; Tau

15206 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
15207 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
15208 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5
15209 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
15210 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
15211 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
15212 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
15213 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
15214 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
15215 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
15216 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
15217 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
15218 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
15219 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
15220 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silonadieresis
15221 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
15222 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
15223 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
15224 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos
15225 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
15226 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
15227 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
15228 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
15229 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
15230 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
silonadieresis
15231 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
15232 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
15233 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
15234 % U+03B2 GREEK SMALL LETTER BETA; beta
15235 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
15236 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
15237 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
15238 % U+03B4 GREEK SMALL LETTER DELTA; delta
15239 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
15240 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
15241 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
15242 % U+03B6 GREEK SMALL LETTER ZETA; zeta
15243 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
15244 % U+03B7 GREEK SMALL LETTER ETA; eta
15245 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
15246 % U+03B8 GREEK SMALL LETTER THETA; theta
15247 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
15248 % U+03B9 GREEK SMALL LETTER IOTA; iota
15249 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
15250 % U+03BA GREEK SMALL LETTER KAPPA; kappa
15251 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
15252 % U+03BB GREEK SMALL LETTER LAMDA; lambda
15253 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
15254 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
15255 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
15256 % U+03BD GREEK SMALL LETTER NU; nu
15257 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
15258 % U+03BE GREEK SMALL LETTER XI; xi
15259 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
15260 % U+03BF GREEK SMALL LETTEROMICRON; omicron

15261 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 15262 % U+03C0 GREEK SMALL LETTER PI; pi
 15263 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0
 15264 % U+03C1 GREEK SMALL LETTER RHO; rho
 15265 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 15266 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 15267 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 15268 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 15269 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 15270 % U+03C4 GREEK SMALL LETTER TAU; tau
 15271 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 15272 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 15273 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 15274 % U+03C6 GREEK SMALL LETTER PHI; phi
 15275 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 15276 % U+03C7 GREEK SMALL LETTER CHI; chi
 15277 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 15278 % U+03C8 GREEK SMALL LETTER PSI; psi
 15279 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 15280 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 15281 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 15282 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
 15283 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 15284 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 15285 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 15286 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 15287 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 15288 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 15289 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 15290 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 15291 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 15292 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 15293 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 15294 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 15295 % U+03DB GREEK SMALL LETTER STIGMA
 15296 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15297 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15298 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15299 % U+03DD GREEK SMALL LETTER DIGAMMA
 15300 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15301 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15302 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15303 % U+03DF GREEK SMALL LETTER KOPPA
 15304 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15305 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15306 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15307 % U+03E1 GREEK SMALL LETTER SAMPI
 15308 \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.

15309 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15310 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 15311 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 15312 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401

15313 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
15314 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
15315 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
15316 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
15317 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
15318 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
15319 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
15320 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
15321 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
15322 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-
lic, *afii10055
15323 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
15324 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
15325 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
15326 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
15327 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
15328 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
15329 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
15330 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
15331 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
15332 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
15333 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
15334 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
15335 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
15336 \DeclareTextCompositeCommand{'}{PU}{\CYRK}{\84\014}% U+040C
15337 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
15338 \DeclareTextCompositeCommand{'}{PU}{\CYRI}{\84\015}% U+040D
15339 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
15340 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
15341 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
15342 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
15343 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
15344 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
15345 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
15346 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
15347 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
15348 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
15349 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
15350 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
15351 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
15352 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
15353 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
15354 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
15355 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
15356 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
15357 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
15358 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
15359 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
15360 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
15361 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
15362 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
15363 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
15364 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
15365 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
15366 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
15367 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
15368 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B

15369 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 15370 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 15371 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
 15372 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
 15373 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
 15374 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
 15375 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
 15376 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
 15377 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
 15378 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
 15379 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
 15380 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
 15381 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
 15382 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
 15383 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
 15384 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
 15385 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
 15386 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
 15387 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
 15388 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
 15389 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
 15390 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
 15391 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
 15392 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
 15393 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
 15394 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
 15395 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
 15396 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
 15397 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
 15398 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
 15399 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
 15400 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
 15401 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
 15402 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
 15403 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
 15404 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
 15405 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
 15406 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
 15407 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
 15408 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
 15409 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
 15410 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
 15411 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
 15412 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
 15413 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
 15414 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
 15415 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
 15416 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
 15417 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
 15418 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
 15419 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
 15420 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
 15421 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
 15422 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
 15423 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
 15424 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
 15425 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic

