

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

```

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

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

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

```

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

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

```

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

`\HyC@checkPackage`

```

18 \def\HyC@checkPackage{\%
19 \typeout{}}\%
20 \begingroup
21 \edef\x{\endgroup
22 \noexpand\RequirePackage{\HyC@package}}\%
23 \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi\%
24 }\%
25 \x
26 \typeout{}}\%
27 \typeout{\%
28 * Package '\HyC@package'\%
29 \ifx\HyC@date\@empty
30 \else
31 \space\HyC@date
32 \fi
33 }\%
34 \@ifundefined{ver@\HyC@package.sty}{\%
35 }\%
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 L^AT_EX definition (number of arguments).

```

101 \def\HyC@nc@opt[#1]{%
102   \def\HyC@param{{#1}}%
103   \@ifnextchar[\HyC@nc@default\HyC@nc@noopt
104 }

```

`\HyC@nc@default` Macro `\HyC@nc@default` scans the default for an optional argument.

```

105 \def\HyC@nc@default[#1]{%
106   \HyC@Toks={{#1}}%
107   \edef\HyC@optcmd{%
108     \expandafter\noexpand
109     \csname\expandafter\string\HyC@@cmd\endcsname
110   }%
111   \expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd
112   \HyC@nc@noopt
113 }

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\cmdl` 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#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{keyval}[1997/11/10]
234 \RequirePackage{kvsetkeys}[2007/09/29]
235 \RequirePackage{pdfescape}[2007/11/11]
236 \RequirePackage{ifpdf}[2006/02/20]
237 \RequirePackage{ifvtex}
238 \RequirePackage{ifxetex}[2006/08/21]
239 \RequirePackage{hycolor}
240 \RequirePackage{letltxmacro}[2008/06/13]
241 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
242 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
243 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 Checks with regular expressions

```

244 \ltx@ifundefined{pdfmatch}{%
245   \def\Hy@Match#1#2#3#4{%
246   }{%
247   \def\Hy@Match#1#2{%
248     \begingroup
249     \edef\~{\ltx@backslashchar\string^}%
250     \edef\.\{\ltx@backslashchar.}%
251     \edef\[\{\ltx@backslashchar[}%
252     \edef\$\{\ltx@backslashchar$}%
253     \edef\(\{\ltx@backslashchar(}%
254     \edef\)\{\ltx@backslashchar)}%
255     \edef\|\{\ltx@backslashchar|}%
256     \edef\*\{\ltx@backslashchar*}%
257     \edef\+\{\ltx@backslashchar+}%
258     \edef\?\{\ltx@backslashchar?}%
259     \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
260     \edef\}\{\ltx@rightbracechar}%
261     \edef\\{\ltx@backslashchar\ltx@backslashchar}%
262     \ifnum\pdfmatch{#2}{#1}=\ltx@one
263       \endgroup
264       \expandafter\ltx@firstoftwo
265     \else

```

```

266 \endgroup
267 \expandafter\ltx@secondoftwo
268 \fi
269 }%
270 }
271 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{%
272 \begingroup
273 \lccode'0='\{\relax
274 \lowercase{\endgroup
275 \def\ltx@leftbracechar{0}%
276 }%
277 \begingroup
278 \lccode'0='\}\relax
279 \lowercase{\endgroup
280 \def\ltx@rightbracechar{0}%
281 }%
282 }

```

4.3 Compatibility with format dumps

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

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

```

283 \@ifundefined{AfterBeginDocument}{%
284 \def\AfterBeginDocument{\AtBeginDocument}%
285 }{}%

```

`\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.

```

286 \def\Hy@AtBeginDocument{%
287 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
288 }

```

`\Hy@AtEndOfPackage`

```

289 \def\Hy@AtEndOfPackage{%
290 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
291 }

```

`\Hy@AtBeginDocumentHook`

```

292 \def\Hy@AtBeginDocumentHook{}

```

`\Hy@AtEndOfPackageHook`

```

293 \def\Hy@AtEndOfPackageHook{}

```

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

```

294 \AtEndOfPackage{%
295 \Hy@AtEndOfPackageHook
296 \let\Hy@AtEndOfPackageHook\@undefined
297 \AfterBeginDocument{%
298 \Hy@AtBeginDocumentHook}%
299 \let\Hy@AtBeginDocumentHook\@undefined
300 }%
301 }

```

4.4 Switches

```
302 \newif\ifHy@typexml
303 \newif\ifHy@activeanchor
304 \newif\ifHy@backref
305 \newif\ifHy@bookmarks
306 \newif\ifHy@bookmarksnumbered
307 \newif\ifHy@bookmarksopen
308 \newif\ifHy@breaklinks
309 \newif\ifHy@centerwindow
310 \newif\ifHy@CJKbookmarks
311 \newif\ifHy@colorlinks
312 \newif\ifHy@draft
313 \let\Hy@finaltrue\Hy@draftfalse
314 \let\Hy@finalfalse\Hy@drafttrue
315 \newif\ifHy@escapeform
316 \newif\ifHy@figures
317 \newif\ifHy@fitwindow
318 \newif\ifHy@frenchlinks
319 \newif\ifHy@hyperfootnotes
320 \newif\ifHy@hyperindex
321 \newif\ifHy@hypertextnames
322 \newif\ifHy@implicit
323 \newif\ifHy@linktocpage
324 \newif\ifHy@localanchorname
325 \newif\ifHy@menubar
326 \newif\ifHy@naturalnames
327 \newif\ifHy@nesting
328 \newif\ifHy@newwindowset
329 \newif\ifHy@newwindow
330 \newif\ifHy@ocgcolorlinks
331 \newif\ifHy@pageanchor
332 \newif\ifHy@pagelabels
333 \newif\ifHy@pdfpagehidden
334 \newif\ifHy@pdfstring
335 \newif\ifHy@plainpages
336 \newif\ifHy@psize
337 \newif\ifHy@raiselinks
338 \newif\ifHy@seminarslides
339 \newif\ifHy@setpagesize
340 \newif\ifHy@texht
341 \newif\ifHy@toolbar
342 \newif\ifHy@unicode
343 \newif\ifHy@usetitle
344 \newif\ifHy@verbose
345 \newif\ifHy@windowui
346 \newif\ifHy@displaydoctitle
347 \newif\ifHy@pdfa
```

Defaults for the switches are now set.

```
348 \Hy@backreffalse
349 \Hy@bookmarksnumberedfalse
350 \Hy@bookmarksopenfalse
351 \Hy@bookmarkstrue
352 \Hy@breaklinksfalse
353 \Hy@centerwindowfalse
354 \Hy@CJKbookmarksfalse
355 \Hy@escapeformfalse
```

```

356 \Hy@figuresfalse
357 \Hy@fitwindowfalse
358 \Hy@hyperfootnotetrue
359 \Hy@hyperindextrue
360 \Hy@hypertextnamestrue
361 \Hy@implicittrue
362 \Hy@linktopagefalse
363 \Hy@localanchornamefalse
364 \Hy@menubartrue
365 \Hy@naturalnamesfalse
366 \Hy@nestingfalse
367 \Hy@newwindowsetfalse
368 \Hy@newwindowfalse
369 \Hy@pageanchortrue
370 \Hy@pagelabelstrue
371 \Hy@pdfpagehiddenfalse
372 \Hy@pdfstringfalse
373 \Hy@plainpagesfalse
374 \Hy@raiselinksfalse
375 \Hy@setpagesizetrue
376 \Hy@texhtfalse
377 \Hy@toolbartrue
378 \Hy@typexmlfalse
379 \Hy@unicodedefalse
380 \Hy@usetitlefalse
381 \Hy@verbosefalse
382 \Hy@windowuitrue
383 \Hy@displaydoctitlefalse
384 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

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

\Hy@GlobalStepCount

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

```

387 \newdimen\@linkdim
388 \let\Hy@driver\@empty
389 \let\MaybeStopEarly\relax
390 \newcount\Hy@linkcounter
391 \newcount\Hy@pagecounter
392 \Hy@linkcounter0
393 \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.

```

394 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
395 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

396 \let\Hy@ReturnEnd\@empty
397 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
398 \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@activetrue` babel is not loaded.

```
399 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
400 \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`

```
401 \begingroup\expandafter\expandafter\expandafter\endgroup
402 \expandafter\ifx\csname dimexpr\endcsname\relax
403 \def\hypercalsbpdef#1#2{%
404   \begingroup
405     \toks@{\}%
406     \HyCal@scan#2\hypercalsbp\@nil
407   \expandafter\endgroup
408   \expandafter\def\expandafter#1\expandafter{\the\toks@}%
409 }%
410 \def\HyCal@scan#1\hypercalsbp#2\@nil{%
411   \toks@\expandafter{\the\toks@ #1}%
412   \ifx\#2\%
413     \else
414       \Hy@ReturnAfterFi{%
415         \HyCal@do#2\@nil
416       }%
417   \fi
418 }%
```



```

419 \def\HyCal@do#1#2\@nil{%
420   \ifpackageloaded{calc}{}%
421   \Hy@Warning{%
422     For calculations \string\hypercalcbp\space needs\MessageBreak
423     package calc or e-TeX%
424   }%
425 }%
426 \setlength{\dimen@}{#1}%
427 \setlength{\dimen@}{0.99626401\dimen@}%
428 \edef\x{%
429   \toks@{%
430     \the\toks@
431     \strip@pt\dimen@
432   }%
433 }\x
434 \HyCal@scan#2\@nil
435 }%
436 \else
437 \def\hypercalcbp#1{%
438   \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
439 }%
440 \def\hypercalcbpdef\def}%
441 \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 ISO Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

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

Important: In \TeX 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a \TeX interpreter!

The macro `\pdfstringdef` consists of three main parts:

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The \TeX string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

$\backslash\text{pdfstringdef}$ $\backslash\text{pdfstringdef}$ works on the tokens in #2 and converts them to a PDF string as far as possible:

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
443 \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 (vtx driver, Unicode support).

The escape sequences start with a backslash. By $\backslash\text{string}$ 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.

```
444 \escapechar'\%
```

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

```
445 \edef\0{\string\0}%
446 \edef\1{\string\1}%
447 \edef\2{\string\2}%
448 \edef\3{\string\3}%
```

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

The encoding is set by $\backslash\text{enc@update}$ for optimizing reasons.

```
449 \ifHy@unicode
450 \edef\8{\string\8}%
451 \edef\9{\string\9}%
452 \fontencoding{PU}%
```

```

453 \HyPsd@UTFviii
454 \def\ifpdfstringunicode##1##2{##1}%
455 \else
456 \fontencoding{PD1}%
457 \def\ifpdfstringunicode##1##2{##2}%
458 \fi
459 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
460 \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).

```

461 \@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).

```

462 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

463 \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.

```

464 \let\{\textbraceleft
465 \let\}\textbraceright
466 \let\\\textbackslash
467 \let\#\textnumbersign
468 \let\$\textdollar
469 \let\%\textpercent
470 \let\&\textampersand
471 % \let\~\textasciitilde
472 \let\_ \textunderscore
473 \let\P\textparagraph
474 \let\ldots\textellipsis
475 \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.

```

476 \def\{\pdfstringdefWarn\}%
477 \def\newline{\pdfstringdefWarn\newline}%

```

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

```

478 \def\TeX{\TeX}%
479 \def\LaTeX{La\TeX}%
480 \def\LaTeXe{%
481   \LaTeX2%
482   \ifHy@unicode\textepsilon\else e\fi
483 }%
484 \def\eTeX{%
485   \ifHy@unicode\textepsilon\else e\fi
486   -\TeX%
487 }%
488 \def\SliTeX{Sli\TeX}%
489 \def\MF{Metafont}%
490 \def\MP{Metapost}%

```

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

```

491 \let\fontencoding\@gobble
492 \let\fontfamily\@gobble
493 \let\fontseries\@gobble
494 \let\fontshape\@gobble
495 \let\fontsize\@gobbletwo
496 \let\selectfont\@empty
497 \let\usefont\@gobblefour
498 \let\emph\@firstofone
499 \let\textnormal\@firstofone
500 \let\textrm\@firstofone
501 \let\textsf\@firstofone
502 \let\texttt\@firstofone
503 \let\textbf\@firstofone
504 \let\textmd\@firstofone
505 \let\textit\@firstofone
506 \let\textsc\@firstofone
507 \let\textsl\@firstofone
508 \let\textup\@firstofone
509 \let\normalfont\@empty
510 \let\rmfamily\@empty
511 \let\sfamily\@empty
512 \let\ttfamily\@empty
513 \let\bfseries\@empty
514 \let\mdseries\@empty
515 \let\itshape\@empty
516 \let\scshape\@empty
517 \let\slshape\@empty
518 \let\upshape\@empty
519 \let\em\@empty
520 \let\rm\@empty
521 \let\Huge\@empty
522 \let\LARGE\@empty
523 \let\Large\@empty
524 \let\footnotesize\@empty
525 \let\huge\@empty

```

```

526 \let\large\@empty
527 \let\normalsize\@empty
528 \let\scriptsize\@empty
529 \let\small\@empty
530 \let\tiny\@empty
531 \let\mathversion\@gobble
532 \let\phantom\@gobble
533 \let\vphantom\@gobble
534 \let\hphantom\@gobble

```

Package color.

```

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

```

Upper- and lowercase.

```

536 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
537 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

538 \let\textlatin\@firstofone
539 \ltx@ifundefined{language@group}{\}%
540 \csname HyPsd@babel@language@group\endcsname
541 }%
542 \HyPsd@GreekPatch
543 \HyPsd@SpanishPatch
544 \HyPsd@RussianPatch
545 \HyPsd@BabelPatch
546 \let\@safe@activestrue\relax
547 \let\@safe@activesfalse\relax

```

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

```

548 \let\cyr\relax

```

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

```

549 \let\es@roman\@Roman

```

Package german.

```

550 \let\glqq\textglqq
551 \let\grqq\textgrqq
552 \let\glq\textglq
553 \let\grq\textgrq
554 \let\flqq\textflqq
555 \let\frqq\textfrqq
556 \let\flq\textflq
557 \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}

```

```

558 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```
559 \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.

```
560 \let\hspace\HyPsd@hspace
```

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

```
561 \let\label\@gobble
562 \let\index\@gobble
563 \let\glossary\@gobble
564 \let\href\HyPsd@href
565 \let\@mkboth\@gobbletwo
```

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

```
566 \let\ref\HyPsd@ref
567 \let\pageref\HyPsd@pageref
568 \let\nameref\HyPsd@nameref
569 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
570 \let\leavevmode\@empty
571 \let\mbox\@empty
```

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

```
572 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
573 \let\ignorespaces\HyPsd@ignorespaces
574 \let\Hy@SectionAnchorHref\@gobble
```

Patch for cjk bookmarks.

```
575 \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`).

```
576 \Hy@pdfstringtrue
577 \pdfstringdefPreHook
```

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

```
578 \HyPsd@LetUnexpandableSpace\space
579 \HyPsd@LetUnexpandableSpace\ %
580 \HyPsd@LetUnexpandableSpace~%
581 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
582 \ltx@ifundefined{@xspace}{%
583 \let\xspace\HyPsd@ITALCORR
584 }{%
585 \let\xspace\HyPsd@XSPACE
586 }%
587 \let\/\HyPsd@ITALCORR
588 \let\bgroup\/%
589 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

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

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

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

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

```
591 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
592 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
593 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
594 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'args':

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

6.2.2 Expansion

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

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

\csname: First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by T_EX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. T_EX provides no way to catch the error caused by `\csname` or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

\edef This version uses this standard form for expansion. It is stronger than L^AT_EX's `\protected@edef`. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings which the definitions of the PD1 encoding. Because the protecting mechanism of L^AT_EX doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old

texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \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).

```
596 \begingroup
597 \let\GenericError\@gobblefour
598 \let\GenericWarning\@gobbletwo
599 \let\GenericInfo\@gobbletwo
```

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

```
600 \ifx\nofrenchguillemets\@undefined
601 \else
602 \nofrenchguillemets
603 \fi
```

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

```
604 \let\Hy@temp\xdef
605 \let\def\HyPsd@DefCommand
606 \let\gdef\HyPsd@DefCommand
607 \let\edef\HyPsd@DefCommand
608 \let\xdef\HyPsd@DefCommand
609 \let\futurelet\HyPsd@LetCommand
610 \let\let\HyPsd@LetCommand
611 \Hy@temp#1{#2}%
612 \endgroup
```

6.2.3 Postprocessing

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

```
613 \ifx#1\@empty
614 \else
```

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

- \TeX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by \TeX 's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the

string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.

- \TeX silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character | is appended to the string to make an outer brace to an inner one.

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

```

615 \HyPsd@ProtectSpaces#1%
616 \let\HyPsd@String\@empty
617 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
618 \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.

```

619 \let\HyPsd@SPACEOPTI\relax
620 {%
621 \let\HyPsd@String\@empty
622 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
623 \global\let#1\HyPsd@String
624 }%
625 \expandafter\HyPsd@RemoveMask\expandafter
626 |\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.

```

627 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
628 \let\HyPsd@String\@empty
629 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
630 \global\let#1\HyPsd@String

```

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

```
631 \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.

```
632 \ifHy@unicode
633 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
634 \HyPsd@SPACEOPTI#1%
635 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
636 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
637 {\HyPsd@SPACEOPTI\80\273}#1%
638 \else
639 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
640 \expandafter\HyPsd@Subst\expandafter{%
641 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
642 \string\273}\HyPsd@SPACEOPTI\273}#1%
643 \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.

```
644 \ifHy@unicode
645 \HyPsd@StringSubst{\)}{\80\051}#1%
646 \HyPsd@Subst){\80\051}#1%
647 \let\HyPsd@empty\relax
648 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
649 {\HyPsd@empty\80\051}#1%
650 \else
651 \HyPsd@StringSubst{\)}{\051}#1%
652 \HyPsd@Subst){\051}#1%
653 \let\HyPsd@empty\relax
654 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
655 \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`.

```

656 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
657 \ltx@ifundefined{@xspace}{%
658 }{%
659 \let\HyPsd@xspace\relax
660 \expandafter\HyPsd@Subst\expandafter
661 {\HyPsd@XSPACE}\HyPsd@xspace#1%
662 \let\HyPsd@xspace\HyPsd@doxspace
663 }%
664 \xdef#1{#1\HyPsd@empty}%

```

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

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

```

665 \HyPsd@Subst{---}\textemdash#1%
666 \HyPsd@Subst{--}\textendash#1%
667 % \HyPsd@Subst{fi}\textfi#1%
668 % \HyPsd@Subst{fl}\textfl#1%
669 \HyPsd@Subst{!'}\textexclamdown#1%
670 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

671 \let\HyPsd@empty\@empty

```

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

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

```

672 \ifHy@unicode
673 \HyPsd@StringSubst{\textparenleft#1%
674 \HyPsd@Subst(\textparenleft#1%
675 \else
676 \HyPsd@StringSubst{\{050\}#1%
677 \HyPsd@Subst(\{050\}#1%
678 \HyPsd@StringSubst{\050}\string\{)#1%
679 \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.

```

680 \ifHy@unicode
681 \edef\HyPsd@SPACEOPTI{\80\040}%
682 \else

```

```

683 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
684 \fi
685 \xdef#1{#1\@empty}%
686 \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.

```

687 \endgroup
688 \begingroup
689 \ifHy@unicode
690 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

691 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
692 \ltx@ifundefined{StringEncodingConvertTest}{%
693 }{%
694 \EdefUnescapeString\HyPsd@temp#1%
695 \ifxetex
696 \let\HyPsd@UnescapedString\HyPsd@temp
697 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
698 {utf16be}{ascii-print}{%
699 \EdefEscapeString\HyPsd@temp\HyPsd@temp
700 \global\let#1\HyPsd@temp
701 \HyPsd@EscapeTeX#1%
702 \Hy@unicodefalse
703 }{%
704 \HyPsd@ToBigChars#1%
705 }%
706 \else
707 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
708 {utf16be}{pdfdoc}{%
709 \EdefEscapeString\HyPsd@temp\HyPsd@temp
710 \global\let#1\HyPsd@temp
711 \HyPsd@EscapeTeX#1%
712 \Hy@unicodefalse
713 }{%}%
714 \fi
715 }%
716 \fi
717 \fi
718 \HyPsd@XeTeXBigCharsfalse

```

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

```

719 \pdfstringdefPostHook#1%
720 \endgroup
721 }

```

\Hy@pdfstringdef

```

722 \def\Hy@pdfstringdef#1#2{%
723 \pdfstringdef\Hy@gtemp{#2}%
724 \let#1\Hy@gtemp
725 }

```

6.3 Encodings

6.3.1 XeTeX

```
726 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
727 \catcode\z@=12 %
728 \ifxetex
729   \expandafter\@firstofone
730 \else
731   \let\HyPsd@XeTeXBigCharstrue\@empty
732   \let\HyPsd@XeTeXBigCharsfalse\@empty
733   \expandafter\@gobble
734 \fi
735 {%
736   \newif\ifHyPsd@XeTeXBigChars
737   \def\HyPsd@XeTeXBigCharsfalse{%
738     \global\let\ifHyPsd@XeTeXBigChars\iffalse
739   }%
740   \def\HyPsd@XeTeXBigCharstrue{%
741     \global\let\ifHyPsd@XeTeXBigChars\iftrue
742   }%
743   \def\HyPsd@ToBigChars#1{%
744     \ifHyPsd@XeTeXBigChars
745       \EdefEscapeHex\HyPsd@UnescapedString{%
746         \expandafter\@gobbletwo\HyPsd@UnescapedString
747       }%
748       \begingroup
749         \toks@{%
750           \escapechar=92\relax
751           \let\x\HyPsd@ToBigChar
752           \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
753           \relax\relax\relax\relax\relax\relax\relax
754         \edef\x{%
755           \endgroup
756           \gdef\noexpand#1{\the\toks@}%
757         }%
758         \x
759       \fi
760     }%
761   \def\HyPsd@ToBigChar#1#2#3#4{%
762     \ifx\relax#1\relax
763       \let\x\relax
764     \else
765       \count@=#1#2#3#4\relax
766       \let\y\@empty
767       \lcode\z@=\count@
768       \ifnum\count@=40 % (
769         \let\y\@backslashchar
770       \else
771         \ifnum\count@=41 % )
772         \let\y\@backslashchar
773       \else
774         \ifnum\count@=92 % backslash
775         \let\y\@backslashchar
776       \else
777         \ifnum\count@=10 % newline
778         \edef\y##1{\string\n}%
779       \else
```

```

780         \ifnum\count@=13 % carriage return
781         \edef\y###1{\string\r}%
782         \fi
783     \fi
784 \fi
785 \fi
786 \fi
787 \lowercase{%
788     \toks@\expandafter{%
789         \the\expandafter\toks@
790         \y
791         ^^@%
792     }%
793 }%
794 \fi
795 \x
796 }%
797 }
798 \Hy@temp

```

6.3.2 Workaround for package linguex

```

799 \@ifpackageloaded{linguex}{%
800     \let\HyLinguex@OrgB\b
801     \let\HyLinguex@OrgC\c
802     \let\HyLinguex@OrgD\d
803     \def\HyLinguex@Restore{%
804         \let\b\HyLinguex@OrgB
805         \let\c\HyLinguex@OrgC
806         \let\d\HyLinguex@OrgD
807     }%
808     \Hy@AtEndOfPackage{%
809         \pdfstringdefDisableCommands{%
810             \let\oldb\b
811             \let\oldc\c
812             \let\oldd\d
813         }%
814     }%
815 }{%
816     \let\HyLinguex@Restore\relax
817 }%

```

6.3.3 PD1 encoding

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

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

```

818 \@ifundefined{T@PD1}{%
819     \input{pd1enc.def}%
820     \HyLinguex@Restore
821 }{}
822 \DeclareFontFamily{PD1}{pdf}{}
823 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
824 \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`.

```
825 \def\HyPsd@InitUnicode{%
826   \ifundefined{T@PU}{%
827     \input{puenc.def}%
828     \HyLinguex@Restore
829   }{%
830     \DeclareFontFamily{PU}{pdf}{}%
831     \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
832     \DeclareFontSubstitution{PU}{pdf}{m}{n}%
833     \let\HyPsd@InitUnicode\relax
834 }
```

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.

```
835 \def\texorpdfstring{%
836   \ifHy@pdfstring
837     \expandafter\@secondoftwo
838   \else
839     \expandafter\@firstoftwo
840   \fi
841 }
```

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`.

```
842 \@ifundefined{pdfstringdefPreHook}{%
843   \let\pdfstringdefPreHook\@empty
844 }{}
845 \@ifundefined{pdfstringdefPostHook}{%
846   \let\pdfstringdefPostHook\@gobble
847 }{}
```

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

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

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

```
}%
```

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

```
848 \def\pdfstringdefDisableCommands{%
849   \begingroup
850   \makeatletter
851   \HyPsd@DisableCommands
852 }
```

`\HyPsd@DisableCommands`

```
853 \long\def\HyPsd@DisableCommands#1{%
854   \toks0=\expandafter{\pdfstringdefPreHook}%
855   \toks1={#1}%
856   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
857   \endgroup
858 }
```

`\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`.

```
859 \def\pdfstringdefWarn#1{%
860   \expandafter\noexpand\csname<>-string#1\endcsname
861 }
```

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.

```
862 \begingroup
863   \catcode0=12 %
864   \def\x{\endgroup
865     \def\HyPsd@ignorespaces{%
866       \romannumeral\expandafter'\expandafter^^@%
867       \romannumeral'^^@%
868     }%
869   }%
870 \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`.

```

871 \def\HyPsd@BabelPatch{%
872   \let\HyOrg@languageshorthands\languageshorthands
873   \let\languageshorthands\HyPsd@LanguageShorthands
874 }
875 \RequirePackage{pdfcmds}[2009/04/10]
876 \begingroup\expandafter\expandafter\expandafter\endgroup
877 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
878   \let\HyPsd@langshort@system@empty
879   \def\HyPsd@LanguageShorthands#1{%
880     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
881       \HyPsd@langshort@system
882     \expandafter\@gobble
883   \else
884     \expandafter\@firstofone
885   \fi
886   {%
887     \HyOrg@languageshorthands{#1}%
888   }%
889 }%
890 \else
891   \def\HyPsd@LanguageShorthands#1{%
892     \ifnum\pdf@strcmp{#1}{system}=\z@
893       \expandafter\@gobble
894     \else
895       \expandafter\@firstofone
896     \fi
897     {%
898       \HyOrg@languageshorthands{#1}%
899     }%
900   }%
901 \fi
902 \def\Hy@temp{%
903   \@ifpackageloaded{babel}{%
904     \@ifpackagelater{babel}{2008/03/16}{%
905       \let\Hy@temp@empty
906     }{%
907       \def\HyPsd@BabelPatch{%
908         \let\HyOrg@languageshorthands\languageshorthands
909       }%
910     }%
911   }{}%
912 }
913 \Hy@temp
914 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
915 \newif\ifHy@next

```

Nothing to do for english.

```

916 \ltx@ifundefined{danish@sh@"@sel}{}{%
917   \def\HyPsd@babel@danish{%
918     \declare@shorthand{danish}{"}{}%
919     \declare@shorthand{danish}{"}~{}%
920   }%
921 }

```

```

922 \ltx@ifundefined{dutch@sh@"@sel}{-}{%
923   \def\HyPsd@babel@dutch{%
924     \declare@shorthand{dutch}{-}{-}%
925     \declare@shorthand{dutch}{-}{-}%
926   }%
927 }
928 \ltx@ifundefined{finnish@sh@"@sel}{-}{%
929   \def\HyPsd@babel@finnish{%
930     \declare@shorthand{finnish}{-}{-}%
931   }%
932 }
933 \ltx@ifundefined{french@sh@"@sel}{-}{%
934   \def\HyPsd@babel@frenchb{%
935     \def\guill@spacing{ }%
936   }%
937 }
938 \ltx@ifundefined{german@sh@"@sel}{-}{%
939   \def\HyPsd@babel@german{%
940     \declare@shorthand{german}{f}{f}%
941     \declare@shorthand{german}{-}{-}%
942     \declare@shorthand{german}{-}{-}%
943   }%
944 }
945 \ltx@ifundefined{macedonian@sh@"@sel}{-}{%
946   \def\HyPsd@babel@macedonian{%
947     \declare@shorthand{macedonian}{-}{-}%
948     \declare@shorthand{macedonian}{-}{-}%
949   }%
950 }{}
951 \ltx@ifundefined{ngerman@sh@"@sel}{-}{%
952   \def\HyPsd@babel@ngerman{%
953     \declare@shorthand{ngerman}{-}{-}%
954     \declare@shorthand{ngerman}{-}{-}%
955   }%
956 }
957 \ltx@ifundefined{portuges@sh@"@sel}{-}{%
958   \def\HyPsd@babel@portuges{%
959     \declare@shorthand{portuges}{-}{-}%
960   }%
961 }
962 \ltx@ifundefined{russian@sh@"@sel}{-}{%
963   \def\HyPsd@babel@russian{%
964     \declare@shorthand{russian}{-}{-}%
965     \declare@shorthand{russian}{-}{-}%
966   }%
967 }
968 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
969   \def\HyPsd@babel@slovene{%
970     \declare@shorthand{slovene}{-}{-}%
971   }%
972 }

```

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

```

973 \ltx@ifundefined{spanish@sh>@sel}{-}{%
974   \def\HyPsd@babel@spanish{%
975     \declare@shorthand{spanish}{<<}{\guillemotleft}%
976     \declare@shorthand{spanish}{>>}{\guillemotright}%
977     \declare@shorthand{spanish}{=}{-}%

```

```

978 \declare@shorthand{spanish}{~}{-}%
979 \declare@shorthand{spanish}{!}{\textexclamdown}%
980 \declare@shorthand{spanish}{?}{\textquestiondown}%
981 }%
982 }
983 \ltx@ifundefined{swedish@sh@"@sel}{%}{%
984 \def\HyPsd@babel@swedish{%
985 \declare@shorthand{swedish}{"}{|}%
986 \declare@shorthand{swedish}{~}{-}%
987 }%
988 }
989 \ltx@ifundefined{ukrainian@sh@"@sel}{%}{%
990 \def\HyPsd@babel@ukrainian{%
991 \declare@shorthand{ukrainian}{"}{|}%
992 \declare@shorthand{ukrainian}{~}{-}%
993 }%
994 }
995 \ltx@ifundefined{usorbian@sh@"@sel}{%}{%
996 \def\HyPsd@babel@usorbian{%
997 \declare@shorthand{usorbian}{f}{f}%
998 \declare@shorthand{usorbian}{"}{|}%
999 }%
1000 }

1001 \ltx@ifundefined{greek@sh@\string~@sel}{%
1002 \let\HyPsd@GreekPatch\@empty
1003 }{%
1004 \def\HyPsd@GreekPatch{%
1005 \let\greeknumeral\HyPsd@greeknumeral
1006 \let\Greeknumeral\HyPsd@Greeknumeral
1007 }%
1008 }
1009 \def\HyPsd@greeknumeral#1{%
1010 \HyPsd@GreekNum\@firstoftwo{#1}%
1011 }
1012 \def\HyPsd@Greeknumeral#1{%
1013 \HyPsd@GreekNum\@secondoftwo{#1}%
1014 }
1015 \def\HyPsd@GreekNum#1#2{%
1016 \ifHy@unicode
1017 \ifnum#2<\@ne
1018 \@arabic{#2}%
1019 \else
1020 \ifnum#2<1000000 %
1021 \HyPsd@@GreekNum#1{#2}%
1022 \else
1023 \@arabic{#2}%
1024 \fi
1025 \fi
1026 \else
1027 \@arabic{#2}%
1028 \fi
1029 }
1030 \def\HyPsd@@GreekNum#1#2{%
1031 \ifnum#2<\@m
1032 \ifnum#2<10 %
1033 \expandafter\HyPsd@GreekNumI
1034 \expandafter\@gobble\expandafter#1\number#2%

```

```

1035 \else
1036 \ifnum#2<100 %
1037 \expandafter\HyPsd@GreekNumII
1038 \expandafter\@gobble\expandafter#1\number#2%
1039 \else
1040 \expandafter\HyPsd@GreekNumIII
1041 \expandafter\@gobble\expandafter#1\number#2%
1042 \fi
1043 \fi
1044 \ifnum#2>\z@
1045 \textnumeralsigngreek
1046 \fi
1047 \else
1048 \ifnum#2<\@M
1049 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1050 \else
1051 \ifnum#2<100000 %
1052 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1053 \else
1054 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1055 \fi
1056 \fi
1057 \fi
1058 }
1059 \def\HyPsd@GreekNumI#1#2#3{%
1060 #1{%
1061 \ifnum#3>\z@
1062 \textnumeralsignlowergreek
1063 \fi
1064 }%
1065 \expandafter#2%
1066 \ifcase#3 %
1067 {}{}%
1068 \or\textalpha\textAlpha
1069 \or\textbeta\textBeta
1070 \or\textgamma\textGamma
1071 \or\textdelta\textDelta
1072 \or\textepsilon\textEpsilon
1073 \or\textstigmagreek\textStigmagreek
1074 \or\textzeta\textZeta
1075 \or\texteta\textEta
1076 \or\texttheta\textTheta
1077 \else
1078 {}{}%
1079 \fi
1080 }
1081 \def\HyPsd@GreekNumII#1#2#3#4{%
1082 #1{%
1083 \ifnum#3>\z@
1084 \textnumeralsignlowergreek
1085 \fi
1086 }%
1087 \expandafter#2%
1088 \ifcase#3 %
1089 {}{}%
1090 \or\textiota\textIota
1091 \or\textkappa\textKappa

```

```

1092 \or\textlambda\textLambda
1093 \or\textmu\textMu
1094 \or\textnu\textNu
1095 \or\textxi\textXi
1096 \or\textomicron\textOmicron
1097 \or\textpi\textPi
1098 \or\textkoppagreek\textKoppagreek
1099 \else
1100   {}{}%
1101 \fi
1102 \HyPsd@GreekNumI#1#2#4%
1103 }
1104 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1105   #1{%
1106     \ifnum#3>\z@
1107       \textnumeralsignlowergreek
1108     \fi
1109   }%
1110   \expandafter#2%
1111   \ifcase#3 %
1112     {}{}%
1113   \or\extrho\textRho
1114   \or\textsigma\textSigma
1115   \or\texttau\textTau
1116   \or\textupsilon\textUpsilon
1117   \or\textphi\textPhi
1118   \or\textchi\textChi
1119   \or\textpsi\textPsi
1120   \or\textomega\textOmega
1121   \or\textsampigreek\textSampigreek
1122   \else
1123     {}{}%
1124   \fi
1125   \HyPsd@GreekNumII#1#2#4#5%
1126 }
1127 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1128   \HyPsd@GreekNumI\@firstofone#1#2%
1129   \HyPsd@@GreekNum#1{#3#4#5}%
1130 }
1131 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1132   \HyPsd@GreekNumII\@firstofone#1#2#3%
1133   \HyPsd@@GreekNum#1{#4#5#6}%
1134 }
1135 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1136   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1137   \HyPsd@@GreekNum#1{#5#6#7}%
1138 }
1139 \def\HyPsd@SpanishPatch{%
1140   \ltx@ifundefined{es@save@dot}{%
1141     }{%
1142       \let\.\es@save@dot
1143     }%
1144 }

```

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

```

1145 \def\HyPsd@RussianPatch{%

```

```

1146 \ltx@ifundefined{russian@sh@"@-@}{%
1147 }{%
1148 \@namedef{russian@sh@"@-@}{-}%
1149 }%
1150 }

```

6.5.3 CJK patch

```

1151 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1152 \def\HyPsd@CJKhook{%
1153 \ltx@ifpackageloaded{CJK}{%
1154 \let\CJK@kern\relax
1155 \let\CJKkern\relax
1156 \let\CJK@CJK\relax
1157 \ifHy@CJKbookmarks
1158 \HyPsd@CJKhook@bookmarks
1159 \fi
1160 \HyPsd@CJKhook@unicode
1161 }{}%
1162 }

```

6.5.4 CJK bookmarks

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

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

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

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

```

1163 \begingroup
1164 \catcode"7F=\active
1165 \toks@{%
1166 \let\CJK@ignorespaces\empty
1167 \def\CJK@char#1{\@gobbletwo}%
1168 \let\CJK@charx\@gobblefour
1169 \let\CJK@punctchar\@gobblefour
1170 \def\CJK@punctcharx#1{\@gobblefour}%
1171 \catcode"7F=\active
1172 \def^^7f#1^^7f#2^^7f{%
1173 \string #1\HyPsd@DecimalToOctal{#2}%
1174 }%
1175 % ... ?
1176 \ifHy@unicode
1177 \def\Hy@cjkpu{\80}%
1178 \else
1179 \let\Hy@cjkpu\@empty
1180 \fi
1181 \HyPsd@CJKActiveChars
1182 }%
1183 \count@=127 %
1184 \@whilenum\count@<255 \do{%

```

```

1185 \advance\count@ by 1 %
1186 \lccode'\~=\count@
1187 \lowercase{%
1188   \toks@\expandafter{\the\toks@ ~}%
1189 }%
1190 }%
1191 \toks@\expandafter{\the\toks@ !}%
1192 \xdef\HyPsd@CJKhook@bookmarks{%
1193   \the\toks@
1194 }%
1195 \endgroup

```

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

```

1196 \def\HyPsd@CJKActiveChars#1{%
1197   \ifx#1!%
1198     \let\HyPsd@CJKActiveChars\relax
1199   \else
1200     \edef#1{\noexpand\Hy@cjku\string#1}%
1201   \fi
1202   \HyPsd@CJKActiveChars
1203 }

```

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

```

1204 \def\HyPsd@DecimalToOctal#1{%
1205   \ifcase #1 %
1206     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1207     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1208     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1209     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1210     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1211     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1212     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1213     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1214     \or @\or A\or B\or C\or D\or E\or F\or G%
1215     \or H\or I\or J\or K\or L\or M\or N\or O%
1216     \or P\or Q\or R\or S\or T\or U\or V\or W%
1217     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1218     \or \140\or a\or b\or c\or d\or e\or f\or g%
1219     \or h\or i\or j\or k\or l\or m\or n\or o%
1220     \or p\or q\or r\or s\or t\or u\or v\or w%
1221     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1222     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1223     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1224     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1225     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1226     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1227     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1228     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1229     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1230     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1231     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1232     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1233     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1234     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1235     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1236     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%

```

```

1237 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1238 \fi
1239 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1240 \def\HyPsd@CJKhook@unicode{%
1241 \let\Unicode\HyPsd@CJK@Unicode
1242 \let\CJKnumber\HyPsd@CJKnumber
1243 \let\CJKdigits\HyPsd@CJKdigits
1244 }

```

\HyPsd@CJK@Unicode

```

1245 \def\HyPsd@CJK@Unicode#1#2{%
1246 \ifnum#1<256 %
1247 \HyPsd@DecimalToOctalFirst{#1}%
1248 \HyPsd@DecimalToOctalSecond{#2}%
1249 \else
1250 \933%
1251 \expandafter\expandafter\expandafter\HyPsd@HighA
1252 \intcalcDiv{#1}{4}!%
1253 \933%
1254 \ifcase\intcalcMod{#1}{4} %
1255 4\or 5\or 6\or 7%
1256 \fi
1257 \HyPsd@DecimalToOctalSecond{#2}%
1258 \fi
1259 }

1260 \def\HyPsd@HighA#1!{%
1261 \expandafter\expandafter\expandafter\HyPsd@HighB
1262 \IntCalcDiv#1!64!!%
1263 \expandafter\expandafter\expandafter\HyPsd@HighD
1264 \IntCalcMod#1!64!!%
1265 }

1266 \def\HyPsd@HighB#1!{%
1267 \expandafter\expandafter\expandafter\HyPsd@HighC
1268 \IntCalcDec#1!!%
1269 }

1270 \def\HyPsd@HighC#1!{%
1271 \IntCalcDiv#1!4!%
1272 \@backslashchar
1273 \IntCalcMod#1!4!%
1274 }

1275 \def\HyPsd@HighD#1!{%
1276 \ifcase\IntCalcDiv#1!8! %
1277 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1278 \fi
1279 \ifcase\IntCalcMod#1!8! %
1280 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1281 \fi
1282 }

1283 \def\HyPsd@DecimalToOctalFirst#1{%
1284 \9%
1285 \ifcase#1 %
1286 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%

```



```

1287 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1288 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1289 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1290 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1291 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1292 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1293 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1294 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1295 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1296 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1297 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1298 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1299 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1300 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1301 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1302 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1303 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1304 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1305 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1306 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1307 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1308 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1309 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1310 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1311 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1312 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1313 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1314 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1315 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1316 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1317 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1318 \fi
1319 }
1320 \def\HyPsd@DecimalToOctalSecond#1{%
1321 \ifcase #1 %
1322 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1323 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1324 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1325 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1326 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1327 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1328 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1329 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1330 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1331 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1332 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1333 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1334 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1335 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1336 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1337 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1338 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1339 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1340 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1341 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1342 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1343 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%

```

```

1344 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1345 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1346 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1347 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1348 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1349 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1350 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1351 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1352 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1353 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1354 \fi
1355 }

1356 \def\HyPsd@CJkNumber#1{%
1357 \ifnum#1<\z@
1358 \CJk@minus
1359 \expandafter\HyPsd@@CJkNumber\expandafter{\number-\number#1}%
1360 \else
1361 \expandafter\HyPsd@@CJkNumber\expandafter{\number#1}%
1362 \fi
1363 }

1364 \def\HyPsd@@CJkNumber#1{%
1365 \ifcase#1 %
1366 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1367 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1368 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1369 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1370 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1371 \CJk@ten\CJk@nine
1372 \else
1373 \ifnum#1<10000 %
1374 \HyPsd@CJkNumberFour#1!\@empty{20}%
1375 \@empty
1376 \else
1377 \ifnum#1<100000000 %
1378 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1379 \IntCalcDiv#1!10000!%
1380 !\{20}%
1381 \CJk@tenthousand
1382 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1383 \IntCalcMod#1!10000!%
1384 !\CJk@zero{10}%
1385 \@empty
1386 \else
1387 \expandafter\HyPsd@CJkNumberLarge
1388 \number\IntCalcDiv#1!100000000!\expandafter!%
1389 \number\IntCalcMod#1!100000000!!%
1390 \fi
1391 \fi
1392 \fi
1393 }

1394 \def\HyPsd@CJkNumberLarge#1!#2!{%
1395 \HyPsd@CJkNumberFour#1!\{20}%
1396 \CJk@hundredmillion
1397 \ifnum#2=\z@
1398 \else
1399 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1400 \IntCalcDiv#2!10000!%

```

```

1401  !\CJK@zero{10}%
1402  \CJK@tenthousand
1403  \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1404    \IntCalcMod#2!10000!%
1405  !\CJK@zero{10}%
1406  \@empty
1407  \fi
1408 }
1409 \def\HyPsd@CJKnumberFour#1!#2#3{%
1410   \ifnum#1=\z@
1411     \expandafter\@gobble
1412   \else
1413     \ifnum#1<1000 %
1414       #2%
1415       \HyPsd@CJKnumberThree#1!#{#3}%
1416     \else
1417       \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1418       \CJK@thousand
1419       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1420         \IntCalcMod#1!1000!%
1421       !\CJK@zero{10}%
1422     \fi
1423   \fi
1424 }
1425 \def\HyPsd@CJKnumberThree#1!#2#3{%
1426   \ifnum#1=\z@
1427   \else
1428     \ifnum#1<100 %
1429       #2%
1430       \HyPsd@CJKnumberTwo#1!#{#3}%
1431     \else
1432       \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1433       \CJK@hundred
1434       \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1435         \IntCalcMod#1!100!%
1436       !\CJK@zero{10}%
1437     \fi
1438   \fi
1439 }
1440 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1441   \ifnum#1=\z@
1442   \else
1443     \ifnum#1<#3 %
1444       #2%
1445       \HyPsd@@CJKnumber{#1}%
1446     \else
1447       \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1448       \CJK@ten
1449       \ifnum\IntCalcMod#1!10!=\z@
1450       \else
1451         \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1452       \fi
1453     \fi
1454   \fi
1455 }
1456 \def\HyPsd@CJKdigits#1{%
1457   \ifx*#1\relax

```

```

1458 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1459 \else
1460 \HyPsd@@CJKdigits\CJK@null{#1}%
1461 \fi
1462 }
1463 \def\HyPsd@@CJKdigits#1#2{%
1464 \ifx\\#2\\%
1465 \else
1466 \HyPsd@@@CJKdigits#1#2\@nil
1467 \fi
1468 }%
1469 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1470 \HyPsd@CJKdigit#1{#2}%
1471 \ifx\\#3\\%
1472 \expandafter\@gobble
1473 \else
1474 \expandafter\@firstofone
1475 \fi
1476 {%
1477 \HyPsd@@@CJKdigits#1#3\@nil
1478 }%
1479 }
1480 \def\HyPsd@CJKdigit#1#2{%
1481 \ifcase#2 %
1482 #1\or
1483 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1484 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1485 \fi
1486 }

```

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 $\TeX 2_{\epsilon}$ 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 ($\TeX 2_{\epsilon}$ 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}

1487 \def\HyPsd@inmathwarn#1#2{%
1488 \ifx#2\expandafter
1489 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1490 \HyPsd@GLYPHERR
1491 \expandafter\@gobble\string#1%
1492 >%
1493 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1494 \else
1495 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1496 \fi
1497 \else
1498 \expandafter#2%
1499 \fi
1500 }
1501 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1502 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1503 \def\HyPsd@add@accent#1#2{%
1504 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1505 #2%
1506 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1507 \def\HyPsd@LetUnexpandableSpace#1{%
1508 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1509 }

```

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

```

1510 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```
1511 \edef\HyPsd@XSPACE{\string#\string X}
1512 \edef\HyPsd@ITALCORR{\string#\string I}
1513 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1514 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1515 \def\HyPsd@@hspace#1*#2\END{%
1516   \ifx\#2\%
1517     \HyPsd@hspacetest{#1}%
1518   \else
1519     \expandafter\HyPsd@hspacetest
1520   \fi
1521 }
```

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

```
1522 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1523 \ltx@ifundefined{tocsection}{%
1524   \let\HyPsd@AMSclassfix\relax
1525 }{%
1526   \def\HyPsd@AMSclassfix{%
1527     \let\tocpart\HyPsd@tocsection
1528     \let\tocchapter\HyPsd@tocsection
1529     \let\tocappendix\HyPsd@tocsection
1530     \let\tocsection\HyPsd@tocsection
1531     \let\tocsubsection\HyPsd@tocsection
1532     \let\tocsubsubsection\HyPsd@tocsection
1533     \let\tocparagraph\HyPsd@tocsection
1534   }%
1535   \def\HyPsd@tocsection#1#2#3{%
1536     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1537     #3%
1538   }%
1539 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1540 \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.

```
1541 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1542 \def\HyPsd@@ref#1*#2\END{%
1543   \ifx\#2\%
1544     \HyPsd@@@ref{#1}%
1545   \else
1546     \expandafter\HyPsd@@@ref
1547   \fi
1548 }
```

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

```
1549 \def\HyPsd@@@ref#1{%
1550   \expandafter\ifx\csname r@#1\endcsname\relax
1551     ??%
1552   \else
1553     \expandafter\expandafter\expandafter
1554     \@car\csname r@#1\endcsname\@nil
1555   \fi
1556 }
```

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

```
1557 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1558 \def\HyPsd@@pageref#1*#2\END{%
1559   \ifx\#2\%
1560     \HyPsd@@@pageref{#1}%
1561   \else
1562     \expandafter\HyPsd@@@pageref
1563   \fi
1564 }
```

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

```
1565 \def\HyPsd@@@pageref#1{%
1566   \expandafter\ifx\csname r@#1\endcsname\relax
1567     ??%
1568   \else
1569     \expandafter\expandafter\expandafter\expandafter
1570     \expandafter\expandafter\expandafter\@car
1571     \expandafter\expandafter\expandafter\@gobble
1572     \csname r@#1\endcsname{}\@nil
1573   \fi
1574 }
```

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

```
1575 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1576 \def\HyPsd@@nameref#1*#2\END{%
1577   \ifx\#2\%
1578     \HyPsd@@@nameref{#1}%
1579   \else
1580     \expandafter\HyPsd@@@nameref
1581   \fi
1582 }
```

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

```

1583 \def\HyPsd@@@nameref#1{%
1584   \expandafter\ifx\csname r@#1\endcsname\relax
1585     ??%
1586   \else
1587     \expandafter\expandafter\expandafter\expandafter
1588     \expandafter\expandafter\expandafter\@car
1589     \expandafter\expandafter\expandafter\@gobbletwo
1590     \csname r@#1\endcsname\}\}\@nil
1591   \fi
1592 }

```

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

```

1593 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*END}

```

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

```

1594 \def\HyPsd@@autoref#1*#2END{%
1595   \ifx\#2\%
1596     \HyPsd@@@autoref{#1}%
1597   \else
1598     \expandafter\HyPsd@@@autoref
1599   \fi
1600 }

```

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

```

1601 \def\HyPsd@@@autoref#1{%
1602   \expandafter\ifx\csname r@#1\endcsname\relax
1603     ??%
1604   \else
1605     \expandafter\expandafter\expandafter\HyPsd@autorefname
1606     \csname r@#1\endcsname\}\}\}\@nil
1607     \expandafter\expandafter\expandafter
1608     \@car\csname r@#1\endcsname\@nil
1609   \fi
1610 }

```

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

```

1611 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1612   \ifx\#4\%
1613   \else
1614     \HyPsd@@autorefname#4.\@nil
1615   \fi
1616 }

```

`\HyPsd@@autorefname`

```

1617 \def\HyPsd@@autorefname#1.#2\@nil{%
1618   \ltx@ifundefined{#1autorefname}{%
1619     \ltx@ifundefined{#1name}{%
1620     }{%
1621       \csname#1name\endcsname\space
1622     }%
1623   }{%
1624     \csname#1autorefname\endcsname\space
1625   }%
1626 }

```


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 cause 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 doesn'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 unbalanced `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1627 \begingroup
1628 \def\x#1#2{%
1629 \endgroup
1630 \let#1\def
1631 \def\HyPsd@DefCommand##1##2##3{%
1632   #1%
1633   \expandafter\noexpand
1634   \csname\expandafter\@gobble\string##1\@empty\endcsname
1635   \@gobble
1636 }%
1637 \let#2\let
1638 \def\HyPsd@LetCommand##1{%
1639   \expandafter\ifx\csname##1\expandafter\endcsname
1640     \csname iftrue\endcsname
1641     \pdfstringdefWarn\let
1642     \expandafter\@gobble
1643   \else
1644     \expandafter\ifx\csname##1\expandafter\endcsname
1645       \csname iffalse\endcsname
1646       \pdfstringdefWarn\let
1647       \expandafter\expandafter\expandafter\@gobble
1648     \else
1649       #2%
1650       \expandafter\noexpand
1651       \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1652     \fi
1653     \fi
1654   }%
1655 }%
1656 \expandafter\x\csname <def>-command\expandafter\endcsname
1657     \csname <let>-command\endcsname
1658 \def\HyPsd@LetCommand#1{%
1659   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1660     \expandafter\expandafter\expandafter{%
1661     \expandafter\@gobble\string#1\@empty
1662   }%
1663 }

```

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).

```

1664 \def\HyPsd@ifnextchar#1{%
1665   \pdfstringdefWarn#1%
1666   \expandafter\@gobbletwo\@gobble
1667 }

```

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`.

```

1668 \def\HyPsd@protected@testopt#1{%
1669   \pdfstringdefWarn#1%
1670   \@gobbletwo
1671 }

```

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:

```

1672 \def\HyPsd@Warning#1{%
1673   \begingroup
1674     \def\space{ }%
1675     \Hy@Warning{#1}%
1676   \endgroup
1677 }

```

6.6.2 Protecting spaces

```

1678 \RequirePackage{etexcmds}[2007/09/09]
1679 \ifetex@unexpanded
1680   \expandafter\@secondoftwo
1681 \else
1682   \expandafter\@firstoftwo
1683 \fi
1684 {%

```

`\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`.

```

1685   \def\HyPsd@ProtectSpaces#1{%
1686     \iftrue
1687       \expandafter\HyPsd@@ProtectSpacesFi
1688       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1689     \fi
1690   }%

```

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

```

1691   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1692     \fi
1693     \ifx\scrollmode#2\scrollmode
1694       \HyPsd@RemoveMask#1\HyPsd@End#3%
1695     \else
1696       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1697       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1698     \fi
1699   }%

```

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.

```

1700   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1701     \toks@ \expandafter{#1}%
1702     \xdef#2{\the\toks@}%
1703   }%

1704 }{%
1705   \let\HyPsd@fi\fi
1706   \def\HyPsd@ProtectSpaces#1{%
1707     \xdef#1{%
1708       \iftrue
1709         \expandafter\HyPsd@@ProtectSpacesFi
1710         \expandafter|\expandafter\@empty#1| %
1711       \HyPsd@fi
1712     }%
1713     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1714   }%
1715   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1716     \fi
1717     \etex@unexpanded{#1}%
1718     \ifx\scrollmode#2\scrollmode
1719     \else
1720       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%

```

```

1721 \HyPsd@fi
1722 }%
1723 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1724 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1725 }%
1726 }

```

6.6.3 Remove grouping braces

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

```

1727 \def\HyPsd@RemoveBraces#1{%
1728 \ifx\scrollmode#1\scrollmode
1729 \else
1730 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1731 \fi
1732 }

```

`\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`.

```

1733 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1734 \fi
1735 \def\Hy@temp@A{#1#2}%
1736 \def\Hy@temp@B{#3}%
1737 \ifx\Hy@temp@A\Hy@temp@B
1738 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1739 \HyPsd@String#1%
1740 }%
1741 \ifx\scrollmode#2\scrollmode
1742 \else
1743 \Hy@ReturnAfterFiFiEnd{%
1744 \HyPsd@RemoveBraces{#2}%
1745 }%
1746 \fi
1747 \else
1748 \def\Hy@temp@A{#1}%
1749 \HyPsd@AppendItalcrr\HyPsd@String
1750 \ifx\Hy@temp@A\@empty
1751 \Hy@ReturnAfterElseFiFiEnd{%
1752 \HyPsd@RemoveBraces{#2}%
1753 }%
1754 \else
1755 \HyPsd@ProtectSpaces\Hy@temp@A
1756 \HyPsd@AppendItalcrr\Hy@temp@A
1757 \Hy@ReturnAfterFiFiEnd{%
1758 \expandafter\HyPsd@RemoveBraces\expandafter
1759 {\Hy@temp@A#2}%
1760 }%
1761 \fi
1762 \fi

```

```

1763 \Hy@ReturnEnd
1764 }

```

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

```

1765 \def\HyPsd@AppendItalcrr#1{%
1766 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1}%
1767 }
1768 \def\HyPsd@@AppendItalcrr#1#2{%
1769 \expandafter\def\expandafter#2\expandafter{#2#1}%
1770 }

```

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).

```

1771 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1772 \global\let\HyPsd@Rest\relax
1773 \ifcat\relax\noexpand#1\relax
1774 \ifx#1\protect
1775 \else
1776 \ifx#1\penalty
1777 \setbox\z@=\hbox{%
1778 \afterassignment\HyPsd@AfterCountRemove
1779 \count@=#2\HyPsd@End
1780 }%
1781 \else
1782 \ifx#1\kern
1783 \setbox\z@=\hbox{%
1784 \afterassignment\HyPsd@AfterDimenRemove
1785 \dimen@=#2\HyPsd@End
1786 }%
1787 \else
1788 \ifx#1\hskip
1789 \setbox\z@=\hbox{%
1790 \afterassignment\HyPsd@AfterSkipRemove
1791 \skip@=#2\HyPsd@End
1792 }%
1793 \else
1794 \HyPsd@CatcodeWarning{#1}%
1795 \fi
1796 \fi
1797 \fi
1798 \fi
1799 \else
1800 \ifcat#1A% letter
1801 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1802     \HyPsd@String#1%
1803   }%
1804 \else
1805   \ifcat#1 % SPACE
1806     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1807       \HyPsd@String\HyPsd@SPACEOPTI
1808     }%
1809 \else
1810   \ifcat$#1%
1811     \HyPsd@CatcodeWarning{math shift}%
1812 \else
1813   \ifcat&#1%
1814     \HyPsd@CatcodeWarning{alignment tab}%
1815 \else
1816   \ifcat^#1%
1817     \HyPsd@CatcodeWarning{superscript}%
1818 \else
1819   \ifcat_#1%
1820     \HyPsd@CatcodeWarning{subscript}%
1821 \else
1822   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1823     \HyPsd@String#1%
1824   }%
1825 \fi
1826 \fi
1827 \fi
1828 \fi
1829 \fi
1830 \fi
1831 \fi
1832 \ifx\HyPsd@Rest\relax
1833 \ifx\scrollmode#2\scrollmode
1834 \else
1835   \Hy@ReturnAfterFiFiEnd{%
1836     \HyPsd@CheckCatcodes#2\HyPsd@End
1837   }%
1838 \fi
1839 \else
1840 \ifx\HyPsd@Rest\@empty
1841 \else
1842   \Hy@ReturnAfterFiFiEnd{%
1843     \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1844   }%
1845 \fi
1846 \fi
1847 \Hy@ReturnEnd
1848 }

```

Remove counts, dimens, skips.

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

```

1849 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1850   \gdef\HyPsd@Rest{#1}%
1851 }

```

\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.

```

1852 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1853   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1854     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1855     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1856   \else
1857     \ifdim\dimen@=\z@
1858     \else
1859       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1860     \fi
1861     \gdef\HyPsd@Rest{#1}%
1862   \fi
1863 }

```

`\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).

```

1864 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1865   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1866     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1867     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1868   \else
1869     \ifdim\skip@=\z@
1870     \else
1871       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1872     \fi
1873     \gdef\HyPsd@Rest{#1}%
1874   \fi
1875 }

```

Catcode warnings.

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

```

1876 \def\HyPsd@CatcodeWarning#1{%
1877   \HyPsd@Warning{%
1878     Token not allowed in a PDF string (%
1879     \ifHy@unicode
1880       Unicode%
1881     \else
1882       PDFDocEncoding%
1883     \fi
1884   ):%
1885   \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1886 }%
1887 }
1888 \begingroup
1889   \catcode‘\|=0 %
1890   \catcode‘\|=12 %
1891   \gdef\HyPsd@RemoveCmdPrefix#1{%
1892     \expandafter\HyPsd@@RemoveCmdPrefix
1893     \string#1\@empty\<>-|\@empty|\@empty
1894   }%
1895   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1896 \endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1897 \def\HyPsd@RemoveSpaceWarning#1{%
1898   \HyPsd@Warning{%
1899     Token not allowed in a PDF string (%)
1900     \ifHy@unicode
1901       Unicode%
1902     \else
1903       PDFDocEncoding%
1904     \fi
1905   }:%
1906   \MessageBreak #1\MessageBreak
1907   removed%
1908 }%
1909 }

```

\HyPsd@ReplaceSpaceWarning

```

1910 \def\HyPsd@ReplaceSpaceWarning#1{%
1911   \HyPsd@Warning{%
1912     Token not allowed in a PDF string (%)
1913     \ifHy@unicode
1914       Unicode%
1915     \else
1916       PDFDocEncoding%
1917     \fi
1918   }:%
1919   \MessageBreak #1\MessageBreak
1920   replaced by space%
1921 }%
1922 }

```

6.6.5 Check for wrong glyphs

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

```

1923 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1924   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1925     \HyPsd@String#1%
1926   }%
1927   \ifx\#2\%
1928   \else
1929     \Hy@ReturnAfterFi{%
1930       \HyPsd@GlyphProcessWarning#2\@empty
1931     }%
1932   \fi
1933 }
1934 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1935   \HyPsd@@@GlyphProcessWarning#1++>%
1936   \HyPsd@GlyphProcess#2\@empty
1937 }
1938 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1939   \ifx\#2\%
1940     \HyPsd@Warning{%
1941       Glyph not defined in %
1942       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1943       removing ‘\@backslashchar#1’%
1944     }%
1945   \else
1946     \HyPsd@Warning{%

```



```

1947 Composite letter '@backslashchar#1+#2'\MessageBreak
1948 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1949 \MessageBreak
1950 removing '@backslashchar#1'%
1951 }%
1952 \fi
1953 }

```

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`.

```

1954 \def\HyPsd@spaceopti#1{ % first space
1955 \ifx\HyPsd@spaceopti#1%
1956 \040%
1957 \else
1958 #1%
1959 \fi
1960 }%

```

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.

1961 \def\HyPsd@Subst#1#2#3{%
1962 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1963 \fi
1964 ##1%
1965 \ifx\scrollmode##2\scrollmode
1966 \else
1967 #2%
1968 \HyPsd@@ReplaceFi##2\END
1969 \fi
1970 }%
1971 \xdef#3{%
1972 \iftrue
1973 \expandafter\HyPsd@@ReplaceFi#3#1\END
1974 \fi
1975 }%
1976 }

```

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

```

1977 \def\HyPsd@StringSubst#1{%
1978 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1979 }

```

`\HyPsd@EscapeTeX`

```

1980 \begingroup
1981 \lccode'\!='\%%
1982 \lccode'\|='\%%

```

```

1983 \lccode'\(=\{\%
1984 \lccode'\)=\}%
1985 \lccode'0=\ltx@zero
1986 \lccode'1=\ltx@zero
1987 \lccode'3=\ltx@zero
1988 \lccode'4=\ltx@zero
1989 \lccode'5=\ltx@zero
1990 \lccode'7=\ltx@zero
1991 \lowercase{\endgroup
1992 \def\HyPsd@EscapeTeX#1{%
1993   \HyPsd@Subst!{|045}#1%
1994   \HyPsd@Subst({|173}#1%
1995   \HyPsd@Subst){|175}#1%
1996 }%
1997 }

```

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.

```

1998 \def\HyPsd@doxspace#1{%
1999   \ifx#1\relax\else
2000     \ifx#1.\else
2001       \ifx#1:\else
2002         \ifx#1,\else
2003           \ifx#1;\else
2004             \ifx#1!\else
2005               \ifx#1?\else
2006                 \ifx#1/\else
2007                   \ifx#1-\else
2008                     \ifx#1'\else
2009                       \HyPsd@SPACEOPTI
2010                     \fi
2011                   \fi
2012                 \fi
2013               \fi
2014             \fi
2015           \fi
2016         \fi
2017       \fi
2018     \fi
2019   \fi
2020   #1%
2021 }%

```

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.

```

2022 \begingroup
2023 \catcode'\|=0 %
2024 \catcode'\=12 %

```

`\HyPsd@ConvertToUnicode`

```

2025 |gdef|HyPsd@ConvertToUnicode#1{%
2026 |xdef#1{%
2027 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2028 }%
2029 |ifx#1|@empty
2030 |else
2031 |xdef#1{%
2032 \376\377%
2033 #1%
2034 }%
2035 |fi
2036 }%

```

\HyPsd@DoConvert

```

2037 |gdef|HyPsd@DoConvert#1{%
2038 |ifx#1|@empty
2039 |else
2040 |Hy@ReturnAfterFi{%
2041 |ifx#1\%%
2042 \%%
2043 |expandafter|HyPsd@DoEscape
2044 |else
2045 |HyPsd@Char{#1}%
2046 |expandafter|HyPsd@DoConvert
2047 |fi
2048 }%
2049 |fi
2050 }%

```

\HyPsd@DoEscape

```

2051 |gdef|HyPsd@DoEscape#1{%
2052 |ifx#19%
2053 |expandafter|HyPsd@GetTwoBytes
2054 |else
2055 |Hy@ReturnAfterFi{%
2056 |ifx#18%
2057 00%
2058 |expandafter|HyPsd@GetTwoBytes
2059 |else
2060 #1%
2061 |expandafter|HyPsd@GetOneByte
2062 |fi
2063 }%
2064 |fi
2065 }%

```

\HyPsd@GetTwoBytes

```

2066 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2067 #1\#2#3#4%
2068 |HyPsd@DoConvert
2069 }%

```

\HyPsd@GetOneByte

```

2070 |gdef|HyPsd@GetOneByte#1#2{%
2071 #1#2%
2072 |HyPsd@DoConvert
2073 }%

```

2074 |endgroup

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

```
2075 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2076   \xdef#4{#4#1#2}%
2077   \HyPsd@@ConvertToUnicode#3\END#4%
2078 }
```

\HyPsd@Char

```
2079 \begingroup
2080 \catcode0=9 %
2081 \catcode'\^=7 %
2082 \catcode'\^^=12 %
2083 \def\x{^^^0000}%
2084 \expandafter\endgroup
2085 \ifx\x\@empty
2086   \def\HyPsd@Char#1{%
2087     \ifnum'#1<128 %
2088       \@backslashchar 000#1%
2089     \else
2090       \ifnum'#1<65536 %
2091         \expandafter\HyPsd@CharTwoByte\number'#1!%
2092       \else
2093         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2094         \intcalcSub{'#1}{65536}!%
2095       \fi
2096     \fi
2097   }%
2098   \def\HyPsd@CharTwoByte#1!{%
2099     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2100     \IntCalcDiv#1!256!!%
2101     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2102     \IntCalcMod#1!256!!%
2103   }%
2104   \def\HyPsd@CharOctByte#1!{%
2105     \@backslashchar
2106     \IntCalcDiv#1!64!%
2107     \intcalcDiv{\IntCalcMod#1!64!}{8}%
2108     \IntCalcMod#1!8!%
2109   }%
2110   \def\HyPsd@CharSurrogate#1!{%
2111     \@backslashchar 33%
2112     \IntCalcDiv#1!262144!%
2113     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2114     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2115     \@backslashchar 33%
2116     \expandafter\expandafter\expandafter\IntCalcAdd
2117     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2118     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2119     \IntCalcMod#1!256!!%
2120   }%
2121 \else
2122   \def\HyPsd@Char#1{%
2123     \@backslashchar 000#1%
2124   }%
2125 \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

2126 \begingroup\expandafter\expandafter\expandafter\endgroup
2127 \expandafter\ifx\csname numexpr\endcsname\relax
2128   \let\HyPsd@UTFviii\relax
2129 \else
2130   \begingroup
2131     \lccode'\~='^f4\relax
2132   \lowercase{\endgroup
2133     \def\HyPsd@UTFviii{%
2134       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2135       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2136       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2137       \ifx~\HyPsd@UTFviii@ccxliv@undef
2138         \let~\HyPsd@UTFviii@ccxliv@def
2139       \fi
2140       \let\unichar\HyPsd@unichar
2141     }%
2142   }%
2143   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2144   \edef\HyPsd@UTFviii@ccxliv@def{%
2145     \noexpand\UTFviii@four@octets\string ^f4%
2146   }%
```

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.

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

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

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

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

$$(5)$$

```

2147 \def\HyPsd@UTFviii@two#1#2{%
2148   \expandafter\HyPsd@UTFviii@@two
2149   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2150   \number'#1\expandafter| %
2151   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2152   \number'#2 \@nil
2153 }%
2154 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2155   \expandafter\8%
2156   \number\numexpr #1-48\expandafter\relax
2157   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2158   \number\numexpr #3-8*%
```

```

2159 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2160 \number\dimexpr #4-8*#3\relax
2161 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2162 \def\HyPsd@UTFviii@three#1#2#3{%
2163 \expandafter\HyPsd@UTFviii@three
2164 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2165 \number'#1\expandafter| %
2166 \number\ifnum\dimexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2167 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2168 \number'#2\expandafter| %
2169 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2170 \number'#3 \@nil
2171 }%
2172 \def\HyPsd@UTFviii@four#1#2#3#4#5#6#7#8{%
2173 \expandafter\9%
2174 \number\dimexpr #1-56\expandafter\relax
2175 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
2176 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2177 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
2178 \number\dimexpr #6-16\expandafter\relax
2179 \number\dimexpr #7-8*#6\relax
2180 }%

```

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 wwzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2181 \def\HyPsd@UTFviii@four#1#2#3#4{%
2182 \expandafter\HyPsd@UTFviii@four\number
2183 \dimexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2184 \expandafter|\number
2185 \dimexpr'#2-16*\dimexpr.0625\dimexpr'#3sp| %
2186 }%
2187 \def\HyPsd@UTFviii@four#1#2#3#4{%
2188 \933\number\dimexpr.25\dimexpr'#1sp\relax\relax
2189 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr'#1sp\endcsname
2190 \ifodd#2 %
2191 \number\dimexpr(#2-1)/2\relax
2192 \else
2193 \number\dimexpr#2/2\relax
2194 \fi

```

```

2195 \number\numexpr\ifodd#2 4+\fi
2196 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2197 \933%
2198 \expandafter\HyPsd@@@UTFviii@four\number
2199 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2200 }%
2201 \def\HyPsd@@@UTFviii@four#1|#2{%
2202 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2203 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2204 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2205 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2206 }%

```

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

```

2207 \def\HyPsd@unichar#1{%
2208 \ifHy@unicode
2209 \ifnum#1>"10FFFF %
2210 \HyPsd@UnicodeReplacementCharacter % illegal
2211 \else
2212 \ifnum#1>"FFFF %

```

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

```

2213 \expandafter\HyPsd@unichar\expandafter{%
2214 \number\numexpr 55296+%
2215 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2216 \relax\relax\relax
2217 }%

```

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

```

2218 \expandafter\HyPsd@unichar\expandafter{%
2219 \number\numexpr#1-9216%
2220 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2221 \relax\relax\relax
2222 }%
2223 \else
2224 \ifnum#1>"7FF %
2225 \9%
2226 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2227 \number
2228 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2229 }%
2230 \else
2231 \8%
2232 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2233 \fi
2234 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2235 \number
2236 \numexpr#1-256*\number
2237 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2238 }%
2239 \fi
2240 \fi
2241 \else
2242 .% unsupported (Unicode -> PDF Doc Encoding)
2243 \fi
2244 }%
2245 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

2246 \def\HyPsd@unichar@first@byte#1{%
2247 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2248 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2249 \number
2250 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2251 \relax\relax\relax
2252 }%
2253 }%
2254 \def\HyPsd@unichar@second@byte#1{%
2255 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2256 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2257 \number
2258 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2259 \relax\relax\relax
2260 }%
2261 }%
2262 \def\HyPsd@unichar@octtwo#1{%
2263 \number\dimexpr.125\dimexpr#1sp\relax\relax
2264 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2265 \relax\relax\relax
2266 }%
2267 \fi

```

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

```

2268 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2269 \ifx\@gobble#1%
2270 \else
2271 [Please insert \textbackslash PrerenderUnicode%
2272 \textbraceleft#1\textbraceright\space
2273 into preamble]%
2274 \fi
2275 }%

```

7 Support of other packages

7.1 Class memoir

```

2276 \@ifclassloaded{memoir}{%
2277 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%
2278 }{}

```

7.2 Package subfigure

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

```

2279 \@ifpackageloaded{subfigure}{%
2280 \ltx@ifundefined{sub@label}{%
2281 \Hy@hypertextnamesfalse
2282 }{%
2283 \renewcommand*{\sub@label}[1]{%
2284 \@bsphack
2285 \subfig@oldlabel{#1}%
2286 \if@filesw
2287 \begingroup
2288 \edef\@currentlabstr{%
2289 \expandafter\strip@prefix\meaning\@currentlabelname
2290 }%

```



```

2291 \protected@write\@auxout{}\{}%
2292 \string\newlabel{sub@#1}\{}%
2293 {\@nameuse{@@thesub\@captive}}%
2294 {\thepage}%
2295 {\%
2296 \expandafter\strip@period\@currentlabstr
2297 \relax.\relax\@@@%
2298 }%
2299 {\@currentHref}%
2300 }\}%
2301 }%
2302 }%
2303 \endgroup
2304 \fi
2305 \@esphack
2306 }%
2307 \@ifpackagelater{subfigure}{2002/03/26}\{}%
2308 \providecommand*\toclevel@subfigure{1}%
2309 \providecommand*\toclevel@subtable{1}%
2310 }%
2311 }%
2312 }\{}

```

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:

```

2313 \ltx@ifundefined{XR@addURL}\{}%
2314 }\{}

```

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.

```

2315 \def\xr@addURL#1{\xr@dURL#1\{}%
2316 \def\xr@dURL#1#2#3#4#5\{}%
2317 {\#1}\#2}%
2318 \if!#4!%
2319 \else
2320 {\#3}\#4}\xr@URL}%
2321 \fi
2322 }%
2323 }

2324 \def\Hy@true{true}
2325 \def\Hy@false{false}

```

Providing dummy definitions.

```

2326 \let\literalps@out\@gobble
2327 \newcommand\pdfbookmark[3]{}
2328 \def\Acrobatmenu#1#2{\leavevmode#2}
2329 \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

```
2330 \let\HyperRaiseLinkHook\@empty
2331 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2332 \newcount\Hy@SavedSpaceFactor
2333 \def\Hy@SaveSpaceFactor{%
2334   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2335 }
2336 \def\Hy@RestoreSpaceFactor{%
2337   \relax
2338   \ifhmode
2339     \ifnum\Hy@SavedSpaceFactor>\z@
2340       \spacefactor=\Hy@SavedSpaceFactor
2341     \fi
2342   \fi
2343 }
2344 \def\Hy@SaveSavedSpaceFactor{%
2345   \edef\Hy@RestoreSavedSpaceFactor{%
2346     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2347   }%
2348 }
2349 \def\Hy@raisedlink#1{%
2350   \ifvmode
2351     #1%
2352   \else
2353     \Hy@SaveSpaceFactor
2354     \penalty\@M
2355     \smash{%
2356       \begingroup
2357         \let\HyperRaiseLinkLength\@tempdima
2358         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2359         \HyperRaiseLinkHook
2360         \expandafter\endgroup
2361         \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2362           \Hy@RestoreSpaceFactor
2363           #1%
2364           \Hy@SaveSpaceFactor
2365         }%
2366       }%
2367     \Hy@RestoreSpaceFactor
2368   \fi
2369 }
```

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

```
2370 \def\Hy@SaveLastskip{%
2371   \let\Hy@RestoreLastskip\relax
2372   \ifvmode
2373     \ifdim\lastskip=\z@
2374       \let\Hy@RestoreLastskip\nobreak
2375     \else
```

```

2376 \begingroup
2377 \skip@=-\lastskip
2378 \edef\x{%
2379 \endgroup
2380 \def\noexpand\Hy@RestoreLastskip{%
2381 \noexpand\ifvmode
2382 \noexpand\nobreak
2383 \vskip\the\skip@
2384 \vskip\the\lastskip\relax
2385 \noexpand\fi
2386 }%
2387 }%
2388 \x
2389 \fi
2390 \else
2391 \ifhmode
2392 \ifdim\lastskip=\z@
2393 \let\Hy@RestoreLastskip\nobreak
2394 \else
2395 \begingroup
2396 \skip@=-\lastskip
2397 \edef\x{%
2398 \endgroup
2399 \def\noexpand\Hy@RestoreLastskip{%
2400 \noexpand\ifhmode
2401 \noexpand\nobreak
2402 \hskip\the\skip@
2403 \hskip\the\lastskip\relax
2404 \noexpand\fi
2405 }%
2406 }%
2407 \x
2408 \fi
2409 \fi
2410 \fi
2411 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

2412 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2413 \def\Hy@@boolkey[#1]#2#3{%
2414 \edef\Hy@tempa{#3}%
2415 \lowercase\expandafter{%
2416 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2417 }%
2418 \ifx\Hy@tempa\@empty
2419 \let\Hy@tempa\Hy@true
2420 \fi
2421 \ifx\Hy@tempa\Hy@true
2422 \else
2423 \ifx\Hy@tempa\Hy@false
2424 \else
2425 \let\Hy@tempa\relax

```

```

2426 \fi
2427 \fi
2428 \ifx\Hy@tempa\relax
2429 \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2430 \else
2431 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2432 \csname Hy@#2\Hy@tempa\endcsname
2433 \fi
2434 }

```

\Hy@WarnOptionValue

```

2435 \def\Hy@WarnOptionValue#1#2#3{%
2436 \Hy@Warning{%
2437 Unexpected value ‘#1’\MessageBreak
2438 of option ‘#2’ instead of\MessageBreak
2439 #3%
2440 }%
2441 }

```

\Hy@DisableOption

```

2442 \def\Hy@DisableOption#1{%
2443 \@ifundefined{KV@Hyp@#1@default}{%
2444 \define@key{Hyp}{#1}%
2445 }{%
2446 \define@key{Hyp}{#1}[]%
2447 }%
2448 {\Hy@WarnOptionDisabled{#1}}%
2449 }

```

\Hy@WarnOptionDisabled

```

2450 \def\Hy@WarnOptionDisabled#1{%
2451 \Hy@Warning{%
2452 Option ‘#1’ has already been used,\MessageBreak
2453 setting the option has no effect%
2454 }%
2455 }

```

\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.

```

2456 \def\Hy@CheckOptionValue#1#2#3{%
2457 \begingroup
2458 \edef\x{#1}%
2459 \@onelevel@sanitize\x
2460 \let\y=y%
2461 \def\do##1##2{%
2462 \def\z{##1}%
2463 \@onelevel@sanitize\z
2464 \ifx\x\z
2465 \let\y=n%
2466 \let\do\@gobbletwo
2467 \fi
2468 }%
2469 #3%
2470 \ifx\y y%
2471 \def\do##1##2{%
2472 * ‘##1’%
2473 \ifx\##2\\\else\space(##2)\fi

```

```

2474     \MessageBreak
2475 }%
2476 \Hy@Warning{%
2477     Values of option '#2':\MessageBreak
2478     #3%
2479     * An empty value disables the option.\MessageBreak
2480     Unknown value '\x'%
2481 }%
2482 \fi
2483 \endgroup
2484 }

```

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

```

2485 \def\Hy@DefNameKey#1{%
2486     \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2487 }

```

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

```

2488 \def\Hy@@DefNameKey#1#2#3{%
2489     \define@key{Hyp}{#2}{%
2490         \edef#1{##1}%
2491         \ifx#1\@empty
2492         \else
2493             \Hy@CheckOptionValue{##1}{#2}{#3}%
2494         \fi
2495     }%
2496     \let#1\@empty
2497 }

```

`\Hy@UseNameKey`

```

2498 \def\Hy@UseNameKey#1#2{%
2499     \ifx#2\@empty
2500     \else
2501         /#1/#2%
2502     \fi
2503 }

```

9.2 Defining the options

```

2504 \define@key{Hyp}{implicit}[true]{%
2505     \Hy@boolkey{implicit}{#1}%
2506 }
2507 \define@key{Hyp}{draft}[true]{%
2508     \Hy@boolkey{draft}{#1}%
2509 }
2510 \define@key{Hyp}{final}[true]{%
2511     \Hy@boolkey{final}{#1}%
2512 }
2513 \let\KV@Hyp@nolinks\KV@Hyp@draft
2514 \def\Hy@ObsoletePaperOption#1{%
2515     \Hy@WarningNoLine{%
2516         Option '#1' is no longer used%

```

```

2517 }%
2518 \define@key{Hyp}{#1}[true]{}%
2519 }
2520 \def\Hy@temp#1{%
2521 \define@key{Hyp}{#1}[true]{%
2522 \Hy@ObsoletePaperOption{#1}%
2523 }%
2524 }
2525 \Hy@temp{a4paper}
2526 \Hy@temp{a5paper}
2527 \Hy@temp{b5paper}
2528 \Hy@temp{letterpaper}
2529 \Hy@temp{legalpaper}
2530 \Hy@temp{executivepaper}

2531 \define@key{Hyp}{setpagesize}[true]{%
2532 \Hy@boolkey{setpagesize}{#1}%
2533 }
2534 \define@key{Hyp}{debug}[true]{%
2535 \Hy@boolkey[debug]{verbose}{#1}%
2536 }
2537 \define@key{Hyp}{linktocpage}[true]{%
2538 \Hy@boolkey{linktocpage}{#1}%
2539 \ifHy@linktocpage
2540 \let\Hy@linktoc\Hy@linktoc@page
2541 \else
2542 \let\Hy@linktoc\Hy@linktoc@section
2543 \fi
2544 }
2545 \chardef\Hy@linktoc@none=0 %
2546 \chardef\Hy@linktoc@section=1 %
2547 \chardef\Hy@linktoc@page=2 %
2548 \chardef\Hy@linktoc@all=3 %
2549 \ifHy@linktocpage
2550 \let\Hy@linktoc\Hy@linktoc@page
2551 \else
2552 \let\Hy@linktoc\Hy@linktoc@section
2553 \fi
2554 \define@key{Hyp}{linktoc}{%
2555 \@ifundefined{Hy@linktoc@#1}{%
2556 \Hy@Warning{%
2557 Unexpected value '#1' of\MessageBreak
2558 option 'linktoc' instead of 'none',\MessageBreak
2559 'section', 'page' or 'all'%
2560 }%
2561 }{%
2562 \expandafter\let\expandafter\Hy@linktoc
2563 \csname Hy@linktoc@#1\endcsname
2564 }%
2565 }
2566 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2567 \let\XR@ext\relax
2568 \define@key{Hyp}{verbose}[true]{%
2569 \Hy@boolkey{verbose}{#1}%
2570 }
2571 \define@key{Hyp}{typexml}[true]{%
2572 \Hy@boolkey{typexml}{#1}%
2573 }

```

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.

```
2574 \define@key{Hyp}{raiselinks}[true]{%
2575   \Hy@boolkey{raiselinks}{#1}%
2576 }
```

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

```
2577 \def\Hy@setbreaklinks#1{%
2578   \csname breaklinks#1\endcsname
2579 }

2580 \def\Hy@breaklinks@unsupported{%
2581   \ifx\Hy@setbreaklinks\@gobble
2582     \ifHy@breaklinks
2583       \Hy@WarningNoLine{%
2584         You have enabled option 'breaklinks'.\MessageBreak
2585         But driver '\Hy@driver.def' does not support this.\MessageBreak
2586         Expect trouble with the link areas of broken links%
2587       }%
2588     \fi
2589   \fi
2590 }
```

```
2591 \define@key{Hyp}{breaklinks}[true]{%
2592   \Hy@boolkey{breaklinks}{#1}%
2593   \let\Hy@setbreaklinks\@gobble
2594 }
```

```
2595 \define@key{Hyp}{localanchorname}[true]{%
2596   \Hy@boolkey{localanchorname}{#1}%
2597 }
```

Determines whether an automatic anchor is put on each page

```
2598 \define@key{Hyp}{pageanchor}[true]{%
2599   \Hy@boolkey{pageanchor}{#1}%
2600 }
```

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.

```
2601 \define@key{Hyp}{plainpages}[true]{%
2602   \Hy@boolkey{plainpages}{#1}%
2603 }
```

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

```
2604 \define@key{Hyp}{naturalnames}[true]{%
2605   \Hy@boolkey{naturalnames}{#1}%
2606 }
```

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

```
2607 \define@key{Hyp}{hypertextnames}[true]{%
2608   \Hy@boolkey{hypertextnames}{#1}%
2609 }
```

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

```
2610 \define@key{Hyp}{nesting}[true]{%
2611   \Hy@boolkey{nesting}{#1}%
2612 }

2613 \define@key{Hyp}{unicode}[true]{%

```

```

2614 \Hy@boolkey{unicode}{#1}%
2615 \ifHy@unicode
2616 \def\HyPsd@pdfencoding{unicode}%
2617 \HyPsd@LoadUnicode
2618 \else
2619 \def\HyPsd@pdfencoding{pdfdoc}%
2620 \fi
2621 }
2622 \def\HyPsd@LoadUnicode{%
2623 \@ifundefined{T@PU}{%
2624 \input{puenc.def}%
2625 \HyLinguex@Restore
2626 }{}%
2627 \DeclareFontFamily{PU}{pdf}{}%
2628 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2629 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2630 \global\let\HyPsd@LoadUnicode\relax
2631 }
2632 \Hy@AtBeginDocument{%
2633 \ifx\HyPsd@LoadUnicode\relax
2634 \else
2635 \def\HyPsd@LoadUnicode{%
2636 \PackageError{hyperref}{%
2637 Unicode support for bookmarks is not available.\MessageBreak
2638 Activate unicode support by using one of the options\MessageBreak
2639 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2640 in the preamble%
2641 }\@ehc
2642 \global\let\HyPsd@LoadUnicode\relax
2643 \global\Hy@unicodedefalse
2644 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2645 }%
2646 \fi
2647 }
2648 \define@key{Hyp}{pdfencoding}{%
2649 \edef\HyPsd@temp{#1}%
2650 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2651 \let\HyPsd@pdfencoding\HyPsd@temp
2652 \Hy@unicodedefalse
2653 \else
2654 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2655 \z@
2656 \else
2657 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2658 \z@
2659 \else
2660 \@ne
2661 \fi
2662 \fi
2663 \let\HyPsd@pdfencoding\HyPsd@temp
2664 \hypersetup{unicode}%
2665 \ifHy@unicode
2666 \def\HyPsd@pdfencoding{#1}%
2667 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2668 \HyPsd@LoadStringEnc
2669 \fi
2670 \else

```



```

2671 \Hy@Warning{Cannot switch to unicode bookmarks}%
2672 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2673 \fi
2674 \else
2675 \@onelevel@sanitize\HyPsd@temp
2676 \Hy@Warning{%
2677   Values of option 'pdfencoding':\MessageBreak
2678   'pdfdoc', 'unicode', 'auto'.\MessageBreak
2679   Ignoring unknown value '\HyPsd@temp'%
2680 }%
2681 \fi
2682 \fi
2683 }
2684 \def\HyPsd@pdfencoding@auto{auto}
2685 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2686 \def\HyPsd@pdfencoding@unicode{unicode}
2687 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2688 \def\HyPsd@LoadStringEnc{%
2689   \RequirePackage{stringenc}[2009/12/15]%
2690   \let\HyPsd@LoadStringEnc\relax
2691 }
2692 \Hy@AtBeginDocument{%
2693   \@ifpackageloaded{stringenc}{%
2694     \let\HyPsd@LoadStringEnc\relax
2695   }{%
2696     \def\HyPsd@LoadStringEnc{%
2697       \Hy@WarningNoLine{%
2698         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2699         in the preamble or load the package there%
2700       }%
2701     }%
2702   }%
2703 }
2704 \def\hypersetup{\kvsetkeys{Hyp}}
2705 \newif\ifHy@setpdfversion
2706 \define@key{Hyp}{pdfversion}{%
2707   \@ifundefined{Hy@pdfversion@#1}{%
2708     \PackageWarning{hyperref}{%
2709       Unsupported PDF version '#1'.\MessageBreak
2710       Valid values: 1.2 until 1.9%
2711     }%
2712   }{%
2713     \Hy@setpdfversiontrue
2714     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2715   }%
2716 }
2717 \@namedef{Hy@pdfversion@1.2}{2}%
2718 \@namedef{Hy@pdfversion@1.3}{3}%
2719 \@namedef{Hy@pdfversion@1.4}{4}%
2720 \@namedef{Hy@pdfversion@1.5}{5}%
2721 \@namedef{Hy@pdfversion@1.6}{6}%
2722 \@namedef{Hy@pdfversion@1.7}{7}%
2723 \@namedef{Hy@pdfversion@1.8}{8}%
2724 \@namedef{Hy@pdfversion@1.9}{9}%
2725 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2726 \define@key{Hyp}{hyperref}[true]{}
2727 \define@key{Hyp}{tex4ht}[true]{%
2728   \Hy@texhttrue
2729   \kvsetkeys{Hyp}{colorlinks=true}%
2730   \def\BeforeTeXIVht{\usepackage{color}}%
2731   \def\Hy@driver{htex4ht}%
2732   \def\MaybeStopEarly{%
2733     \typeout{Hyperref stopped early}%
2734     \Hy@AtBeginDocument{%
2735       \PDF@FinishDoc
2736       \gdef\PDF@FinishDoc{}}%
2737   }%
2738   \endinput
2739 }%
2740 }
2741 \define@key{Hyp}{pdftex}[true]{%
2742   \def\Hy@driver{hpdftex}%
2743 }
2744 \define@key{Hyp}{nativepdf}[true]{%
2745   \def\Hy@driver{hdvips}%
2746 }
2747 \define@key{Hyp}{dviptdm}[true]{%
2748   \def\Hy@driver{hdvipdm}%
2749 }
2750 \define@key{Hyp}{dviptdmx}[true]{%
2751   \def\Hy@driver{hdvipdm}%
2752 }
2753 \define@key{Hyp}{dviptdmx-outline-open}[true]{%
2754   \expandafter\ifx\csname if#1\expandafter\endcsname
2755     \csname iftrue\endcsname
2756     \chardef\SpecialDvipdmxOutlineOpen\@ne
2757   \else
2758     \chardef\SpecialDvipdmxOutlineOpen\z@
2759   \fi
2760 }
2761 \define@key{Hyp}{xetex}[true]{%
2762   \def\Hy@driver{hxetex}%
2763 }
2764 \define@key{Hyp}{pdfmark}[true]{%
2765   \def\Hy@driver{hdvips}%
2766 }
2767 \define@key{Hyp}{dvips}[true]{%
2768   \def\Hy@driver{hdvips}%
2769 }
2770 \define@key{Hyp}{hypertex}[true]{%
2771   \def\Hy@driver{hypertex}%
2772 }
2773 \let\Hy@MaybeStopNow\relax
2774 \define@key{Hyp}{vtex}[true]{%
2775   \begingroup\expandafter\expandafter\expandafter\endgroup
2776   \expandafter\ifx\csname OpMode\endcsname\relax
2777     \@latex@error{Non-VTeX processor}{}%
2778     \global\let\Hy@MaybeStopNow\endinput
2779   \endinput
2780   \else

```

```

2781 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2782 \def\Hy@driver{hvtex}%
2783 \else
2784 \ifnum\OpMode=10\relax
2785 \def\Hy@driver{hvtexhtm}%
2786 \def\MaybeStopEarly{%
2787 \typeout{Hyperref stopped early}%
2788 \Hy@AtBeginDocument{%
2789 \PDF@FinishDoc
2790 \gdef\PDF@FinishDoc{}}%
2791 }%
2792 \endinput
2793 }%
2794 \else
2795 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2796 \global\let\Hy@MaybeStopNow\endinput
2797 \endinput
2798 \fi
2799 \fi
2800 \fi
2801 }
2802 \define@key{Hyp}{vtexpdfmark}[true]{%
2803 \begingroup\expandafter\expandafter\expandafter\endgroup
2804 \expandafter\ifx\csname OpMode\endcsname\relax
2805 \@latex@error{Non-VTeX processor}{}%
2806 \let\Hy@MaybeStopNow\endinput
2807 \endinput
2808 \else
2809 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2810 \def\Hy@driver{hvtexmrk}%
2811 \else
2812 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2813 \let\Hy@MaybeStopNow\endinput
2814 \endinput
2815 \fi
2816 \fi
2817 }
2818 \define@key{Hyp}{dviwindo}[true]{%
2819 \def\Hy@driver{hdviwind}%
2820 \kvsetkeys{Hyp}{colorlinks}%
2821 \ifpdf
2822 \else
2823 \ifxetex
2824 \else
2825 \PassOptionsToPackage{dviwindo}{color}%
2826 \fi
2827 \fi
2828 }
2829 \define@key{Hyp}{dvipsone}[true]{%
2830 \def\Hy@driver{hdvipson}%
2831 }
2832 \define@key{Hyp}{textures}[true]{%
2833 \def\Hy@driver{htexture}%
2834 }
2835 \define@key{Hyp}{latex2html}[true]{%
2836 \Hy@AtBeginDocument{\@@@textothtmlX}%
2837 }

```

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

```
2838 \define@key{Hyp}{ps2pdf}[true]{%
2839   \def\Hy@driver{hdvips}%
2840   \providecommand*\@pdfborder{0 0 1}%
2841 }
```

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.