15426 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15427 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15428 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
15429 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15430 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15431 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15432 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15433 \DeclareTextCommand{\cyrll}{PU}{\84\073}% U+043B
15434 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15435 \DeclareTextCommand{\cyrml}{PU}{\84\074}% U+043C
15436 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15437 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15438 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15439 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15440 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15441 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15442 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15443 \DeclareTextCommand{\cyrre}{PU}{\84\100}% U+0440
15444 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15445 \DeclareTextCommand{\cyrse}{PU}{\84\101}% U+0441
15446 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15447 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15448 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15449 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
15450 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15451 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15452 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15453 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15454 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15455 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15456 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15457 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15458 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15459 \DeclareTextCommand{\cyrs}{PU}{\84\110}% U+0448
15460 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15461 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15462 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15463 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15464 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15465 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B
15466 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15467 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
15468 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15469 \DeclareTextCommand{\cyrever}{PU}{\84\115}% U+044D
15470 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15471 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
15472 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15473 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
15474 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15475 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
15476 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15477 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
15478 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
15479 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15480 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
15481 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15482 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453

15483 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 15484 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 15485 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 15486 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 15487 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
 lic
 15488 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 15489 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 15490 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 15491 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
 15492 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 15493 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 15494 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 15495 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
 15496 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 15497 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 15498 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 15499 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 15500 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 15501 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 15502 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 15503 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
 15504 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 15505 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 15506 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 15507 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 15508 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 15509 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 15510 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 15511 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
 15512 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 15513 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 15514 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 15515 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 15516 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463
 15517 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 15518 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 15519 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 15520 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 15521 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 15522 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 15523 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 15524 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 15525 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
 tifiedcyrillic
 15526 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 15527 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
 fiedcyrillic
 15528 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 15529 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 15530 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 15531 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 15532 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 15533 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
 cyrillic
 15534 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C

15535 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic
 15536 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 15537 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 15538 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15539 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15540 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15541 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15542 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15543 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15544 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15545 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15546 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15547 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15548 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15549 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15550 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15551 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15552 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15553 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic
 15554 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15555 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic
 15556 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15557 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15558 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15559 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15560 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15561 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 15562 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15563 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15564 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15565 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 15566 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15567 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 15568 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15569 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15570 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15571 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15572 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15573 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15574 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15575 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15576 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15577 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 15578 \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
 15579 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15580 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15581 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15582 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15583 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15584 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15585 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15586 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15587 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15588 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15589 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15590 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15591 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, *afi10050
 15592 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15593 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afi10098, gheupturncyrillic
 15594 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15595 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic
 15596 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15597 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15598 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15599 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic
 15600 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15601 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic
 15602 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15603 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic
 15604 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 15605 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic
 15606 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 15607 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 15608 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 15609 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 15610 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 15611 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 15612 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 15613 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 15614 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 15615 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesendercyrillic
 15616 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 15617 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-ticalstrokecyrillic
 15618 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 15619 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-ticalstrokecyrillic

15620 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
15621 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
15622 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
15623 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
15624 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
15625 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
15626 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
15627 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
15628 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
15629 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
dercyrillic
15630 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
15631 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
cyrillic
15632 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
15633 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
15634 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
15635 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
15636 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
15637 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-
dlehookcyrillic
15638 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
15639 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-
hookcyrillic
15640 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
15641 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-
lic
15642 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
15643 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
15644 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
15645 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-
dercyrillic
15646 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
15647 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
15648 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-
cyrillic
15649 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
15650 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
15651 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-
dercyrillic
15652 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
15653 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescender-
cyrillic
15654 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
15655 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
15656 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
15657 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
15658 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
15659 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-
traightstrokecyrillic
15660 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
15661 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-
traightstrokecyrillic
15662 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
15663 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescen-
dercyrillic
15664 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2