```
2842 \define@key{Hyp}{hyperfigures}[true]{%
2843   \Hy@boolkey[hyperfigures]{figures}{#1}%
2844 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2845 \define@key{Hyp}{hyperfootnotes}[true]{%
2846   \Hy@boolkey{hyperfootnotes}{#1}%
2847 }
```

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

```
2848 \def\back@none{none}
2849 \def\back@section{section}
2850 \def\back@page{page}
2851 \def\back@slide{slide}
2852 \define@key{Hyp}{backref}[section]{%
2853   \lowercase{\def\Hy@tempa{#1}}%
2854   \ifx\Hy@tempa\@empty
2855     \let\Hy@tempa\back@section
2856   \fi
2857   \ifx\Hy@tempa\Hy@false
2858     \let\Hy@tempa\back@none
2859   \fi
2860   \ifx\Hy@tempa\back@slide
2861     \let\Hy@tempa\back@section
2862   \fi
2863   \ifx\Hy@tempa\back@page
2864     \PassOptionsToPackage{hyperpageref}{backref}%
2865     \Hy@backreftrue
2866   \else
2867     \ifx\Hy@tempa\back@section
2868       \PassOptionsToPackage{hyperref}{backref}%
2869       \Hy@backreftrue
2870     \else
2871       \ifx\Hy@tempa\back@none
2872         \Hy@backreffalse
2873       \else
2874         \Hy@WarnOptionValue{#1}{backref}{%
2875           'section', 'slide', 'page', 'none',\MessageBreak
2876           or 'false'}%
2877       \fi
2878     \fi
2879   \fi
2880 }
2881 \define@key{Hyp}{pagebackref}[true]{%
2882   \edef\Hy@tempa{#1}%
2883   \lowercase\expandafter{%
2884     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2885   }%
```

```

2886 \ifx\Hy@tempa\@empty
2887   \let\Hy@tempa\Hy@true
2888 \fi
2889 \ifx\Hy@tempa\Hy@true
2890   \PassOptionsToPackage{hyperpageref}{backref}%
2891   \Hy@backreftrue
2892 \else
2893   \ifx\Hy@tempa\Hy@false
2894     \Hy@backreffalse
2895   \else
2896     \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2897   \fi
2898 \fi
2899 }

```

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

```

2900 \define@key{Hyp}{hyperindex}[true]{%
2901   \Hy@boolkey{hyperindex}{#1}%
2902 }

```

Configuration of encap char.

```

2903 \define@key{Hyp}{encap}[||]{%
2904   \def\HyInd@EncapChar{#1}%
2905 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2906 \def\HyLang@afrikaans{%
2907   \def\equationautorefname{Vergelyking}%
2908   \def\footnoteautorefname{Voetnota}%
2909   \def\itemautorefname{Item}%
2910   \def\figureautorefname{Figuur}%
2911   \def\tableautorefname{Tabel}%
2912   \def\partautorefname{Deel}%
2913   \def\appendixautorefname{Bylae}%
2914   \def\chapterautorefname{Hoofstuk}%
2915   \def\sectionautorefname{Afdeling}%
2916   \def\subsectionautorefname{Subafdeling}%
2917   \def\subsubsectionautorefname{Subsubafdeling}%
2918   \def\paragraphautorefname{Paragraaf}%
2919   \def\subparagraphautorefname{Subparagraaf}%
2920   \def\FancyVerbLineautorefname{Lyn}%
2921   \def\theoremautorefname{Teorema}%
2922   \def\pageautorefname{Bladsy}%
2923 }
2924 \def\HyLang@english{%
2925   \def\equationautorefname{Equation}%
2926   \def\footnoteautorefname{footnote}%
2927   \def\itemautorefname{item}%
2928   \def\figureautorefname{Figure}%
2929   \def\tableautorefname{Table}%
2930   \def\partautorefname{Part}%
2931   \def\appendixautorefname{Appendix}%
2932   \def\chapterautorefname{chapter}%
2933   \def\sectionautorefname{section}%

```

```

2934 \def\subsectionautorefname{subsection}%
2935 \def\subsubsectionautorefname{subsubsection}%
2936 \def\paragraphautorefname{paragraph}%
2937 \def\subparagraphautorefname{subparagraph}%
2938 \def\FancyVerbLineautorefname{line}%
2939 \def\theoremautorefname{Theorem}%
2940 \def\pageautorefname{page}%
2941 }
2942 \def\HyLang@french{%
2943 \def\equationautorefname{'Equation}%
2944 \def\footnoteautorefname{note}%
2945 \def\itemautorefname{item}%
2946 \def\figureautorefname{Figure}%
2947 \def\tableautorefname{Tableau}%
2948 \def\partautorefname{Partie}%
2949 \def\appendixautorefname{Appendice}%
2950 \def\chapterautorefname{chapitre}%
2951 \def\sectionautorefname{section}%
2952 \def\subsectionautorefname{sous-section}%
2953 \def\subsubsectionautorefname{sous-sous-section}%
2954 \def\paragraphautorefname{paragraphe}%
2955 \def\subparagraphautorefname{sous-paragraphe}%
2956 \def\FancyVerbLineautorefname{ligne}%
2957 \def\theoremautorefname{Th\'eor\'eme}%
2958 \def\pageautorefname{page}%
2959 }
2960 \def\HyLang@german{%
2961 \def\equationautorefname{Gleichung}%
2962 \def\footnoteautorefname{Fu\ss note}%
2963 \def\itemautorefname{Punkt}%
2964 \def\figureautorefname{Abbildung}%
2965 \def\tableautorefname{Tabelle}%
2966 \def\partautorefname{Teil}%
2967 \def\appendixautorefname{Anhang}%
2968 \def\chapterautorefname{Kapitel}%
2969 \def\sectionautorefname{Abschnitt}%
2970 \def\subsectionautorefname{Unterabschnitt}%
2971 \def\subsubsectionautorefname{Unterunterabschnitt}%
2972 \def\paragraphautorefname{Absatz}%
2973 \def\subparagraphautorefname{Unterabsatz}%
2974 \def\FancyVerbLineautorefname{Zeile}%
2975 \def\theoremautorefname{Theorem}%
2976 \def\pageautorefname{Seite}%
2977 }
2978 \def\HyLang@italian{%
2979 \def\equationautorefname{Equazione}%
2980 \def\footnoteautorefname{nota}%
2981 \def\itemautorefname{punto}%
2982 \def\figureautorefname{Figura}%
2983 \def\tableautorefname{Tabella}%
2984 \def\partautorefname{Parte}%
2985 \def\appendixautorefname{Appendice}%
2986 \def\chapterautorefname{Capitolo}%
2987 \def\sectionautorefname{sezione}%
2988 \def\subsectionautorefname{sottosezione}%
2989 \def\subsubsectionautorefname{sottosottosezione}%
2990 \def\paragraphautorefname{paragrafo}%

```

```

2991 \def\subparagraphautorefname{sottoparagrafo}%
2992 \def\FancyVerbLineautorefname{linea}%
2993 \def\theoremautorefname{Teorema}%
2994 \def\pageautorefname{Pag.\@}%
2995 }
2996 \def\HyLang@magyar{%
2997 \def\equationautorefname{Egyenlet}%
2998 \def\footnoteautorefname{l'abjegyzet}%
2999 \def\itemautorefname{Elem}%
3000 \def\figureautorefname{'Abra}%
3001 \def\tableautorefname{T\abl'azat}%
3002 \def\partautorefname{R'esz}%
3003 \def\appendixautorefname{F"uggel'ek}%
3004 \def\chapterautorefname{fejezet}%
3005 \def\sectionautorefname{szakasz}%
3006 \def\subsectionautorefname{alszakasz}%
3007 \def\subsubsectionautorefname{alalszakasz}%
3008 \def\paragraphautorefname{bekezd'es}%
3009 \def\subparagraphautorefname{albekezd'es}%
3010 \def\FancyVerbLineautorefname{sor}%
3011 \def\theoremautorefname{T'etel}%
3012 \def\pageautorefname{oldal}%
3013 }
3014 \def\HyLang@portuges{%
3015 \def\equationautorefname{Equa\c c\~ao}%
3016 \def\footnoteautorefname{Nota de rodap'e}%
3017 \def\itemautorefname{Item}%
3018 \def\figureautorefname{Figura}%
3019 \def\tableautorefname{Tabela}%
3020 \def\partautorefname{Parte}%
3021 \def\appendixautorefname{Ap\^ndice}%
3022 \def\chapterautorefname{Cap\itulo}%
3023 \def\sectionautorefname{Se\c c\~ao}%
3024 \def\subsectionautorefname{Subse\c c\~ao}%
3025 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3026 \def\paragraphautorefname{par'agrafo}%
3027 \def\subparagraphautorefname{subpar'agrafo}%
3028 \def\FancyVerbLineautorefname{linha}%
3029 \def\theoremautorefname{Teorema}%
3030 \def\pageautorefname{P'agina}%
3031 }

```

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`.

```

3032 \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`?

```

3033 \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.

```
3034 % \def\equationautorefname{%  
3035 % \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre  
3036 % }%
```

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

```
3037 \def\footnoteautorefname{%  
3038 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%  
3039 }%
```

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}”

```
3040 % \def\footnoteautorefname{%  
3041 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %  
3042 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre  
3043 % }%
```

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

```
3044 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
3045 % \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.

```
3046 \def\itemautorefname{\cyr\cyrp.}%  
3047 % \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.

```
3048 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3049 \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.

```
3050 \def\partautorefname{\cyr\cyrch.}%  
3051 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3052 \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.

```
3053 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3054 % \def\appendixautorefname{%  
3055 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre  
3056 % }%
```

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.

```
3057 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
3058 \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.

```
3059 \def\paragraphautorefname{\cyr\cyrp.}%  
3060 \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.

```
3061 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3062 % \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.

```
3063 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3064 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3065 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3066 % \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 . . .

```
3067 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3068 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3069 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3070 \def\pageautorefname{\cyr\cyrs.}%
3071 }
```

```
3072 \def\HyLang@spanish{%
3073 \def\equationautorefname{Ecuaci'on}%
3074 \def\footnoteautorefname{Nota a pie de p'agina}%
3075 \def\itemautorefname{Elemento}%
3076 \def\figureautorefname{Figura}%
3077 \def\tableautorefname{Tabla}%
3078 \def\partautorefname{Parte}%
3079 \def\appendixautorefname{Ap'endice}%
3080 \def\chapterautorefname{Cap'itulo}%
3081 \def\sectionautorefname{Secci'on}%
3082 \def\subsectionautorefname{Subsecci'on}%
3083 \def\subsubsectionautorefname{Subsubsecci'on}%
3084 \def\paragraphautorefname{P'arrafo}%
3085 \def\subparagraphautorefname{Subp'arrafo}%
3086 \def\FancyVerbLineautorefname{L'inea}%
3087 \def\theoremautorefname{Teorema}%
3088 \def\pageautorefname{P'agina}%
3089 }
```

```
3090 \def\HyLang@vietnamese{%
3091 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr'inh}%
3092 \def\footnoteautorefname{Ch'u th'ich}%
3093 \def\itemautorefname{m\d{u}c}%
3094 \def\figureautorefname{H'inh}%
3095 \def\tableautorefname{B'h{a}ng}%
3096 \def\partautorefname{Ph'\acircumflex{}n}%
3097 \def\appendixautorefname{Ph\d{u} l\d{u}c}%
```

```

3098 \def\chapterautorefname{ch\uhorn{}}\ohorn{ng}%
3099 \def\sectionautorefname{m\du{c}}%
3100 \def\subsectionautorefname{m\du{c}}%
3101 \def\subsubsectionautorefname{m\du{c}}%
3102 \def\paragraphautorefname{dj{o\da{n}}%
3103 \def\subparagraphautorefname{dj{o\da{n}}%
3104 \def\FancyVerbLineautorefname{d'ong}%
3105 \def\theoremautorefname{DJ{d{i}nh l'y}}%
3106 \def\pageautorefname{Trang}%
3107 }

```

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

```

3108 \def\HyLang@addto#1#2{%
3109   #2%
3110   \@temptokena{#2}%
3111   \ifx#1\relax
3112     \let#1\@empty
3113   \fi
3114   \ifx#1\@undefined
3115     \edef#1{\the\@temptokena}%
3116   \else
3117     \toks@\expandafter{#1}%
3118     \edef#1{\the\toks@\the\@temptokena}%
3119   \fi
3120   \@temptokena{}\toks@\@temptokena
3121 }

3122 \def\HyLang@DeclareLang#1#2#3{%
3123   \ifpackagewith{babel}{#1}{%
3124     \expandafter\HyLang@addto
3125       \csname extras#1\expandafter\endcsname
3126       \csname HyLang@#2\endcsname
3127     \begingroup
3128       \edef\x{\endgroup
3129         #3%
3130       }%
3131       \x
3132       \@namedef{HyLang@#1@done}{}%
3133     }{%
3134       \begingroup
3135         \edef\x##1##2{%
3136           \noexpand\ifx##2\relax
3137             \errmessage{No definitions for language #2' found!}%
3138           \noexpand\fi
3139         \endgroup
3140         \noexpand\define@key{Hyp}{#1}[]{%
3141           \noexpand\@ifundefined{HyLang@#1@done}{%
3142             \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3143             #3%
3144             \noexpand\@namedef{HyLang@#1@done}{}%
3145           }{%
3146             }%
3147           }%
3148         \expandafter\x\csname extras#1\expandafter\endcsname
3149           \csname HyLang@#2\endcsname
3150       }
3151   \HyLang@DeclareLang{english}{english}{%

```

```

3152 \HyLang@DeclareLang{UKenglish}{english}{}
3153 \HyLang@DeclareLang{british}{english}{}
3154 \HyLang@DeclareLang{USenglish}{english}{}
3155 \HyLang@DeclareLang{american}{english}{}
3156 \HyLang@DeclareLang{german}{german}{}
3157 \HyLang@DeclareLang{austrian}{german}{}
3158 \HyLang@DeclareLang{ngerman}{german}{}
3159 \HyLang@DeclareLang{naustrian}{german}{}
3160 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3161 \HyLang@DeclareLang{brazil}{portuges}{}
3162 \HyLang@DeclareLang{brazilian}{portuges}{}
3163 \HyLang@DeclareLang{portuguese}{portuges}{}
3164 \HyLang@DeclareLang{spanish}{spanish}{}
3165 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3166 \HyLang@DeclareLang{french}{french}{}
3167 \HyLang@DeclareLang{frenchb}{french}{}
3168 \HyLang@DeclareLang{français}{french}{}
3169 \HyLang@DeclareLang{acadian}{french}{}
3170 \HyLang@DeclareLang{canadien}{french}{}
3171 \HyLang@DeclareLang{italian}{italian}{}
3172 \HyLang@DeclareLang{magyar}{magyar}{}
3173 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3174 \define@key{Hyp}{vietnamese}[]{}%
3175 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3176 \Hy@AtEndOfPackage{%
3177 \ifundefined{T@PU}{}{}%
3178 \input{puvnenc.def}%
3179 }%
3180 }%
3181 }
3182 \define@key{Hyp}{vietnam}[]{}%
3183 \HyLang@addto\extravietnam\HyLang@vietnamese
3184 \Hy@AtEndOfPackage{%
3185 \ifundefined{T@PU}{}{}%
3186 \input{puvnenc.def}%
3187 }%
3188 }%
3189 }

```

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

```

3190 \define@key{Hyp}{arabic}[]{}%
3191 \Hy@AtEndOfPackage{%
3192 \ifundefined{T@PU}{}{}%
3193 \input{puarenc.def}%
3194 }%
3195 }%
3196 }

```

13 Options to change appearance of links

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

```

3197 \define@key{Hyp}{colorlinks}[true]{}%
3198 \Hy@boolkey{colorlinks}{#1}%
3199 }
3200 \define@key{Hyp}{ocgcolorlinks}[true]{}%

```

```

3201 \Hy@boolkey{ocgcolorlinks}{#1}%
3202 }
3203 \Hy@AtBeginDocument{%
3204 \begingroup
3205 \ifundefined{OBJ@OCG@view}{%
3206 \ifHy@ocgcolorlinks
3207 \Hy@Warning{%
3208 Driver does not support 'ocgcolorlinks',\MessageBreak
3209 using 'colorlinks' instead%
3210 }%
3211 \fi
3212 }{}%
3213 \endgroup
3214 }
3215 \define@key{Hyp}{frenchlinks}[true]{%
3216 \Hy@boolkey{frenchlinks}{#1}%
3217 }

```

14 Bookmarking

```

3218 \begingroup\expandafter\expandafter\expandafter\endgroup
3219 \expandafter\ifx\csname chapter\endcsname\relax
3220 \def\toclevel@part{0}%
3221 \else
3222 \def\toclevel@part{-1}%
3223 \fi
3224 \def\toclevel@chapter{0}
3225 \def\toclevel@section{1}
3226 \def\toclevel@subsection{2}
3227 \def\toclevel@subsubsection{3}
3228 \def\toclevel@paragraph{4}
3229 \def\toclevel@subparagraph{5}
3230 \def\toclevel@figure{0}
3231 \def\toclevel@table{0}
3232 \ifpackageloaded{listings}{%
3233 \providecommand*\theHlstlisting{\thelstlisting}%
3234 \providecommand*\toclevel@lstlisting{0}%
3235 }{}
3236 \ifpackageloaded{listing}{%
3237 \providecommand*\theHlisting{\thelisting}%
3238 \providecommand*\toclevel@listing{0}%
3239 }{}

3240 \define@key{Hyp}{bookmarks}[true]{%
3241 \Hy@boolkey{bookmarks}{#1}%
3242 }

3243 \define@key{Hyp}{bookmarksopen}[true]{%
3244 \Hy@boolkey{bookmarksopen}{#1}%
3245 }

```

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.

```

3246 \let\Hy@bookmarksdepth\c@tocdepth
3247 \define@key{Hyp}{bookmarksdepth}[]{}%
3248 \begingroup
3249 \edef\x{#1}%
3250 \ifx\x\empty
3251 \global\let\Hy@bookmarksdepth\c@tocdepth
3252 \else
3253 \ifundefined{toclevel@x}{%
3254 \onelevel@sanitize\x
3255 \edef\y{\expandafter\@car\x\@nil}%
3256 \ifcase 0\expandafter\ifx\y-1\fi
3257 \expandafter\ifnum\expandafter\y>47 %
3258 \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3259 \Hy@Warning{Unknown document division name (\x)}%
3260 \else
3261 \setbox\z@=\hbox{%
3262 \count@=\x
3263 \xdef\Hy@bookmarksdepth{\the\count@}%
3264 }%
3265 \fi
3266 }{%
3267 \setbox\z@=\hbox{%
3268 \count@=\csname toclevel@x\endcsname
3269 \xdef\Hy@bookmarksdepth{\the\count@}%
3270 }%
3271 }%
3272 \fi
3273 \endgroup
3274 }

```

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

```

3275 \define@key{Hyp}{bookmarksopenlevel}{}%
3276 \def\@bookmarksopenlevel{#1}%
3277 }
3278 \def\@bookmarksopenlevel{\maxdimen}
3279 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3280 \define@key{Hyp}{bookmarkstype}{}%
3281 \def\Hy@bookmarkstype{#1}%
3282 }
3283 \def\Hy@bookmarkstype{toc}

```

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

```

3284 \define@key{Hyp}{bookmarksnumbered}[true]{}%
3285 \Hy@boolkey{bookmarksnumbered}{#1}%
3286 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

3287 \define@key{Hyp}{CJKbookmarks}[true]{}%
3288 \Hy@boolkey{CJKbookmarks}{#1}%
3289 }

3290 \def\Hy@temp#1{%
3291 \expandafter\Hy@@@temp\csname @#1color\endcsname{#1}%
3292 }

```

```

3293 \def\Hy@@temp#1#2#3{%
3294   \define@key{Hyp}{#2color}{%
3295     \HyColor@HyperrefColor{##1}#1%
3296   }%
3297   \def#1{#3}%
3298 }
3299 \Hy@temp{link}{red}
3300 \Hy@temp{anchor}{black}
3301 \Hy@temp{cite}{green}
3302 \Hy@temp{file}{cyan}
3303 \Hy@temp{url}{magenta}
3304 \Hy@temp{menu}{red}
3305 \Hy@temp{run}{\@filecolor}
3306 \define@key{Hyp}{pagecolor}{%
3307   \Hy@WarningPageColor
3308 }
3309 \def\Hy@WarningPageColor{%
3310   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3311   \global\let\Hy@WarningPageColor\relax
3312 }

3313 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3314 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3315 \let\@baseurl\@empty
3316 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3317 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3318 \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.

```

3319 \let\@pdfpagetransition\relax
3320 \define@key{Hyp}{pdfpagetransition}{\def\@pdfpagetransition{#1}}

```

`\@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.

```

3321 \let\@pdfpageduration\relax
3322 \define@key{Hyp}{pdfpageduration}{\def\@pdfpageduration{#1}}

```

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.

```

3323 \newif\ifHy@useHidKey
3324 \Hy@useHidKeyfalse
3325 \define@key{Hyp}{pdfpagehidden}[true]{%
3326   \Hy@boolkey{pdfpagehidden}{#1}%
3327   \ifHy@pdfpagehidden
3328     \global\Hy@useHidKeytrue
3329   \fi
3330 }

```

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).

```

3331 \def\Hy@ColorList{cite,file,link,menu,run,url}
3332 \@for\Hy@temp:=\Hy@ColorList\do{%
3333   \edef\Hy@temp{%
3334     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3335       \noexpand\HyColor@HyperrefBorderColor
3336       {##1}%
3337       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3338       {hyperref}%
3339       {\Hy@temp bordercolor}%
3340     }%
3341   }%
3342   \Hy@temp
3343 }
3344 \define@key{Hyp}{pagebordercolor}{%
3345   \Hy@WarningPageBorderColor
3346 }
3347 \def\Hy@WarningPageBorderColor{%
3348   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3349   \global\let\Hy@WarningPageBorderColor\relax
3350 }
3351 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3352 \Hy@DefNameKey{pdfhighlight}{%
3353   \do{/I}{Invert}%
3354   \do{/N}{None}%
3355   \do{/O}{Outline}%
3356   \do{/P}{Push}%
3357 }
3358 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
3359 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3360 \def\Hy@setpdfborder{%
3361   \ifx\@pdfborder\@empty
3362     \else
3363       /Border[\@pdfborder]%
3364     \fi
3365     \ifx\@pdfborderstyle\@empty
3366     \else
3367       /BS<<\@pdfborderstyle>>%
3368     \fi
3369 }
3370 \Hy@DefNameKey{pdfpagemode}{%
3371   \do{UseNone}{}%
3372   \do{UseOutlines}{}%
3373   \do{UseThumbs}{}%
3374   \do{FullScreen}{}%
3375   \do{UseOC}{PDF 1.5}%
3376   \do{UseAttachments}{PDF 1.6}%
3377 }
3378 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3379   \do{UseNone}{}%
3380   \do{UseOutlines}{}%
3381   \do{UseThumbs}{}%
3382   \do{FullScreen}{}%

```

```

3383 \do{UseOC}{PDF 1.5}%
3384 \do{UseAttachments}{PDF 1.6}%
3385 }
3386 \Hy@DefNameKey{pdfdirection}{%
3387 \do{L2R}{Left to right}%
3388 \do{R2L}{Right to left}%
3389 }
3390 \Hy@DefNameKey{pdfviewarea}{%
3391 \do{MediaBox}{}%
3392 \do{CropBox}{}%
3393 \do{BleedBox}{}%
3394 \do{TrimBox}{}%
3395 \do{ArtBox}{}%
3396 }
3397 \Hy@DefNameKey{pdfviewclip}{%
3398 \do{MediaBox}{}%
3399 \do{CropBox}{}%
3400 \do{BleedBox}{}%
3401 \do{TrimBox}{}%
3402 \do{ArtBox}{}%
3403 }
3404 \Hy@DefNameKey{pdfprintarea}{%
3405 \do{MediaBox}{}%
3406 \do{CropBox}{}%
3407 \do{BleedBox}{}%
3408 \do{TrimBox}{}%
3409 \do{ArtBox}{}%
3410 }
3411 \Hy@DefNameKey{pdfprintclip}{%
3412 \do{MediaBox}{}%
3413 \do{CropBox}{}%
3414 \do{BleedBox}{}%
3415 \do{TrimBox}{}%
3416 \do{ArtBox}{}%
3417 }
3418 \Hy@DefNameKey{pdfprintscaling}{%
3419 \do{AppDefault}{}%
3420 \do{None}{}%
3421 }
3422 \Hy@DefNameKey{pdfduplex}{%
3423 \do{Simplex}{}%
3424 \do{DuplexFlipShortEdge}{}%
3425 \do{DuplexFlipLongEdge}{}%
3426 }
3427 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3428 \do{true}{}%
3429 \do{false}{}%
3430 }
3431 \define@key{Hyp}{pdfprintpagerange}{%
3432 \def\@pdfprintpagerange{#1}%
3433 }
3434 \Hy@DefNameKey{pdfnumcopies}{%
3435 \do{2}{two copies}%
3436 \do{3}{three copies}%
3437 \do{4}{four copies}%
3438 \do{5}{five copies}%
3439 }

```



```

3440 \define@key{Hyp}{pdfusetitle}[true]{%
3441   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3442 }
3443 \def\HyXeTeX@CheckUnicode{%
3444   \ifxetex
3445     \ifHy@unicode
3446     \else
3447       \Hy@WarningNoLine{%
3448         XeTeX driver only supports unicode.\MessageBreak
3449         Enabling option 'unicode'%
3450       }%
3451       \kvsetkeys{Hyp}{unicode}%
3452     \fi
3453   \else
3454     \let\HyXeTeX@CheckUnicode\relax
3455   \fi
3456 }
3457 \def\HyPsd@PrerenderUnicode#1{%
3458   \begingroup
3459     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3460     \else
3461       \sbox0{%
3462         \let\GenericInfo\@gobbletwo
3463         \let\GenericWarning\@gobbletwo
3464         \let\GenericError\@gobblefour
3465         \PrerenderUnicode{#1}%
3466       }%
3467     \fi
3468   \endgroup
3469 }
3470 \define@key{Hyp}{pdftitle}{%
3471   \HyXeTeX@CheckUnicode
3472   \HyPsd@XeTeXBigCharstrue
3473   \HyPsd@PrerenderUnicode{#1}%
3474   \pdfstringdef\@pdftitle{#1}%
3475 }
3476 \define@key{Hyp}{pdfauthor}{%
3477   \HyXeTeX@CheckUnicode
3478   \HyPsd@XeTeXBigCharstrue
3479   \HyPsd@PrerenderUnicode{#1}%
3480   \pdfstringdef\@pdfauthor{#1}%
3481 }
3482 \define@key{Hyp}{pdfproducer}{%
3483   \HyXeTeX@CheckUnicode
3484   \HyPsd@XeTeXBigCharstrue
3485   \HyPsd@PrerenderUnicode{#1}%
3486   \pdfstringdef\@pdfproducer{#1}%
3487 }
3488 \define@key{Hyp}{pdfcreator}{%
3489   \HyXeTeX@CheckUnicode
3490   \HyPsd@XeTeXBigCharstrue
3491   \HyPsd@PrerenderUnicode{#1}%
3492   \pdfstringdef\@pdfcreator{#1}%
3493 }
3494 \define@key{Hyp}{pdfcreationdate}{%
3495   \begingroup
3496   \Hy@unicodedefalse

```

```

3497 \pdfstringdef\@pdfcreationdate{#1}%
3498 \endgroup
3499 }
3500 \define@key{Hyp}{pdfmoddate}{%
3501 \begingroup
3502 \Hy@unicodedefalse
3503 \pdfstringdef\@pdfmoddate{#1}%
3504 \endgroup
3505 }
3506 \define@key{Hyp}{pdfsubject}{%
3507 \HyXeTeX@CheckUnicode
3508 \HyPsd@XeTeXBigCharstrue
3509 \HyPsd@PrerenderUnicode{#1}%
3510 \pdfstringdef\@pdfsubject{#1}%
3511 }
3512 \define@key{Hyp}{pdfkeywords}{%
3513 \HyXeTeX@CheckUnicode
3514 \HyPsd@XeTeXBigCharstrue
3515 \HyPsd@PrerenderUnicode{#1}%
3516 \pdfstringdef\@pdfkeywords{#1}%
3517 }
3518 \define@key{Hyp}{pdftrapped}{%
3519 \lowercase{\edef\Hy@temp{#1}}%
3520 \ifx\Hy@temp\HyInfo@trapped@true
3521 \def\@pdftrapped{True}%
3522 \else
3523 \ifx\Hy@temp\HyInfo@trapped@false
3524 \def\@pdftrapped{False}%
3525 \else
3526 \ifx\Hy@temp\HyInfo@trapped@unknown
3527 \def\@pdftrapped{Unknown}%
3528 \else
3529 \ifx\Hy@temp\@empty
3530 \else
3531 \Hy@Warning{%
3532 Unsupported value '#1'\MessageBreak
3533 for option 'pdftrapped'%
3534 }%
3535 \fi
3536 \def\@pdftrapped{}%
3537 \fi
3538 \fi
3539 \fi
3540 }
3541 \def\HyInfo@trapped@true{true}
3542 \def\HyInfo@trapped@false{false}
3543 \def\HyInfo@trapped@unknown{unknown}
3544 \def\HyInfo@TrappedUnsupported{%
3545 \ifx\@pdftrapped\@empty
3546 \else
3547 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3548 \gdef\HyInfo@TrappedUnsupported{}%
3549 \fi
3550 }
3551 \define@key{Hyp}{pdfinfo}{%
3552 \kvsetkeys{pdfinfo}{#1}%
3553 }

```

```

3554 \def\Hy@temp#1{%
3555   \lowercase{\Hy@temp@A{#1}}{#1}%
3556 }
3557 \def\Hy@temp@A#1#2{%
3558   \define@key{pdfinfo}{#2}{%
3559     \hypersetup{pdf#1={##1}}}%
3560   }%
3561 }
3562 \Hy@temp{Title}
3563 \Hy@temp{Author}
3564 \Hy@temp{Keywords}
3565 \Hy@temp{Subject}
3566 \Hy@temp{Creator}
3567 \Hy@temp{Producer}
3568 \Hy@temp{CreationDate}
3569 \Hy@temp{ModDate}
3570 \Hy@temp{Trapped}
3571 \newif\ifHyInfo@AddonUnsupported
3572 \kv@set@family@handler{pdfinfo}{%
3573   \HyInfo@AddonHandler{#1}{#2}%
3574 }
3575 \let\HyInfo@do\relax
3576 \def\HyInfo@AddonHandler#1#2{%
3577   \ifx\kv@value\relax
3578     \Hy@Warning{%
3579       Option 'pdfinfo': ignoring key '\kv@key' without value%
3580     }%
3581   \else
3582     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3583     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3584     \expandafter\ifx\cename KV@pdfinfo@\HyInfo@Key\endcsname\relax
3585     \ifHyInfo@AddonUnsupported
3586       \Hy@Warning{%
3587         This driver does not support additional\MessageBreak
3588         information entries, therefore\MessageBreak
3589         '\kv@key' is ignored%
3590       }%
3591     \else
3592       \define@key{pdfinfo}{\HyInfo@Key}{%
3593         \HyXeTeX@CheckUnicode
3594         \HyPsd@XeTeXBigCharstrue
3595         \HyPsd@PrerenderUnicode{##1}%
3596         \pdfstringdef\HyInfo@Value{##1}%
3597         \expandafter\let\cename HyInfo@Value@\HyInfo@Key\endcsname
3598         \HyInfo@Value
3599       }%
3600     \edef\HyInfo@AddonList{%
3601       \HyInfo@AddonList
3602       \HyInfo@do{\HyInfo@Key}%
3603     }%
3604     \kv@parse@normalized{%
3605       \HyInfo@Key={#2}%
3606     }{%
3607       \kv@processor@default{pdfinfo}%
3608     }%
3609   \fi
3610 \else

```

```

3611 \kv@parse@normalized{%
3612 \HyInfo@Key={#2}%
3613 }{%
3614 \kv@processor@default{pdfinfo}%
3615 }%
3616 \fi
3617 \fi
3618 }
3619 \def\HyInfo@GenerateAddons{%
3620 \ifHyInfo@AddonUnsupported
3621 \def\HyInfo@Addons{}%
3622 \else
3623 \begingroup
3624 \toks@{}%
3625 \def\HyInfo@do##1{%
3626 \EdefEscapeName\HyInfo@Key{##1}%
3627 \edef\x{%
3628 \toks@{%
3629 \the\toks@
3630 /\HyInfo@Key\csname HyInfo@Value@##1\endcsname}%
3631 }%
3632 }%
3633 \x
3634 }%
3635 \HyInfo@AddonList
3636 \edef\x{\endgroup
3637 \def\noexpand\HyInfo@Addons{\the\toks@}%
3638 }%
3639 \x
3640 \fi
3641 }
3642 \def\HyInfo@AddonList{}
3643 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3644 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3645 \let\setpdfinkmargin\@gobble
3646 \def\calculate@pdfview#1 #2\\{%
3647 \def\@pdfview{#1}%
3648 \ifx\#2\\%
3649 \def\@pdfviewparams{-32768}%
3650 \else
3651 \def\@pdfviewparams{#2}%
3652 \fi
3653 }
3654 \begingroup\expandafter\expandafter\expandafter\endgroup
3655 \expandafter\ifx\csname numexpr\endcsname\relax
3656 \def\Hy@number#1{%
3657 \expandafter\@firstofone\expandafter{\number#1}%
3658 }%
3659 \else
3660 \def\Hy@number#1{%
3661 \the\numexpr#1\relax
3662 }%
3663 \fi
3664 \define@key{Hyp}{pdfstartpage}{%
3665 \ifx\#1\\%
3666 \def\@pdfstartpage{}%
3667 \else

```

```

3668 \edef\@pdfstartpage{\Hy@number{#1}}%
3669 \fi
3670 }%
3671 \define@key{Hyp}{pdfstartview}{%
3672 \ifx\#1\%
3673 \def\@pdfstartview{}%
3674 \else
3675 \hypercalcbpdef\@pdfstartview{/#1}%
3676 \fi
3677 }
3678 \def\HyPat@NonNegativeReal/{%
3679 ([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)%
3680 }
3681 \define@key{Hyp}{pdfremotestartview}{%
3682 \ifx\#1\%
3683 \def\@pdfremotestartview{/Fit}%
3684 \else
3685 \hypercalcbpdef\@pdfremotestartview{#1}%
3686 \edef\@pdfremotestartview{\@pdfremotestartview}%
3687 \Hy@Match\@pdfremotestartview{%
3688 ^{XYZ}-(null|\HyPat@NonNegativeReal/)%
3689 -(null|\HyPat@NonNegativeReal/)%
3690 (null|\HyPat@NonNegativeReal/)|%
3691 Fit|B|
3692 (H|V|BH|BV)(null|\HyPat@NonNegativeReal/)|%
3693 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
3694 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
3695 )}$%
3696 }{}{%
3697 \Hy@Warning{%
3698 Invalid value '\@pdfremotestartview'\MessageBreak
3699 of 'pdfremotestartview'\MessageBreak
3700 is replaced by 'Fit'%
3701 }%
3702 \let\@pdfremotestartview\@empty
3703 }%
3704 \ifx\@pdfremotestartview\@empty
3705 \def\@pdfremotestartview{/Fit}%
3706 \else
3707 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3708 \fi
3709 \fi
3710 }
3711 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3712 \define@key{Hyp}{pdftoolbar}[true]{%
3713 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3714 }
3715 \define@key{Hyp}{pdfmenubar}[true]{%
3716 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3717 }
3718 \define@key{Hyp}{pdfwindowui}[true]{%
3719 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3720 }
3721 \define@key{Hyp}{pdffitwindow}[true]{%
3722 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3723 }
3724 \define@key{Hyp}{pdfcenterwindow}[true]{%

```

```

3725 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3726 }
3727 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3728 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3729 }
3730 \define@key{Hyp}{pdfa}[true]{%
3731 \Hy@boolkey[pdfa]{#1}%
3732 }
3733 \define@key{Hyp}{pdfnewwindow}[true]{%
3734 \def\Hy@temp{#1}%
3735 \ifx\Hy@temp\@empty
3736 \Hy@newwindowsetfalse
3737 \else
3738 \Hy@newwindowsettrue
3739 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3740 \fi
3741 }
3742 \def\Hy@SetNewWindow{%
3743 \ifHy@newwindowset
3744 /NewWindow %
3745 \ifHy@newwindow true\else false\fi
3746 \fi
3747 }
3748 \Hy@DefNameKey[pdfpagelayout]{%
3749 \do{SinglePage}{}%
3750 \do{OneColumn}{}%
3751 \do{TwoColumnLeft}{}%
3752 \do{TwoColumnRight}{}%
3753 \do{TwoPageLeft}{PDF 1.5}%
3754 \do{TwoPageRight}{PDF 1.5}%
3755 }
3756 \define@key{Hyp}{pdflang}{%
3757 \def\@pdflang{#1}%
3758 }
3759 \define@key{Hyp}{pdfpagelabels}[true]{%
3760 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3761 }
3762 \define@key{Hyp}{pdfescapeform}[true]{%
3763 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3764 }

```

Default values:

```

3765 \def\@linkbordercolor{1 0 0}
3766 \def\@urlbordercolor{0 1 1}
3767 \def\@menubordercolor{1 0 0}
3768 \def\@filebordercolor{0 .5 .5}
3769 \def\@runbordercolor{0 .7 .7}
3770 \def\@citebordercolor{0 1 0}
3771 \def\@pdfhighlight{/I}
3772 \def\@pdftitle{}
3773 \def\@pdfauthor{}
3774 \let\@pdfproducer\relax
3775 \def\@pdfcreator{LaTeX with hyperref package}
3776 \def\@pdfcreationdate{}
3777 \def\@pdfmoddate{}
3778 \def\@pdfsubject{}
3779 \def\@pdfkeywords{}
3780 \def\@pdftrapped{}

```

```

3781 \def\@pdfpagescrop{}
3782 \def\@pdfstartview{/Fit}
3783 \def\@pdfremotestartview{/Fit}
3784 \def\@pdfstartpage{1}
3785 \def\@pdfprintpagerange{}
3786 \def\@pdflang{}
3787 \let\PDF@SetupDoc\@empty
3788 \let\PDF@FinishDoc\@empty
3789 \let\phantomsection\@empty
3790 \let\special@paper\@empty
3791 \def\HyperDestNameFilter#1{#1}
3792 \Hy@AtBeginDocument{%
3793   \begingroup
3794     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3795     \dimen@=\x\relax
3796     \ifdim\dimen@>\z@
3797     \else
3798       \dimen@=11in\relax
3799       \Hy@WarningNoLine{%
3800         Height of page (\expandafter\string\x) %
3801         is invalid (\the\x),\MessageBreak
3802         using 11in%
3803       }%
3804     \fi
3805     \dimen@=0.99626401\dimen@
3806     \xdef\Hy@pageheight{\strip@pt\dimen@}%
3807   \endgroup
3808 }
3809 \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.

```

3810 \let\hyper@normalise\ExecuteOptions
3811 \let\ExecuteOptions\hypersetup
3812 \Hy@RestoreCatcodes
3813 \InputIfFileExists{hyperref.cfg}{-}{-}
3814 \Hy@SetCatcodes
3815 \let\ExecuteOptions\hyper@normalise
3816 \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.