15665 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescender-cyrillic
15666 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
15667 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
15668 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
15669 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
15670 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
15671 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
15672 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
15673 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
15674 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
15675 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
verticalstrokecyrillic
15676 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
15677 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
verticalstrokecyrillic
15678 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
15679 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
15680 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
15681 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
15682 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
15683 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
cyrillic
15684 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
15685 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
15686 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
15687 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
DER; Chedescenderabkhasiancyrillic
15688 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
15689 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
15690 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
DER; chedescenderabkhasiancyrillic
15691 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
15692 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
15693 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
15694 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
15695 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
15696 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
15697 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
15698 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
15699 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
15700 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
15701 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
15702 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
15703 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
15704 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
15705 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
15706 \DeclareTextCommand{\cyrlds}{PU}{\84\306}% U+04C6
15707 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
15708 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
15709 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
15710 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
15711 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
cyrillic

15712 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 15713 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-cyrillic
 15714 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 15715 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 15716 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 15717 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 15718 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 15719 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic
 15720 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 15721 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic
 15722 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 15723 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
 15724 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
 15725 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 15726 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
 15727 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aieacyrillic
 15728 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 15729 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aieacyrillic
 15730 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 15731 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic
 15732 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 15733 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic
 15734 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 15735 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 15736 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 15737 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 15738 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9
 15739 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-siscyrillic
 15740 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 15741 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-siscyrillic
 15742 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB
 15743 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-siscyrillic
 15744 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
 15745 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
 15746 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
 15747 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
 15748 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
 15749 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
 15750 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF
 15751 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic
 15752 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 15753 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
 15754 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 15755 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 15756 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2
 15757 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 15758 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3
 15759 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic

15760 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
15761 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
15762 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
15763 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
15764 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
15765 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
15766 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
15767 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
15768 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
15769 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
15770 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
15771 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
15772 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
15773 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
15774 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
15775 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
15776 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
15777 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
15778 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
15779 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
15780 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\356}% U+04EE
15781 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
15782 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\357}% U+04EF
15783 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
15784 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
15785 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
15786 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
15787 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
15788 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
15789 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
15790 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
15791 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
15792 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
15793 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
15794 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
15795 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
15796 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
15797 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
15798 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
15799 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
15800 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
15801 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
15802 \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
15803 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
15804 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
15805 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK

15806 \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

15807 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 15808 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

15809 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 15810 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 15811 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 15812 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 15813 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 15814 \DeclareTextCompositeCommand{b}{PU}{B}{\9036\006}% U+1E06
 15815 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 15816 \DeclareTextCompositeCommand{b}{PU}{b}{\9036\007}% U+1E07
 15817 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 15818 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 15819 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 15820 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 15821 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 15822 \DeclareTextCompositeCommand{b}{PU}{D}{\9036\016}% U+1E0E
 15823 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 15824 \DeclareTextCompositeCommand{b}{PU}{d}{\9036\017}% U+1E0F
 15825 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 15826 \DeclareTextCompositeCommand{c}{PU}{D}{\9036\020}% U+1E10
 15827 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 15828 \DeclareTextCompositeCommand{c}{PU}{d}{\9036\021}% U+1E11
 15829 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 15830 \DeclareTextCompositeCommand{.}{PU}{F}{\9036\036}% U+1E1E
 15831 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 15832 \DeclareTextCompositeCommand{.}{PU}{f}{\9036\037}% U+1E1F
 15833 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 15834 \DeclareTextCompositeCommand{=}{PU}{G}{\9036\040}% U+1E20
 15835 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 15836 \DeclareTextCompositeCommand{=}{PU}{g}{\9036\041}% U+1E21
 15837 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 15838 \DeclareTextCompositeCommand{.}{PU}{H}{\9036\042}% U+1E22
 15839 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 15840 \DeclareTextCompositeCommand{.}{PU}{h}{\9036\043}% U+1E23
 15841 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 15842 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
 15843 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 15844 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
 15845 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 15846 \DeclareTextCompositeCommand{c}{PU}{H}{\9036\050}% U+1E28
 15847 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
 15848 \DeclareTextCompositeCommand{c}{PU}{h}{\9036\051}% U+1E29
 15849 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
 15850 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30
 15851 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
 15852 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31
 15853 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
 15854 \DeclareTextCompositeCommand{b}{PU}{K}{\9036\064}% U+1E34
 15855 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow

15856 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
15857 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
15858 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
15859 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
15860 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
15861 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
15862 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
15863 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
15864 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
15865 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
15866 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
15867 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
15868 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
15869 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
15870 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
15871 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
15872 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
15873 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
15874 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
15875 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
15876 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
15877 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
15878 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
15879 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
15880 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
15881 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
15882 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
15883 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
15884 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
15885 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
15886 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
15887 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
15888 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
15889 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
15890 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
15891 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
15892 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
15893 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
15894 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
15895 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
15896 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
15897 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
15898 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
15899 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
15900 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
15901 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
15902 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
15903 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
15904 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
15905 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
15906 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\200}% U+1E80
15907 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
15908 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81
15909 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
15910 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
15911 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
15912 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83

15913 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
 15914 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84
 15915 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
 15916 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85
 15917 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
 15918 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
 15919 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
 15920 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
 15921 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
 15922 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A
 15923 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
 15924 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B
 15925 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
 15926 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
 15927 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 15928 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
 15929 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 15930 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E
 15931 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 15932 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F
 15933 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 15934 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90
 15935 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 15936 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91
 15937 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 15938 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 15939 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 15940 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 15941 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 15942 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 15943 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 15944 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
 15945 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 15946 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 15947 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 15948 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 15949 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 15950 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B
 15951 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 15952 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 15953 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 15954 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 15955 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 15956 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 15957 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 15958 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 15959 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 15960 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 15961 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 15962 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

15963 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 15964 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 15965 % U+2013 EN DASH; endash
 15966 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013

15967 % U+2014 EM DASH; emdash
 15968 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 15969 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 15970 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 15971 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 15972 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 15973 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 15974 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 15975 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 15976 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 15977 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 15978 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 15979 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 15980 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 15981 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 15982 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 15983 % U+2020 DAGGER; dagger
 15984 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 15985 % U+2021 DOUBLE DAGGER; daggerdbl
 15986 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 15987 % U+2022 BULLET; bullet
 15988 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 15989 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 15990 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 15991 % U+2030 PER MILLE SIGN; perthousand
 15992 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 15993 % U+2031 PER TEN THOUSAND SIGN
 15994 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 15995 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 15996 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 15997 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
 ingright
 15998 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 15999 % U+203B REFERENCE MARK; referencemark
 16000 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 16001 % U+203D INTERROBANG
 16002 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 16003 % U+2044 FRACTION SLASH; fraction
 16004 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 16005 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 16006 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 16007 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 16008 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 16009 % U+2052 COMMERCIAL MINUS SIGN
 16010 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

16011 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 16012 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 16013 % U+2074 SUPERSCRIPT FOUR; foursuperior
 16014 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 16015 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 16016 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 16017 % U+2076 SUPERSCRIPT SIX; sixsuperior
 16018 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 16019 % U+2077 SUPERSCRIPT SEVEN; sevensuperior

16020 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077
 16021 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 16022 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 16023 % U+2079 SUPERSCRIPT NINE; ninesuperior
 16024 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 16025 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 16026 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 16027 % U+207B SUPERSCRIPT MINUS
 16028 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 16029 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 16030 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 16031 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 16032 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 16033 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 16034 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 16035 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 16036 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 16037 % U+2080 SUBSCRIPT ZERO; zeroinferior
 16038 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 16039 % U+2081 SUBSCRIPT ONE; oneinferior
 16040 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 16041 % U+2082 SUBSCRIPT TWO; twoinferior
 16042 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 16043 % U+2083 SUBSCRIPT THREE; threeinferior
 16044 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 16045 % U+2084 SUBSCRIPT FOUR; fourinferior
 16046 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 16047 % U+2085 SUBSCRIPT FIVE; fiveinferior
 16048 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 16049 % U+2086 SUBSCRIPT SIX; sixinferior
 16050 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 16051 % U+2087 SUBSCRIPT SEVEN; seveninferior
 16052 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 16053 % U+2088 SUBSCRIPT EIGHT; eightinferior
 16054 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 16055 % U+2089 SUBSCRIPT NINE; nineinferior
 16056 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 16057 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 16058 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 16059 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 16060 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

16061 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 16062 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 16063 % U+20A4 LIRA SIGN; afii08941, *lira
 16064 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 16065 % U+20A6 NAIRA SIGN
 16066 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 16067 % U+20A7 PESETA SIGN; peseta
 16068 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 16069 % U+20A9 WON SIGN; won
 16070 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 16071 % U+20AB DONG SIGN; dong
 16072 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 16073 % U+20AC EURO SIGN; *Euro, euro
 16074 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC

16075 % U+20B1 PESO SIGN
 16076 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 16077 % U+20B2 GUARANI SIGN
 16078 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

16079 % U+2103 DEGREE CELSIUS; centigrade
 16080 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 16081 % U+2116 NUMERO SIGN; *afi61352, numero
 16082 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 16083 % U+2117 SOUND RECORDING COPYRIGHT
 16084 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 16085 % U+211E PRESCRIPTION TAKE; prescription
 16086 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 16087 % U+2120 SERVICE MARK
 16088 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 16089 % U+2122 TRADE MARK SIGN; trademark
 16090 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 16091 % U+2126 OHM SIGN; Ohm, Omega
 16092 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 16093 % U+2127 INVERTED OHM SIGN
 16094 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 16095 % U+212B ANGSTROM SIGN; angstrom
 16096 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 16097 % U+212E ESTIMATED SYMBOL; estimated
 16098 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 16099 % U+2135 ALEF SYMBOL; aleph
 16100 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

16101 % U+2190 LEFTWARDS ARROW; arrowleft
 16102 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 16103 % U+2191 UPWARDS ARROW; arrowup
 16104 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 16105 % U+2192 RIGHTWARDS ARROW; arrowright
 16106 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 16107 % U+2193 DOWNWARDS ARROW; arrowdown
 16108 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

16109 % U+2212 MINUS SIGN; minus
 16110 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 16111 % U+221A SQUARE ROOT; radical
 16112 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

16113 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 16114 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 16115 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 16116 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

16117 % U+2422 BLANK SYMBOL
 16118 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 16119 % U+2423 OPEN BOX; blank
 16120 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

16121 % U+2460 CIRCLED DIGIT ONE; onecircle
16122 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
16123 % U+2461 CIRCLED DIGIT TWO; twocircle
16124 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
16125 % U+2462 CIRCLED DIGIT THREE; threecircle
16126 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
16127 % U+2463 CIRCLED DIGIT FOUR; fourcircle
16128 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
16129 % U+2464 CIRCLED DIGIT FIVE; fivecircle
16130 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
16131 % U+2465 CIRCLED DIGIT SIX; sixcircle
16132 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
16133 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
16134 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
16135 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
16136 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
16137 % U+2468 CIRCLED DIGIT NINE; ninecircle
16138 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
16139 % U+2469 CIRCLED NUMBER TEN; tencircle
16140 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
16141 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
16142 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
16143 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
16144 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
16145 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
16146 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
16147 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
16148 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
16149 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
16150 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
16151 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
16152 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
16153 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
16154 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
16155 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
16156 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
16157 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
16158 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
16159 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
16160 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
16161 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
16162 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
16163 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
16164 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
16165 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
16166 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
16167 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
16168 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
16169 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
16170 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
16171 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
16172 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
16173 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
16174 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
16175 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
16176 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD

16177 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 16178 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 16179 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 16180 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 16181 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 16182 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 16183 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 16184 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 16185 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 16186 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 16187 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 16188 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 16189 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 16190 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 16191 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 16192 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 16193 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 16194 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 16195 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 16196 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 16197 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 16198 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 16199 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 16200 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 16201 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 16202 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 16203 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 16204 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 16205 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 16206 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 16207 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 16208 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 16209 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 16210 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 16211 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 16212 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 16213 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 16214 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 16215 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 16216 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 16217 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 16218 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 16219 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 16220 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 16221 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 16222 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 16223 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 16224 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 16225 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 16226 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 16227 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 16228 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 16229 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 16230 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 16231 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 16232 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 16233 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle

16234 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 16235 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 16236 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 16237 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 16238 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 16239 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 16240 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 16241 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 16242 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 16243 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 16244 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 16245 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 16246 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 16247 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 16248 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 16249 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 16250 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 16251 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 16252 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 16253 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 16254 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 16255 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 16256 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 16257 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 16258 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 16259 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 16260 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 16261 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 16262 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 16263 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 16264 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 16265 % U+24EA CIRCLED DIGIT ZERO
 16266 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

16267 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16268 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16269 % U+25EF LARGE CIRCLE; largecircle
 16270 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

16271 % U+266A EIGHTH NOTE; musicalnote
 16272 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16273 % U+26AD MARRIAGE SYMBOL
 16274 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 16275 % U+26AE DIVORCE SYMBOL
 16276 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

16277 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16278 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16279 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16280 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