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

```

3817 \RequirePackage{kvoptions}[2009/07/21]
3818 \SetupKeyvalOptions{family=Hyp}
3819 \DeclareLocalOptions{%
3820   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
3821 }

```

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

```

3822 \@ifpackageloaded{tex4ht}{%
3823   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
3824   \PassOptionsToPackage{tex4ht}{hyperref}%
3825 }%
3826 }{-}

```

```

3827 \let\ReadBookmarks\relax
3828 \ProcessKeyvalOptions{Hyp}

After processing options.

3829 \Hy@AtBeginDocument{%
3830   \ifHy@draft
3831     \let\hyper@@anchor\@gobble
3832     \gdef\hyper@link#1#2#3{#3}%
3833     \let\hyper@anchorstart\@gobble
3834     \let\hyper@anchorend\@empty
3835     \let\hyper@linkstart\@gobbletwo
3836     \let\hyper@linkend\@empty
3837     \def\hyper@linkurl#1#2{#1}%
3838     \def\hyper@linkfile#1#2#3{#1}%
3839     \def\hyper@link@{#1}#2#3{#1}%
3840     \def\Acrobatmenu#1#2{\leavevmode#2}%
3841     \let\PDF@SetupDoc\@empty
3842     \let\PDF@FinishDoc\@empty
3843     \let\@fifthoffive\@secondoftwo
3844     \let\@secondoffive\@secondoftwo
3845     \let\ReadBookmarks\relax
3846     \let\WriteBookmarks\relax
3847     \Hy@WarningNoLine{Draft mode on}%
3848   \fi
3849   \Hy@DisableOption{draft}%
3850   \Hy@DisableOption{nolinks}%
3851   \Hy@DisableOption{final}%
3852 }

```

15.1 PDF/A

```

3853 \Hy@DisableOption{pdfa}

3854 \ifHy@pdfa
3855   \kvsetkeys{Hyp}{pdfversion=1.4}%
3856   \def\Hy@Acrobatmenu#1#2{%
3857     \leavevmode
3858     \begingroup
3859       \edef\x{#1}%
3860       \@onelevel@sanitize\x
3861       \ifx\x\Hy@NextPage
3862         \let\y=Y%
3863       \else
3864         \ifx\x\Hy@PrevPage
3865           \let\y=Y%
3866         \else
3867           \ifx\x\Hy@FirstPage
3868             \let\y=Y%
3869           \else
3870             \ifx\x\Hy@LastPage
3871               \let\y=Y%
3872             \else
3873               \let\y=N%
3874             \fi
3875           \fi
3876         \fi
3877       \fi
3878     \expandafter\endgroup

```



```

3879 \ifx\y Y%
3880 \else
3881 \PackageError{hyperref}{%
3882 PDF/A: Named action '#1' is not permitted%
3883 }\@ehc
3884 {#2}%
3885 \expandafter\@gobble
3886 \fi
3887 }%
3888 \def\Hy@temp#1{%
3889 \expandafter\def\csname Hy@#1\endcsname{#1}%
3890 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3891 }%
3892 \Hy@temp{NextPage}%
3893 \Hy@temp{PrevPage}%
3894 \Hy@temp{FirstPage}%
3895 \Hy@temp{LastPage}%
3896 \else
3897 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3898 \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.

```

3899 \Hy@nextfalse
3900 \ltx@ifundefined{spanish@sh@"@sel}{ }\Hy@nexttrue}
3901 \ltx@ifundefined{galician@sh@"@sel}{ }\Hy@nexttrue}
3902 \ltx@ifundefined{estonian@sh@"@sel}{ }\Hy@nexttrue}
3903 \ifHy@next
3904 \let\texttilde\~%
3905 \fi

3906 \ifHy@figures
3907 \Hy@Info{Hyper figures ON}%
3908 \else
3909 \Hy@Info{Hyper figures OFF}%
3910 \fi

3911 \ifHy@nesting
3912 \Hy@Info{Link nesting ON}%
3913 \else
3914 \Hy@Info{Link nesting OFF}%
3915 \fi

3916 \ifHy@hyperindex
3917 \Hy@Info{Hyper index ON}%
3918 \else
3919 \Hy@Info{Hyper index OFF}%
3920 \fi

3921 \ifHy@plainpages
3922 \Hy@Info{Plain pages ON}%
3923 \else
3924 \Hy@Info{Plain pages OFF}%
3925 \fi

3926 \ifHy@backref
3927 \Hy@Info{Backreferencing ON}%
3928 \else
3929 \Hy@Info{Backreferencing OFF}%
3930 \fi

```

```

3931 \ifHy@typexml
3932 \Hy@AtEndOfPackage{%
3933 \RequirePackage{color}%
3934 \RequirePackage{nameref}%
3935 }%
3936 \fi
3937 \Hy@DisableOption{typexml}
3938 \ifHy@implicit
3939 \typeout{Implicit mode ON; LaTeX internals redefined}%
3940 \else
3941 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3942 \def\MaybeStopEarly{%
3943 \typeout{Hyperref stopped early}%
3944 \Hy@AtBeginDocument{%
3945 \PDF@FinishDoc
3946 \gdef\PDF@FinishDoc{}}%
3947 }%
3948 \endinput
3949 }%
3950 \Hy@AtBeginDocument{%
3951 \let\autoref\ref
3952 \let\autopageref\pageref
3953 \ifx\@pdfpagemode\@empty
3954 \gdef\@pdfpagemode{UseNone}%
3955 \fi
3956 \global\Hy@backreffalse
3957 }%
3958 \Hy@AtEndOfPackage{%
3959 \global\let\ReadBookmarks\relax
3960 \global\let\WriteBookmarks\relax
3961 }%
3962 \fi
3963 \Hy@DisableOption{implicit}

```

15.2.1 Driver loading

```

3964 \Hy@AtEndOfPackage{%
3965 \@ifpackageloaded{tex4ht}{%
3966 \def\Hy@driver{htex4ht}%
3967 \Hy@texhttrue
3968 }{}%

```

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.

```

3969 \ifx\Hy@driver\@empty
3970 \else
3971 \def\Hy@temp{hpdftex}%
3972 \ifpdf
3973 \ifx\Hy@driver\Hy@temp
3974 \else
3975 \Hy@WarningNoLine{%
3976 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3977 pdfTeX is running in PDF mode.\MessageBreak
3978 Forcing driver ‘\Hy@temp.def’%
3979 }%
3980 \let\Hy@driver\Hy@temp
3981 \fi
3982 \else

```

```

3983 \ifx\Hy@driver\Hy@temp
3984 \Hy@WarningNoLine{%
3985   Wrong driver '\Hy@driver.def';\MessageBreak
3986   pdfTeX is not running in PDF mode.\MessageBreak
3987   Using default driver%
3988 }%
3989 \let\Hy@driver\@empty
3990 \fi
3991 \fi
3992 \fi
3993 \ifx\Hy@driver\@empty
3994 \else
3995 \def\Hy@temp{hxtex}%
3996 \ifxetex
3997 \ifx\Hy@driver\Hy@temp
3998 \else
3999 \Hy@WarningNoLine{%
4000   Wrong driver '\Hy@driver.def';\MessageBreak
4001   XeTeX is running.\MessageBreak
4002   Forcing driver '\Hy@temp.def' for XeTeX%
4003 }%
4004 \let\Hy@driver\Hy@temp
4005 \fi
4006 \fi
4007 \fi
4008 \ifx\Hy@driver\@empty
4009 \else
4010 \def\Hy@temp{hvtexhtm}%
4011 \ifvtexhtml
4012 \ifx\Hy@driver\Hy@temp
4013 \else
4014 \Hy@WarningNoLine{%
4015   Wrong driver '\Hy@driver.def';\MessageBreak
4016   VTeX is running in HTML mode.\MessageBreak
4017   Forcing driver '\Hy@temp.def'%
4018 }%
4019 \let\Hy@driver\Hy@temp
4020 \fi
4021 \else
4022 \ifx\Hy@driver\Hy@temp
4023 \Hy@WarningNoLine{%
4024   Wrong driver '\Hy@driver.def';\MessageBreak
4025   VTeX is not running in HTML mode.\MessageBreak
4026   Using default driver%
4027 }%
4028 \let\Hy@driver\@empty
4029 \fi
4030 \fi
4031 \fi

```

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

```

4032 \ifx\Hy@driver\@empty
4033 \providecommand*{\Hy@defaultdriver}{hypertex}%
4034 \ifpdf
4035 \def\Hy@driver{hpdfTeX}%
4036 \else
4037 \ifxetex
4038 \def\Hy@driver{hxtex}%

```

```

4039 \else
4040 \ifvtexhtml
4041 \def\Hy@driver{hvtexhtm}%
4042 \def\MaybeStopEarly{%
4043 \typeout{Hyperref stopped early}%
4044 \Hy@AtBeginDocument{%
4045 \PDF@FinishDoc
4046 \gdef\PDF@FinishDoc{}}%
4047 }%
4048 \endinput
4049 }%
4050 \else
4051 \ifvtexpdf
4052 \def\Hy@driver{hvtex}%
4053 \else
4054 \ifvtexps
4055 \def\Hy@driver{hvtex}%
4056 \else
4057 \let\Hy@driver\Hy@defaultdriver
4058 \fi
4059 \fi
4060 \fi
4061 \fi
4062 \fi
4063 \ifx\Hy@driver\Hy@defaultdriver
4064 \def\Hy@temp{hdvwind}%
4065 \ifx\Hy@temp\Hy@driver
4066 \kvsetkeys{Hyp}{colorlinks}%
4067 \PassOptionsToPackage{dviwindo}{color}%
4068 \fi
4069 \fi
4070 \typeout{* hyperref using default driver \Hy@driver\ltx@space*}%
4071 \else
4072 \typeout{* hyperref using driver \Hy@driver\ltx@space*}%
4073 \fi
4074 \input{\Hy@driver.def}%
4075 \let\@unprocessedoptions\relax
4076 \Hy@RestoreCatcodes
4077 }

```

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.

```

4078 \newif\ifHy@DvipdfmxOutlineOpen
4079 \ifxetex
4080 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4081 \else
4082 \Hy@DvipdfmxOutlineOpentrue
4083 \fi
4084 \fi
4085 \begingroup\expandafter\expandafter\expandafter\endgroup
4086 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4087 \else
4088 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4089 \Hy@DvipdfmxOutlineOpentrue
4090 \fi
4091 \fi
4092 \Hy@DisableOption{tex4ht}

```

```

4093 \Hy@DisableOption{pdftex}
4094 \Hy@DisableOption{nativepdf}
4095 \Hy@DisableOption{dvipdfm}
4096 \Hy@DisableOption{dvipdfmx}
4097 \Hy@DisableOption{dvipdfmx-outline-open}
4098 \Hy@DisableOption{pdfmark}
4099 \Hy@DisableOption{dvips}
4100 \Hy@DisableOption{hypertex}
4101 \Hy@DisableOption{vtex}
4102 \Hy@DisableOption{vtexpdfmark}
4103 \Hy@DisableOption{dviwindo}
4104 \Hy@DisableOption{dvipsone}
4105 \Hy@DisableOption{textures}
4106 \Hy@DisableOption{latex2html}
4107 \Hy@DisableOption{ps2pdf}
4108 \Hy@DisableOption{xetex}
4109 \Hy@AtEndOfPackage{%
4110   \Hy@DisableOption{pdfversion}%
4111 }

```

15.2.2 Bookmarks

```

4112 \def\WriteBookmarks{0}
4113 \def\@bookmarkopenstatus#1{%
4114   \ifHy@bookmarksopen

```

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

```

4115   \ifnum#1<\expandafter\@firstofone\expandafter
4116     {\number\@bookmarksopenlevel} % explicit space
4117   \else
4118     -%
4119   \fi
4120 \else
4121   -%
4122 \fi
4123 }
4124 \ifHy@bookmarks
4125   \Hy@Info{Bookmarks ON}%
4126   \ifx\@pdfpagemode\@empty
4127     \def\@pdfpagemode{UseOutlines}%
4128   \fi
4129 \else
4130   \def\@bookmarkopenstatus#1{%
4131     \Hy@Info{Bookmarks OFF}%
4132     \Hy@AtEndOfPackage{%
4133       \global\let\ReadBookmarks\relax
4134       \global\let\WriteBookmarks\relax
4135     }%
4136     \ifx\@pdfpagemode\@empty
4137       \def\@pdfpagemode{UseNone}%
4138     \fi
4139   \fi
4140 \Hy@DisableOption{bookmarks}

```

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

```

4141 \def\Hy@CatcodeWrapper#1{%
4142   \def\Hy@endWrap{}%
4143   \def\TMP@EnsureCode##1##2{%
4144     \edef\Hy@endWrap{%

```

```

4145 \Hy@EndWrap
4146 \catcode##1 \the\catcode##1\relax
4147 }%
4148 \catcode##1 ##2\relax
4149 }%
4150 \TMP@EnsureCode{10}{12}% ^^J
4151 \TMP@EnsureCode{33}{12}% !
4152 \TMP@EnsureCode{34}{12}% "
4153 \TMP@EnsureCode{36}{3}% $ (math)
4154 \TMP@EnsureCode{38}{4}% & (alignment)
4155 \TMP@EnsureCode{39}{12}% '
4156 \TMP@EnsureCode{40}{12}% (
4157 \TMP@EnsureCode{41}{12}% )
4158 \TMP@EnsureCode{42}{12}% *
4159 \TMP@EnsureCode{43}{12}% +
4160 \TMP@EnsureCode{44}{12}% ,
4161 \TMP@EnsureCode{45}{12}% -
4162 \TMP@EnsureCode{46}{12}% .
4163 \TMP@EnsureCode{47}{12}% /
4164 \TMP@EnsureCode{58}{12}% :
4165 \TMP@EnsureCode{59}{12}% ;
4166 \TMP@EnsureCode{60}{12}% <
4167 \TMP@EnsureCode{61}{12}% =
4168 \TMP@EnsureCode{62}{12}% >
4169 \TMP@EnsureCode{63}{12}% ?
4170 \TMP@EnsureCode{91}{12}% [
4171 \TMP@EnsureCode{93}{12}% ]
4172 \TMP@EnsureCode{94}{7}% ^ (superscript)
4173 \TMP@EnsureCode{95}{8}% _ (subscript)
4174 \TMP@EnsureCode{96}{12}% '
4175 \TMP@EnsureCode{124}{12}% |
4176 \TMP@EnsureCode{126}{13}% ~ (active)
4177 ##1\relax
4178 \Hy@EndWrap
4179 }

```

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

```

4180 \Hy@AtBeginDocument{%
4181 \ifHy@ocgcolorlinks
4182 \kvsetkeys{Hyp}{colorlinks}%
4183 \ifHy@pdfa
4184 \Hy@Warning{%
4185 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4186 using 'colorlinks' instead of 'ocgcolorlinks'%
4187 }%
4188 \Hy@ocgcolorlinksfalse
4189 \fi
4190 \fi
4191 \ifHy@ocgcolorlinks
4192 \else
4193 \Hy@DisableOption{ocgcolorlinks}%
4194 \fi
4195 \ifHy@colorlinks
4196 \def\pdfborder{0 0 0}%
4197 \let\pdfborderstyle\empty
4198 \ifHy@typexml
4199 \else

```

```

4200 \Hy@CatcodeWrapper{%
4201 \RequirePackage{color}%
4202 }%
4203 \fi
4204 \def\Hy@colorlink#1{%
4205 \begingroup
4206 \HyColor@UseColor#1%
4207 }%
4208 \def\Hy@endcolorlink{\endgroup}%
4209 \Hy@Info{Link coloring ON}%
4210 \else
4211 \ifHy@frenchlinks
4212 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4213 \def\Hy@endcolorlink{\endgroup}%
4214 \Hy@Info{French linking ON}%
4215 \else
for grouping consistency:
4216 \def\Hy@colorlink#1{\begingroup}%
4217 \def\Hy@endcolorlink{\endgroup}%
4218 \Hy@Info{Link coloring OFF}%
4219 \fi
4220 \fi
4221 \Hy@DisableOption{colorlinks}%
4222 \Hy@DisableOption{frenchlinks}%
4223 \ifHy@texht
4224 \long\def\@firstoffive#1#2#3#4#5{#1}%
4225 \long\def\@secondoffive#1#2#3#4#5{#2}%
4226 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4227 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4228 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4229 \providecommand*\@safe@activetrue{}%
4230 \providecommand*\@safe@activesfalse{}%
4231 \def\T@ref#1{%
4232 \Hy@safe@activetrue
4233 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4234 \Hy@safe@activesfalse
4235 }%
4236 \def\T@pageref#1{%
4237 \Hy@safe@activetrue
4238 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4239 \Hy@safe@activesfalse
4240 }%
4241 \else
4242 \ifHy@typexml
4243 \else
4244 \Hy@CatcodeWrapper{%
4245 \RequirePackage{nameref}%
4246 }%
4247 \fi
4248 \fi
4249 \DeclareRobustCommand\ref{%
4250 \@ifstar\@refstar\T@ref
4251 }%
4252 \DeclareRobustCommand\pageref{%
4253 \@ifstar\@pagerefstar\T@pageref
4254 }%
4255 % \@ifclassloaded{memoir}{%

```

```

4256 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4257 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4258 % }%
4259 % }\ltx@secondoftwo
4260 % {%
4261 % \DeclareRobustCommand*{\nameref}{%
4262 % \ifstar\@mem@titlerefno link\@mem@titleref
4263 % }%
4264 % }\ltx@secondoftwo
4265 % \DeclareRobustCommand*{\nameref}{%
4266 % \ifstar\@namerefstar\T@nameref
4267 % }%
4268 % }%
4269 }
4270 \Hy@AtBeginDocument{%
4271 \ifHy@texht
4272 \else
4273 \Hy@CatcodeWrapper{%
4274 \ReadBookmarks
4275 }%
4276 \fi
4277 }
4278 \ifHy@backref
4279 \RequirePackage{backref}%
4280 \else
4281 \let\Hy@backout\@gobble
4282 \fi
4283 \Hy@DisableOption{backref}
4284 \Hy@DisableOption{pagebackref}
4285 \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.

```

4286 \begingroup
4287 \endlinechar=-1 %
4288 \catcode'\^^A=14 %
4289 \catcode'\^^M\active
4290 \catcode'\%\active
4291 \catcode'\#\active
4292 \catcode'\_\active
4293 \catcode'\$\active
4294 \catcode'\&\active
4295 \gdef\hyper@normalise{^^A
4296 \begingroup
4297 \catcode'\^^M\active
4298 \def^^M{ }^^A
4299 \catcode'\%\active
4300 \let%\@percentchar
4301 \let%\@percentchar
4302 \catcode'\#\active

```



```

4303 \def#{\hyper@hash}^^A
4304 \def\#{\hyper@hash}^^A
4305 \@makeother\&^^A
4306 \edef&{\string&}^^A
4307 \edef\&{\string&}^^A
4308 \edef\textunderscore{\string_}^^A
4309 \let\_ \textunderscore
4310 \catcode'\_ \active
4311 \let\_ \textunderscore
4312 \let~\hyper@tilde
4313 \let\~\hyper@tilde
4314 \let\textasciitilde\hyper@tilde
4315 \let\\ \@backslashchar
4316 \edef$\string$}^^A
4317 \Hy@safe@activetrue
4318 \hyper@n@rmalise
4319 }^^A
4320 \catcode'\#=6 ^^A
4321 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4322 \gdef\hyper@n@rmalise#1#2{^^A
4323 \def\Hy@tempa{#2}^^A
4324 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4325 \Hy@ReturnAfterElseFi{^^A
4326 \hyper@@normalise{#1}^^A
4327 }^^A
4328 \else
4329 \Hy@ReturnAfterFi{^^A
4330 \hyper@@normalise{#1}{#2}^^A
4331 }^^A
4332 \fi
4333 }^^A
4334 \gdef\hyper@@normalise#1#2{^^A
4335 \edef\Hy@tempa{^^A
4336 \endgroup
4337 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4338 }^^A
4339 \Hy@tempa
4340 }^^A
4341 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4342 #1^^A
4343 \ifx\limits#2\limits
4344 \else
4345 \Hy@ReturnAfterFi{^^A
4346 \Hy@RemovePercentCr #2\@nil
4347 }^^A
4348 \fi
4349 }^^A
4350 \endgroup
4351 \providecommand*\hyper@chars{%
4352 \let\#\hyper@hash
4353 \let\%\@percentchar
4354 \Hy@safe@activetrue
4355 }

4356 \def\hyperlink#1#2{%
4357 \hyper@@link{}{#1}{#2}%
4358 }

4359 \def\Hy@VerboseLinkStart#1#2{%

```

```

4360 \ifHy@verbose
4361 \begingroup
4362 \Hy@safe@activetrue
4363 \xdef\Hy@VerboseGlobalTemp{(#1) ‘#2’}%
4364 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4365 \xdef\Hy@VerboseGlobalTemp{%
4366 \Hy@VerboseGlobalTemp, %
4367 line \the\inputlineno
4368 }%
4369 \endgroup
4370 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4371 \@onelevel@sanitize\Hy@VerboseLinkInfo
4372 \fi
4373 }

4374 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4375 \def\Hy@VerboseLinkStop{%
4376 \ifHy@verbose
4377 \begingroup
4378 \edef\x{\endgroup
4379 \write\m@ne{%
4380 Package ‘hyperref’ Info: %
4381 End of reference \Hy@VerboseLinkInfo.%
4382 }%
4383 }%
4384 \x
4385 \fi
4386 }

4387 \def\Hy@VerboseAnchor#1{%
4388 \ifHy@verbose
4389 \begingroup
4390 \Hy@safe@activetrue
4391 \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
4392 \endgroup
4393 \fi
4394 }

4395 \def\Hy@AllowHyphens{%
4396 \relax
4397 \ifhmode
4398 \penalty\@M
4399 \hskip\z@skip
4400 \fi
4401 }

4402 \DeclareRobustCommand*\href[1][]{%
4403 \begingroup
4404 \setkeys{href}{#1}%
4405 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4406 }
4407 \def\Hy@href#1{%
4408 \hyper@normalise\href@
4409 }
4410 \begingroup
4411 \catcode‘\$=6 %
4412 \catcode‘\#=12 %
4413 \gdef\href@\$1{\expandafter\href@split$1##\}%
4414 \gdef\href@split$1#$2##$3\\$4{%
4415 \hyper@@link{$1}{$2}{$3}{$4}%

```

```

4416 \endgroup
4417 }%
4418 \endgroup

```

Option ‘page’.

```

4419 \define@key{href}{page}{%
4420 \def\Hy@href@page{#1}%
4421 }
4422 \let\Hy@href@page\@empty
4423 \newcount\c@Hy@tempcnt
4424 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4425 \def\Hy@MakeRemoteAction{%
4426 \ifx\Hy@href@page\@empty
4427 \def\Hy@href@page{0}%
4428 \else
4429 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4430 \ifnum\c@Hy@tempcnt<\@ne
4431 \Hy@Warning{%
4432 Invalid page number (\theHy@tempcnt)\MessageBreak
4433 for remote PDF file.\MessageBreak
4434 Using page 1%
4435 }%
4436 \def\Hy@href@page{0}%
4437 \else
4438 \global\advance\c@Hy@tempcnt\m@ne
4439 \edef\Hy@href@page{\theHy@tempcnt}%
4440 \fi
4441 \fi

```

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

```

4442 \ifx\Hy@href@nextactionraw\@empty
4443 \else
4444 \Hy@newwindowsettrue
4445 \Hy@newwindowtrue
4446 \fi
4447 }

```

Option ‘pdfremotestartview’.

```

4448 \define@key{href}{pdfremotestartview}{%
4449 \setkeys{Hyp}{pdfremotestartview={#1}}%
4450 }

```

Option ‘pdfnewwindow’.

```

4451 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4452 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4453 \newif\ifHy@href@ismap
4454 \define@key{href}{ismap}[true]{%
4455 \ltx@ifundefined{Hy@href@ismap#1}{%
4456 \PackageError{hyperref}{%
4457 Invalid value (#1) for key ‘ismap’.\MessageBreak
4458 Permitted values are ‘true’ or ‘false’.\MessageBreak
4459 Ignoring ‘ismap’%
4460 }\@ehc
4461 }{%
4462 \csname Hy@href@ismap#1\endcsname
4463 }%
4464 }

```

Option ‘nextactionraw’.

```

4465 \let\Hy@href@nextactionraw\@empty
4466 \define@key{href}{nextactionraw}{%
4467   \edef\Hy@href@nextactionraw{#1}%
4468   \ifx\Hy@href@nextactionraw\@empty
4469     \else
4470       \Hy@Match\Hy@href@nextactionraw{%
4471         ^(\HyPat@ObjRef/|<<.*[/S[/].+>>|%
4472         \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?)]$%
4473       }-}{%
4474         \Hy@Warning{Invalid value for ‘nextactionraw’: \MessageBreak
4475           \Hy@href@nextactionraw \MessageBreak
4476           The action is discarded%
4477         }%
4478       }%
4479     \ifx\Hy@href@nextactionraw\@empty
4480     \else
4481       \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4482     \fi
4483   \fi
4484 }
4485 \def\HyPat@ObjRef/{.+}

```

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

```

4486 \RequirePackage{url}
4487 \let\HyOrg@url\url
4488 \def\Hurl{\begingroup \Url}
4489 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4490 \def\nolinkurl@#1{\Hurl{#1}}
4491 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4492 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4493 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4494 \providecommand\hyper@image[2]{#2}
4495 \def\hypertarget#1#2{%
4496   \ifHy@nesting
4497     \hyper@@anchor{#1}{#2}%
4498   \else
4499     \hyper@@anchor{#1}{\relax}#2%
4500   \fi
4501 }

```

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

```

4502 \DeclareRobustCommand*\hyperref{%
4503   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4504 }
4505 \def\Hy@babelnormalise#1[#2]{%
4506   \begingroup
4507     \Hy@safe@activetrue
4508     \edef\Hy@tempa{%
4509       \endgroup
4510       \noexpand#1[{#2}]%
4511     }%

```

```

4512 \Hy@tempa
4513 }
4514 \def\@hyperref{\hyper@normalise\@hyperref}
4515 \def\@hyperref#1#2#3{%
4516 \edef\ref@one{\ifx\#2\\\else#2.\fi#3}%
4517 \expandafter\tryhyper@link\ref@one\{#1}%
4518 }
4519 \def\tryhyper@link#1\#2{%
4520 \hyper@@link{#2}{#1}%
4521 }

4522 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
4523 \def\@hyperdef#1#2#3{%, category, name, text
4524 \ifx\#1\%
4525 \def\Hy@AnchorName{#2}%
4526 \else
4527 \def\Hy@AnchorName{#1.#2}%
4528 \fi
4529 \ifHy@nesting
4530 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4531 \else
4532 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4533 \fi
4534 }

```

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

```

4535 \def\label@hyperref[#1]{%
4536 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4537 }%
4538 \def\label@@hyperref#1#2#3{%
4539 \ifx#1\relax
4540 \protect\G@refundefinedtrue
4541 \@latex@warning{%
4542 Hyper reference ‘#2’ on page \thepage \space undefined%
4543 }%
4544 \hyper@@link{}{??}{#3}%
4545 \else
4546 \hyper@@link{\expandafter\@fifthoffive#1}%
4547 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4548 \fi
4549 }
4550 \def\label@hyperdef[#1]#2#3#4{ label name, category, name,
4551 % anchor text
4552 \@bsphack
4553 \ifx\#2\%
4554 \def\Hy@AnchorName{#3}%
4555 \else
4556 \def\Hy@AnchorName{#2.#3}%
4557 \fi
4558 \if@files
4559 \protected@write\@auxout{}{%
4560 \string\newlabel{#1}{\{ }\}{\Hy@AnchorName}\}%
4561 }%
4562 \fi
4563 \@esphack
4564 \ifHy@nesting
4565 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%

```

```

4566 \else
4567   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
4568 \fi
4569 }

```

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.

```

4570 \def\hyper@link{\let\Hy@reserved@a\relax
4571   \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4572 }
4573 \def\hyper@link@[#1]#2#3#4{%
4574   \begingroup
4575     \protected@edef\Hy@tempa{#2}%
4576     \Hy@safe@activestrue
4577     \edef\x{#3}%
4578     \ifx\Hy@tempa\@empty
4579       \toks0{\hyper@link{#1}}%
4580     \else
4581       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4582     \fi
4583     \toks2{%
4584       \Hy@safe@activesfalse
4585       #4%
4586     }%
4587     \edef\Hy@tempa{\the\toks2}%
4588     \edef\x{\endgroup
4589       \ifx\Hy@tempa\@empty
4590         \noexpand\Hy@Warning{Suppressing empty link}%
4591       \else
4592         \the\toks0 {\x}{\the\toks2}}%
4593     \fi
4594   }%
4595   \x
4596 }

```

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.

```

4597 \def\hyper@readexternallink#1\{#2#3#4{%
4598   \begingroup
4599     \let\relax\relax
4600     \expandafter\endgroup
4601     \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
4602 }
4603 \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.

```
4604 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%  
4605 }
```

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

```
4606 \def\@pdftempwordfile{file}%  
4607 \def\@pdftempwordrun{run}%  
4608 \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:

```
4609 \ifx\#6\%  
4610 \@hyper@linkfile file:#7\{#3}{#2}{#7}%  
4611 \else  
4612 \ifx\#4\%  
4613 \@hyper@linkfile file:#7\{#3}{#2}{#7}%  
4614 \else
```

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

```
4615 \def\@pdftempa{#4}%  
4616 \ifx\@pdftempa\@pdftempwordfile  
4617 \@hyper@linkfile#7\{#3}{#2}{#7}%  
4618 \else
```

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

```
4619 \ifx\@pdftempa\@pdftempwordrun  
4620 \ifHy@pdfa  
4621 \PackageError{hyperref}{%  
4622 PDF/A: Launch action is prohibited%  
4623 }\@ehc  
4624 \begingroup  
4625 \leavevmode  
4626 #2%  
4627 \endgroup  
4628 \else  
4629 \@hyper@launch#7\{#3}{#2}%  
4630 \fi  
4631 \else
```

otherwise its a URL

```
4632 \hyper@linkurl{#3}{#7\ifx\#2\%else\hyper@hash#2\fi}%  
4633 \fi  
4634 \fi  
4635 \fi  
4636 \fi  
4637 }
```

By default, turn run: into file:

```
4638 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname  
4639 \hyper@linkurl{#2}{%
```

```

4640 \Hy@linkfileprefix
4641 #1%
4642 \ifx\#3\%
4643 \else
4644 \hyper@hash
4645 #3%
4646 \fi
4647 }%
4648 }

```

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

```

4649 \def\@hyper@linkfile file:#1\#2#3#4{%
4650 %file url,link string, name, original uri
4651 \filename@parse{#1}%
4652 \ifx\filename@ext\relax
4653 \edef\filename@ext{\XR@ext}%
4654 \fi
4655 \def\use@file{\filename@area\filename@base.\filename@ext}%
4656 \Hy@IfStringEndsWith\filename@ext\XR@ext{%
4657 \hyper@linkfile{#2}{\use@file}{#3}%
4658 }{%
4659 \ifx\@baseurl\@empty
4660 \hyper@linkurl{#2}{%
4661 #4\ifx\#3\%
4662 }%
4663 \else
4664 \hyper@linkurl{#2}{\use@file\ifx\#3\%
4665 \fi
4666 }%
4667 }

4668 \def\Hy@IfStringEndsWith#1#2{%
4669 \begingroup
4670 \edef\x{#1}%
4671 \@onelevel@sanitize\x
4672 \edef\x{.\x$}%
4673 \edef\y{#2}%
4674 \@onelevel@sanitize\y
4675 \edef\y{.\y$}%
4676 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4677 \endgroup
4678 \ifx\relax##2\relax
4679 \expandafter\ltx@secondoftwo
4680 \else
4681 \expandafter\ltx@firstoftwo
4682 \fi
4683 }%
4684 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4685 }

4686 \def\Hy@StringLocalhost{localhost}
4687 \@onelevel@sanitize\Hy@StringLocalhost
4688 \def\Hy@CleanupFile#1{%
4689 \edef#1{#1}%
4690 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
4691 }
4692 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
4693 \begingroup

```



```

4694 \toks@{\endgroup}%
4695 \def\x{#1}%
4696 \ifx\x\@empty
4697 \def\x{#2}%
4698 \ifx\x\@empty
4699 \toks@{\endgroup\def#5{/#3}}%
4700 \else
4701 \@onelevel@sanitize\x
4702 \ifx\x\Hy@StringLocalhost
4703 \toks@{\endgroup\def#5{/#3}}%
4704 \fi
4705 \fi
4706 \fi
4707 \the\toks@
4708 }

```

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.

```

4709 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4710 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4711 \ifx\#1\%
4712 #2\Hy@Warning{Ignoring empty anchor}%
4713 \else
4714 \def\anchor@spot{#2#3}%
4715 \let\put@me@back\@empty
4716 \ifx\relax#2\relax
4717 \else
4718 \ifHy@nesting
4719 \else
4720 \ifcat a\noexpand#2\relax
4721 \else
4722 \ifcat 0\noexpand#2 \relax
4723 \else
4724 % \typeout{Anchor start is not alphanumeric %
4725 % on input line\the\inputlineno%
4726 % }%
4727 \let\anchor@spot\@empty
4728 \def\put@me@back{#2#3}%
4729 \fi
4730 \fi
4731 \fi
4732 \fi
4733 \ifHy@activeanchor
4734 \anchor@spot
4735 \else
4736 \hyper@anchor{#1}%
4737 \fi
4738 \expandafter\put@me@back
4739 \fi
4740 \let\anchor@spot\@empty
4741 }
4742 \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.

```
4743 \let\htmladdimg\hyperimage
4744 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4745 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4746 \def\htmlref#1#2{% anchor text, label
4747   \label@hyperref[{#2}]{#1}%
4748 }
```

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.

```
4749 \def\@latextohtmlX{%
4750   \let\hhyperref\hyperref
4751   \def\hyperref##1##2##3##4{% anchor text for HTML
4752     % text to print before label in print
4753     % label
4754     % post-label text in print
4755     ##2\ref{##4}##3%
4756   }%
4757 }
```

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.

```
4758 \RequirePackage{bitset}
```

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

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

```
\HyField@NewFlag #1: type: F annot flags, Ff field flags
#2: PDF name
#3: PDF position
4759 \def\HyField@NewFlag#1#2{%
4760   \lowercase{\HyField@NewOption{#2}}%
4761   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4762 }
```

\HyField@NewFlagOnly

```
4763 \def\HyField@NewFlagOnly#1#2{%
4764   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4765 }
```

\HyField@NewOption #1: option name

```
4766 \def\HyField@NewOption#1{%
4767   \expandafter\newif\csname ifFld@#1\endcsname
4768   \define@key{Field}{#1}[true]{%
4769     \lowercase{\Field@boolkey{##1}}{#1}%
4770   }%
4771 }
```

\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

```
4772 \def\HyField@NewBitsetFlag#1#2#3#4{%
4773   \begingroup
4774   \count@=#4\relax
4775   \advance\count@\m@ne
4776   \def\x##1{%
4777     \endgroup
4778     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4779     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4780       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4781         (\number#4) #2%
4782       }%
4783     \else
4784       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4785         \csname HyField@#3@##1\endcsname
4786         /#2%
4787       }%
4788     \fi
4789   }%
4790   \expandafter\x\expandafter{\the\count@}%
4791 }
```

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

```
4792 \def\HyField@UseFlag#1#2{%
4793   \lowercase{\HyField@@UseFlag{#2}}{#1}%
4794 }
```

\HyField@@UseFlag

```
4795 \def\HyField@@UseFlag#1#2{%
4796   \bitsetSetValue{HyField@#2}{%
4797     \csname HyField@#2@#1\endcsname
4798   }{%
4799     \csname ifFld@#1\endcsname 1\else 0\fi
4800   }%
4801 }
```

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

```
4802 \def\HyField@SetFlag#1#2{%
4803   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4804 }
```

```

\HyField@@SetFlag
4805 \def\HyField@@SetFlag#1#2{%
4806   \bitsetSetValue{HyField@#2}{%
4807     \csname HyField@#2@#1\endcsname
4808   }{1}%
4809 }

\HyField@PrintFlags
4810 \def\HyField@PrintFlags#1#2{%
4811   \ifHy@verbose
4812     \begingroup
4813     \let\Hy@temp\@empty
4814     \let\MessageBreak\relax
4815     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4816     \bitsetGetSetBitList{HyField@#1}\do{%
4817       \edef\Hy@temp{%
4818         \Hy@temp
4819         \csname HyField@#1@\x\endcsname\MessageBreak
4820       }%
4821     }%
4822   \edef\x{\endgroup
4823     \noexpand\Hy@Info{%
4824       Field flags: %
4825       \expandafter\ifx\@car#1\@nil S\else/\fi
4826       #1 %
4827       \bitsetGetDec{HyField@#1} %
4828       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4829       \Hy@temp
4830     for #2%
4831   }%
4832   }\x
4833   \fi
4834 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4835 \HyField@NewFlag{Ff}{ReadOnly}{1}
4836 \HyField@NewFlag{Ff}{Required}{2}
4837 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4838 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4839 \HyField@NewFlag{Ff}{Radio}{16}
4840 \HyField@NewFlag{Ff}{Pushbutton}{17}
4841 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4842 \HyField@NewFlag{Ff}{Multiline}{13}
4843 \HyField@NewFlag{Ff}{Password}{14}
4844 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4845 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4846 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4847 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4848 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4849 \HyField@NewFlag{Ff}{Combo}{18}

```

```

4850 \HyField@NewFlag{Ff}{Edit}{19}
4851 \HyField@NewFlag{Ff}{Sort}{20}
4852 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4853 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4854 \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.

```

4855 \newif\ifFld@popdown
4856 \define@key{Field}{popdown}[true]{%
4857 \lowercase{\Field@boolkey{#1}}{popdown}%
4858 }

```

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.

```

4859 \HyField@NewFlag{F}{Invisible}{1}
4860 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4861 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4862 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4863 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4864 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4865 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4866 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4867 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

4868 \ifHy@pdfa
4869 \def\HyField@PDFAFflagWarning#1#2{%
4870 \Hy@Warning{%
4871 PDF/A: Annotation flag ‘#1’ must\MessageBreak
4872 be set to ‘#2’%
4873 }%
4874 }%
4875 \Fld@invisiblefalse
4876 \def\Fld@invisibletrue{%
4877 \HyField@PDFAFflagWarning{invisible}{false}%
4878 }%
4879 \Fld@hiddenfalse
4880 \def\Fld@hiddentrue{%
4881 \HyField@PDFAFflagWarning{hidden}{false}%
4882 }%
4883 \Fld@printtrue
4884 \def\Fld@printfalse{%
4885 \HyField@PDFAFflagWarning{print}{true}%
4886 }%
4887 \Fld@nozoomtrue
4888 \def\Fld@nozoomfalse{%
4889 \HyField@PDFAFflagWarning{nozoom}{true}%
4890 }%
4891 \Fld@norotatetrue
4892 \def\Fld@norotatefalse{%
4893 \HyField@PDFAFflagWarning{norotate}{true}%
4894 }%
4895 \Fld@noviewfalse
4896 \def\Fld@noviewtrue{%

```

```

4897 \HyField@PDFAFIWarning{noview}{false}%
4898 }%
4899 \fi

```

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

```

4900 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4901 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4902 \HyField@NewFlag{Submit}{GetMethod}{4}
4903 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4904 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4905 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4906 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4907 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4908 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4909 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4910 \HyField@NewFlag{Submit}{ExclFKey}{12}
4911 \HyField@NewFlag{Submit}{EmbedForm}{14}

4912 \define@key{Field}{export}{%
4913 \lowercase{\def\Hy@temp{#1}}%
4914 \@ifundefined{Fld@export@\Hy@temp}{%
4915 \onelevel@sanitize\Hy@temp
4916 \PackageError{hyperref}{%
4917 Unknown export format '\Hy@temp'.\MessageBreak
4918 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4919 }\@ehc
4920 }{%
4921 \let\Fld@export\Hy@temp
4922 }%
4923 }
4924 \def\Fld@export{fdf}
4925 \@namedef{Fld@export@fdf}{0}%
4926 \@namedef{Fld@export@html}{1}%
4927 \@namedef{Fld@export@xdf}{2}%
4928 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4929 \def\HyField@FlagsSubmit{%
4930 \bitsetReset{HyField@Submit}%
4931 \ifcase\@nameuse{Fld@export@\Fld@export} %
4932 % FDF
4933 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4934 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4935 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4936 \HyField@UseFlag{Submit}{IncludeAnnotations}%
4937 \HyField@UseFlag{Submit}{CanonicalFormat}%
4938 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4939 \HyField@UseFlag{Submit}{ExclFKey}%
4940 \HyField@UseFlag{Submit}{EmbedForm}%
4941 \or % HTML
4942 \HyField@SetFlag{Submit}{ExportFormat}%
4943 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4944 \HyField@UseFlag{Submit}{GetMethod}%
4945 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4946 \HyField@UseFlag{Submit}{CanonicalFormat}%
4947 \or % XFDF

```

```

4948 \HyField@SetFlag{Submit}{XFDF}%
4949 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4950 \HyField@UseFlag{Submit}{SubmitCoordinates}%
4951 \HyField@UseFlag{Submit}{CanonicalFormat}%
4952 \or % PDF
4953 \HyField@SetFlag{Submit}{SubmitPDF}%
4954 \HyField@UseFlag{Submit}{GetMethod}%
4955 \fi
4956 \HyField@PrintFlags{Submit}{submit button field}%
4957 \bitsetIsEmpty{HyField@Submit}{%
4958 \def\Fld@submitflags{%
4959 }{%
4960 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
4961 }%
4962 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4963 \def\HyField@FlagsAnnot#1{%
4964 \bitsetReset{HyField@F}%
4965 \HyField@UseFlag{F}{Invisible}%
4966 \HyField@UseFlag{F}{Hidden}%
4967 \HyField@UseFlag{F}{Print}%
4968 \HyField@UseFlag{F}{NoZoom}%
4969 \HyField@UseFlag{F}{NoRotate}%
4970 \HyField@UseFlag{F}{NoView}%
4971 \HyField@UseFlag{F}{Locked}%
4972 \HyField@UseFlag{F}{ToggleNoView}%
4973 \HyField@UseFlag{F}{LockedContents}%
4974 \HyField@PrintFlags{F}{#1}%
4975 \bitsetIsEmpty{HyField@F}{%
4976 \def\Fld@annotflags{%
4977 }{%
4978 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4979 }%
4980 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4981 \def\HyField@FlagsPushButton{%
4982 \HyField@FlagsAnnot{push button field}%
4983 \bitsetReset{HyField@Ff}%
4984 \HyField@UseFlag{Ff}{ReadOnly}%
4985 \HyField@UseFlag{Ff}{Required}%
4986 \HyField@UseFlag{Ff}{NoExport}%
4987 \HyField@SetFlag{Ff}{Pushbutton}%
4988 \HyField@PrintFlags{Ff}{push button field}%
4989 \bitsetIsEmpty{HyField@Ff}{%
4990 \def\Fld@flags{%
4991 }{%
4992 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4993 }%
4994 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
4995 \def\HyField@FlagsCheckBox{%
4996   \HyField@FlagsAnnot{check box field}%
4997   \bitsetReset{HyField@Ff}%
4998   \HyField@UseFlag{Ff}{ReadOnly}%
4999   \HyField@UseFlag{Ff}{Required}%
5000   \HyField@UseFlag{Ff}{NoExport}%
5001   \HyField@PrintFlags{Ff}{check box field}%
5002   \bitsetIsEmpty{HyField@Ff}{%
5003     \def\Fld@flags{%
5004     }{%
5005     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5006   }%
5007 }
```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
5008 \def\HyField@FlagsRadioButton{%
5009   \HyField@FlagsAnnot{radio button field}%
5010   \bitsetReset{HyField@Ff}%
5011   \HyField@UseFlag{Ff}{ReadOnly}%
5012   \HyField@UseFlag{Ff}{Required}%
5013   \HyField@UseFlag{Ff}{NoExport}%
5014   \HyField@UseFlag{Ff}{NoToggleToOff}%
5015   \HyField@SetFlag{Ff}{Radio}%
5016   \HyField@UseFlag{Ff}{RadiosInUnison}%
5017   \HyField@PrintFlags{Ff}{radio button field}%
5018   \bitsetIsEmpty{HyField@Ff}{%
5019     \def\Fld@flags{%
5020     }{%
5021     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5022   }%
5023 }
```

19.1.7 Text fields

\HyField@FlagsText

```
5024 \def\HyField@FlagsText{%
5025   \HyField@FlagsAnnot{text field}%
5026   \bitsetReset{HyField@Ff}%
5027   \HyField@UseFlag{Ff}{ReadOnly}%
5028   \HyField@UseFlag{Ff}{Required}%
5029   \HyField@UseFlag{Ff}{NoExport}%
5030   \HyField@UseFlag{Ff}{Multiline}%
5031   \HyField@UseFlag{Ff}{Password}%
5032   \HyField@UseFlag{Ff}{FileSelect}%
5033   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5034   \HyField@UseFlag{Ff}{DoNotScroll}%
5035   \ifFld@comb
5036     \ifcase0\ifFld@multiline
5037       \else\ifFld@password
5038       \else\ifFld@fileselect
5039       \else 1\fi\fi\fi\relax
```



```

5040 \PackageError{hyperref}{%
5041   Field option 'comb' cannot used together with\MessageBreak
5042   'multiline', 'password', or 'fileselect'%
5043 } \@ehc
5044 \else
5045   \HyField@UseFlag{Ff}{Comb}%
5046 \fi
5047 \fi
5048 \HyField@UseFlag{Ff}{RichText}%
5049 \HyField@PrintFlags{Ff}{text field}%
5050 \bitsetIsEmpty{HyField@Ff}{%
5051   \def\Fld@flags{%
5052 }{%
5053   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5054 }%
5055 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5056 \def\HyField@FlagsChoice{%
5057   \HyField@FlagsAnnot{choice field}%
5058   \bitsetReset{HyField@Ff}%
5059   \HyField@UseFlag{Ff}{ReadOnly}%
5060   \HyField@UseFlag{Ff}{Required}%
5061   \HyField@UseFlag{Ff}{NoExport}%
5062   \HyField@UseFlag{Ff}{Combo}%
5063   \ifFld@combo
5064     \HyField@UseFlag{Ff}{Edit}%
5065   \fi
5066   \HyField@UseFlag{Ff}{Sort}%
5067   \HyField@UseFlag{Ff}{MultiSelect}%
5068   \ifFld@combo
5069     \ifFld@edit
5070       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5071     \fi
5072   \fi
5073   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5074   \HyField@PrintFlags{Ff}{choice field}%
5075   \bitsetIsEmpty{HyField@Ff}{%
5076     \def\Fld@flags{%
5077 }{%
5078   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5079 }%
5080 }

```

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.