16281 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16282 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01

```

16283 % U+FB02 LATIN SMALL LIGATURE FL; fl
16284 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

```

50.2.25 Miscellaneous

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16285 \DeclareTextCommand{\SS}{PU}{SS}

```

50.2.26 Aliases

Aliases (german.sty)

```

16286 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16287 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16288 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16289 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16290 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16291 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16292 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16293 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

16294 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16295 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16296 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16297 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16298 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16299 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

16300 <*puvnenc>

16301 \DeclareTextCommand{\abreve}{PU}{\81\003}
16302 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16303 \DeclareTextCommand{\dj}{PU}{\81\021}
16304 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16305 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16306 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16307 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16308 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16309 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16310 \DeclareTextCommand{\DJ}{PU}{\81\020}
16311 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16312 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16313 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16314 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16315 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16316 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16317 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16318 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16319 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16320 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16321 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16322 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16323 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16324 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16325 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16326 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}

```

16327 \DeclareTextCompositeCommand{'}{PU}{\acircumflex}{\9036\247}
16328 \DeclareTextCompositeCommand{h}{PU}{\acircumflex}{\9036\251}
16329 \DeclareTextCompositeCommand{~}{PU}{\acircumflex}{\9036\253}
16330 \DeclareTextCompositeCommand{'}{PU}{e}{\80\351}
16331 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}
16332 \DeclareTextCompositeCommand{'}{PU}{e}{\80\350}
16333 \DeclareTextCompositeCommand{h}{PU}{e}{\9036\273}
16334 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}
16335 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\277}
16336 \DeclareTextCompositeCommand{d}{PU}{\ecircumflex}{\9036\307}
16337 \DeclareTextCompositeCommand{'}{PU}{\ecircumflex}{\9036\301}
16338 \DeclareTextCompositeCommand{h}{PU}{\ecircumflex}{\9036\303}
16339 \DeclareTextCompositeCommand{~}{PU}{\ecircumflex}{\9036\305}
16340 \DeclareTextCompositeCommand{'}{PU}{i}{\80\355}
16341 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}
16342 \DeclareTextCompositeCommand{'}{PU}{i}{\80\354}
16343 \DeclareTextCompositeCommand{h}{PU}{i}{\9036\311}
16344 \DeclareTextCompositeCommand{~}{PU}{i}{\81\051}
16345 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}
16346 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}
16347 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}
16348 \DeclareTextCompositeCommand{h}{PU}{o}{\9036\317}
16349 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}
16350 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\321}
16351 \DeclareTextCompositeCommand{d}{PU}{\ocircumflex}{\9036\331}
16352 \DeclareTextCompositeCommand{'}{PU}{\ocircumflex}{\9036\323}
16353 \DeclareTextCompositeCommand{h}{PU}{\ocircumflex}{\9036\325}
16354 \DeclareTextCompositeCommand{~}{PU}{\ocircumflex}{\9036\327}
16355 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\333}
16356 \DeclareTextCompositeCommand{d}{PU}{\ohorn}{\9036\343}
16357 \DeclareTextCompositeCommand{'}{PU}{\ohorn}{\9036\335}
16358 \DeclareTextCompositeCommand{h}{PU}{\ohorn}{\9036\337}
16359 \DeclareTextCompositeCommand{~}{PU}{\ohorn}{\9036\341}
16360 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}
16361 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}
16362 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}
16363 \DeclareTextCompositeCommand{h}{PU}{u}{\9036\347}
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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

16436 <*puarenc>

16437 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA

16438 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE

16439 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE

16440 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE

16441 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW

16442 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE

16443 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

16444 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

16445 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

16446 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

16447 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH

16448 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM

16449 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

16450 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

16451 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

16452 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

16453 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

16454 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

16455 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

16456 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN

16457 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD

16458 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD

16459 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

16460 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

16461 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

16462 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

16463 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL

16464 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH

16465 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

16466 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF

16467 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM

16468 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM

16469 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

16470 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH

16471 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW

16472 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA

16473 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

16474 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN

16475 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

16476 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN

16477 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

16478 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

16479 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA

16480 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

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16481 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN
Farsi
16482 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16483 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
16484 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16485 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16486 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16487 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

16488 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16489 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16490 \</puarenc>

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51 End of file hyccheck.tex

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16491 \<*check>
16492 \typeout{}
16493 \begin{document}
16494 \end{document}
16495 \</check>

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