```

5081 \def\HyField@PDFChoices#1{%
5082   \begingroup
5083   \gdef\Fld@choices{%
5084     \def\HyTmp@optlist{%
5085       \let\HyTmp@optitem\relax

```

```

5086 \count@=0 %
5087 \kv@parse{#1}{%
5088   \Hy@pdfstringdef\kv@key\kv@key
5089   \ifx\kv@value\relax
5090     \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5091       \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5092     \else
5093       \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5094     \fi
5095   \else
5096     \Hy@pdfstringdef\kv@value\kv@value
5097     \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5098   \fi
5099   \edef\HyTmp@optlist{%
5100     \HyTmp@optlist
5101     \HyTmp@optitem{\the\count@}{\kv@key}0%
5102   }%
5103   \advance\count@ by 1 %
5104   \@gobbletwo
5105 }%
5106 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5107 \ifFld@multiselect
5108   \HyField@@PDFChoices{DV}\Fld@default
5109   \HyField@@PDFChoices{V}\Fld@value
5110 \else
5111   \ifx\Fld@default\relax
5112   \else
5113     \pdfstringdef\Hy@gtemp\Fld@default
5114     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5115   \fi
5116   \ifx\Fld@value\relax
5117   \else
5118     \pdfstringdef\Hy@gtemp\Fld@value
5119     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5120   \fi
5121 \fi
5122 \endgroup
5123 }

```

\HyField@@PDFChoices

```

5124 \def\HyField@@PDFChoices#1#2{%
5125   \ifx#2\relax
5126   \else
5127     \count@=0 %
5128     \def\HyTmp@optitem##1##2##3{%
5129       \def\HyTmp@key{##2}%
5130       \ifx\HyTmp@key\Hy@gtemp
5131         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5132           \HyTmp@optlist
5133           \HyTmp@optitem{##1}{##2}1%
5134         }%
5135       \let\HyTmp@found=Y%
5136     \else
5137       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5138         \HyTmp@optlist
5139         \HyTmp@optitem{##1}{##2}##3%
5140       }%

```

```

5141 \fi
5142 }%
5143 \expandafter\comma@parse\expandafter{#2}{%
5144 \pdfstringdef\Hy@gtemp\comma@entry
5145 \let\HyTmp@found=N %
5146 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5147 \HyTmp@optlist
5148 \ifx\HyTmp@found Y%
5149 \advance\count@ by 1 %
5150 \else
5151 \@onelevel@sanitize\comma@entry
5152 \PackageWarning{hyperref}{%
5153 \string\ChoiceBox: Ignoring value '\comma@entry',%
5154 \MessageBreak
5155 it cannot be found in the choices%
5156 }%
5157 \fi
5158 \@gobble
5159 }%
5160 \def\HyTmp@optitem##1##2##3{%
5161 \ifnum##3=1 %
5162 (##2)%
5163 \fi
5164 }%
5165 \ifcase\count@
5166 \or
5167 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5168 \else
5169 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5170 \ifx#1V%
5171 \def\HyTmp@optitem##1##2##3{%
5172 \ifnum##3=1 %
5173 \@firstofone{ ##1}%
5174 \fi
5175 }%
5176 \edef\HyTmp@optlist{\HyTmp@optlist}%
5177 \xdef\Fld@choices{%
5178 \Fld@choices
5179 /I[\expandafter\@firstofone\HyTmp@optlist]%
5180 }%
5181 \fi
5182 \fi
5183 \fi
5184 }

```

19.3 Forms

\HyField@SetKeys

```

5185 \def\HyField@SetKeys{%
5186 \kvsetkeys{Field}%
5187 }

5188 \newif\ifFld@checked
5189 \newif\ifFld@disabled
5190 \Fld@checkedfalse
5191 \Fld@disabledfalse
5192 \newcount\Fld@menulength

```

```

5193 \newdimen\Fld@Width
5194 \newdimen\Fld@charsize
5195 \Fld@charsize=10\p@
5196 \def\Fld@maxlen{0}
5197 \def\Fld@align{0}
5198 \def\Fld@color{0 0 0 rg}
5199 \def\Fld@bcolor{1 1 1}
5200 \def\Fld@bordercolor{1 0 0}
5201 \def\Fld@bordersep{1\p@}
5202 \def\Fld@borderwidth{1}
5203 \def\Fld@borderstyle{S}
5204 \def\Fld@cbsymbol{4}
5205 \def\Fld@radiosymbol{H}
5206 \def\Fld@rotation{0}
5207 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5208 \def\endForm{\@endForm}
5209 \newif\ifForm@html
5210 \Form@htmlfalse
5211 \def\Form@boolkey#1#2{%
5212   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5213 }
5214 \define@key{Form}{action}{%
5215   \hyper@normalise\Hy@DefFormAction{#1}%
5216 }
5217 \def\Hy@DefFormAction{\def\Form@action}
5218 \def\enc@html{html}
5219 \define@key{Form}{encoding}{%
5220   \def\Hy@tempa{#1}%
5221   \ifx\Hy@tempa\enc@html
5222     \Form@htmltrue
5223     \def\Fld@export{html}%
5224   \else
5225     \Hy@Warning{%
5226       Form 'encoding' key with \MessageBreak
5227       unknown value '#1'%
5228     }%
5229     \Form@htmlfalse
5230   \fi
5231 }
5232 \define@key{Form}{method}{%
5233   \lowercase{\def\Hy@temp{#1}}%
5234   \@ifundefined{Form@method@\Hy@temp}{%
5235     \@onelevel@sanitize\Hy@temp
5236     \PackageError{hyperref}{%
5237       Unknown method '\Hy@temp'\MessageBreak
5238       Known values are 'post' and 'get'%
5239     }\@ehc
5240   }{%
5241     \let\Form@method\Hy@temp
5242     \ifcase\@nameuse{Form@method@\Hy@temp} %
5243       \Fld@getmethodfalse
5244     \else
5245       \Fld@getmethodtrue
5246     \fi
5247   }%
5248 }
5249 \def\Form@method{}

```

```

5250 \@namedef{Form@method@post}{0}
5251 \@namedef{Form@method@get}{1}
5252 \def\Field@boolkey#1#2{%
5253   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5254 }
5255 \ifHy@texht
5256   \newtoks\Field@toks
5257   \Field@toks={ }%
5258   \def\Field@addtoks#1#2{%
5259     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5260     \@processme
5261   }%
5262   \else
5263     \def\Hy@WarnHTMLFieldOption#1{%
5264       \Hy@Warning{%
5265         HTML field option '#1'\MessageBreak
5266         is ignored%
5267       }%
5268     }%
5269   \fi
5270   \def\Fld@checkequals#1=#2=#3\\\{%
5271     \def\@currDisplay{#1}%
5272     \ifx\\#2\\\%
5273       \def\@currValue{#1}%
5274     \else
5275       \def\@currValue{#2}%
5276     \fi
5277   }
5278   \define@key{Field}{loc}{%
5279     \def\Fld@loc{#1}%
5280   }
5281   \define@key{Field}{checked}[true]{%
5282     \lowercase{\Field@boolkey{#1}}{checked}%
5283   }
5284   \define@key{Field}{disabled}[true]{%
5285     \lowercase{\Field@boolkey{#1}}{disabled}%
5286   }
5287   \ifHy@texht
5288     \define@key{Field}{accesskey}{%
5289       \Field@addtoks{accesskey}{#1}%
5290     }%
5291     \define@key{Field}{tabkey}{%
5292       \Field@addtoks{tabkey}{#1}%
5293     }%
5294   \else
5295     \define@key{Field}{accesskey}{%
5296       \Hy@WarnHTMLFieldOption{accesskey}%
5297     }%
5298     \define@key{Field}{tabkey}{%
5299       \Hy@WarnHTMLFieldOption{tabkey}%
5300     }%
5301   \fi
5302   \define@key{Field}{name}{%
5303     \def\Fld@name{#1}%
5304   }
5305   \define@key{Field}{width}{%
5306     \def\Fld@width{#1}%

```

```

5307 \Field@Width#1\setbox0=\hbox{m}%
5308 }
5309 \define@key{Field}{maxlen}{%
5310 \def\Fld@maxlen{#1}%
5311 }
5312 \define@key{Field}{menulength}{%
5313 \Fld@menulength=#1\relax
5314 }
5315 \define@key{Field}{height}{%
5316 \def\Fld@height{#1}%
5317 }
5318 \define@key{Field}{charsize}{%
5319 \Fld@charsize#1%
5320 }
5321 \define@key{Field}{borderwidth}{%
5322 \def\Fld@borderwidth{#1}%
5323 }
5324 \define@key{Field}{borderstyle}{%
5325 \def\Fld@borderstyle{#1}%
5326 }
5327 \define@key{Field}{bordersep}{%
5328 \def\Fld@bordersep{#1}%
5329 }
5330 \define@key{Field}{default}{%
5331 \def\Fld@default{#1}%
5332 }
5333 \define@key{Field}{align}{%
5334 \def\Fld@align{#1}%
5335 }
5336 \define@key{Field}{value}{%
5337 \def\Fld@value{#1}%
5338 }
5339 \define@key{Field}{checkboxsymbol}{%
5340 \Fld@DingDef\Fld@cbsymbol{#1}%
5341 }
5342 \define@key{Field}{radiosymbol}{%
5343 \Fld@DingDef\Fld@radiosymbol{#1}%
5344 }
5345 \def\Fld@DingDef#1#2{%
5346 \def\Fld@temp{}%
5347 \Fld@@DingDef#2\ding{ }\@nil
5348 \let#1\Fld@temp
5349 }
5350 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5351 \expandafter\def\expandafter\Fld@temp\expandafter{%
5352 \Fld@temp
5353 #1%
5354 }%
5355 \ifx\\#3\\%
5356 \expandafter\@gobble
5357 \else
5358 \begingroup
5359 \lcode'0=#2\relax
5360 \lowercase{\endgroup
5361 \expandafter\def\expandafter\Fld@temp\expandafter{%
5362 \Fld@temp
5363 0%

```

```

5364     }%
5365     }%
5366     \expandafter\@firstofone
5367     \fi
5368     {%
5369     \Fld@@DingDef#3\@nil
5370     }%
5371 }

5372 \define@key{Field}{rotation}{%
5373   \def\Fld@rotation{#1}%
5374 }

5375 \define@key{Field}{backgroundcolor}{%
5376   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5377 }
5378 \define@key{Field}{bordercolor}{%
5379   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5380 }
5381 \define@key{Field}{color}{%
5382   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5383 }

5384 \def\Fld@onclick@code{}
5385 \def\Fld@format@code{}
5386 \def\Fld@validate@code{}
5387 \def\Fld@calculate@code{}
5388 \def\Fld@keystroke@code{}
5389 \def\Fld@onfocus@code{}
5390 \def\Fld@onblur@code{}
5391 \def\Fld@onmousedown@code{}
5392 \def\Fld@onmouseup@code{}
5393 \def\Fld@onenter@code{}
5394 \def\Fld@onexit@code{}
5395 \def\Hy@temp#1{%
5396   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5397 }
5398 \def\Hy@@temp#1#2{%
5399   \ifHy@pdfa
5400     \define@key{Field}{#2}{%
5401       \PackageError{hyperref}{%
5402         PDF/A: Additional action ‘#2’ is prohibited%
5403       }\@ehc
5404     }%
5405   \else
5406     \define@key{Field}{#2}{%
5407       \def#1{##1}%
5408     }%
5409   \fi
5410 }
5411 \Hy@temp{keystroke}
5412 \Hy@temp{format}
5413 \Hy@temp{validate}
5414 \Hy@temp{calculate}
5415 \Hy@temp{onfocus}
5416 \Hy@temp{onblur}
5417 \Hy@temp{onenter}
5418 \Hy@temp{onexit}
5419 \ifHy@texht

```

```

5420 \def\Hy@temp#1{%
5421   \define@key{Field}{#1}{%
5422     \Field@addtoks{#1}{##1}%
5423   }%
5424 }%
5425 \else
5426 \def\Hy@temp#1{%
5427   \define@key{Field}{#1}{%
5428     \Hy@WarnHTMLFieldOption{#1}%
5429   }%
5430 }%
5431 \fi
5432 \Hy@temp{ondblclick}
5433 \Hy@temp{onmousedown}
5434 \Hy@temp{onmouseup}
5435 \Hy@temp{onmouseover}
5436 \Hy@temp{onmousemove}
5437 \Hy@temp{onmouseout}
5438 \Hy@temp{onkeydown}
5439 \Hy@temp{onkeyup}
5440 \Hy@temp{onselect}
5441 \Hy@temp{onchange}
5442 \Hy@temp{onkeypress}
5443 \ifHy@texht
5444   \define@key{Field}{onclick}{%
5445     \Field@addtoks{onclick}{#1}%
5446   }%
5447 \else
5448   \ifHy@pdfa
5449     \define@key{Field}{onclick}{%
5450       \PackageError{hyperref}{%
5451         PDF/A: Action 'onclick' is prohibited%
5452       }\@ehc
5453     }%
5454   \else
5455     \define@key{Field}{onclick}{%
5456       \def\Fld@onclick@code{#1}%
5457     }%
5458   \fi
5459 \fi

5460 \DeclareRobustCommand\TextField{%
5461   \@ifnextchar[{\@TextField}{\@TextField[]}%
5462 }
5463 \DeclareRobustCommand\ChoiceMenu{%
5464   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5465 }
5466 \DeclareRobustCommand\CheckBox{%
5467   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5468 }
5469 \DeclareRobustCommand\PushButton{%
5470   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5471 }
5472 \DeclareRobustCommand\Gauge{%
5473   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5474 }
5475 \DeclareRobustCommand\Submit{%
5476   \@ifnextchar[{\@Submit}{\@Submit[]}%

```



```

5477 }
5478 \DeclareRobustCommand\Reset{%
5479   \@ifnextchar[{\@Reset}{\@Reset[]}%
5480 }
5481 \def\LayoutTextField#1#2{% label, field
5482   #1 #2%
5483 }
5484 \def\LayoutChoiceField#1#2{% label, field
5485   #1 #2%
5486 }
5487 \def\LayoutCheckField#1#2{% label, field
5488   #1 #2%
5489 }
5490 \def\LayoutPushButtonField#1{% button
5491   #1%
5492 }
5493 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5494 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5495 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5496 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5497 \def\MakeButtonField#1{%
5498   \sbox0{%
5499     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5500   }%
5501   \@tempdima\ht0 %
5502   \advance\@tempdima by \Fld@borderwidth bp %
5503   \advance\@tempdima by \Fld@borderwidth bp %
5504   \ht0\@tempdima
5505   \@tempdima\dp0 %
5506   \advance\@tempdima by \Fld@borderwidth bp %
5507   \advance\@tempdima by \Fld@borderwidth bp %
5508   \dp0\@tempdima
5509   \box0\relax
5510 }
5511 \def\DefaultHeightofSubmit{14pt}
5512 \def\DefaultWidthofSubmit{2cm}
5513 \def\DefaultHeightofReset{14pt}
5514 \def\DefaultWidthofReset{2cm}
5515 \def\DefaultHeightofCheckBox{\baselineskip}
5516 \def\DefaultWidthofCheckBox{\baselineskip}
5517 \def\DefaultHeightofChoiceMenu{\baselineskip}
5518 \def\DefaultWidthofChoiceMenu{\baselineskip}
5519 \def\DefaultHeightofText{\baselineskip}
5520 \def\DefaultHeightofTextMultiline{4\baselineskip}
5521 \def\DefaultWidthofText{3cm}
5522 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5523 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5524 \def\DefaultOptionsofPushButton{print}
5525 \def\DefaultOptionsofCheckBox{print}
5526 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

5527 \def\DefaultOptionsofListBox{print}
5528 \def\DefaultOptionsofComboBox{print,edit,sort}
5529 \def\DefaultOptionsofPopdownBox{print}
5530 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```
5531 \ifHy@figures
5532 \Hy@Info{Hyper figures ON}%
5533 \else
5534 \Hy@Info{Hyper figures OFF}%
5535 \fi
5536 \ifHy@nesting
5537 \Hy@Info{Link nesting ON}%
5538 \else
5539 \Hy@Info{Link nesting OFF}%
5540 \fi
5541 \ifHy@hyperindex
5542 \Hy@Info{Hyper index ON}%
5543 \else
5544 \Hy@Info{Hyper index OFF}%
5545 \fi
5546 \ifHy@backref
5547 \Hy@Info{backreferencing ON}%
5548 \else
5549 \Hy@Info{backreferencing OFF}%
5550 \fi
5551 \ifHy@colorlinks
5552 \Hy@Info{Link coloring ON}%
5553 \else
5554 \Hy@Info{Link coloring OFF}%
5555 \fi
5556 \ifHy@ocgcolorlinks
5557 \Hy@Info{Link coloring with OCG ON}%
5558 \else
5559 \Hy@Info{Link coloring with OCG OFF}%
5560 \fi
5561 \ifHy@pdfa
5562 \Hy@Info{PDF/A mode ON}%
5563 \else
5564 \Hy@Info{PDF/A mode OFF}%
5565 \fi
```

21 Low-level utility macros

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

```
5566 \edef\hyper@hash{\string#}
5567 \edef\hyper@tilde{\string~}
5568 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
5569 \def\@currentHref{Doc-Start}
5570 \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.

```
5571 \Hy@AtBeginDocument{%
5572 \Hy@pdfstringtrue
5573 \PDF@SetupDoc
5574 \let\PDF@SetupDoc\@empty
5575 \Hy@DisableOption{pdfpagescrop}%
5576 \Hy@DisableOption{pdfpagemode}%
5577 \Hy@DisableOption{pdfnonfullscreenpagemode}%
```

```

5578 \Hy@DisableOption{pdfdirection}%
5579 \Hy@DisableOption{pdfviewarea}%
5580 \Hy@DisableOption{pdfviewclip}%
5581 \Hy@DisableOption{pdfprintarea}%
5582 \Hy@DisableOption{pdfprintclip}%
5583 \Hy@DisableOption{pdfprintscaling}%
5584 \Hy@DisableOption{pdfduplex}%
5585 \Hy@DisableOption{pdfpicktraybypdfsize}%
5586 \Hy@DisableOption{pdfprintpagerange}%
5587 \Hy@DisableOption{pdfnumcopies}%
5588 \Hy@DisableOption{pdfstartview}%
5589 \Hy@DisableOption{pdfstartpage}%
5590 \Hy@DisableOption{pdftoolbar}%
5591 \Hy@DisableOption{pdfmenubar}%
5592 \Hy@DisableOption{pdfwindowui}%
5593 \Hy@DisableOption{pdfitwindow}%
5594 \Hy@DisableOption{pdfcenterwindow}%
5595 \Hy@DisableOption{pdfdisplaydoctitle}%
5596 \Hy@DisableOption{pdfpagelayout}%
5597 \Hy@DisableOption{pdflang}%
5598 \Hy@DisableOption{baseurl}%
5599 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5600 \Hy@pdfstringfalse
5601 }

```

Ignore star from referencing macros:

```

5602 \LetLtxMacro\NoHy@OrgRef\ref
5603 \DeclareRobustCommand*\ref{%
5604   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5605 }
5606 \LetLtxMacro\NoHy@OrgPageRef\pageref
5607 \DeclareRobustCommand*\pageref{%
5608   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5609 }

```

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.

```

5610 \def\NoHyper{%
5611   \def\hyper@link@{##1}##2##3##4{##4}%
5612   \def\hyper@anchor##1{%
5613     \global\let\hyper@livelink\hyper@link
5614     \gdef\hyper@link##1##2##3{##3}%
5615     \def\hyper@anchor##1{%
5616       \def\hyper@anchorstart##1{%
5617         \let\hyper@anchorend\@empty
5618         \def\hyper@linkstart##1##2{%
5619           \let\hyper@linkend\@empty
5620           \def\hyper@linkurl##1##2{##1}%
5621           \def\hyper@linkfile##1##2##3{##1}%
5622           \def\hyper@link@{##1}##2##3{%
5623             \let\Hy@backout\@gobble
5624 }

```

```

5625 \def\stop@hyper{%
5626   \def\hyper@link@[##1]##2##3##4{##4}%
5627   \let\Hy@backout\@gobble
5628   \def\hyper@anchor##1{%
5629     \def\hyper@link##1##2##3{##3}%
5630     \def\hyper@anchor##1{%
5631       \def\hyper@anchorstart##1{%
5632         \let\hyper@anchorend\@empty
5633         \def\hyper@linkstart##1##2{%
5634           \let\hyper@linkend\@empty
5635           \def\hyper@linkurl##1##2{##1}%
5636           \def\hyper@linkfile##1##2##3{##1}%
5637           \def\hyper@link@[##1]##2##3{%
5638             }
5639         \def\endNoHyper{%
5640           \global\let\hyper@link\hyper@livelink
5641         }
5642       \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:

```

5643 \*nohyperref
5644 \RequirePackage{letltxmacro}[2008/06/13]
5645 \let\hyper@anchor\@gobble
5646 \def\hyper@link##1##2##3{##3}%
5647 \let\hyper@anchorstart\@gobble
5648 \let\hyper@anchorend\@empty
5649 \let\hyper@linkstart\@gobbletwo
5650 \let\hyper@linkend\@empty
5651 \def\hyper@linkurl##1##2{##1}%
5652 \def\hyper@linkfile##1##2##3{##1}%
5653 \def\hyper@link@[##1]##2##3{%
5654   \let\PDF@SetupDoc\@empty
5655   \let\PDF@FinishDoc\@empty
5656   \def\nohyperpage##1{##1}

```

Some top-level commands:

```

5657 \def\Acrobatmenu##1##2{\leavevmode##2}
5658 \let\pdfstringdefDisableCommands\@gobbletwo
5659 \let\texorpdfstring\@firstoftwo
5660 \let\pdfbookmark\@undefined
5661 \newcommand\pdfbookmark[3]{}{}
5662 \let\phantomsection\@empty
5663 \let\hypersetup\@gobble
5664 \let\hyperbaseurl\@gobble
5665 \newcommand*{\href}[3]{}{##3}
5666 \let\hyperdef\@gobbletwo
5667 \let\hyperlink\@gobble
5668 \let\hypertarget\@gobble
5669 \def\hyperref{%

```

```

5670 \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5671 }
5672 \long\def\@gobbleopt[#1]{%
5673 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

5674 \LetLtxMacro\NoHy@OrgRef\ref
5675 \DeclareRobustCommand*{\ref}{%
5676 \ifstar\NoHy@OrgRef\NoHy@OrgRef
5677 }
5678 \LetLtxMacro\NoHy@OrgPageRef\pageref
5679 \DeclareRobustCommand*{\pageref}{%
5680 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5681 }
5682 \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}`

```

5683 \*package
5684 \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.

```

5685 \if@filesw
5686 \ifHy@typexml
5687 \immediate\closeout\@mainaux
5688 \immediate\openout\@mainaux\jobname.aux\relax
5689 \immediate\write\@auxout{<relaxxml>\relax}%
5690 \fi
5691 \immediate\write\@auxout{%
5692 \string\providecommand\string\HyperFirstAtBeginDocument{%
5693 \string\AtBeginDocument}^^J%
5694 \string\HyperFirstAtBeginDocument{%
5695 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5696 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5697 \string\gdef\string\contentsline%
5698 \string#1\string#2\string#3\string#4{%
5699 \string\oldcontentsline%
5700 {\string#1}{\string#2}{\string#3}}^^J%
5701 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5702 \string\gdef\string\newlabel\string#1\string#2{%
5703 \string\newlabelxx{\string#1}\string#2}^^J%
5704 \string\gdef\string\newlabelxx%
5705 \string#1\string#2\string#3\string#4\string#5\string#6{%
5706 \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.

```

5707 \string\AtEndDocument{%
5708 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5709 \string\let\string\contentsline\string\oldcontentsline^^J%
5710 \string\let\string\newlabel\string\oldnewlabel^^J%
5711 \string\fi%

```

```
5712      }^^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.

```
5713      \string\fi%
5714      }^^J%
5715      \string\global\string\let\string\hyper@last\relax^^J%
5716      \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
5717      }%
5718      \fi
5719      \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.

```
5720      \ifx\hyper@last\@undefined
5721      \def\@starttoc#1{%
5722      \begingroup
5723      \makeatletter
5724      \IfFileExists{\jobname.#1}{%
5725      \Hy@WarningNoLine{%
5726      old #1 file detected, not used; run LaTeX again%
5727      }%
5728      }{}%
5729      \if@filesw
5730      \expandafter\newwrite\csname tf@#1\endcsname
5731      \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
5732      \fi
5733      \@nobreakfalse
5734      \endgroup
5735      }%
5736      \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
5737      \fi
5738      }
```

25 Title strings

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

```
5739 \ifHy@usetitle
5740 \let\HyOrg@title\title
5741 \let\HyOrg@author\author
5742 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
5743 \def\Hy@scanopttitle[#1]{%
5744 \gdef\Hy@title{#1}%
5745 \HyOrg@title{#1}%
5746 }%
5747 \def\Hy@scantitle#1{%
5748 \gdef\Hy@title{#1}%
5749 \HyOrg@title{#1}%
5750 }%
5751 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
5752 \def\Hy@scanoptauthor[#1]{%
5753 \gdef\Hy@author{#1}%
```

```

5754 \HyOrg@author{#1}%
5755 }%
5756 \def\Hy@scanauthor#1{%
5757 \gdef\Hy@author{#1}%
5758 \HyOrg@author{#1}%
5759 }%

```

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.

```

5760 \begingroup
5761 \def\process@me#1\@nil#2{%
5762 \expandafter\let\expandafter\x\csname @#2\endcsname
5763 \edef\y{\expandafter\strip@prefix\meaning\x}%
5764 \def\c##1#1##2\@nil{%
5765 \ifx\\##1\\%
5766 \else
5767 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5768 \expandafter{\x}%
5769 \fi
5770 }%
5771 \expandafter\c\y\relax#1\@nil
5772 }%
5773 \expandafter\process@me\string\@latex@\@nil{title}%
5774 \expandafter\process@me\string\@latex@\@nil{author}%
5775 \endgroup
5776 \fi
5777 \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.

```

5778 \def\Hy@UseMaketitleString#1{%
5779 \ltx@ifundefined{Hy@#1}{-}{%
5780 \begingroup
5781 \let\Hy@saved@hook\pdfstringdefPreHook
5782 \pdfstringdefDisableCommands{%
5783 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5784 \let\newline\\%
5785 }%
5786 \expandafter\ifx\csname @pdf#1\endcsname\@empty
5787 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5788 \csname Hy@#1\endcsname\@empty
5789 }%
5790 \fi
5791 \global\let\pdfstringdefPreHook\Hy@saved@hook
5792 \endgroup
5793 }%
5794 }
5795 \def\Hy@newline@title#1{ #1}
5796 \def\Hy@newline@author#1{, #1}
5797 \def\Hy@UseMaketitleInfos{%

```

```

5798 \Hy@UseMaketitleString{title}%
5799 \Hy@UseMaketitleString{author}%
5800 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

5801 \RequirePackage{atbegshi}[2007/09/09]
5802 \def\Hy@EveryPageHook{}
5803 \def\Hy@EveryPageBoxHook{}
5804 \def\Hy@FirstPageHook{}
5805 \AtBeginShipout{%
5806   \Hy@EveryPageHook
5807   \ifx\Hy@EveryPageBoxHook\@empty
5808   \else
5809     \setbox\AtBeginShipoutBox=\vbox{%
5810       \offinterlineskip
5811       \Hy@EveryPageBoxHook
5812       \box\AtBeginShipoutBox
5813     }%
5814   \fi
5815 }
5816 \AtBeginShipoutFirst{%
5817   \Hy@FirstPageHook
5818 }
5819 \g@addto@macro\Hy@FirstPageHook{%
5820   \PDF@FinishDoc
5821   \gdef\PDF@FinishDoc{}}%
5822 }

```

27.1 PDF /PageLabels

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

```

5823 \ifHy@pagelabels
5824   \begingroup\expandafter\expandafter\expandafter\endgroup
5825   \expandafter\ifx\csname thepage\endcsname\relax
5826     \Hy@pagelabelsfalse
5827     \Hy@WarningNoLine{%
5828       Option 'pdfpagelabels' is turned off\MessageBreak
5829       because \string\thepage\space is undefined%
5830     }%
5831     \csname fi\endcsname
5832     \csname iffalse\expandafter\endcsname
5833   \fi

```

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

```

5834 \def\thispdfpagelabel#1{%
5835   \gdef\HyPL@thisLabel{#1}%
5836 }%
5837 \global\let\HyPL@thisLabel\relax

```


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

```
5838 \def\HyPL@Labels{}%
```

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

```
5839 \newcount\Hy@abspage
```

```
5840 \Hy@abspage=0 %
```

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

```
5841 \def\HyPL@LastType{init}%
```

```
5842 \def\HyPL@LastNumber{0}%
```

```
5843 \def\HyPL@LastPrefix{}%
```

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

```
5844 \def\HyPL@arabic{D}%
```

```
5845 \def\HyPL@Roman{R}%
```

```
5846 \def\HyPL@roman{r}%
```

```
5847 \def\HyPL@Alph{A}%
```

```
5848 \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.

```
5849 \def\HyPL@EveryPage{%
```

```
5850 \begingroup
```

```
5851 \ifx\HyPL@thisLabel\relax
```

```
5852 \let\HyPL@page\thepage
```

```
5853 \else
```

```
5854 \let\HyPL@page\HyPL@thisLabel
```

```
5855 \global\let\HyPL@thisLabel\relax
```

```
5856 \fi
```

```
5857 \let\HyPL@Type\relax
```

```
5858 \ifnum\the\c@page>0 %
```

```
5859 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
```

```
5860 \fi
```

```
5861 \let\Hy@temp Y%
```

```
5862 \ifx\HyPL@Type\HyPL@LastType
```

```
5863 \else
```

```
5864 \let\Hy@temp N%
```

```
5865 \fi
```

```
5866 \ifx\HyPL@Type\relax
```

```
5867 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
```

```
5868 \else
```

```
5869 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
```

```
5870 \fi
```

```
5871 \ifx\HyPL@Prefix\HyPL@LastPrefix
```

```
5872 \else
```

```
5873 \let\Hy@temp N%
```

```
5874 \fi
```

```
5875 \if Y\Hy@temp
```

```
5876 \advance\c@page by -1 %
```

```
5877 \ifnum\HyPL@LastNumber=\the\c@page\relax
```

```
5878 \else
```

```
5879 \let\Hy@temp N%
```

```
5880 \fi
```

```
5881 \Hy@StepCount\c@page
```

```
5882 \fi
```

```
5883 \if N\Hy@temp
```

```
5884 \ifx\HyPL@Type\relax
```

```

5885     \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5886   \else
5887     \HyPL@StorePageLabel{%
5888       \ifx\HyPL@Prefix\@empty
5889       \else
5890       /P(\HyPL@Prefix)%
5891     \fi
5892     /S/\csname HyPL\HyPL@Type\endcsname
5893     \ifnum\the\c@page=1 %
5894     \else
5895     \space/St \the\c@page
5896     \fi
5897   }%
5898 \fi
5899 \fi
5900 \xdef\HyPL@LastNumber{\the\c@page}%
5901 \global\let\HyPL@LastType\HyPL@Type
5902 \global\let\HyPL@LastPrefix\HyPL@Prefix
5903 \endgroup
5904 \Hy@GlobalStepCount\Hy@abspage
5905 }%

```

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

```

5906 \def\HyPL@CheckThePage#1\@nil{%
5907   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5908 }%

```

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

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

```

5909 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5910   \def\Hy@tempa{#4}%
5911   \def\Hy@tempb{\csname\endcsname\c@page}%
5912   \ifx\Hy@tempa\Hy@tempb
5913     \expandafter\ifx\csname HyPL#3\endcsname\relax
5914     \else
5915       \def\HyPL@Type{#3}%
5916       \def\HyPL@Prefix{#2}%
5917     \fi
5918   \else
5919     \begingroup
5920     \let\Hy@next\endgroup
5921     \let\HyPL@found\@undefined
5922     \def\arabic{\HyPL@Format{arabic}}%
5923     \def\Roman{\HyPL@Format{Roman}}%
5924     \def\roman{\HyPL@Format{roman}}%
5925     \def\Alph{\HyPL@Format{Alph}}%
5926     \def\alph{\HyPL@Format{alph}}%
5927     \protected@edef\Hy@temp{#1}%
5928     \ifx\HyPL@found\relax
5929       \toks@{\expandafter{\Hy@temp}}%
5930     \edef\Hy@next{\endgroup
5931       \noexpand\HyPL@@@CheckThePage\the\toks@
5932       \noexpand\HyPL@found\relax\noexpand\@nil
5933     }%

```

```

5934     \fi
5935     \Hy@next
5936   \fi
5937 }%

```

`\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`.

```

5938 \def\HyPL@Format#1#2{%
5939   \ifx\HyPL@found\@undefined
5940     \expandafter\ifx\csname c@#2\endcsname\c@page
5941       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5942     \else
5943       \expandafter\noexpand\csname#1\endcsname{#2}%
5944     \fi
5945   \else
5946     \expandafter\noexpand\csname#1\endcsname{#2}%
5947   \fi
5948 }%

```

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

```

5949 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5950   \def\Hy@tempa{#3}%
5951   \def\Hy@tempb{\HyPL@found\relax}%
5952   \ifx\Hy@tempa\Hy@tempb
5953     \def\HyPL@Type{#2}%
5954     \def\HyPL@Prefix{#1}%
5955   \fi
5956 }%

```

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

```

5957 \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`.

```

5958 \def\HyPL@Useless{0<</S/D>>}%
5959 \@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.

```

5960 \def\HyPL@SetPageLabels{%
5961   \@onelevel@sanitize\HyPL@Labels
5962   \ifx\HyPL@Labels\@empty
5963   \else
5964     \ifx\HyPL@Labels\HyPL@Useless
5965     \else
5966       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5967     \fi
5968   \fi
5969 }%

```

```

5970 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5971 \fi

```

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

```

5972 \Hy@DisableOption{pdfpagelabels}
5973 </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`

```
5974 <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.

```
5975 <*vTeX>
5976 \providecommand*{\XR@ext}{pdf}
5977 \edef\Hy@VTeXversion{%
5978   \ifx\VTeXversion\@undefined
5979     \z@
5980   \else
5981     \ifx\VTeXversion\relax
5982       \z@
5983     \else
5984       \VTeXversion
5985     \fi
5986   \fi
5987 }
5988 \begingroup
5989   \ifnum\Hy@VTeXversion<660 %
5990     \gdef\Hy@PutCatalog#1{%
5991       \Hy@WarningNoLine{%
5992         VTeX 6.59g or above required for pdfpagelabels%
5993       }%
5994     }%
5995   \else
5996     \gdef\Hy@PutCatalog#1{%
5997       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5998     }%
5999     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6000       \ifx\\#2\\%
6001         \else
6002           \immediate\special{!pdfpagelabels #2}%
6003         \fi
6004       }%
6005     \fi
6006 \endgroup
6007 </vTeX>

6008 <*pdfTeX | vTeX>
```

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

```
6009 \ifHy@pagelabels
6010   \def\HyPL@StorePageLabel#1{%
6011     \toks@\expandafter{\HyPL@Labels}%
6012     \xdef\HyPL@Labels{%
6013       \the\toks@
6014       \the\Hy@abspage<<#1>>%
6015     }%
6016   }%
```

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.

```
6017 \RequirePackage{atveryend}[2009/12/07]%
6018 \AtVeryEndDocument{%
6019   \HyPL@SetPageLabels
6020 }%
6021 \fi
6022 </pdfTeX | vTeX>
```

27.1.2 xetex

```
6023 < *xetex >
6024 \HyPsd@LoadUnicode
6025 \Hy@unicodetrue
6026 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6027 \else
6028   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6029 \fi
6030 \HyPsd@LoadStringEncoding
6031 \define@key{Hyp}{unicode}[true]{%
6032   \Hy@boolkey{unicode}{#1}%
6033   \ifHy@unicode
6034     \else
6035       \Hy@Warning{%
6036         XeTeX driver only supports 'unicode=true'.\MessageBreak
6037         Ignoring option setting 'unicode=false'%
6038       }%
6039       \Hy@unicodetrue
6040 \fi
6041 }
6042 \define@key{Hyp}{pdfencoding}{%
6043   \edef\HyPsd@temp{#1}%
6044   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6045     \let\HyPsd@pdfencoding\HyPsd@temp
6046   \else
6047     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6048       \let\HyPsd@pdfencoding\HyPsd@temp
6049     \else
6050       \Hy@Warning{%
6051         XeTeX driver only supports\MessageBreak
6052         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6053         setting 'pdfencoding=\HyPsd@temp'%
6054       }%
6055     \fi
6056   \fi
6057 }
6058 \let\HyXeTeX@CheckUnicode\relax
6059 </xetex>
```

27.1.3 pdfmarkbase, dvipdfm, xetex

```
6060 < *pdfmarkbase >
6061 \begingroup
6062 \@ifundefined{headerps@out}{}{%
6063   \toks@\expandafter{\Hy@FirstPageHook}%
6064   \xdef\Hy@FirstPageHook{%
```

```

6065 \noexpand\headerps@out{%
6066 systemdict /pdfmark known%
6067 {%
6068 userdict /?pdfmark systemdict /exec get put%
6069 }{%
6070 userdict /?pdfmark systemdict /pop get put %
6071 userdict /pdfmark systemdict /cleartomark get put%
6072 }%
6073 ifelse%
6074 }%
6075 \the\toks@
6076 }%
6077 }%
6078 \endgroup
6079 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6080 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6081 \<*pdfmarkbase>
6082 \def\Hy@PutCatalog#1{%
6083 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6084 }
6085 \</pdfmarkbase>

6086 \<*pdfmarkbase | dvipdfm | xetex>
6087 \ifHy@pagelabels

```

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

```

6088 \def\HyPL@StorePageLabel#1{%
6089 \if@filesw
6090 \begingroup
6091 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6092 \immediate\write\@mainaux{%
6093 \string\HyPL@Entry{\Hy@tempa}%
6094 }%
6095 \endgroup
6096 \fi
6097 }%

```

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.

```

6098 \Hy@AtBeginDocument{%
6099 \if@filesw
6100 \immediate\write\@mainaux{%
6101 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6102 }%
6103 \fi
6104 \ifx\HyPL@Labels\@empty
6105 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6106 \else
6107 \HyPL@SetPageLabels
6108 \fi
6109 \let\HyPL@Entry\@gobble
6110 }%

```

\HyPL@Entry

```

6111 \def\HyPL@Entry#1{%

```

```

6112 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6113   \HyPL@Labels
6114   #1%
6115   }%
6116 }%

6117 \fi
6118 </pdfmarkbase | dvipdfm | xetex>

6119 <*package>

6120 \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

```

6121 \def\Hy@CounterExists#1{%
6122   \begingroup\expandafter\expandafter\expandafter\endgroup
6123   \expandafter\ifx\csname c@#1\endcsname\relax
6124     \expandafter\@gobble
6125   \else
6126     \begingroup\expandafter\expandafter\expandafter\endgroup
6127     \expandafter\ifx\csname the#1\endcsname\relax
6128       \expandafter\expandafter\expandafter\@gobble
6129     \else
6130       \expandafter\expandafter\expandafter\@firstofone
6131     \fi
6132   \fi
6133 }
6134 \Hy@CounterExists{section}{%
6135   \newcommand\theHequation{\theHsection.\arabic{equation}}}%
6136 }
6137 \Hy@CounterExists{part}{%
6138   \newcommand\theHpart{\arabic{part}}}%
6139 }
6140 \ltx@ifundefined{thechapter}{%
6141   \newcommand\theHsection {\arabic{section}}}%
6142   \newcommand\theHfigure   {\arabic{figure}}}%
6143   \newcommand\theHtable    {\arabic{table}}}%
6144 }{%
6145   \newcommand\theHchapter  {\arabic{chapter}}}%

```

```

6146 \newcommand\theHfigure    {\theHchapter.\arabic{figure}}%
6147 \newcommand\theHtable    {\theHchapter.\arabic{table}}%
6148 \newcommand\theHsection   {\theHchapter.\arabic{section}}%
6149 }
6150 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
6151 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6152 \newcommand\theHparagraph  {\theHsubsubsection.\arabic{paragraph}}
6153 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6154 \newcommand\theHtheorem    {\theHsection.\arabic{theorem}}
6155 \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.

```

6156 \let\H@item\item
6157 \newcounter{Item}
6158 \def\theHItem{\arabic{Item}}
6159 \def\item{%
6160   \@hyper@itemfalse
6161   \if@nmbrlist\@hyper@itemtrue\fi
6162   \H@item
6163 }
6164 \newcommand\theHenumi    {\theHItem}
6165 \newcommand\theHenumii   {\theHItem}
6166 \newcommand\theHenumiii  {\theHItem}
6167 \newcommand\theHenumiv   {\theHItem}
6168 \newcommand\theHHfootnote {\arabic{Hfootnote}}
6169 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
6170 \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.

```

6171 \let\H@refstepcounter\refstepcounter
6172 \edef\name@of@eq{equation}%
6173 \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.

```

6174 \newif\if@hyper@item
6175 \newif\if@skiphyperref
6176 \@hyper@itemfalse
6177 \@skiphyperreffalse
6178 \def\refstepcounter#1{%
6179   \ifHy@pdfstring
6180   \else
6181     \H@refstepcounter{#1}%
6182     \edef\This@name{#1}%
6183     \ifx\This@name\name@of@slide
6184     \else
6185       \if@skiphyperref
6186       \else
6187         \if@hyper@item
6188           \stepcounter{Item}%
6189           \hyper@refstepcounter{Item}%
6190           \@hyper@itemfalse
6191         \else

```



```

6192      \hyper@refstepcounter{#1}%
6193      \fi
6194      \fi
6195      \fi
6196      \fi
6197 }
6198 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS_{La}T_EX 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.

```

6199 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6200 \def\hyper@refstepcounter#1{%
6201   \edef\This@name{#1}%
6202   \ifx\This@name\name@of@eq
6203     \@ifundefined{theHequation}{%
6204       \make@stripped@name{\theequation}%
6205       \let\theHequation\newname
6206     }{}%
6207   \fi
6208   \@ifundefined{theH#1}{%
6209     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6210   }{}%
6211   \hyper@makecurrent{#1}%
6212   \ifmeasuring@
6213   \else
6214     \Hy@raisedlink{%
6215       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6216     }%
6217   \fi
6218 }

```

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`.

```

6219 \begingroup\expandafter\expandafter\expandafter\endgroup
6220 \expandafter\ifx\csname chapter\endcsname\relax
6221   \def\Hy@chapterstring{section}%
6222 \else
6223   \def\Hy@chapterstring{chapter}%
6224 \fi
6225 \def\Hy@appendixstring{appendix}
6226 \def\Hy@chapapp{\Hy@chapterstring}
6227 \let\HyOrg@appendix\appendix
6228 \def\appendix{%
6229   \ltx@ifundefined{chapter}%
6230     {\gdef\theHsection{\Alph{section}}}%
6231     {\gdef\theHchapter{\Alph{chapter}}}%
6232   \xdef\Hy@chapapp{\Hy@appendixstring}%
6233   \HyOrg@appendix
6234 }

```

`\Hy@Test@alph`

```

6235 \def\Hy@Test@alph#1{%
6236   \ifcase#1\or
6237     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6238     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6239     u\or v\or w\or x\or y\or z%
6240   \else
6241     \@ctrerr
6242   \fi
6243 }

```

\Hy@Test@Alph

```

6244 \def\Hy@Test@Alph#1{%
6245   \ifcase#1\or
6246     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6247     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6248     U\or V\or W\or X\or Y\or Z%
6249   \else
6250     \@ctrerr
6251   \fi
6252 }

```

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

```

6253 \def\hyper@makecurrent#1{%
6254   \begingroup
6255   \edef\Hy@param{#1}%
6256   \ifx\Hy@param\Hy@chapterstring
6257     \let\Hy@param\Hy@chapapp
6258   \fi
6259   \ifHy@hypertextnames
6260     \let\@number\@firstofone
6261     \def\@fnsymbol##1{fnsymbol\number##1}%
6262     \ifx\@alph\Hy@Test@alph
6263       \else
6264         \def\@alph{alph\number}%
6265       \fi
6266     \ifx\@Alph\Hy@Test@Alph
6267       \else
6268         \def\@Alph{Alph\number}%
6269       \fi
6270     \ifHy@naturalnames
6271       \let\textlatin\@firstofone
6272       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6273     \else
6274       \xdef\HyperGlobalCurrentHref{%
6275         \csname
6276           the%
6277           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6278           #1%
6279         \endcsname
6280       }%
6281     \fi
6282     \xdef\HyperGlobalCurrentHref{%
6283       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6284     }%
6285   \else
6286     \Hy@GlobalStepCount\Hy@linkcounter

```

```

6287 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6288 \fi
6289 \endgroup
6290 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6291 \ifHy@localanchorname
6292 \let\@currentHref\HyperLocalCurrentHref
6293 \else
6294 \global\let\@currentHref\HyperGlobalCurrentHref
6295 \fi
6296 }

```

`\Hy@MakeCurrentHref`

```

6297 \def\Hy@MakeCurrentHref#1{%
6298 \edef\HyperLocalCurrentHref{#1}%
6299 \@onelevel@sanitize\HyperLocalCurrentHref
6300 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6301 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6302 \ifHy@localanchorname
6303 \let\@currentHref\HyperLocalCurrentHref
6304 \else
6305 \global\let\@currentHref\HyperGlobalCurrentHref
6306 \fi
6307 }

```

`\Hy@MakeCurrentHrefAuto`

```

6308 \def\Hy@MakeCurrentHrefAuto#1{%
6309 \Hy@GlobalStepCount\Hy@linkcounter
6310 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6311 }

```

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

```

6312 \def\@currentHlabel{\@currentHref}

6313 \ifpackageloaded{fancyvrb}{%
6314 \ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
6315 \def\FV@StepLineNo{%
6316 \FV@SetLineNo
6317 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6318 \FV@StepLineNo
6319 }%
6320 }%
6321 }{}

```

29 Package lastpage support

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

`\lastpage@putlabel`

```

6322 \Hy@AtBeginDocument{%

```

```

6323 \@ifclassloaded{revtex4}{%
6324   \@namedef{ver@lastpage.sty}{1994/06/25}%
6325 }{}%
6326 \@ifpackageloaded{lastpage}{%
6327   \ifHy@pageanchor
6328   \else
6329     \Hy@WarningNoLine{%
6330       The \string\pageref{LastPage} link doesn't work\MessageBreak
6331       with disabled option 'pageanchor'%
6332     }%
6333   \fi
6334   \def\lastpage@putlabel{%
6335     \addtocounter{page}{-1}%
6336     \if@filesw
6337       \begingroup
6338         \let\@number\@firstofone
6339         \ifHy@pageanchor
6340           \ifHy@hypertextnames
6341             \ifHy@plainpages
6342               \def\Hy@temp{\arabic{page}}%
6343             \else
6344               \Hy@unicodefalse
6345               \pdfstringdef\Hy@temp{\thepage}%
6346             \fi
6347           \else
6348             \def\Hy@temp{\the\Hy@pagecounter}%
6349           \fi
6350         \fi
6351         \immediate\write\@auxout{%
6352           \string\newlabel
6353           {LastPage}{-1}{\thepage}{-1}%
6354           \ifHy@pageanchor page.\Hy@temp\fi}{-1}}%
6355       }%
6356     \endgroup
6357   \fi
6358   \addtocounter{page}{1}%
6359 }{}%
6360 \@ifclassloaded{revtex4}{%
6361   \begingroup
6362     \toks@{\expandafter{\lastpage@putlabel}}%
6363     \edef\x{\endgroup
6364       \def\noexpand\lastpage@putlabel{%
6365         \noexpand\stepcounter{page}%
6366         \the\toks@
6367         \noexpand\addtocounter{page}\noexpand\m@ne
6368       }%
6369     }%
6370     \x
6371   }{}%
6372 }{}%
6373 }
6374 \end{package}
6375 \check
6376 \checkpackage{lastpage}[1994/06/25]
6377 \checkcommand\def\lastpage@putlabel{%
6378   \addtocounter{page}{-1}%
6379   \immediate\write\@auxout{%

```

```

6380 \string\newlabel{LastPage}{\thepage}%
6381 }%
6382 \addtocounter{page}{1}%
6383 }
6384 </check>
6385 <*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.

```

6386 \def\hypergetref#1{\getrefbykeydefault{#1}{\{}}{??}}
6387 \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:

```

6388 \@ifpackageloaded{titlesec}{%
6389 \def\ttl@Hy@steplink#1{%
6390 \Hy@MakeCurrentHrefAuto{#1*}%
6391 \edef\ttl@Hy@saveanchor{%
6392 \noexpand\Hy@raisedlink{%
6393 \noexpand\hyper@anchorstart{\@currentHref}%
6394 \noexpand\hyper@anchorend
6395 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6396 \noexpand\ttl@Hy@PatchSaveWrite
6397 }%
6398 }%
6399 }%
6400 \def\ttl@Hy@PatchSaveWrite{%
6401 \begingroup
6402 \toks@\expandafter{\ttl@savewrite}%
6403 \edef\x{\endgroup
6404 \def\noexpand\ttl@savewrite{%
6405 \let\noexpand\@currentHref
6406 \noexpand\ttl@Hy@SavedCurrentHref
6407 \the\toks@
6408 }%
6409 }%
6410 \x
6411 }%
6412 \def\ttl@Hy@refstepcounter#1{%
6413 \let\ttl@b\Hy@raisedlink
6414 \def\Hy@raisedlink##1{%
6415 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6416 }%
6417 \refstepcounter{#1}%
6418 \let\Hy@raisedlink\ttl@b
6419 }%
6420 }{}

```

Package titletoc support:

```

6421 \@ifpackageloaded{titletoc}{%

```


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

```

6461 \begingroup
6462 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6463 \endgroup
6464 \def\LT@start{%
6465 #1%
6466 \ifvoid\LT@foot#2\fi
6467 \let\@currentHref\Hy@LT@currentHref
6468 \Hy@raisedlink{%
6469 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6470 }%
6471 #3%
6472 }%
6473 }%
6474 \expandafter\x\LT@start\@nil
6475 }{}

```

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.

```

6476 \let\new@refstepcounter\refstepcounter
6477 \let\H@equation\equation
6478 \let\H@endequation\endequation
6479 \@ifpackageloaded{amsmath}{%
6480 \long\def\Hy@temp{%
6481 \incr@eqnum
6482 \mathdisplay@push
6483 \st@rredfalse \global\@eqnswtrue
6484 \mathdisplay{equation}%
6485 }%
6486 \ifx\Hy@temp\equation
6487 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6488 \csname iftrue\endcsname
6489 \else
6490 \long\def\equation{%
6491 \mathdisplay@push
6492 \st@rredfalse \global\@eqnswtrue
6493 \mathdisplay{equation}%
6494 \incr@eqnum
6495 }%
6496 \fi
6497 \fi
6498 }{%
6499 \def\equation{%
6500 \let\refstepcounter\H@refstepcounter
6501 \H@equation
6502 \@ifundefined{theHequation}{%
6503 \make@stripped@name{\theequation}%
6504 \let\theHequation\newname
6505 }{}%
6506 \hyper@makecurrent{equation}%

```

```

6507 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
6508 \let\refstepcounter\new@refstepcounter
6509 }%
6510 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6511 }

```

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.

```

6512 \newif\if@eqnstar
6513 \@eqnstarfalse
6514 \let\H@eqnarray\eqnarray
6515 \let\H@endeqnarray\endeqnarray
6516 \def\eqnarray{%
6517 \let\Hy@reserved@a\relax
6518 \def\@currentHref{}%
6519 \H@eqnarray
6520 \if@eqnstar
6521 \else
6522 \ifx\\\@currentHref\\%
6523 \else
6524 \@ifundefined{theHequation}{%
6525 \make@stripped@name{\theequation}%
6526 \let\theHequation\newname
6527 }{}%
6528 \hyper@makecurrent{equation}%
6529 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6530 \fi
6531 \fi
6532 }
6533 \def\endeqnarray{%
6534 \H@endeqnarray
6535 }

```

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.

```

6536 \@namedef{eqnarray*}{%
6537 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6538 }
6539 \@namedef{endeqnarray*}{%
6540 \nonumber\endeqnarray\@eqnstarfalse
6541 }

```

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

```

6542 \ltx@ifundefined{subeqnarray}{}{%
6543 \let\H@subeqnarray\subeqnarray
6544 \let\H@endsubeqnarray\endsubeqnarray
6545 \def\subeqnarray{%
6546 \let\Hy@reserved@a\relax
6547 \H@subeqnarray
6548 \@ifundefined{theHequation}{%
6549 \make@stripped@name{\theequation}%
6550 \let\theHequation\newname
6551 }{}%
6552 \hyper@makecurrent{equation}%
6553 \hyper@anchorstart{\@currentHref}{\hyper@anchorend

```



```

6554 }%
6555 \def\endsubeqnarray{%
6556   \H@endsubeqnarray
6557 }%
6558 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6559 }

```

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

```

6560 \def\make@stripped@name#1{%
6561   \begingroup
6562   \escapechar\m@ne
6563   \global\let\newname\@empty
6564   \protected@edef\Hy@tempa{#1}%
6565   \edef\@tempb{%
6566     \noexpand\@tfor\noexpand\Hy@tempa:=%
6567     \expandafter\strip@prefix\meaning\Hy@tempa
6568   }%
6569   \@tempb\do{%
6570     \if\Hy@tempa\else
6571       \if\Hy@tempa\else
6572         \xdef\newname{\newname\Hy@tempa}%
6573       \fi
6574     \fi
6575   }%
6576   \endgroup
6577 }

```

Support for amsmath's subequations:

```

6578 \begingroup\expandafter\expandafter\expandafter\endgroup
6579 \expandafter\ifx\csname subequations\endcsname\relax
6580 \else
6581   \let\HyOrg@subequations\subequations
6582   \def\subequations{%
6583     \stepcounter{equation}%
6584     \protected@edef\theHparentequation{%
6585       \ifundefined{theHequation}\theequation\theHequation
6586     }%
6587     \addtocounter{equation}{-1}%
6588     \HyOrg@subequations
6589     \def\theHequation{\theHparentequation\alph{equation}}%
6590     \ignorespaces
6591   }%
6592 \fi

```

Support for package amsthm (Daniel Müllner):

```

6593 \@ifpackageloaded{amsthm}{%
6594   \def\@thm#1#2#3{%
6595     \ifhmode
6596       \unskip\unskip\par
6597     \fi
6598     \normalfont
6599     \trivlist
6600     \let\thmheadn\relax
6601     \let\thm@swap\@gobble
6602     \thm@notefont{\fontseries\mddefault\upshape}%
6603     \thm@headpunct{.}% add period after heading
6604     \thm@headsep 5\p@ plus\p@ minus\p@\relax
6605     \thm@space@setup

```

```

6606 #1% style overrides
6607 \@topsep \thm@preskip          % used by thm head
6608 \@topsepadd \thm@postskip      % used by \Endparentv
6609 \def\dth@counter{#2}%
6610 \ifx\@empty\dth@counter
6611   \def\@tempa{%
6612     \oparg{\@begintheorem{#3}{}}[]%
6613   }%
6614 \else
6615   \H@refstepcounter{#2}%
6616   \hyper@makecurrent{#2}%
6617   \let\Hy@dth@currentHref\@currentHref
6618   \def\@tempa{%
6619     \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6620   }%
6621 \fi
6622 \@tempa
6623 }%
6624 \dth@everypar={%
6625   \@minipagefalse
6626   \global\@newlistfalse
6627   \@noparitemfalse
6628   \if@inlabel
6629     \global\@inlabelfalse
6630     \begingroup
6631     \setbox\z@\lastbox
6632     \ifvoid\z@
6633       \kern-\itemindent
6634     \fi
6635   \endgroup
6636   \ifx\@empty\dth@counter
6637   \else
6638     \Hy@raisedlink{%
6639       \hyper@anchorstart{%
6640         \ifundefined{Hy@dth@currentHref}%
6641           \@currentHref\Hy@dth@currentHref
6642         }\hyper@anchorend
6643       }%
6644     \fi
6645     \unhbox\@labels
6646   \fi
6647   \if@nobreak
6648     \@nobreakfalse \clubpenalty\@M
6649   \else
6650     \clubpenalty\@clubpenalty \everypar{}%
6651   \fi
6652 }%
6653 }{}

```

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.

```

6654 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6655 \ifHy@hyperfootnotes
6656   \newcounter{Hfootnote}%
6657   \let\H@@footnotetext\@footnotetext
6658   \let\H@@footnotemark\@footnotemark
6659   \def\@xfootnotenext[#1]{%
6660     \begingroup
6661       \csname c@\@mpfn\endcsname #1\relax
6662       \unrestored@protected@xdef\@thefnmark{\thempfn}%
6663     \endgroup
6664     \ifx\@footnotetext\@mpfootnotetext
6665       \expandafter\H@@mpfootnotetext
6666     \else
6667       \expandafter\H@@footnotetext
6668     \fi
6669   }%
6670   \def\@xfootnotemark[#1]{%
6671     \begingroup
6672       \c@footnote #1\relax
6673       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6674     \endgroup
6675     \H@@@footnotemark
6676   }%
6677   \let\H@@mpfootnotetext\@mpfootnotetext
6678   \long\def\@mpfootnotetext#1{%
6679     \H@@mpfootnotetext{%
6680       \ifHy@nesting
6681         \expandafter\hyper@@anchor\expandafter{%
6682           \Hy@footnote@currentHref
6683         }{#1}%
6684       \else
6685         \Hy@raisedlink{%
6686           \expandafter\hyper@@anchor\expandafter{%
6687             \Hy@footnote@currentHref
6688           }{\relax}%
6689         }#1%
6690       \fi
6691     }%
6692   }%
6693   \long\def\@footnotetext#1{%
6694     \H@@@footnotetext{%
6695       \ifHy@nesting
6696         \expandafter\hyper@@anchor\expandafter{%
6697           \Hy@footnote@currentHref
6698         }{#1}%
6699       \else
6700         \Hy@raisedlink{%
6701           \expandafter\hyper@@anchor\expandafter{%
6702             \Hy@footnote@currentHref
6703           }{\relax}%
6704         }%
6705       \let\@currentHref\Hy@footnote@currentHref
6706       \let\@currentlabelname\@empty
6707       #1%
6708     \fi
6709   }%
6710 }%

```

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.

```

6711 \def\@footnotemark{%
6712   \leavevmode
6713   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6714   \stepcounter{Hfootnote}%
6715   \global\let\Hy@saved@currentHref\@currentHref
6716   \hyper@makecurrent{Hfootnote}%
6717   \global\let\Hy@footnote@currentHref\@currentHref
6718   \global\let\@currentHref\Hy@saved@currentHref
6719   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6720   \@makefnmark
6721   \hyper@linkend
6722   \ifhmode\spacefactor\@x@sf\fi
6723   \relax
6724 }%
```

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

```

6725 \@ifpackageloaded{longtable}{%
6726   \CheckCommand*\LT@p@ftntext}[1]{%
6727     \edef\@tempa{%
6728       \the\LT@p@ftn
6729       \noexpand\footnotetext[\the\c@footnote]%
6730     }%
6731     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6732   }%
6733   \long\def\LT@p@ftntext#1{%
6734     \edef\@tempa{%
6735       \the\LT@p@ftn
6736       \begingroup
6737         \noexpand\c@footnote=\the\c@footnote\relax
6738         \noexpand\protected@xdef
6739           \noexpand\@thefnmark{\noexpand\thempfn}%
6740         \noexpand\protected@xdef\noexpand\@thefnmark{%
6741           \noexpand\thempfn
6742         }%
6743         \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6744         \expandafter{%
6745           \Hy@footnote@currentHref
6746         }%
6747       }%
6748       \global\LT@p@ftn\expandafter{%
6749         \@tempa{#1}%
6750       }%
6751     }%
6752   }%
6753   \long\def\Hy@LT@footnotetext#1#2{%
6754     \H@@@footnotetext{%
6755       \ifHy@nesting
6756         \hyper@@anchor{#1}{#2}%
6757       \else
6758         \Hy@raisedlink{%

```

```

6759     \hyper@@anchor{#1}{\relax}%
6760     }%
6761     \def\@currentHref{#1}%
6762     \let\@currentlabelname\@empty
6763     #2%
6764     \fi
6765     }%
6766     }%
6767     }{}%

```

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

```

6768 \ifpackageloaded{fancyvrb}{%
6769 \def\V@@footnotetext{%
6770 \insert\footins\bgroup
6771 \csname reset@font\endcsname
6772 \footnotesize
6773 \interlinepenalty\interfootnotelinepenalty
6774 \splittopskip\footnotesep
6775 \splitmaxdepth\dp\strutbox
6776 \floatingpenalty \@MM
6777 \hsize\columnwidth
6778 \@parboxrestore
6779 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6780 \@makefnintext{}%
6781 \rule{\z@}{\footnotesep}%
6782 \bgroup
6783 \aftergroup\V@@@footnotetext
6784 \Hy@raisedlink{%
6785 \expandafter\hyper@@anchor\expandafter{%
6786 \Hy@footnote@currentHref
6787 }{\relax}%
6788 }%
6789 \let\@currentHref\Hy@footnote@currentHref
6790 \let\@currentlabelname\@empty
6791 \ignorespaces
6792 }%
6793 }{}%

```

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

```

6794 \def\Hy@temp#1{%
6795 \begingroup
6796 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6797 \endgroup
6798 \@footnotemark
6799 }%
6800 \ifx\Hy@temp\footref
6801 \def\footref#1{%
6802 \begingroup
6803 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6804 \endgroup
6805 \H@@@footnotemark
6806 }%
6807 \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.

```

6808 \let\HyOrg@maketitle\maketitle
6809 \def\maketitle{%

```

```

6810 \let\Hy@saved@footnotemark\@footnotemark
6811 \let\Hy@saved@footnotetext\@footnotetext
6812 \let\@footnotemark\H@@footnotemark
6813 \let\@footnotetext\H@@footnotetext
6814 \ifnextchar[\Hy@maketitle@optarg{% ]
6815   \HyOrg@maketitle
6816   \Hy@maketitle@end
6817 }%
6818 }%
6819 \def\Hy@maketitle@optarg[#1]{%
6820   \HyOrg@maketitle[{#1}]%
6821   \Hy@maketitle@end
6822 }%
6823 \def\Hy@maketitle@end{%
6824   \ifx\@footnotemark\H@@footnotemark
6825     \let\@footnotemark\Hy@saved@footnotemark
6826   \fi
6827   \ifx\@footnotetext\H@@footnotetext
6828     \let\@footnotetext\Hy@saved@footnotetext
6829   \fi
6830 }%

```

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

```

6831 \def\realfootnote{%
6832   \ifnextchar[\@xfootnote{%
6833     \stepcounter{\@mpfn}%
6834     \protected@xdef\@thefnmark{\thempfn}%
6835     \H@@@footnotemark\H@@@footnotetext
6836   }%
6837 }%

6838 \fi
6839 \Hy@DisableOption{hyperfootnotes}

6840 </package>
6841 <*check>
6842 \checklatex
6843 \checkcommand\def\@xfootnotenext[#1]{%
6844   \begingroup
6845     \csname c@\@mpfn\endcsname #1\relax
6846     \unrestored@protected@xdef\@thefnmark{\thempfn}%
6847   \endgroup
6848   \@footnotetext
6849 }
6850 \checkcommand\def\@xfootnotemark[#1]{%
6851   \begingroup
6852     \c@footnote #1\relax
6853     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6854   \endgroup
6855   \@footnotemark
6856 }
6857 \checkcommand\def\@footnotemark{%
6858   \leavevmode
6859   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6860   \@makefnmark
6861   \ifhmode\spacefactor\@x@sf\fi
6862   \relax
6863 }

```

```

6864 </check>
6865 <*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.

```

6866 \def\caption{%
6867   \ifx\@captype\@undefined
6868     \@latex@error{\noexpand\caption outside float}\@ehd
6869     \expandafter\@gobble
6870   \else
6871     \H@refstepcounter\@captype
6872     \let\Hy@tempa\@caption
6873     \@ifundefined{float@caption}{%
6874       {%
6875         \expandafter\ifx\csname @float@c@\@captype\endcsname
6876           \float@caption
6877         \let\Hy@tempa\Hy@float@caption
6878       \fi
6879     }%
6880     \expandafter\@firstofone
6881   \fi
6882   {\@dblarg{\Hy@tempa\@captype}}%
6883 }
6884 \long\def\@caption#1[#2]#3{%
6885   \expandafter\ifx\csname if@capstart\expandafter\endcsname
6886     \csname iftrue\endcsname
6887     \global\let\@currentHref\hc@currentHref
6888   \else
6889     \hyper@makecurrent{\@captype}%
6890   \fi
6891   \@ifundefined{NR@gettitle}{%
6892     \def\@currentlabelname{#2}%
6893   }{%
6894     \NR@gettitle{#2}%
6895   }%
6896   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6897     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6898   }%
6899   \begingroup
6900     \@parboxrestore
6901     \if@minipage
6902       \@setminipage
6903     \fi
6904     \normalsize
6905     \expandafter\ifx\csname if@capstart\expandafter\endcsname
6906       \csname iftrue\endcsname
6907       \global\@capstartfalse
6908       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6909     \else
6910       \makecaption{\csname fnum@#1\endcsname}{%
6911         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6912     \ifHy@nesting

```

```

6913     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6914     \else
6915     \Hy@raisedlink{%
6916     \expandafter\hyper@@anchor\expandafter{%
6917     \@currentHref
6918     }\relax}%
6919     }%
6920     #3%
6921     \fi
6922     }%
6923     \fi
6924     \par
6925     \endgroup
6926 }

```

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.

```

6927 \let\Hy@float@caption\@caption
6928 \ifpackageloaded{float}{%
6929 \def\Hy@float@caption{%
6930 \ifx\Hy@float@currentHref\@undefined
6931 \hyper@makecurrent{\@cuptype}%
6932 \global\let\Hy@float@currentHref\@currentHref
6933 \else
6934 \let\@currentHref\Hy@float@currentHref
6935 \fi
6936 \float@caption
6937 }%
6938 \let\HyOrg@float@makebox\float@makebox
6939 \renewcommand{\float@makebox}[1]{%
6940 \HyOrg@float@makebox{%
6941 #1\relax
6942 \ifx\Hy@float@currentHref\@undefined
6943 \else
6944 \expandafter\hyper@@anchor\expandafter{%
6945 \Hy@float@currentHref
6946 }\relax}%
6947 \global\let\Hy@float@currentHref\@undefined
6948 \fi
6949 }%
6950 }%
6951 }{}

6952 \end{package}
6953 \ifcheck
6954 \checklatex[1999/06/01 - 2000/06/01]
6955 \checkcommand\def\caption{%
6956 \ifx\@cuptype\@undefined
6957 \latexerror{\noexpand\caption outside float}\@ehd
6958 \expandafter\@gobble
6959 \else
6960 \refstepcounter\@cuptype
6961 \expandafter\@firstofone
6962 \fi
6963 {\@dblarg{\@caption\@cuptype}}%
6964 }
6965 \checkcommand\long\def\@caption#1[#2]#3{%
6966 \par

```



```

6967 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6968   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
6969 }%
6970 \begingroup
6971   \@parboxrestore
6972   \if@minipage
6973     \setminipage
6974   \fi
6975   \normalsize
6976   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6977 \endgroup
6978 }
6979 </check>
6980 <*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 *drfcite* may break.

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

```

6981 \def\hyper@natlinkstart#1{%
6982   \Hy@backout{#1}%
6983   \hyper@linkstart{cite}{cite.#1}%
6984   \def\hyper@nat@current{#1}%
6985 }
6986 \def\hyper@natlinkend{%
6987   \hyper@linkend
6988 }
6989 \def\hyper@natlinkbreak#1#2{%
6990   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6991 }
6992 \def\hyper@natanchorstart#1{%
6993   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6994 }
6995 \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.

```

6996 \ltx@ifundefined{NAT@parse}{%
6997   \providecommand*\@extra@binfo{}%
6998   \providecommand*\@extra@b@citeb{}%
6999   \def\bibcite#1#2{%
7000     \@newl@bel{b}{#1\@extra@binfo}{%
7001       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7002     }%
7003   }%
7004   \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.”.

```

7005 \let\Hy@bibcite\bibcite
7006 \begingroup
7007 \ifundefined{bbl@cite@choice}{-}{%
7008   \g@addto@macro\bbl@cite@choice{%
7009     \let\bibcite\Hy@bibcite
7010   }%
7011 }%
7012 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
7013 \providecommand*{\@BIBLABEL}{\@biblabel}%
7014 \def\@bibitem[#1]#2{%
7015   \@skiphyperreftrue
7016   \H@item[%
7017     \ifx\Hy@raisedlink\@empty
7018       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7019       \@BIBLABEL{#1}%
7020       \hyper@anchorend
7021     \else
7022       \Hy@raisedlink{%
7023         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7024       }%
7025       \@BIBLABEL{#1}%
7026     \fi
7027     \hfill
7028   ]%
7029   \@skiphyperreffalse
7030   \if@filesw
7031     \begingroup
7032     \let\protect\noexpand
7033     \immediate\write\@auxout{%
7034       \string\bibcite{#2}{#1}%
7035     }%
7036     \endgroup
7037   \fi
7038   \ignorespaces
7039 }%
```

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

```

7040 \def\@bibitem#1{%
7041   \@skiphyperreftrue\H@item\@skiphyperreffalse
7042   \Hy@raisedlink{%
7043     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7044   }%
7045   \if@filesw
7046     \begingroup
7047     \let\protect\noexpand
7048     \immediate\write\@auxout{%
7049       \string\bibcite{#1}{\the\value{\@listctr}}%
7050     }%
7051     \endgroup
7052   \fi
7053   \ignorespaces
7054 }%
7055 }{-}
```

```

7056 </package>
7057 <*check>
7058 \checklatex
7059 \checkcommand\def\@bibitem[#1]#2{%
7060 \item[\@biblabel{#1}]{\hfill}%
7061 \if@filesw
7062 {%
7063 \let\protect\noexpand
7064 \immediate\write\@auxout{%
7065 \string\bibcite{#2}{#1}%
7066 }%
7067 }%
7068 \fi
7069 \ignorespaces
7070 }
7071 \checkcommand\def\@bibitem#1{%
7072 \item
7073 \if@filesw
7074 \immediate\write\@auxout{%
7075 \string\bibcite{#1}{\the\value{\@listctr}}}%
7076 }%
7077 \fi
7078 \ignorespaces
7079 }
7080 </check>
7081 <*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.

```

7082 \@ifclassloaded{revtex}{%
7083 \Hy@Info{*** compatibility with revtex **** }%
7084 \def\revtex@checking#1#2{%
7085 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
7086 \expandafter\def\csname b@#1\endcsname{#2}%
7087 \@SetMaxRnhefLabel{#1}%
7088 \expandafter\let\csname b@#1\endcsname\T@temp
7089 }%

```

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

```

7090 \@ifundefined{CITE}{\def\@CITE{\@cite}}{}%
7091 \providecommand*{\@extra@b@citeb}{}%
7092 \def\@CITEX[#1]#2{%
7093 \let\@citea\@empty
7094 \leavevmode
7095 \unskip
7096 $\sim$%
7097 \scriptstyle
7098 \@CITE{%
7099 \@for\@citeb:=#2\do{%
7100 \@citea
7101 \def\@citea{,\penalty\@m\ }%
7102 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7103 \if@filesw
7104 \immediate\write\@auxout{\string\citation{\@citeb}}%
7105 \fi
7106 \@ifundefined{b@\@citeb\extra@b@citeb}{%

```

```

7107      \mbox{\reset@font\bfseries ?}%
7108      \G@refundefinedtrue
7109      \@latex@warning{%
7110        Citation '\@citeb' on page \thepage \space undefined%
7111      }%
7112      }{%
7113        {\csname b@\@citeb\@extra@b@citeb\endcsname}%
7114      }%
7115      }%
7116      }{#1}%
7117      }$%
7118      }%

```

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.

```

7119 \def\@citex[#1]#2{%
7120   \let\@citea\@empty
7121   \@cite{%
7122     \@for\@citeb:=#2\do{%
7123       \@citea
7124       \def\@citea{,\penalty\@m\ }%
7125       \edef\@citeb{\expandafter\@firstofone\@citeb}%
7126       \if@filesw
7127         \immediate\write\@auxout{\string\citation{\@citeb}}%
7128       \fi
7129       \@ifundefined{b@\@citeb\@extra@b@citeb}{%
7130         \mbox{\reset@font\bfseries ?}%
7131         \G@refundefinedtrue
7132         \@latex@warning{%
7133           Citation '\@citeb' on page \thepage \space undefined%
7134         }%
7135       }{%
7136         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
7137       }%
7138     }%
7139   }{#1}%
7140   }%
7141 }{}

```

37.1 Package harvard

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

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

```

7142 \@ifpackageloaded{harvard}{%
7143   \Hy@AtBeginDocument{%
7144     \Hy@Info{*** compatibility with harvard **** }%
7145     \Hy@raiselinksfalse
7146     \def\harvardcite#1#2#3#4{%
7147       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
7148       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
7149       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
7150       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7151     }%

```

```

7152 \def\HAR@citetoaux#1{%
7153 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7154 \ifHy@backref
7155 \ifx\@empty\@currentlabel
7156 \else
7157 \@bsphack
7158 \if@filesw
7159 \protected@write\@auxout{}{%
7160 \string\@writefile{brf}{%
7161 \string\backcite{#1}{%
7162 {\thepage}{\@currentlabel}{\@currentHref}%
7163 }%
7164 }%
7165 }%
7166 \fi
7167 \@esphack
7168 \fi
7169 \fi
7170 }%
7171 \def\harvarditem{%
7172 \ifnextchar{\@harvarditem}{\@harvarditem[\null]}%
7173 }%
7174 \def\@harvarditem[#1]#2#3#4#5\par{%
7175 \item[]%
7176 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7177 \if@filesw
7178 \begingroup
7179 \def\protect##1{\string ##1\space}%
7180 \ifthenelse{\equal{#1}{\null}}%
7181 {\def\next{{#4}{#2}{#3}}}%
7182 {\def\next{{#4}{#2}{#1}{#3}}}%
7183 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7184 \endgroup
7185 \fi
7186 \protect\hspace*{-\labelwidth}%
7187 \protect\hspace*{-\labelsep}%
7188 \ignorespaces
7189 #5%
7190 \ifHy@backref
7191 \newblock
7192 \backref{\csname br@#4\endcsname}%
7193 \fi
7194 \par
7195 }%

```

\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:

```

7196 \long\def\HAR@checkcitations#1#2#3#4{%
7197 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7198 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7199 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7200 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7201 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7202 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7203 \else
7204 \@tempwattrue

```

```

7205     \fi
7206     \else
7207     \@tempswatrue
7208     \fi
7209     \else
7210     \@tempswatrue
7211     \fi
7212   }%
7213 }%

7214 }{}

```

37.2 Package chicago

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

```

7215 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

7216 \def\citeN{%
7217   \def\@citesep{-1000}%
7218   \def\@cite##1##2{##1}%
7219   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7220   \@citedata@opt
7221 }%

```

`\shortciteN`

```

7222 \def\shortciteN{%
7223   \def\@citesep{-1000}%
7224   \def\@cite##1##2{##1}%
7225   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7226   \@citedata@opt
7227 }%

```

`\@citedata@opt`

```

7228 \def\@citedata@opt{%
7229   \let\@cite@opt\@empty
7230   \@ifnextchar [{%
7231     \@tempswatrue
7232     \@citedatax@opt
7233   }{%
7234     \@tempswafalse
7235     \@citedatax[]%
7236   }%
7237 }%

```

`\@citedatax@opt`

```

7238 \def\@citedatax@opt[#1]{%
7239   \def\@cite@opt{, #1}%
7240   \@citedatax[{#1}]%
7241 }%

7242 }{}

```

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.

```
7243 \def\Hy@EveryPageAnchor{%
7244   \Hy@DistillerDestFix
7245   \ifHy@pageanchor
7246     \ifHy@hypertextnames
7247       \ifHy@plainpages
7248         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7249       \else
7250         \begingroup
7251           \let\@number\@firstofone
7252           \Hy@unicodedefalse
7253           \pdfstringdef\@the@H@page{\thepage}%
7254         \endgroup
7255         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7256       \fi
7257     \else
7258       \Hy@GlobalStepCount\Hy@pagecounter
7259       \def\Hy@TempPageAnchor{%
7260         \hyper@@anchor{page.\the\Hy@pagecounter}%
7261       }%
7262     \fi
7263   \vbox to 0pt{%
7264     \kern\voffset
7265     \kern\topmargin
7266     \kern-1bp\relax
7267     \hbox to 0pt{%
7268       \kern\hoffset
7269       \kern\ifodd\value{page}%
7270         \oddsidemargin
7271       \else
7272         \evensidemargin
7273       \fi
7274       \kern-1bp\relax
7275       \Hy@TempPageAnchor\relax
7276     \hss
7277   }%
7278   \vss
7279 }%
7280 \fi
7281 }
7282 \g@addto@macro\Hy@EveryPageBoxHook{%
7283   \Hy@EveryPageAnchor
7284 }
```

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.

```

7285 \def\addcontentsline#1#2#3{% toc extension, type, tag
7286 \begingroup
7287 \let\label\@gobble
7288 \ifx\@currentHref\@empty
7289 \Hy@Warning{%
7290   No destination for bookmark of \string\addcontentsline,%
7291   \MessageBreak destination is added%
7292 }%
7293 \phantomsection
7294 \fi
7295 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7296 \begingroup
7297 \def\Hy@tempa{#1}%
7298 \ifx\Hy@tempa\Hy@bookmarkstype
7299 \Hy@WarningNoLine{%
7300   bookmark level for unknown #2 defaults to 0%
7301 }%
7302 \else
7303 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7304 \fi
7305 \endgroup
7306 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7307 \fi
7308 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7309 \Hy@writebookmark{\csname the#2\endcsname}%
7310 {#3}%
7311 {\@currentHref}%
7312 {\Hy@toplevel}%
7313 {#1}%
7314 \ifHy@verbose
7315 \begingroup
7316 \def\Hy@tempa{#3}%
7317 \@onelevel@sanitize\Hy@tempa
7318 \let\temp@online\on@line
7319 \let\on@line\@empty
7320 \Hy@Info{%
7321   bookmark\temp@online:\MessageBreak
7322   thecounter {\csname the#2\endcsname}\MessageBreak
7323   text {\Hy@tempa}\MessageBreak
7324   reference {\@currentHref}\MessageBreak
7325   toplevel {\Hy@toplevel}\MessageBreak
7326   type {#1}%
7327 }%
7328 \endgroup
7329 \fi
7330 \addtocontents{#1}{%
7331 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7332 }%
7333 \endgroup
7334 }
7335 \def\contentsline#1#2#3#4{%
7336 \ifx\#4\%
7337 \csname l@#1\endcsname{#2}{#3}%
7338 \else
7339 \ifcase\Hy@linktoc % none
7340 \csname l@#1\endcsname{#2}{#3}%

```



```

7341 \or % section
7342 \csname l@#1\endcsname{%
7343 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7344 }{#3}%
7345 \or % page
7346 \csname l@#1\endcsname{#{#2}}{%
7347 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7348 }%
7349 \else % all
7350 \csname l@#1\endcsname{%
7351 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7352 }{#3}%
7353 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7354 }%
7355 \fi
7356 \fi
7357 }

7358 \endpackage
7359 \ifcheck
7360 \checklatex
7361 \checkcommand\def\addcontentsline#1#2#3{%
7362 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7363 }
7364 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7365 \endcheck
7366 \endpackage

```

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.

```

7367 \let\H@definecounter\@definecounter
7368 \def\@definecounter#1{%
7369 \H@definecounter{#1}%
7370 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7371 }

```

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.

```

7372 \let\H@newctr\@newctr
7373 \def\@newctr#1[#2]{%
7374 \H@newctr#1[#{#2}]%
7375 \expandafter\def\csname theH#1\endcsname{%
7376 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7377 }%
7378 }

```

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.

```

7379 \ifpackageloaded{amsmath}{%
7380   \def\Hy@make@anchor{%
7381     \Hy@MakeCurrentHrefAuto{AMS}%
7382     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7383   }%
7384   \def\Hy@make@df@tag@@#1{%
7385     \gdef\df@tag{%
7386       \maketag@@@{\Hy@make@anchor#1}%
7387       \def\@currentlabel{#1}%
7388     }%
7389   }%
7390   \def\Hy@make@df@tag@@@#1{%
7391     \gdef\df@tag{%
7392       \tagform@{\Hy@make@anchor#1}%
7393       \toks@{\xp{\p@equation{#1}}}%
7394       \edef\@currentlabel{\the\toks@}%
7395     }%
7396   }%
7397   \let\HyOrg@make@df@tag@@\make@df@tag@@
7398   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7399   \let\make@df@tag@@\Hy@make@df@tag@@
7400   \let\make@df@tag@@@\Hy@make@df@tag@@@
7401 }{}

```

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

```

7402 \ifpackagewith{hyperref}{pdftex}{%
7403   \let\H@seteqlabel\@seteqlabel
7404   \def\@seteqlabel#1{%
7405     \H@seteqlabel{#1}%
7406     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
7407     \Hy@raisedlink{%
7408       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7409     }%
7410   }%
7411 }{}

```

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.

```

7412 \let\HyOrg@addtoreset\@addtoreset
7413 \def\@addtoreset#1#2{%
7414   \HyOrg@addtoreset{#1}{#2}%
7415   \expandafter\xdef\csname theH#1\endcsname{%
7416     \expandafter\noexpand

```

```

7417 \csname the\@ifundefined{theH#2}{H#2\endcsname
7418 .\noexpand\the\noexpand\value{#1}%
7419 }%
7420 }

```

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

```

7421 </package>
7422 <*check>
7423 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7424 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7425 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7426 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7427 \@addtoreset{#2}{#3}%
7428 \exp\xdef\csname the#2\endcsname{%
7429 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7430 }%
7431 }%
7432 }%
7433 }%
7434 </check>
7435 <*package>
7436 \@ifpackageloaded{amsmath}{%
7437 \@ifpackagelater{amsmath}{1999/12/14}{%
7438 \renewcommand*{\numberwithin}[3][\arabic]{%
7439 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7440 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7441 \HyOrg@addtoreset{#2}{#3}%
7442 \exp\xdef\csname the#2\endcsname{%
7443 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7444 }%
7445 \exp\xdef\csname theH#2\endcsname{%
7446 \exp\xnx
7447 \csname the\@ifundefined{theH#3}{H#3\endcsname
7448 .\@nx#1{#2}%
7449 }%
7450 }%
7451 }%
7452 }%
7453 }{%
7454 \Hy@WarningNoLine{%
7455 \string\numberwithin\space of package 'amsmath' %
7456 only fixed\MessageBreak
7457 for version 2000/06/06 v2.12 or newer%
7458 }%
7459 }%
7460 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

7461 \ifHy@figures
7462 \let\Hy@Gin@setfile\Gin@setfile
7463 \def\Gin@setfile#1#2#3{%
7464 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7465 }%

```

```

7466 \fi
7467 \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 emboldening 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.

```

7468 \ifHy@hyperindex
7469 \def\HyInd@ParenLeft{({}%
7470 \def\HyInd@ParenRight{)}}%
7471 \def\hyperindexformat#1#2{%
7472 \let\HyOrg@hyperpage\hyperpage
7473 \let\hyperpage\@firstofone
7474 #1{\HyOrg@hyperpage{#2}}%
7475 \let\hyperpage\HyOrg@hyperpage
7476 }%
7477 \Hy@nextfalse
7478 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7479 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7480 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7481 \begingroup
7482 \lccode'\|=\expandafter\HyInd@EncapChar\relax
7483 \lccode'\|=\|\\relax
7484 \lowercase{\endgroup
7485 \ifHy@next
7486 \let\HyInd@org@wrindex\@wrindex
7487 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
7488 \def\HyInd@@wrindex#1#2|#3|#4\\{%
7489 \ifx\\#3\\%
7490 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7491 \else
7492 \HyInd@@@wrindex{#1}{#2}#3\\%
7493 \fi
7494 }%
7495 \def\HyInd@@@wrindex#1#2#3#4\\{%
7496 \def\Hy@temp@A{#3}%
7497 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7498 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7499 \relax
7500 \HyInd@org@wrindex{#1}{%
7501 #2|hyperindexformat{/#3#4}%
7502 }%
7503 \else
7504 \ifx\\#4\\%
7505 \ifx\Hy@temp@A\HyInd@ParenRight
7506 \HyInd@org@wrindex{#1}{#2|#3}%
7507 \else
7508 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```

```

7509     \fi
7510     \else
7511         \HyInd@org@wrindex{#1}{%
7512             #2|#3hyperindexformat{/#4}%
7513         }%
7514     \fi
7515     \fi
7516 }%
7517 \else
7518     \def\@wrindex#1{\@@wrindex#1||\}%
7519     \def\@@wrindex#1|#2|#3\{%
7520         \if@filesw
7521             \ifx\#2\%
7522                 \protected@write\@indexfile{}\{%
7523                     \string\indexentry{#1|hyperpage}{\thepage}%
7524                 }%
7525             \else
7526                 \HyInd@@@wrindex{#1}#2\%
7527             \fi
7528         \fi
7529     \endgroup
7530     \@esphack
7531 }%
7532 \def\HyInd@@@wrindex#1#2#3\{%
7533     \def\Hy@temp@A{#2}%
7534     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7535         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7536         \relax
7537     \protected@write\@indexfile{}\{%
7538         \string\indexentry{%
7539             #1|hyperindexformat{/#2#3}%
7540         }\thepage}%
7541     }%
7542 \else
7543     \ifx\#3\%
7544         \ifx\Hy@temp@A\HyInd@ParenRight
7545             \protected@write\@indexfile{}\{%
7546                 \string\indexentry{#1|#2}{\thepage}%
7547             }%
7548         \else
7549             \protected@write\@indexfile{}\{%
7550                 \string\indexentry{#1|#2hyperpage}{\thepage}%
7551             }%
7552         \fi
7553     \else
7554         \protected@write\@indexfile{}\{%
7555             \string\indexentry{%
7556                 #1|#2hyperindexformat{/#3}%
7557             }\thepage}%
7558     }%
7559     \fi
7560     \fi
7561 }%
7562 \fi
7563 }%
7564 \fi
7565 \Hy@DisableOption{hyperindex}

```

```
7566 \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.

```
7567 \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.

```
7568 \def\hyperpage#1{%
7569   \HyInd@hyperpage#1\nohyperpage{}\@nil
7570 }
7571 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7572   \HyInd@@hyperpage{#1}%
7573   #2%
7574   \def\Hy@temp{#3}%
7575   \ifx\Hy@temp\@empty
7576   \else
7577     \Hy@ReturnAfterFi{%
7578       \HyInd@hyperpage#3\@nil
7579     }%
7580   \fi
7581 }
7582 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7583 \def\@hyperpage#1--#2--#3\{\%
7584   \ifx\#2\%
7585     \@commahyperpage{#1}%
7586   \else
7587     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7588   \fi
7589 }
7590 \def\@commahyperpage#1{\@commahyperpage#1, \}
7591 \def\@commahyperpage#1, #2,#3\{\%
7592   \ifx\#2\%
7593     \HyInd@pagelink{#1}%
7594   \else
7595     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7596   \fi
7597 }
```

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

```
7598 \def\HyInd@pagelink#1{%
7599   \begingroup
7600   \toks@={}%
7601   \HyInd@removespaces#1 \@nil
7602   \endgroup
7603 }
7604 \def\HyInd@removespaces#1 #2\@nil{%
7605   \toks@=\expandafter{\the\toks@#1}%
7606   \ifx\#2\%
7607     \edef\x{\the\toks@}%
7608     \ifx\x\@empty
7609     \else
7610       \hyperlink{page.\the\toks@}{\the\toks@}%
7611     \fi
7612   \else
7613     \Hy@ReturnAfterFi{%
```

```

7614 \HyInd@removespaces#2\@nil
7615 }%
7616 \fi
7617 }

```

44 Compatibility with foiltex

```

7618 \@ifclassloaded{foils}{%
7619 \providecommand*\ext@table{lot}%
7620 \providecommand*\ext@figure{lof}%
7621 }{}

```

45 Compatibility with seminar slide package

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

```

7622 \@ifclassloaded{seminar}{%
7623 \Hy@seminarstrue\newcommand\theHslide{\arabic{slide}}}%
7624 }{%
7625 \Hy@seminarslidesfalse
7626 }
7627 \@ifpackageloaded{slidesec}{%
7628 \newcommand\theHslidesection {\arabic{slide}}}%
7629 \newcommand\theHslidesubsection{%
7630 \theHslidesection.\arabic{slidesubsection}}%
7631 }%
7632 \def\slide@heading[#1]#2{%
7633 \H@refstepcounter{slidesection}%
7634 \@addtoreset{slidesubsection}{slidesection}%
7635 \addtocontents{los}{%
7636 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
7637 {\@SCTR}{slideheading.\theslide}}%
7638 }%
7639 \def\Hy@tempa{#2}%
7640 \ifx\Hy@tempa\@empty
7641 \else
7642 {%
7643 \edef\@currentlabel{%
7644 \csname p@slidesection\endcsname\theslide}
7645 }%
7646 \makeslideheading{#2}%
7647 }%
7648 \fi
7649 \gdef\theslideheading{#1}%
7650 \gdef\theslidesubheading{}%
7651 \ifHy@bookmarksnumbered
7652 \def\Hy@slidetitle{\theslide\space #1}%
7653 \else
7654 \def\Hy@slidetitle{#1}%
7655 \fi
7656 \ifHy@hypertextnames
7657 \ifHy@naturalnames
7658 \hyper@anchor{slideheading.\theslide}{\relax}%
7659 \Hy@writebookmark
7660 {\theslide}%
7661 {\Hy@slidetitle}%

```

```

7662         {slideheading.\theslidesection}%
7663         {1}%
7664         {toc}%
7665     \else
7666         \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7667         \Hy@writebookmark
7668             {\theslidesection}%
7669             {\Hy@slidetitle}%
7670             {slideheading.\theHslidesection}%
7671             {1}%
7672             {toc}%
7673     \fi
7674 \else
7675     \Hy@GlobalStepCount\Hy@linkcounter
7676     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7677     \Hy@writebookmark
7678         {\theslidesection}%
7679         {\Hy@slidetitle}%
7680         {slideheading.\the\Hy@linkcounter}%
7681         {1}%
7682         {toc}%
7683 \fi
7684 }%
7685 \def\slide@subheading[#1]#2{%
7686     \H@refstepcounter{slidesubsection}%
7687     \addtocontents{los}{%
7688         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7689         {\@SCTR}{slideheading.\theslidesubsection}%
7690     }%
7691     \def\Hy@tempa{#2}%
7692     \ifx\Hy@tempa\@empty
7693     \else
7694         {%
7695             \edef\@currentlabel{%
7696                 \csname p@slidesubsection\endcsname\theslidesubsection
7697             }%
7698             \makeslidesubheading{#2}%
7699         }%
7700     \fi
7701     \gdef\theslidesubheading{#1}%
7702     \ifHy@bookmarksnumbered
7703         \def\Hy@slidetitle{\theslidesubsection\space #1}%
7704     \else
7705         \def\Hy@slidetitle{#1}%
7706     \fi
7707     \ifHy@hypertextnames
7708         \ifHy@naturalnames
7709             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7710             \Hy@writebookmark
7711                 {\theslidesubsection}%
7712                 {\Hy@slidetitle}%
7713                 {slideheading.\theslidesubsection}%
7714                 {2}%
7715                 {toc}%
7716         \else
7717             \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7718             \Hy@writebookmark

```



```

7719     {\theslidesubsection}%
7720     {\Hy@slidetitle}%
7721     {slideheading.\theHslidesubsection}%
7722     {2}%
7723     {toc}%
7724 \fi
7725 \else
7726 \Hy@GlobalStepCount\Hy@linkcounter
7727 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7728 \Hy@writebookmark
7729     {\theslidesubsection}%
7730     {\Hy@slidetitle}%
7731     {slideheading.\the\Hy@linkcounter}%
7732     {1}%
7733     {toc}%
7734 \fi
7735 }%
7736 \providecommand*{\listslidenam}{List of Slides}%
7737 \def\listofslides{%
7738 \section*{%
7739 \listslidenam
7740 \@mkboth{%
7741 \expandafter\MakeUppercase\listslidenam
7742 }{%
7743 \expandafter\MakeUppercase\listslidenam
7744 }%
7745 }%
7746 \def\l@slide##1##2##3##4{%
7747 \slide@undottedcline{%
7748 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
7749 }{}%
7750 }%
7751 \let\l@subslide\l@slide
7752 \@startlos
7753 }%
7754 \def\slide@contents{%
7755 \def\l@slide##1##2##3##4{%
7756 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7757 }%
7758 \let\l@subslide\@gobblefour
7759 \@startlos
7760 }%
7761 \def\Slide@contents{%
7762 \def\l@slide##1##2##3##4{%
7763 \ifcase\lslide@flag
7764 \message{##1 ** \the\c@slidesection}%
7765 \ifnum##1>\c@slidesection
7766 \def\lslide@flag{1}%
7767 {%
7768 \large
7769 \slide@ccline{%
7770 \slidenumberline{$\Rightarrow\bullet$}%
7771 {\hyperlink{##4}{##2}}%
7772 }{##3}%
7773 }%
7774 \else
7775 {%

```

```

7776      \large
7777      \slide@cline{%
7778      \slidenumberline{$\surd\;\bullet$}%
7779      {\hyperlink{##4}{##2}}%
7780      }{##3}%
7781      }%
7782      \fi
7783      \or
7784      \def\lslide@flag{2}%
7785      {%
7786      \large
7787      \slide@cline{%
7788      \slidenumberline{$\bullet$}%
7789      {\hyperlink{##4}{##2}}%
7790      }{##3}%
7791      }%
7792      \or
7793      {%
7794      \large
7795      \slide@cline{%
7796      \slidenumberline{$\bullet$}%
7797      {\hyperlink{##4}{##2}}%
7798      }{##3}%
7799      }%
7800      \fi
7801      }%
7802      \def\l@subslide##1##2##3##4{%
7803      \ifnum\lslide@flag=1 %
7804      \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}}%
7805      \fi
7806      }%
7807      \def\lslide@flag{0}%
7808      \@startlos
7809      }%
7810      }{}

```

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.)

```

7811 \ifHy@texht
7812 \expandafter\endinput
7813 \fi
7814 \let\real@setref\@setref
7815 \def\@setref#1#2#3{% csname, extract group, refname
7816 \ifx#1\relax
7817 \protect\G@refundefinedtrue
7818 \nfss@text{\reset@font\bfseries ??}%
7819 \@latex@warning{%
7820 Reference ‘#3’ on page \thepage \space undefined%
7821 }%
7822 \else
7823 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7824 \fi
7825 }

```

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

```

7826 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%

```

```

7827 \begingroup
7828 \toks0={\hyper@@link{#5}{#4}}%
7829 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7830 \edef\x{\endgroup
7831 \the\toks0 {\the\toks1 }%
7832 }%
7833 \x
7834 }
7835 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7836 \ifx#1\relax
7837 \protect\G@refundefinedtrue
7838 \nfss@text{\reset@font\bfseries ??}%
7839 \@latex@warning{%
7840 Reference '#3' on page \thepage \space undefined%
7841 }%
7842 \else
7843 \protect\hyper@@link
7844 {\expandafter\@fifthoffive#1}%
7845 {page.\expandafter\@secondoffive#1}%
7846 {\expandafter\@secondoffive#1}%
7847 \fi
7848 }
7849 </package>
7850 <*check>
7851 \checklatex
7852 \checkcommand\def\@setref#1#2#3{%
7853 \ifx#1\relax
7854 \protect\G@refundefinedtrue
7855 \nfss@text{\reset@font\bfseries ??}%
7856 \@latex@warning{%
7857 Reference '#3' on page \thepage\space undefined%
7858 }%
7859 \else
7860 \expandafter#2#1\null
7861 \fi
7862 }
7863 </check>
7864 <*package>

```

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

```

7865 \def\HyRef@StarSetRef#1{%
7866 \begingroup
7867 \Hy@safe@activetrue
7868 \edef\x{#1}%
7869 \@onelevel@sanitize\x
7870 \edef\x{\endgroup
7871 \noexpand\HyRef@@StarSetRef
7872 \expandafter\noexpand\csname r@\x\endcsname{\x}%
7873 }%
7874 \x
7875 }
7876 \def\HyRef@@StarSetRef#1#2#3{%
7877 \ifx#1\@undefined
7878 \let#1\relax
7879 \fi
7880 \real@setref#1#3{#2}%

```

```

7881 }
7882 \def\@refstar#1{%
7883   \HyRef@StarSetRef{#1}\@firstoffive
7884 }
7885 \def\@pagerefstar#1{%
7886   \HyRef@StarSetRef{#1}\@secondoffive
7887 }
7888 \def\@namerefstar#1{%
7889   \HyRef@StarSetRef{#1}\@thirdoffive
7890 }
7891 \Hy@AtBeginDocument{%
7892   \@ifpackageloaded{varioref}{%
7893     \def\@Refstar#1{%
7894       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7895     }%
7896     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7897       \MakeUppercase#1%
7898     }%
7899     \DeclareRobustCommand*\@Ref*{%
7900       \@ifstar\@Refstar\HyRef@Ref
7901     }%
7902     \def\HyRef@Ref#1{%
7903       \hyperref[{#1}]{\Ref*{#1}}%
7904     }%
7905     \def\@Vr@f#1{%
7906       \leavevmode\unskip\vref@space
7907       \hyperref[{#1}]{%
7908         \Ref*{#1}%
7909       \let\vref@space\nobreakspace
7910       \@vpageref[\unskip]{#1}%
7911     }%
7912   }%
7913   \def\@vr@f#1{%
7914     \leavevmode\unskip\vref@space
7915     \begingroup
7916     \let\T@pageref\@pagerefstar
7917     \hyperref[{#1}]{%
7918       \ref*{#1}%
7919       \vpageref[\unskip]{#1}%
7920     }%
7921   \endgroup
7922   }%
7923 }{}%
7924 }
7925 \DeclareRobustCommand*\@autopageref{%
7926   \@ifstar{%
7927     \HyRef@autopagerefname\pageref*%
7928   }\HyRef@autopageref
7929 }
7930 \def\HyRef@autopageref#1{%
7931   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7932 }
7933 \def\HyRef@autopagerefname{%
7934   \ltx@ifundefined{pageautorefname}{%
7935     \ltx@ifundefined{pagename}{%
7936       \Hy@Warning{No autoref name for ‘page’}%
7937     }{%

```

```

7938 \pagename\nobreakspace
7939 }%
7940 }{%
7941 \pageautorefname\nobreakspace
7942 }%
7943 }
7944 \DeclareRobustCommand*{\autoref}{%
7945 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
7946 }
7947 \def\HyRef@autoref#1#2{%
7948 \begingroup
7949 \Hy@safe@activetrue
7950 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7951 \endgroup
7952 }
7953 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7954 \HyRef@ShowKeysRef{#2}%
7955 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7956 \edef\HyRef@thisref{%
7957 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7958 }%
7959 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7960 \Hy@safe@activesfalse
7961 #3{%
7962 \expandafter\@fifthoffive#1\@empty\@empty\@empty
7963 }{%
7964 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7965 }{%
7966 \HyRef@currentHtag
7967 \expandafter\@firstoffive#1\@empty\@empty\@empty
7968 \null
7969 }%
7970 \else
7971 \protect\G@refundefinedtrue
7972 \nfss@text{\reset@font\bfseries ??}%
7973 \@latex@warning{%
7974 Reference ‘#2’ on page \thepage\space undefined%
7975 }%
7976 \fi
7977 }
7978 \def\HyRef@testreftype#1.#2\{\%
7979 \ltx@ifundefined{#1autorefname}{%
7980 \ltx@ifundefined{#1name}{%
7981 \HyRef@StripStar#1\*\@nil{#1}%
7982 \ltx@ifundefined{\HyRef@name autorefname}{%
7983 \ltx@ifundefined{\HyRef@name name}{%
7984 \def\HyRef@currentHtag{}%
7985 \Hy@Warning{No autoref name for ‘#1’}%
7986 }{%
7987 \edef\HyRef@currentHtag{%
7988 \expandafter\noexpand\csname\HyRef@name name\endcsname
7989 \noexpand~%
7990 }%
7991 }%
7992 }{%
7993 \edef\HyRef@currentHtag{%
7994 \expandafter\noexpand

```

```

7995     \csname\HyRef@name autorefname\endcsname
7996     \noexpand~%
7997   }%
7998 }%
7999 }{%
8000   \edef\HyRef@currentHtag{%
8001     \expandafter\noexpand\csname#1name\endcsname
8002     \noexpand~%
8003   }%
8004 }%
8005 }{%
8006   \edef\HyRef@currentHtag{%
8007     \expandafter\noexpand\csname#1autorefname\endcsname
8008     \noexpand~%
8009   }%
8010 }%
8011 }
8012 \def\HyRef@StripStar#1*\#2\@nil#3{%
8013   \def\HyRef@name{#2}%
8014   \ifx\HyRef@name\HyRef@CaseStar
8015     \def\HyRef@name{#1}%
8016   \else
8017     \def\HyRef@name{#3}%
8018   \fi
8019 }
8020 \def\HyRef@CaseStar{*\\}
8021 \def\HyRef@currentHtag{

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8022 \let\HyRef@ShowKeysRef\@gobble
8023 \def\HyRef@ShowKeysInit{%
8024   \begingroup\expandafter\expandafter\expandafter\endgroup
8025   \expandafter\ifx\csname SK@@label\endcsname\relax
8026   \else
8027     \ifx\SK@ref\@empty
8028     \else
8029       \def\HyRef@ShowKeysRef{%
8030         \SK@\SK@@ref
8031       }%
8032     \fi
8033   \fi
8034 }
8035 \@ifpackageloaded{showkeys}{%
8036   \HyRef@ShowKeysInit
8037 }{%
8038   \Hy@AtBeginDocument{%
8039     \@ifpackageloaded{showkeys}{%
8040       \HyRef@ShowKeysInit
8041     }{}%
8042   }%
8043 }

```

Defaults for the names that \autoref uses.

```

8044 \providecommand*\AMSautorefname{\equationautorefname}
8045 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8046 \providecommand*\Itemautorefname{\itemautorefname}

```

```

8047 \providecommand*\itemautorefname{item}
8048 \providecommand*\equationautorefname{Equation}
8049 \providecommand*\footnoteautorefname{footnote}
8050 \providecommand*\itemautorefname{item}
8051 \providecommand*\figureautorefname{Figure}
8052 \providecommand*\tableautorefname{Table}
8053 \providecommand*\partautorefname{Part}
8054 \providecommand*\appendixautorefname{Appendix}
8055 \providecommand*\chapterautorefname{chapter}
8056 \providecommand*\sectionautorefname{section}
8057 \providecommand*\subsectionautorefname{subsection}
8058 \providecommand*\subsubsectionautorefname{subsubsection}
8059 \providecommand*\paragraphautorefname{paragraph}
8060 \providecommand*\subparagraphautorefname{subparagraph}
8061 \providecommand*\FancyVerbLineautorefname{line}
8062 \providecommand*\theoremautorefname{Theorem}
8063 \providecommand*\pageautorefname{page}
8064 \end{package}

```

46 Configuration files

46.1 PS/PDF strings

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

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

```

8065 < *pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8066 \RequirePackage{pdfTeXcmds}[2009/04/10]
8067 \begingroup\expandafter\expandafter\expandafter\endgroup
8068 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8069 \begingroup
8070 \catcode'\=0 %
8071 \@makeother\%
8072 |@firstofone{|endgroup
8073 |def|Hy@pstringdef#1#2{%
8074 |begingroup
8075 |edef~{|string~}%
8076 |xdef|Hy@gtemp{#2}%
8077 |endgroup
8078 |let#1|Hy@gtemp
8079 |@onelevel@sanitize#1%
8080 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8081 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8082 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8083 }%
8084 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8085 #1%
8086 |ifx|\#2|\%%
8087 |else
8088 \\\%
8089 |Hy@ReturnAfterFi{%
8090 |Hy@ExchangeBackslash#2|@nil

```

```

8091     }%
8092     |fi
8093 }%
8094 }%
8095 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8096   #1%
8097   \ifx\#2\%
8098   \else
8099     \@backslashchar(%
8100     \Hy@ReturnAfterFi{%
8101       \Hy@ExchangeLeftParenthesis#2\@nil
8102     }%
8103   \fi
8104 }%
8105 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8106   #1%
8107   \ifx\#2\%
8108   \else
8109     \@backslashchar)%
8110     \Hy@ReturnAfterFi{%
8111       \Hy@ExchangeRightParenthesis#2\@nil
8112     }%
8113   \fi
8114 }%
8115 \else
8116 \def\Hy@pstringdef#1#2{%
8117   \begingroup
8118   \edef~{\string~}%
8119   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8120   \endgroup
8121   \let#1\Hy@gtemp
8122 }%
8123 \fi
8124 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```

8125 <*pdfTeX>
8126 \providecommand*{\XR@ext}{pdf}
8127 \Hy@setbreaklinks{true}
8128 \def\HyPat@ObjRef{%
8129   [0-9]*[1-9][0-9]* 0 R%
8130 }

```

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`

```

8131 \let\Hy@pdfminorversion\relax
8132 \begingroup\expandafter\expandafter\expandafter\endgroup
8133 \expandafter\ifx\cname pdfminorversion\endcsname\relax
8134 \begingroup\expandafter\expandafter\expandafter\endgroup
8135 \expandafter\ifx\cname pdfoptionpdfminorversion\endcsname\relax
8136 \else

```



```

8137 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8138 \fi
8139 \else
8140 \def\Hy@pdfminorversion{\pdfminorversion}%
8141 \fi
8142 \@ifundefined{Hy@pdfminorversion}{%
8143 \PackageInfo{hyperref}{%
8144 PDF version is not set, because pdfTeX is too old (<1.10a)%
8145 }%
8146 }{%
8147 \ifHy@ocgcolorlinks
8148 \ifnum\Hy@pdfminorversion<5 %
8149 \kvsetkeys{Hyp}{pdfversion=1.5}%
8150 \fi
8151 \fi
8152 \ifHy@setpdfversion
8153 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
8154 \else
8155 \Hy@pdfminorversion=\Hy@pdfversion\relax
8156 \fi
8157 \PackageInfo{hyperref}{%
8158 \expandafter\string\Hy@pdfminorversion
8159 :=\number\Hy@pdfversion\space
8160 }%
8161 \fi
8162 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
8163 }
8164 \Hy@DisableOption{pdfversion}%

8165 \ifHy@ocgcolorlinks
8166 \immediate\pdfobj{%
8167 <<%
8168 /Type/OCG%
8169 /Name(View)%
8170 /Usage<<%
8171 /Print<<%
8172 /PrintState/OFF%
8173 >>%
8174 /View<<%
8175 /ViewState/ON%
8176 >>%
8177 >>%
8178 >>%
8179 }%
8180 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8181 \immediate\pdfobj{%
8182 <<%
8183 /Type/OCG%
8184 /Name(Print)%
8185 /Usage<<%
8186 /Print<<%
8187 /PrintState/ON%
8188 >>%
8189 /View<<%
8190 /ViewState/OFF%
8191 >>%
8192 >>%
8193 >>%

```

```

8194 }%
8195 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8196 \immediate\pdfobj{%
8197   [%
8198     \OBJ@OCG@view\space\OBJ@OCG@print
8199   ]%
8200 }%
8201 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8202 \pdfcatalog{%
8203   /OCProperties<<%
8204     /OCGs \OBJ@OCGs
8205   /D<<%
8206     /OFF[\OBJ@OCG@print]%
8207     /AS[%
8208       <<%
8209         /Event/View%
8210         /OCGs \OBJ@OCGs
8211         /Category[/View]%
8212       >>%
8213       <<%
8214         /Event/Print%
8215         /OCGs \OBJ@OCGs
8216         /Category[/Print]%
8217       >>%
8218       <<%
8219         /Event/Export%
8220         /OCGs \OBJ@OCGs
8221         /Category[/Print]%
8222       >>%
8223     ]%
8224   >>%
8225 >>%
8226 }%
8227 \begingroup
8228 \edef\x{\endgroup
8229   \pdfpageresources{%
8230     /Properties<<%
8231       /OCView \OBJ@OCG@view
8232       /OCPrint \OBJ@OCG@print
8233     >>%
8234   }%
8235 }%
8236 \x
8237 \Hy@AtBeginDocument{%
8238   \def\Hy@colorlink#1{%
8239     \begingroup
8240       \ifHy@ocgcolorlinks
8241         \def\Hy@ocgcolor{#1}%
8242         \setbox0=\hbox\bgroup\color@begingroup
8243       \else
8244         \HyColor@UseColor#1%
8245       \fi
8246     }%
8247   \def\Hy@endcolorlink{%
8248     \ifHy@ocgcolorlinks
8249       \color@endgroup\egroup
8250     \mbox{%

```

```

8251 \pdfliteral page{/OC/OCPrint BDC}%
8252 \rlap{\copy0}%
8253 \pdfliteral page{EMC/OC/OCView BDC}%
8254 \begingroup
8255 \expandafter\HyColor@UseColor\Hy@ocgcolor
8256 \box0 %
8257 \endgroup
8258 \pdfliteral page{EMC}%
8259 }%
8260 \fi
8261 \endgroup
8262 }%
8263 }%
8264 \else
8265 \Hy@DisableOption{ocgcolorlinks}%
8266 \fi

```

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

```

8267 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8268 \ifx\pdfstartlink\@undefined% less than version 14
8269 \let\pdfstartlink\pdfannotlink
8270 \let\pdfinkmargin\@tempdima
8271 \let\pdfxform\pdfform
8272 \let\pdflastxform\pdflastform
8273 \let\pdfrefxform\pdfrefform
8274 \else
8275 \pdfinkmargin1pt %
8276 \fi

```

First set up the default linking

```
8277 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8278 \def\new@pdfink#1{%
8279 \ifhmode
8280 \@savsf\spacefactor
8281 \fi
8282 \Hy@SaveLastskip
8283 \Hy@VerboseAnchor{#1}%
8284 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8285 \Hy@DestName\Hy@pstringDest\@pdfview
8286 \Hy@RestoreLastskip
8287 \ifhmode
8288 \spacefactor\@savsf
8289 \fi
8290 }
8291 \let\pdf@endanchor\@empty

```

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

```

8292 \def\Hy@DestName#1#2{%
8293 \pdfdest name{#1}#2\relax
8294 }

```

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.

```

8295 \providecommand*\@pdfborder{0 0 1}
8296 \providecommand*\@pdfborderstyle{}
8297 \def\Hy@undefinedname{UNDEFINED}
8298 \def\find@pdflink#1#2{%
8299   \leavevmode
8300   \protected@edef\Hy@testname{#2}%
8301   \ifx\Hy@testname\@empty
8302     \Hy@Warning{%
8303       Empty destination name,\MessageBreak
8304       using '\Hy@undefinedname'%
8305     }%
8306     \let\Hy@testname\Hy@undefinedname
8307   \else
8308     \Hy@pstringdef\Hy@testname{%
8309       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8310     }%
8311   \fi
8312   \Hy@StartlinkName{%
8313     \ifHy@pdfa /F 4\fi
8314     \Hy@setpdfborder
8315     \ifx\@pdfhighlight\@empty
8316     \else
8317       /H\@pdfhighlight
8318     \fi
8319     \ifx\CurrentBorderColor\relax
8320     \else
8321       /C\CurrentBorderColor]%
8322   \fi
8323   }\Hy@testname
8324   \expandafter\Hy@colorlink\csname @#1color\endcsname
8325 }
8326 \def\Hy@StartlinkName#1#2{%
8327   \pdfstartlink attr{#1}goto name{#2}\relax
8328 }
8329 \def\close@pdflink{%
8330   \Hy@endcolorlink
8331   \Hy@VerboseLinkStop
8332   \pdfendlink
8333 }
8334 \def\hyper@anchor#1{%
8335   \new@pdflink{#1}\anchor@spot\pdf@endanchor
8336 }
8337 \def\hyper@anchorstart#1{%
8338   \new@pdflink{#1}%
8339   \Hy@activeanchortrue
8340 }
8341 \def\hyper@anchorend{%
8342   \pdf@endanchor
8343   \Hy@activeanchorfalse
8344 }
8345 \def\hyper@linkstart#1#2{%
8346   \Hy@VerboseLinkStart{#1}{#2}%
8347   \ltx@ifundefined{@#1bordercolor}{%
8348     \let\CurrentBorderColor\relax
8349   }{%
8350     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8351   }%

```

```

8352 \find@pdfink{#1}{#2}%
8353 }
8354 \def\hyper@linkend{\close@pdfink}
8355 \def\hyper@link#1#2#3{%
8356 \Hy@VerboseLinkStart{#1}{#2}%
8357 \ltx@ifundefined{#@#1bordercolor}{%
8358 \let\CurrentBorderColor\relax
8359 }{%
8360 \edef\CurrentBorderColor{\csname #@#1bordercolor\endcsname}%
8361 }%
8362 \find@pdfink{#1}{#2}#3%
8363 \close@pdfink
8364 }
8365 \let\CurrentBorderColor\@linkbordercolor
8366 \def\hyper@linkurl#1#2{%
8367 \begingroup
8368 \Hy@pstringdef\Hy@pstringURI{#2}%
8369 \hyper@chars
8370 \leavevmode
8371 \pdfstartlink
8372 attr{%
8373 \Hy@setpdfborder
8374 \ifx\@pdfnhighlight\@empty
8375 \else
8376 /H\@pdfhighlight
8377 \fi
8378 \ifx\@urlbordercolor\relax
8379 \else
8380 /C[\@urlbordercolor]%
8381 \fi
8382 }%
8383 user{%
8384 /Subtype/Link%
8385 \ifHy@pdfa /F 4\fi
8386 /A<<%
8387 /Type/Action%
8388 /S/URI%
8389 /URI(\Hy@pstringURI)%
8390 \ifHy@href@ismap
8391 /IsMap true%
8392 \fi
8393 \Hy@href@nextactionraw
8394 >>%
8395 }%
8396 \relax
8397 \Hy@colorlink\@urlcolor#1%
8398 \close@pdfink
8399 \endgroup
8400 }
8401 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8402 \begingroup
8403 \def\Hy@pstringF{#2}%
8404 \Hy@CleanupFile\Hy@pstringF
8405 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
8406 \Hy@pstringdef\Hy@pstringD{#3}%
8407 \Hy@MakeRemoteAction
8408 \leavevmode

```

```

8409 \pdfstartlink
8410   attr{%
8411     \Hy@setpdfborder
8412     \ifx\@pdfhighlight\@empty
8413     \else
8414       /H\@pdfhighlight
8415     \fi
8416     \ifx\@filebordercolor\relax
8417     \else
8418       /C[\@filebordercolor]%
8419     \fi
8420   }%
8421   user {%
8422     /Subtype/Link%
8423     \ifHy@pdfa /F 4\fi
8424     /A<<%
8425     /F(\Hy@pstringF)%
8426     /S/GoToR%
8427     \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}

```

```

8428   \ifx\|#3\%
8429     /D[\Hy@href@page\@pdfremotestartview]%
8430   \else
8431     /D(\Hy@pstringD)%
8432   \fi
8433   \Hy@href@nextactionraw
8434   >>%
8435 }%
8436 \relax
8437 \Hy@colorlink\@filecolor#1%
8438 \close@pdfink
8439 \endgroup
8440 }
8441 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
8442 \begingroup
8443   \Hy@pstringdef\Hy@pstringF{#1}%
8444   \Hy@pstringdef\Hy@pstringP{#3}%
8445   \leavevmode
8446   \pdfstartlink
8447     attr{%
8448       \Hy@setpdfborder
8449       \ifx\@pdfhighlight\@empty
8450       \else
8451         /H\@pdfhighlight
8452       \fi
8453       \ifx\@runbordercolor\relax
8454       \else

```

```

8455      /C[\@runbordercolor]%
8456      \fi
8457    }%
8458    user {%
8459      /Subtype/Link%
8460      \ifHy@pdfa /F 4\fi
8461      /A<<%
8462      /F(\Hy@pstringF)%
8463      /S/Launch%
8464      \Hy@SetNewWindow
8465      \ifx\#3\%
8466      \else
8467      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8468      \fi
8469      \Hy@href@nextactionraw
8470    >>%
8471  }%
8472  \relax
8473  \Hy@colorlink\@runcolor#2%
8474  \close@pdflink
8475  \endgroup
8476 }

```

\@pdfproducer

```

8477 \ifx\@pdfproducer\relax
8478 \begingroup\expandafter\expandafter\expandafter\endgroup
8479 \expandafter\ifx\csname luatexversion\endcsname\relax
8480 \def\@pdfproducer{pdfTeX}%
8481 \ifx\eTeXversion\@undefined
8482 \else
8483 \ifx\eTeXversion\relax
8484 \else
8485 \ifnum\eTeXversion>0 %
8486 \def\@pdfproducer{pdfTeX}%
8487 \fi
8488 \fi
8489 \fi
8490 \ifx\pdfTeXversion\@undefined
8491 \else
8492 \ifnum\pdfTeXversion<100 %
8493 \edef\@pdfproducer{%
8494   \@pdfproducer
8495   \the\pdfTeXversion.\pdfTeXrevision
8496 }%
8497 \else
8498 \ifnum\pdfTeXversion<130 %
8499 \edef\@pdfproducer{%
8500   \@pdfproducer-
8501   \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8502   \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8503   \pdfTeXrevision
8504 }%
8505 \else
8506 \ifnum\pdfTeXversion<140 %
8507 \else
8508 \def\@pdfproducer{pdfTeX}%
8509 \fi

```

```

8510     \edef\@pdfproducer{%
8511       \@pdfproducer-%
8512       \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8513       \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8514       \pdfTeXrevision
8515     }%
8516   \fi
8517 \fi
8518 \fi
8519 \else
8520   \begingroup
8521     \count@=\luatexversion
8522     \divide\count@ by 100 %
8523     \edef\x{\the\count@}%
8524     \count@=-\x\relax
8525     \multiply\count@ by 100 %
8526     \advance\count@ by \luatexversion
8527     \edef\x{\endgroup
8528       \def\noexpand\@pdfproducer{%
8529         LuaTeX-\x.\the\count@.\luatexrevision
8530       }%
8531     }%
8532   \x
8533 \fi
8534 \fi

```

\PDF@SetupDox

```

8535 \def\PDF@SetupDoc{%
8536   \ifx\@pdfpagescrop\@empty
8537   \else
8538     \edef\process@me{%
8539       \pdfpagesattr={%
8540         /CropBox[\@pdfpagescrop]%
8541         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
8542         \else
8543           ^^J\the\pdfpagesattr
8544         \fi
8545       }%
8546     }%
8547     \process@me
8548   \fi
8549   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8550   \pdfcatalog{%
8551     /PageMode/\@pdfpagemode
8552     \ifx\@baseurl\@empty
8553     \else
8554       /URI<</Base(\Hy@pstringB)>>%
8555     \fi
8556   }%
8557   \ifx\@pdfstartpage\@empty
8558   \else
8559     \ifx\@pdfstartview\@empty
8560     \else
8561       openaction goto page\@pdfstartpage{\@pdfstartview}%
8562     \fi
8563   \fi
8564   \edef\Hy@temp{%

```



```

8565 \ifHy@toolbar\else /HideToolbar true\fi
8566 \ifHy@menubar\else /HideMenubar true\fi
8567 \ifHy@windowui\else /HideWindowUI true\fi
8568 \ifHy@fitwindow /FitWindow true\fi
8569 \ifHy@centerwindow /CenterWindow true\fi
8570 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8571 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8572 \Hy@UseNameKey{Direction}\@pdfdirection
8573 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8574 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8575 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8576 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8577 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8578 \Hy@UseNameKey{Duplex}\@pdfduplex
8579 \ifx\@pdfpicktraybypdfsize\@empty
8580 \else
8581 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8582 \fi
8583 \ifx\@pdfprintpagerange\@empty
8584 \else
8585 /PrintPageRange[\@pdfprintpagerange]%
8586 \fi
8587 \ifx\@pdfnumcopies\@empty
8588 \else
8589 /NumCopies \@pdfnumcopies
8590 \fi
8591 }%
8592 \pdfcatalog{%
8593 \ifx\Hy@temp\@empty
8594 \else
8595 /ViewerPreferences<<\Hy@temp>>%
8596 \fi
8597 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8598 \ifx\@pdflang\@empty
8599 \else
8600 /Lang(\@pdflang)%
8601 \fi
8602 }%
8603 }

```

\PDF@FinishDoc

```

8604 \def\PDF@FinishDoc{%
8605 \Hy@UseMaketitleInfos
8606 \HyInfo@GenerateAddons
8607 \pdfinfo{%
8608 /Author(\@pdfauthor)%
8609 /Title(\@pdftitle)%
8610 /Subject(\@pdfsubject)%
8611 /Creator(\@pdfcreator)%
8612 \ifx\@pdfcreationdate\@empty
8613 \else
8614 /CreationDate(\@pdfcreationdate)%
8615 \fi
8616 \ifx\@pdfmoddate\@empty
8617 \else
8618 /ModDate(\@pdfmoddate)%
8619 \fi

```

```

8620 \ifx\@pdfproducer\relax
8621 \else
8622 /Producer(\@pdfproducer)%
8623 \fi
8624 /Keywords(\@pdfkeywords)%
8625 \ifx\@pdftrapped\@empty
8626 \else
8627 /Trapped/\@pdftrapped
8628 \fi
8629 \HyInfo@Addons
8630 }%
8631 \Hy@DisableOption{pdfauthor}%
8632 \Hy@DisableOption{pdftitle}%
8633 \Hy@DisableOption{pdfsubject}%
8634 \Hy@DisableOption{pdfcreator}%
8635 \Hy@DisableOption{pdfcreationdate}%
8636 \Hy@DisableOption{pdfmoddate}%
8637 \Hy@DisableOption{pdfproducer}%
8638 \Hy@DisableOption{pdfkeywords}%
8639 \Hy@DisableOption{pdftrapped}%
8640 \Hy@DisableOption{pdfinfo}%
8641 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

8642 \def\hyper@pagetransition{%
8643 \ifx\@pdfpagetransition\relax
8644 \else
8645 \expandafter\Hy@RemoveTransPageAttr
8646 \the\pdfpageattr^^J/Trans{>>\END
8647 \ifx\@pdfpagetransition\@empty
8648 \else
8649 \edef\@processme{%
8650 \global\pdfpageattr{%
8651 \the\pdfpageattr
8652 ^^J/Trans << /S /\@pdfpagetransition\space >>%
8653 }%
8654 }%
8655 \@processme
8656 \fi
8657 \fi
8658 }

```

`\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.

```

8659 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8660 \ifx\#2\%
8661 \global\pdfpageattr{#1}%
8662 \else
8663 \Hy@RemoveTransPageAttr#1#4\END
8664 \fi
8665 }

```

`\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.

```

8666 \def\hyper@pageduration{%
8667   \ifx\@pdfpageduration\relax
8668   \else
8669     \expandafter
8670     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
8671     \ifx\@pdfpageduration\@empty
8672     \else
8673       \edef\@processme{%
8674         \global\pdfpageattr{%
8675           \the\pdfpageattr
8676           ^^J/Dur \@pdfpageduration\space
8677         }%
8678       }%
8679       \@processme
8680     \fi
8681   \fi
8682 }

```

\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.

```

8683 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8684   \ifx\#2\%
8685     \global\pdfpageattr{#1}%
8686   \else
8687     \Hy@RemoveDurPageAttr#1#4\END
8688   \fi
8689 }

```

\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).

```

8690 \def\hyper@pagehidden{%
8691   \ifHy@useHidKey
8692   \expandafter
8693   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
8694   \ifHy@pdfpagehidden
8695     \edef\@processme{%
8696       \global\pdfpageattr{%
8697         \the\pdfpageattr
8698         ^^J/Hid true % SPACE
8699       }%
8700     }%
8701     \@processme
8702   \fi
8703 \fi
8704 }

```

\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.

```

8705 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%

```

```

8706 \ifx\#2\%
8707 \global\pdfpageattr{#1}%
8708 \else
8709 \Hy@RemoveHidPageAttr#1#4\END
8710 \fi
8711 }

8712 \g@addto@macro\Hy@EveryPageHook{%
8713 \hyper@pagetransition
8714 \hyper@pageduration
8715 \hyper@pagehidden
8716 }

```

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

```

8717 </pdfTeX>
8718 <*pdfTeX | xetex>
8719 \Hy@AtBeginDocument{%
8720 \ifHy@setpagesize
8721 \expandafter\@firstofone
8722 \else
8723 \expandafter\@gobble
8724 \fi
8725 {%
8726 \@ifclassloaded{seminar}{%
8727 <*pdfTeX>
8728 \setlength{\pdfhorigin}{1truein}%
8729 \setlength{\pdfvorigin}{1truein}%
8730 </pdfTeX>
8731 \ifportrait
8732 \ifdim\paperwidth=\z@
8733 \else
8734 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8735 \fi
8736 \ifdim\paperheight=\z@
8737 \else
8738 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8739 \fi
8740 \else
8741 \ifdim\paperheight=\z@
8742 \else
8743 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8744 \fi
8745 \ifdim\paperwidth=\z@
8746 \else
8747 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8748 \fi
8749 \fi
8750 }{%
8751 \ltx@ifundefined{stockwidth}{%
8752 \ifdim\paperwidth>\z@
8753 \setlength{\pdfpagewidth}{\paperwidth}%
8754 \fi
8755 \ifdim\paperheight>\z@
8756 \setlength{\pdfpageheight}{\paperheight}%
8757 \fi
8758 }{%
8759 \ifdim\stockwidth>\z@

```

```

8760      \setlength{\pdfpagewidth}{\stockwidth}%
8761      \fi
8762      \ifdim\stockheight>\z@
8763      \setlength{\pdfpageheight}{\stockheight}%
8764      \fi
8765    }%
8766  }%
8767 }%
8768 \Hy@DisableOption{setpagesize}%
8769 }
8770 </pdfTeX | xetex>
8771 <*pdfTeX>
8772 \def\Acrobatmenu#1#2{%
8773   \Hy@Acrobatmenu{#1}{#2}{%
8774     \pdfstartlink
8775     attr{%
8776       \Hy@setpdfborder
8777       \ifx\@pdfhighlight\@empty
8778       \else
8779         /H\@pdfhighlight
8780       \fi
8781       \ifx\@menubordercolor\relax
8782       \else
8783         /C[\@menubordercolor]%
8784       \fi
8785     }%
8786     user{%
8787       /Subtype/Link%
8788       \ifHy@pdfa /F 4\fi
8789       /A<<%
8790       /S/Named%
8791       /N/#1%
8792       \Hy@href@nextactionraw
8793       >>%
8794     }%
8795     \relax
8796     \Hy@colorlink\@menucolor#2%
8797     \close@pdflink
8798   }%
8799 }

```

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.

```

8800 \def\Hy@FixNotFirstPage{%
8801   \gdef\Hy@FixNotFirstPage{%
8802     \setbox\AtBeginShipoutBox=\hbox{%
8803       \copy\AtBeginShipoutBox
8804     }%
8805   }%
8806 }

```

```

8807 \AtBeginShipout{\Hy@FixNotFirstPage}
8808 \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.

```

8809 (*hypertex)
8810 \providecommand*{\XR@ext}{dvi}
8811 \def\PDF@FinishDoc{}
8812 \def\PDF@SetupDoc{%
8813   \ifx\@baseurl\@empty
8814   \else
8815     \special{html:<base href="\@baseurl">}%
8816   \fi
8817 }
8818 \def\hyper@anchor#1{%
8819   \Hy@SaveLastskip
8820   \Hy@VerboseAnchor{#1}%
8821   \begingroup
8822     \let\protect=\string
8823     \hyper@chars
8824     \special{html:<a name=%
8825       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8826   \endgroup
8827   \Hy@Activeanchortrue
8828   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8829   \special{html:</a>}%

```

```

8830 \Hy@activeanchorfalse
8831 \Hy@RestoreLastskip
8832 }
8833 \def\hyper@anchorstart#1{%
8834 \Hy@SaveLastskip
8835 \Hy@VerboseAnchor{#1}%
8836 \begingroup
8837 \hyper@chars
8838 \special{html:<a name=%
8839 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8840 \endgroup
8841 \Hy@activeanchortrue
8842 }
8843 \def\hyper@anchorend{%
8844 \special{html:</a>}%
8845 \Hy@activeanchorfalse
8846 \Hy@RestoreLastskip
8847 }
8848 \def\@urltype{url}
8849 \def\hyper@linkstart#1#2{%
8850 \Hy@VerboseLinkStart{#1}{#2}%
8851 \expandafter\Hy@colorlink\csname @#1color\endcsname
8852 \def\Hy@tempa{#1}%
8853 \ifx\Hy@tempa\@urltype
8854 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8855 \else
8856 \begingroup
8857 \hyper@chars
8858 \special{html:<a href=%
8859 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
8860 \endgroup
8861 \fi
8862 }
8863 \def\hyper@linkend{%
8864 \special{html:</a>}%
8865 \Hy@endcolorlink
8866 }
8867 \def\hyper@linkfile#1#2#3{%
8868 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
8869 }
8870 \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.

```

8871 \leavevmode
8872 \ifHy@raiselinks
8873 \Hy@SaveSpaceFactor
8874 \Hy@SaveSavedSpaceFactor
8875 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
8876 \Hy@RestoreSavedSpaceFactor
8877 \@linkdim\dp\@tempboxa
8878 \lower\@linkdim\hbox{%
8879 \hyper@chars
8880 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8881 }%
8882 \Hy@colorlink\@urlcolor
8883 \Hy@RestoreSpaceFactor
8884 #1%

```

```

8885 \Hy@SaveSpaceFactor
8886 \@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).

```

8887 \advance\@linkdim by -6.5\p@
8888 \raise\@linkdim\hbox{\special{html:</a>}}}%
8889 \Hy@endcolorlink
8890 \Hy@RestoreSpaceFactor
8891 \else
8892 \begingroup
8893 \hyper@chars
8894 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8895 \Hy@colorlink\@urlcolor#1%
8896 \special{html:</a>}}}%
8897 \Hy@endcolorlink
8898 \endgroup
8899 \fi
8900 }

```

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

```

8901 \def\hyper@link#1#2#3{%
8902 \Hy@VerboseLinkStart{#1}{#2}%
8903 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
8904 }

8905 \def\hyper@image#1#2{%
8906 \begingroup
8907 \hyper@chars
8908 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8909 \endgroup
8910 }
8911 </hypertex>
8912 <*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.

```

8913 \providecommand*\XR@ext{dvi}
8914 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8915 \def\hyper@anchor#1{%
8916 \Hy@SaveLastskip
8917 \Hy@VerboseAnchor{#1}%
8918 \begingroup
8919 \let\protect=\string
8920 \special{mark: #1}%
8921 \endgroup

```



```

8922 \Hy@activeanchortrue
8923 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8924 \Hy@activeanchorfalse
8925 \Hy@RestoreLastskip
8926 }
8927 \def\hyper@anchorstart#1{%
8928 \Hy@SaveLastskip
8929 \Hy@VerboseAnchor{#1}%
8930 \special{mark: #1}%
8931 \Hy@activeanchortrue
8932 }
8933 \def\hyper@anchorend{%
8934 \Hy@activeanchorfalse
8935 \Hy@RestoreLastskip
8936 }
8937 \def\hyper@linkstart#1#2{%
8938 \Hy@VerboseLinkStart{#1}{#2}%
8939 \expandafter\Hy@colorlink\csname @#1color\endcsname
8940 \special{button: %
8941 10000000 %
8942 \number\baselineskip\space
8943 #2%
8944 }%
8945 }
8946 \def\hyper@linkend{%
8947 \Hy@endcolorlink
8948 }
8949 \def\hyper@link#1#2#3{%
8950 \Hy@VerboseLinkStart{#1}{#2}%
8951 \leavevmode
8952 \ifHy@raiselinks
8953 \Hy@SaveSpaceFactor
8954 \Hy@SaveSavedSpaceFactor
8955 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
8956 \Hy@RestoreSavedSpaceFactor
8957 \@linkdim\dp\@tempboxa
8958 \lower\@linkdim\hbox{%
8959 \special{button: %
8960 \number\wd\@tempboxa\space
8961 \number\ht\@tempboxa\space
8962 #2%
8963 }%
8964 \expandafter\Hy@colorlink\csname @#1color\endcsname
8965 \Hy@RestoreSpaceFactor
8966 #3%
8967 \Hy@SaveSpaceFactor
8968 \Hy@endcolorlink
8969 }%
8970 \@linkdim\ht\@tempboxa
8971 \advance\@linkdim by -6.5\p@
8972 \raise\@linkdim\hbox{}%
8973 \Hy@RestoreSpaceFactor
8974 \else
8975 \special{button: %
8976 \number\wd\@tempboxa\space
8977 \number\ht\@tempboxa\space
8978 #2%

```

```

8979 }%
8980 \expandafter\Hy@colorlink\csname @#1color\endcsname
8981 #3%
8982 \Hy@endcolorlink
8983 \fi
8984 }
8985 \def\hyper@linkurl#1#2{%
8986 \begingroup
8987 \hyper@chars
8988 \leavevmode
8989 \ifHy@raiselinks
8990 \Hy@SaveSpaceFactor
8991 \Hy@SaveSavedSpaceFactor
8992 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
8993 \Hy@RestoreSavedSpaceFactor
8994 \@linkdim\dp\@tempboxa
8995 \lower\@linkdim\hbox{%
8996 \special{button: %
8997 \number\wd\@tempboxa\space
8998 \number\ht\@tempboxa\space
8999 launch: \wwwbrowser\space
9000 #2%
9001 }%
9002 \Hy@colorlink\@urlcolor
9003 \Hy@RestoreSpaceFactor
9004 #1%
9005 \Hy@SaveSpaceFactor
9006 \Hy@endcolorlink
9007 }%
9008 \@linkdim\ht\@tempboxa
9009 \advance\@linkdim by -6.5\p@
9010 \raise\@linkdim\hbox{}%
9011 \Hy@RestoreSpaceFactor
9012 \else
9013 \special{button: %
9014 \number\wd\@tempboxa\space
9015 \number\ht\@tempboxa\space
9016 launch: \wwwbrowser\space
9017 #2%
9018 }%
9019 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9020 \fi
9021 \endgroup
9022 }
9023 \def\hyper@linkfile#1#2#3{%
9024 \begingroup
9025 \hyper@chars
9026 \leavevmode
9027 \ifHy@raiselinks
9028 \Hy@SaveSpaceFactor
9029 \Hy@SaveSavedSpaceFactor
9030 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9031 \Hy@RestoreSavedSpaceFactor
9032 \@linkdim\dp\@tempboxa
9033 \lower\@linkdim\hbox{%
9034 \special{button: %
9035 \number\wd\@tempboxa\space

```

```

9036      \number\ht\@tempboxa\space
9037      #3,%
9038      file: #2%
9039    }%
9040    \Hy@colorlink\@filecolor
9041    \Hy@RestoreSpaceFactor
9042    #1%
9043    \Hy@SaveSpaceFactor
9044    \Hy@endcolorlink
9045  }%
9046  \@linkdim\ht\@tempboxa
9047  \advance\@linkdim by -6.5\p@
9048  \raise\@linkdim\hbox{}%
9049  \Hy@RestoreSpaceFactor
9050 \else
9051   \special{button: %
9052     \number\wd\@tempboxa\space
9053     \number\ht\@tempboxa\space
9054     #3,%
9055     file: #2%
9056   }%
9057   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9058 \fi
9059 \endgroup
9060 }
9061 \ifx\@pdfproducer\relax
9062   \def\@pdfproducer{dviwindo + Distiller}%
9063 \fi
9064 \HyInfo@AddonUnsupportedtrue
9065 \def\PDF@FinishDoc{%
9066   \Hy@UseMaketitleInfos
9067   \HyInfo@TrappedUnsupported
9068   \special{PDF: Keywords \@pdfkeywords}%
9069   \special{PDF: Title \@pdftitle}%
9070   \special{PDF: Creator \@pdfcreator}%
9071   \ifx\@pdfcreationdate\@empty
9072   \else
9073     \special{PDF: CreationDate \@pdfcreationdate}%
9074   \fi
9075   \ifx\@pdfmoddate\@empty
9076   \else
9077     \special{PDF: ModDate \@pdfmoddate}%
9078   \fi
9079   \special{PDF: Author \@pdfauthor}%
9080   \ifx\@pdfproducer\relax
9081   \else
9082     \special{PDF: Producer \@pdfproducer}%
9083   \fi
9084   \special{PDF: Subject \@pdfsubject}%
9085   \Hy@DisableOption{pdfauthor}%
9086   \Hy@DisableOption{pdftitle}%
9087   \Hy@DisableOption{pdfsubject}%
9088   \Hy@DisableOption{pdfcreator}%
9089   \Hy@DisableOption{pdfcreationdate}%
9090   \Hy@DisableOption{pdfmoddate}%
9091   \Hy@DisableOption{pdfproducer}%
9092   \Hy@DisableOption{pdfkeywords}%

```

```

9093 \Hy@DisableOption{pdftrapped}%
9094 \Hy@DisableOption{pdfinfo}%
9095 }
9096 \def\PDF@SetupDoc{%
9097 \ifx\@baseurl\@empty
9098 \else
9099 \special{PDF: Base \@baseurl}%
9100 \fi
9101 \ifx\@pdfpagescrop\@empty\else
9102 \special{PDF: BBox \@pdfpagescrop}%
9103 \fi
9104 \def\Hy@temp{%
9105 \ifx\@pdfstartpage\@empty
9106 \else
9107 \ifx\@pdfstartview\@empty
9108 \else
9109 \edef\Hy@temp{%
9110 ,Page=\@pdfstartpage
9111 ,View=\@pdfstartview
9112 }%
9113 \fi
9114 \fi
9115 \edef\Hy@temp{%
9116 \noexpand\pdfmark{%
9117 pdfmark=/DOCVIEW,%
9118 PageMode=/\@pdfpagemode
9119 \Hy@temp
9120 }%
9121 }%
9122 \Hy@temp
9123 \ifx\@pdfpagescrop\@empty
9124 \else
9125 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9126 \fi
9127 \edef\Hy@temp{%
9128 \ifHy@toolbar\else /HideToolbar true\fi
9129 \ifHy@menubar\else /HideMenubar true\fi
9130 \ifHy>windowui\else /HideWindowUI true\fi
9131 \ifHy@fitwindow /FitWindow true\fi
9132 \ifHy@centerwindow /CenterWindow true\fi
9133 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9134 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9135 \Hy@UseNameKey{Direction}\@pdfdirection
9136 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9137 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9138 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9139 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9140 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9141 \Hy@UseNameKey{Duplex}\@pdfduplex
9142 \ifx\@pdfpicktraybypdfsize\@empty
9143 \else
9144 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9145 \fi
9146 \ifx\@pdfprintpagerange\@empty
9147 \else
9148 /PrintPageRange[\@pdfprintpagerange]%
9149 \fi

```

```

9150 \ifx\@pdfnumcopies\@empty
9151 \else
9152 /NumCopies \@pdfnumcopies
9153 \fi
9154 }%
9155 \pdfmark{pdfmark=/PUT,%
9156 Raw={%
9157 \string{Catalog\string}<<%
9158 \ifx\Hy@temp\@empty
9159 \else
9160 /ViewerPreferences<<\Hy@temp>>%
9161 \fi
9162 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9163 \ifx\@pdflang\@empty
9164 \else
9165 /Lang(\@pdflang)%
9166 \fi
9167 >>%
9168 }%
9169 }%
9170 }
9171 </dviwindo>
9172 <*dviptfm | xetex>

```

46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

9173 \providecommand*{\XR@ext}{pdf}
9174 \Hy@setbreaklinks{true}
9175 \def\HyPat@ObjRef{%
9176 @[\~ ]+%
9177 }
9178 \newsavebox{\pdfm@box}
9179 \def\@pdfm@mark#1{\special{pdf:#1}}
9180 \def\@pdfm@dest#1{%
9181 \Hy@SaveLastskip
9182 \Hy@VerboseAnchor{#1}%
9183 \begingroup
9184 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9185 \def\x{XYZ}%
9186 \ifx\x\@pdfview
9187 \def\x{XYZ @xpos @ypos null}%
9188 \else
9189 \def\x{FitH}%
9190 \ifx\x\@pdfview
9191 \def\x{FitH @ypos}%
9192 \else
9193 \def\x{FitBH}%
9194 \ifx\x\@pdfview
9195 \def\x{FitBH @ypos}%
9196 \else
9197 \def\x{FitV}%
9198 \ifx\x\@pdfview
9199 \def\x{FitV @xpos}%
9200 \else
9201 \def\x{FitBV}%
9202 \ifx\x\@pdfview

```

```

9203         \def\x{FitBV @xpos}%
9204     \else
9205         \def\x{Fit}%
9206     \ifx\x\@pdfview
9207         \let\x\@pdfview
9208     \else
9209         \def\x{FitB}%
9210     \ifx\x\@pdfview
9211         \let\x\@pdfview
9212     \else
9213         \def\x{FitR}%
9214     \ifx\x\@pdfview
9215         \Hy@Warning{'pdfview=FitR' is not supported}%
9216         \def\x{XYZ @xpos @ypos null}%
9217     \else
9218         \@onelevel@sanitize\@pdfview
9219         \Hy@Warning{%
9220             Unknown value '\@pdfview' for pdfview%
9221         }%
9222         \def\x{XYZ @xpos @ypos null}%
9223     \fi
9224 \fi
9225 \fi
9226 \fi
9227 \fi
9228 \fi
9229 \fi
9230 \fi
9231 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9232 \endgroup
9233 \Hy@RestoreLastskip
9234 }
9235 \providecommand*\@pdfview{XYZ}
9236 \providecommand*\@pdfborder{0 0 1}
9237 \providecommand*\@pdfborderstyle{}
9238 \def\hyper@anchor#1{%
9239     \@pdfm@dest{#1}%
9240 }
9241 \def\hyper@anchorstart#1{%
9242     \Hy@activeanchortrue
9243     \@pdfm@dest{#1}%
9244 }
9245 \def\hyper@anchorend{%
9246     \Hy@activeanchorfalse
9247 }
9248 \newcounter{Hy@AnnotLevel}
9249 \ifHy@ocgcolorlinks
9250     \def\OBJ@OCG@view{@OCG@view}%
9251     \@pdfm@mark{%
9252         obj \OBJ@OCG@view <<%
9253         /Type/OCG%
9254         /Name(View)%
9255         /Usage<<%
9256         /Print<<%
9257         /PrintState/OFF%
9258         >>%
9259         /View<<%

```

```

9260         /ViewState/ON%
9261     >>%
9262 >>%
9263 >>%
9264 }%
9265 \@pdfm@mark{close \OBJ@OCG@view}%
9266 \def\OBJ@OCG@print{@OCG@print}%
9267 \@pdfm@mark{%
9268     obj \OBJ@OCG@print <<%
9269         /Type/OCG%
9270         /Name(Print)%
9271         /Usage<<%
9272         /Print<<%
9273         /PrintState/ON%
9274     >>%
9275     /View<<%
9276     /ViewState/OFF%
9277     >>%
9278 >>%
9279 >>%
9280 }%
9281 \@pdfm@mark{close \OBJ@OCG@print}%
9282 \def\OBJ@OCGs{@OCGs}%
9283 \@pdfm@mark{%
9284     obj \OBJ@OCGs [%
9285         \OBJ@OCG@view\space\OBJ@OCG@print
9286     ]%
9287 }%
9288 \@pdfm@mark{close \OBJ@OCGs}%
9289 \@pdfm@mark{%
9290     put @catalog <<%
9291         /OCProperties<<%
9292         /OCGs \OBJ@OCGs
9293         /D<<%
9294         /OFF[\OBJ@OCG@print]%
9295         /AS[%
9296             <<%
9297                 /Event/View%
9298                 /OCGs \OBJ@OCGs
9299                 /Category[/View]%
9300             >>%
9301             <<%
9302                 /Event/Print%
9303                 /OCGs \OBJ@OCGs
9304                 /Category[/Print]%
9305             >>%
9306             <<%
9307                 /Event/Export%
9308                 /OCGs \OBJ@OCGs
9309                 /Category[/Print]%
9310             >>%
9311         ]%
9312     >>%
9313 >>%
9314 >>%
9315 }%
9316 \AtBeginShipout{%

```

```

9317 \setbox\AtBeginShipoutBox=\hbox{%
9318 \copy\AtBeginShipoutBox
9319 \@pdfm@mark{%
9320 put @resources <<%
9321 /Properties<<%
9322 /OCView \OBJ@OCG@view
9323 /OCPrint \OBJ@OCG@print
9324 >>%
9325 >>%
9326 }%
9327 }%
9328 }%
9329 \Hy@AtBeginDocument{%
9330 \def\Hy@colorlink#1{%
9331 \begingroup
9332 \ifHy@ocgcolorlinks
9333 \def\Hy@ocgcolor{#1}%
9334 \setbox0=\hbox\bgroup\color@begingroup
9335 \else
9336 \HyColor@UseColor#1%
9337 \fi
9338 }%
9339 \def\Hy@endcolorlink{%
9340 \ifHy@ocgcolorlinks
9341 \color@endgroup\egroup
9342 \mbox{%
9343 \@pdfm@mark{content /OC/OCPrint BDC}%
9344 \rlap{\copy0}%
9345 \@pdfm@mark{content EMC/OC/OCView BDC}%
9346 \begingroup
9347 \expandafter\HyColor@UseColor\Hy@ocgcolor
9348 \box0 %
9349 \endgroup
9350 \@pdfm@mark{content EMC}%
9351 }%
9352 \fi
9353 \endgroup
9354 }%
9355 }%
9356 \else
9357 \Hy@DisableOption{ocgcolorlinks}%
9358 \fi
9359 \def\Hy@BeginAnnot#1{%
9360 \stepcounter{Hy@AnnotLevel}%
9361 \ifnum\value{Hy@AnnotLevel}=\@ne
9362 #1%
9363 \fi
9364 }
9365 \def\Hy@EndAnnot{%
9366 \ifnum\value{Hy@AnnotLevel}=\@ne
9367 \Hy@endcolorlink
9368 \@pdfm@mark{eann}%
9369 \fi
9370 \addtocounter{Hy@AnnotLevel}\m@ne
9371 }
9372 \def\Hy@undefinedname{UNDEFINED}
9373 \def\hyper@linkstart#1#2{%

```



```

9374 \Hy@VerboseLinkStart{#1}{#2}%
9375 \Hy@BeginAnnot{%
9376   \protected@edef\Hy@testname{#2}%
9377   \ifx\Hy@testname\@empty
9378     \Hy@Warning{%
9379       Empty destination name,\MessageBreak
9380       using '\Hy@undefinedname'%
9381     }%
9382     \let\Hy@testname\Hy@undefinedname
9383   \else
9384     \Hy@pstringdef\Hy@testname{%
9385       \expandafter\HyperDestNameFilter\expandafter{%
9386         \Hy@testname
9387       }%
9388     }%
9389   \fi
9390   \@pdfm@mark{%
9391     bann<<%
9392     /Type/Annot%
9393     /Subtype/Link%
9394     \ifHy@pdfa /F 4\fi
9395     \Hy@setpdfborder
9396     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9397     \else
9398       /C[\csname @#1bordercolor\endcsname]%
9399     \fi
9400     /A<<%
9401     /S/GoTo%
9402     /D(\Hy@testname)%
9403     \Hy@href@nextactionraw
9404     >>%
9405     >>%
9406   }%
9407   \expandafter\Hy@colorlink\csname @#1color\endcsname
9408 }%
9409 }
9410 \def\hyper@linkend{\Hy@EndAnnot}%
9411 \def\hyper@link#1#2#3{%
9412   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9413 }
9414 \def\hyper@linkfile#1#2#3{%
9415   \leavevmode
9416   \Hy@BeginAnnot{%
9417     \def\Hy@pstringF{#2}%
9418     \Hy@CleanupFile\Hy@pstringF
9419     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9420     \Hy@pstringdef\Hy@pstringD{#3}%
9421     \Hy@MakeRemoteAction
9422     \@pdfm@mark{%
9423       bann<<%
9424       /Type/Annot%
9425       /Subtype/Link%
9426       \ifHy@pdfa /F 4\fi
9427       \Hy@setpdfborder
9428       \ifx\@filebordercolor\relax
9429       \else
9430         /C[\@filebordercolor]%

```

```

9431     \fi
9432     /A<<%
9433     /S/GoToR%
9434     /F(\Hy@pstringF)%
9435     /D%
9436     \ifx\#3\%
9437         [\Hy@href@page\@pdfremotestartview]%
9438     \else
9439         (\Hy@pstringD)%
9440     \fi
9441     \Hy@SetNewWindow
9442     \Hy@href@nextactionraw
9443     >>%
9444     >>%
9445     }%
9446     \Hy@colorlink\@filecolor
9447     }%
9448     #1%
9449     \Hy@endAnnot
9450 }
9451 \def\hyper@linkurl#1#2{%
9452     \leavevmode
9453     \Hy@BeginAnnot{%
9454         \Hy@pstringdef\Hy@pstringURI{#2}%
9455         \@pdfm@mark{%
9456             bann<<%
9457             /Type/Annot%
9458             /Subtype/Link%
9459             \ifHy@pdfa /F 4\fi
9460             \Hy@setpdfborder
9461             \ifx\@urlbordercolor\relax
9462             \else
9463                 /C[\@urlbordercolor]%
9464             \fi
9465             /A<<%
9466             /S/URI%
9467             /URI(\Hy@pstringURI)%
9468             \ifHy@href@ismap
9469                 /IsMap true%
9470             \fi
9471             \Hy@href@nextactionraw
9472             >>%
9473             >>%
9474             }%
9475             \Hy@colorlink\@urlcolor
9476             }%
9477             #1%
9478             \Hy@endAnnot
9479 }
9480 \def\Acrobatmenu#1#2{%
9481     \Hy@Acrobatmenu{#1}{#2}%
9482     \Hy@BeginAnnot{%
9483         \@pdfm@mark{%
9484             bann<<%
9485             /Type/Annot%
9486             /Subtype/Link%
9487             \ifHy@pdfa /F 4\fi

```

```

9488      /A<<%
9489      /S/Named%
9490      /N/#1%
9491      \Hy@href@nextactionraw
9492    >>%
9493    \Hy@setpdfborder
9494    \ifx\@menubordercolor\relax
9495      \relax
9496      /C[\@menubordercolor]%
9497    \fi
9498    >>%
9499  }%
9500  \Hy@colorlink\@menucolor
9501  }%
9502  #2%
9503  \Hy@EndAnnot
9504  }%
9505 }
9506 \ifx\@pdfproducer\relax
9507 \def\@pdfproducer{dvipdfm}%

```

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

```

9508 \begingroup\expandafter\expandafter\expandafter\endgroup
9509 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9510 \else
9511 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9512 \fi
9513 \fi
9514 \def\PDF@FinishDoc{%
9515 \Hy@UseMaketitleInfos
9516 \HyInfo@GenerateAddons
9517 \@pdfm@mark{%
9518 docinfo<<%
9519   /Title(\@pdftitle)%
9520   /Subject(\@pdfsubject)%
9521   /Creator(\@pdfcreator)%
9522   \ifx\@pdfcreationdate\@empty
9523   \else
9524     /CreationDate(\@pdfcreationdate)%
9525   \fi
9526   \ifx\@pdfmoddate\@empty
9527   \else
9528     /ModDate(\@pdfmoddate)%
9529   \fi
9530   /Author(\@pdfauthor)%
9531   \ifx\@pdfproducer\relax
9532   \else
9533     /Producer(\@pdfproducer)%
9534   \fi
9535   /Keywords(\@pdfkeywords)%
9536   \ifx\@pdftrapped\@empty
9537   \else
9538     /Trapped/\@pdftrapped
9539   \fi
9540   \HyInfo@Addons
9541   >>%
9542 }%
9543 \Hy@DisableOption{pdfauthor}%

```

```

9544 \Hy@DisableOption{pdftitle}%
9545 \Hy@DisableOption{pdfsubject}%
9546 \Hy@DisableOption{pdfcreator}%
9547 \Hy@DisableOption{pdfcreationdate}%
9548 \Hy@DisableOption{pdfmoddate}%
9549 \Hy@DisableOption{pdfproducer}%
9550 \Hy@DisableOption{pdfkeywords}%
9551 \Hy@DisableOption{pdftrapped}%
9552 \Hy@DisableOption{pdfinfo}%
9553 }

9554 \def\PDF@SetupDoc{%
9555 \edef\Hy@temp{%
9556 \ifHy@toolbar\else /HideToolbar true\fi
9557 \ifHy@menubar\else /HideMenubar true\fi
9558 \ifHy>windowui\else /HideWindowUI true\fi
9559 \ifHy@fitwindow /FitWindow true\fi
9560 \ifHy@centerwindow /CenterWindow true\fi
9561 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9562 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9563 \Hy@UseNameKey{Direction}\@pdfdirection
9564 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9565 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9566 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9567 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9568 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9569 \Hy@UseNameKey{Duplex}\@pdfduplex
9570 \ifx\@pdfpicktraybypdfsize\@empty
9571 \else
9572 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9573 \fi
9574 \ifx\@pdfprintpagerange\@empty
9575 \else
9576 /PrintPageRange\@pdfprintpagerange\%
9577 \fi
9578 \ifx\@pdfnumcopies\@empty
9579 \else
9580 /NumCopies \@pdfnumcopies
9581 \fi
9582 }%
9583 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9584 \@pdfm@mark{%
9585 docview<<%
9586 \ifx\@pdfstartpage\@empty
9587 \else
9588 \ifx\@pdfstartview\@empty
9589 \else
9590 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9591 \fi
9592 \fi
9593 \ifx\@baseurl\@empty
9594 \else
9595 /URI<</Base(\Hy@pstringB)>>%
9596 \fi
9597 /PageMode/\@pdfpagemode
9598 \ifx\Hy@temp\@empty
9599 \else
9600 /ViewerPreferences<<\Hy@temp>>%

```

```

9601 \fi
9602 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9603 \ifx\@pdflang\@empty
9604 \else
9605 /Lang(\@pdflang)%
9606 \fi
9607 >>%
9608 }%
9609 \ifx\@pdfpagescrop\@empty
9610 \else
9611 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
9612 \fi
9613 }
9614 </dvipdfm | xetex>

```

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

```

9615 <*dvipdfm>
9616 \AtBeginShipoutFirst{%
9617 \ifHy@setpagesize
9618 \begingroup
9619 \@ifundefined{stockwidth}{%
9620 \ifdim\paperwidth>\z@
9621 \ifdim\paperheight>\z@
9622 \special{papersize=\the\paperwidth,\the\paperheight}%
9623 \fi
9624 \fi
9625 }{%
9626 \ifdim\stockwidth>\z@
9627 \ifdim\stockheight>\z@
9628 \special{papersize=\the\stockwidth,\the\stockheight}%
9629 \fi
9630 \fi
9631 }%
9632 \endgroup
9633 \fi
9634 \Hy@DisableOption{setpagesize}%
9635 }
9636 </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.

```

9637 <*vtexhtml>
9638 \providecommand*\XR@ext{.htm}
9639 \RequirePackage{vtexhtml}
9640 \newif\if@Localurl
9641 \def\PDF@FinishDoc{}
9642 \def\PDF@SetupDoc{%
9643 \ifx\@baseurl\@empty
9644 \else
9645 \special{!direct <base href="\@baseurl">}%
9646 \fi
9647 }
9648 \def\@urltype{url}
9649 \def\hyper@link#1#2#3{%

```

```

9650 \Hy@VerboseLinkStart{#1}{#2}%
9651 \leavevmode
9652 \special{!direct <a href=%
9653     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9654 #3%
9655 \special{!direct </a>}}%
9656 }
9657 \def\hyper@linkurl#1#2{%
9658 \begingroup
9659 \hyper@chars
9660 \leavevmode
9661 \MathBSuppress=1\relax
9662 \special{!direct <a href=%
9663     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9664 #1%
9665 \MathBSuppress=0\relax
9666 \special{!direct </a>}}%
9667 \endgroup
9668 }
9669 \def\hyper@linkfile#1#2#3{%
9670 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
9671 }
9672 \def\hyper@linkstart#1#2{%
9673 \Hy@VerboseLinkStart{#1}{#2}%
9674 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
9675 \@Localurltrue
9676 \special{!direct <a href=\hyper@quote#2\hyper@quote>}}%
9677 \else
9678 \@Localurlfalse
9679 \begingroup
9680 \hyper@chars
9681 \special{!aref \HyperDestNameFilter{#2}}}%
9682 \endgroup
9683 \fi
9684 }
9685 \def\hyper@linkend{%
9686 \if@Localurl
9687 \special{!endaref}}%
9688 \else
9689 \special{!direct </a>}}%
9690 \fi
9691 }
9692 \def\hyper@anchorstart#1{%
9693 \Hy@SaveLastskip
9694 \Hy@VerboseAnchor{#1}%
9695 \begingroup
9696 \hyper@chars
9697 \special{!aname #1}%
9698 \special{!direct <a name=%
9699     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
9700 \endgroup
9701 \Hy@activeanchortrue
9702 }
9703 \def\hyper@anchorend{%
9704 \special{!direct </a>}}%
9705 \Hy@activeanchorfalse
9706 \Hy@RestoreLastskip

```

```

9707 }
9708 \def\hyper@anchor#1{%
9709   \Hy@SaveLastskip
9710   \Hy@VerboseAnchor{#1}%
9711   \begingroup
9712     \let\protect=\string
9713     \hyper@chars
9714     \leavevmode
9715     \special{!aname #1}%
9716     \special{!direct <a name=%
9717       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9718   \endgroup
9719   \Hy@activeanchortrue
9720   \bgroup\anchor@spot\egroup
9721   \special{!direct </a>}%
9722   \Hy@activeanchorfalse
9723   \Hy@RestoreLastskip
9724 }
9725 \def\@Form[#1]{%
9726   \typeout{Sorry, TeXpider does not yet support FORMs}%
9727 }
9728 \def\@endForm{}
9729 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9730   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9731 }
9732 \def\@TextField[#1]#2{% parameters, label
9733   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9734 }
9735 \def\@CheckBox[#1]#2{% parameters, label
9736   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9737 }
9738 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9739   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9740 }
9741 \def\@PushButton[#1]#2{% parameters, label
9742   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9743 }
9744 \def\@Reset[#1]#2{%
9745   \typeout{Sorry, TeXpider does not yet support FORMs}%
9746 }
9747 \def\@Submit[#1]#2{%
9748   \typeout{Sorry, TeXpider does not yet support FORMs}%
9749 }
9750 \</vtexhtml>
9751 \<*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.

```

9752 \ifx\mediaheight\@undefined
9753 \else
9754   \ifx\mediaheight\relax
9755     \else
9756       \ifHy@setpagesize
9757         \providecommand*\VTeXInitMediaSize{%
9758           \ltx@ifundefined{stockwidth}{%
9759             \ifdim\paperheight>0pt %

```

```

9760         \setlength\mediaheight\paperheight
9761     \fi
9762     \ifdim\paperheight>0pt %
9763         \setlength\mediawidth\paperwidth
9764     \fi
9765 }{%
9766     \ifdim\stockheight>0pt %
9767         \setlength\mediaheight\stockheight
9768     \fi
9769     \ifdim\stockwidth>0pt %
9770         \setlength\mediawidth\stockwidth
9771     \fi
9772 }%
9773 }%
9774 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9775 \fi
9776 \Hy@DisableOption{setpagesize}%
9777 \fi
9778 \fi

```

Older versions of VTeX require xyz in lower case.

```

9779 \providecommand*\@pdfview{xyz}
9780 \providecommand*\@pdfborder{0 0 1}
9781 \providecommand*\@pdfborderstyle{}
9782 \let\CurrentBorderColor\@linkbordercolor
9783 \def\hyper@anchor#1{%
9784     \Hy@SaveLastskip
9785     \Hy@VerboseAnchor{#1}%
9786     \begingroup
9787         \let\protect=\string
9788         \hyper@chars
9789         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9790     \endgroup
9791     \Hy@activeanchortrue
9792     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9793     \Hy@activeanchorfalse
9794     \Hy@RestoreLastskip
9795 }
9796 \def\hyper@anchorstart#1{%
9797     \Hy@SaveLastskip
9798     \Hy@VerboseAnchor{#1}%
9799     \begingroup
9800         \hyper@chars
9801         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9802     \endgroup
9803     \Hy@activeanchortrue
9804 }
9805 \def\hyper@anchorend{%
9806     \Hy@activeanchorfalse
9807     \Hy@RestoreLastskip
9808 }
9809 \def\@urltype{url}
9810 \def\Hy@undefinedname{UNDEFINED}
9811 \def\hyper@linkstart#1#2{%
9812     \Hy@VerboseLinkStart{#1}{#2}%
9813     \Hy@pstringdef\Hy@pstringURI{#2}%
9814     \expandafter\Hy@colorlink\csname @#1color\endcsname
9815     \ltx@ifundefined{@#1bordercolor}{%

```



```

9816 \let\CurrentBorderColor\relax
9817 }{%
9818 \edef\CurrentBorderColor{%
9819 \csname @#1bordercolor\endcsname
9820 }%
9821 }%
9822 \def\Hy@tempa{#1}%
9823 \ifx\Hy@tempa\@uratype
9824 \special{!%
9825 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
9826 \ifHy@href@ismap
9827 /IsMap true%
9828 \fi
9829 \Hy@href@nextactionraw
9830 >%
9831 a=<%
9832 \ifHy@pdfa /F 4\fi
9833 \Hy@setpdfborder
9834 \ifx\CurrentBorderColor\relax
9835 \else
9836 /C [\CurrentBorderColor]%
9837 \fi
9838 >%
9839 }%
9840 \else
9841 \protected@edef\Hy@testname{#2}%
9842 \ifx\Hy@testname\@empty
9843 \Hy@Warning{%
9844 Empty destination name,\MessageBreak
9845 using '\Hy@undefinedname'%
9846 }%
9847 \let\Hy@testname\Hy@undefinedname
9848 \fi
9849 \special{!%
9850 aref \expandafter\HyperDestNameFilter
9851 \expandafter{\Hy@testname};%
9852 a=<%
9853 \ifHy@pdfa /F 4\fi
9854 \Hy@setpdfborder
9855 \ifx\CurrentBorderColor\relax
9856 \else
9857 /C [\CurrentBorderColor]%
9858 \fi
9859 >%
9860 }%
9861 \fi
9862 }
9863 \def\hyper@linkend{%
9864 \special{!endaref}%
9865 \Hy@endcolorlink
9866 }
9867 \def\hyper@linkfile#1#2#3{%
9868 \leavevmode
9869 \def\Hy@pstringF{#2}%
9870 \Hy@CleanupFile\Hy@pstringF
9871 \special{!%
9872 aref <%

```

```

9873 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
9874 f=\Hy@pstringF>#3;%
9875 a=<%
9876 \ifHy@pdfa /F 4\fi
9877 \Hy@setpdfborder
9878 \ifx\@filebordercolor\relax
9879 \else
9880 /C [\@filebordercolor]%
9881 \fi
9882 >%
9883 }%
9884 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9885 \special{!endaref}%
9886 }
9887 \def\hyper@linkurl#1#2{%
9888 \begingroup
9889 \Hy@pstringdef\Hy@pstringURI{#2}%
9890 \hyper@chars
9891 \leavevmode
9892 \special{!%
9893 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
9894 \ifHy@href@ismap
9895 /IsMap true%
9896 \fi
9897 \Hy@href@nextactionraw
9898 >;%
9899 a=<%
9900 \ifHy@pdfa /F 4\fi
9901 \Hy@setpdfborder
9902 \ifx\@urlbordercolor\relax
9903 \else
9904 /C [\@urlbordercolor]%
9905 \fi
9906 >%
9907 }%
9908 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9909 \special{!endaref}%
9910 \endgroup
9911 }
9912 \def\hyper@link#1#2#3{%
9913 \Hy@VerboseLinkStart{#1}{#2}%
9914 \ltx@ifundefined{@#1bordercolor}{%
9915 \let\CurrentBorderColor\relax
9916 }{%
9917 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9918 }%
9919 \leavevmode
9920 \protected@edef\Hy@testname{#2}%
9921 \ifx\Hy@testname\@empty
9922 \Hy@Warning{%
9923 Empty destination name,\MessageBreak
9924 using '\Hy@undefinedname'%
9925 }%
9926 \let\Hy@testname\Hy@undefinedname
9927 \fi
9928 \special{!%
9929 aref \expandafter\HyperDestNameFilter

```

```

9930      \expandafter{\Hy@testname};%
9931      a=<%
9932      \ifHy@pdfa /F 4\fi
9933      \Hy@setpdfborder
9934      \ifx\CurrentBorderColor\relax
9935      \else
9936      /C [\CurrentBorderColor]%
9937      \fi
9938      >%
9939      }%
9940      \expandafter
9941      \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9942      \special{!endaref}%
9943      }
9944      \def\hyper@image#1#2{%
9945      \hyper@linkurl{#2}{#1}%
9946      }
9947      \def\@hyper@launch run:#1\#2#3{%
9948      \Hy@pstringdef\Hy@pstringF{#1}%
9949      \Hy@pstringdef\Hy@pstringP{#3}%
9950      \leavevmode
9951      \special{!aref %
9952      <u=%
9953      /Type/Action%
9954      /S/Launch%
9955      /F(\Hy@pstringF)%
9956      \Hy@SetNewWindow
9957      \ifx\#3\%
9958      \else
9959      /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9960      \fi
9961      \Hy@href@nextactionraw
9962      >,%
9963      a=<%
9964      \ifHy@pdfa /F 4\fi
9965      \Hy@setpdfborder
9966      \ifx\@runbordercolor\relax
9967      \else
9968      /C[\@runbordercolor]%
9969      \fi
9970      >%
9971      }%
9972      \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9973      \special{!endaref}%
9974      }
9975      \def\Acrobatmenu#1#2{%
9976      \Hy@Acrobatmenu{#1}{#2}{%
9977      \special{!%
9978      aref <u=/S /Named /N /#1>;%
9979      a=<%
9980      \ifHy@pdfa /F 4\fi
9981      \Hy@setpdfborder
9982      \ifx\@menubordercolor\relax
9983      \else
9984      /C[\@menubordercolor]%
9985      \fi
9986      >%

```

```

9987 }%
9988 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9989 \special{!endaref}%
9990 }%
9991 }

```

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

The code below makes sense for \TeX 7.02 or later.

Please never use $\text{\ifundefined{VTeXversion}}\{..\}\{..\}$ globally.

```

9992 \ifnum\Hy@VTeXversion<702 %
9993 \else
9994 \def\hyper@pagetransition{%
9995 \ifx\@pdfpagetransition\relax
9996 \else
9997 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9998 \else
9999 \hvtex@parse@trans\@pdfpagetransition
10000 \fi
10001 \fi
10002 }%

```

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

Syntax of \TeX $\text{\special}\{!trans <transition_effect>\}$:

```

<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:

```

10003 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10004 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10005 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10006 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10007 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10008 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10009 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10010 \def\hvtex@par@dimension{/Dm}%
10011 \def\hvtex@par@direction{/Di}%
10012 \def\hvtex@par@duration{/D}%
10013 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```
10014 \def\hvtex@gettoken{%
10015   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10016 }%
```

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

```
10017 \def\hvtex@gettoken@#1 #2\@nil{%
10018   \edef\hvtex@token{#1}%
10019   \edef\hvtex@buffer{#2}%
10020 }%
10021 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
10022 \let\hvtex@trans@code\@empty
10023 \let\hvtex@param@dimension\@empty
10024 \let\hvtex@param@direction\@empty
10025 \let\hvtex@param@duration\@empty
10026 \let\hvtex@param@motion\@empty
10027 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10028 \hvtex@gettoken
10029 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10030   \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10031   \else
10032     \hvtex@gettoken
10033   \fi
10034 \fi
10035 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10036 \hvtex@trans@params
10037 }%
```

Reentrant macro to parse optional parameters.

```
10038 \def\hvtex@trans@params{%
10039   \ifx\hvtex@buffer\@empty
10040   \else
10041     \hvtex@gettoken
10042     \let\hvtex@trans@par\hvtex@token
10043     \ifx\hvtex@buffer\@empty
10044     \else
10045       \hvtex@gettoken
10046       \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
10047     \let\hvtex@param@duration\hvtex@token
10048   \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10049     \expandafter\edef\expandafter\hvtex@param@motion
10050     \expandafter{\expandafter\@gobble\hvtex@token}%
10051   \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10052     \expandafter\edef\expandafter\hvtex@param@dimension
10053     \expandafter{\expandafter\@gobble\hvtex@token}%
10054   \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).

```

10055     \let\hvtex@param@direction\hvtex@token
10056     \fi\fi\fi\fi
10057     \fi
10058     \fi
10059     \ifx\hvtex@buffer\@empty
10060     \let\next\hvtex@produce@trans
10061     \else
10062     \let\next\hvtex@trans@params
10063     \fi
10064     \next
10065 }%
```

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

```

10066 \def\hvtex@produce@trans{%
10067   \let\vtex@trans@special\@empty
10068   \if S\hvtex@trans@code
10069     \edef\vtex@trans@special{\hvtex@trans@code
10070       \hvtex@param@dimension\hvtex@param@motion}%
10071   \else\if B\hvtex@trans@code
10072     \edef\vtex@trans@special{%
10073       \hvtex@trans@code\hvtex@param@dimension
10074     }%
10075   \else\if X\hvtex@trans@code
10076     \edef\vtex@trans@special{%
10077       \hvtex@trans@code\hvtex@param@motion
10078     }%
10079   \else\if W\hvtex@trans@code
10080     \edef\vtex@trans@special{%
10081       \hvtex@trans@code\hvtex@param@direction
10082     }%
10083   \else\if D\hvtex@trans@code
10084     \let\vtex@trans@special\hvtex@trans@code
10085   \else\if R\hvtex@trans@code
10086     \let\vtex@trans@special\hvtex@trans@code
10087   \else\if G\hvtex@trans@code
10088     \edef\vtex@trans@special{%
10089       \hvtex@trans@code\hvtex@param@direction
10090     }%
10091   \fi\fi\fi\fi\fi\fi
10092   \ifx\vtex@trans@special\@empty
10093   \else
10094     \ifx\hvtex@param@duration\@empty
10095     \else
10096       \setlength{\dimen@}{\hvtex@param@duration\p@}%
```

I'm not guilty of possible overflow.

```

10097     \multiply\dimen@\@m
10098     \edef\vtex@trans@special{%
10099       \vtex@trans@special,\strip@pt\dimen@
10100     }%
10101     \fi
```

And all the mess is just for this.

```

10102     \special{!trans \vtex@trans@special}%
10103     \fi
```

```

10104 }%
10105 \def\hyper@pageduration{%
10106 \ifx\@pdfpageduration\relax
10107 \else
10108 \ifx\@pdfpageduration\@empty
10109 \special{!duration-}%
10110 \else
10111 \special{!duration \@pdfpageduration}%
10112 \fi
10113 \fi
10114 }%
10115 \def\hyper@pagehidden{%
10116 \ifHy@useHidKey
10117 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
10118 \fi
10119 }%
10120 \g@addto@macro\Hy@EveryPageBoxHook{%
10121 \hyper@pagetransition
10122 \hyper@pageduration
10123 \hyper@pagehidden
10124 }%
10125 \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

```

10126 \ifx\@pdfproducer\relax
10127 \def\@pdfproducer{VTeX}%
10128 \ifnum\Hy@VTeXversion>\z@
10129 \count@\VTeXversion
10130 \divide\count@ 100 %
10131 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10132 \multiply\count@ -100 %
10133 \advance\count@\VTeXversion
10134 \edef\@pdfproducer{%
10135 \@pdfproducer
10136 .\ifnum\count@<10 0\fi\the\count@
10137 \ifx\VTeXOS\@undefined\else
10138 \ifnum\VTeXOS>0 %
10139 \ifnum\VTeXOS<6 %
10140 \space(
10141 \ifcase\VTeXOS
10142 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10143 \fi
10144 )%
10145 \fi
10146 \fi
10147 \fi
10148 ,\space
10149 \ifnum\OpMode=\@one PDF\else PS\fi
10150 \space backend%

```

```

10151 \ifx\gexmode\@undefined\else
10152 \ifnum\gexmode>\z@\space with GeX\fi
10153 \fi
10154 }%
10155 \fi
10156 \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).

```

10157 \def\PDF@SetupDoc{%
10158 \ifx\@pdfpagescrop\@empty
10159 \else
10160 \special{!pdfinfo b=<\@pdfpagescrop>}%
10161 \fi
10162 \ifx\@pdfstartpage\@empty
10163 \else
10164 \ifx\@pdfstartview\@empty
10165 \else
10166 \special{!onopen Page\@pdfstartpage}%
10167 \fi
10168 \fi
10169 \special{!pdfinfo p=</\@pdfpagemode>}%
10170 \ifx\@baseurl\@empty
10171 \else
10172 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10173 \fi
10174 \special{!pdfinfo v=<<<%
10175 \ifHy@toolbar\else /HideToolbar true\fi
10176 \ifHy@menubar\else /HideMenubar true\fi
10177 \ifHy>windowui\else /HideWindowUI true\fi
10178 \ifHy@fitwindow /FitWindow true\fi
10179 \ifHy@centerwindow /CenterWindow true\fi
10180 \ifHy@displaydoctitle /DisplayDocTitle true\fi
10181 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10182 \Hy@UseNameKey{Direction}\@pdfdirection
10183 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10184 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10185 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10186 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10187 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10188 \Hy@UseNameKey{Duplex}\@pdfduplex
10189 \ifx\@pdfpicktraybypdfsize\@empty
10190 \else
10191 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10192 \fi

```



```

10193 \ifx\@pdfprintpagerange\@empty
10194 \else
10195   /PrintPageRange[\@pdfprintpagerange]%
10196 \fi
10197 \ifx\@pdfnumcopies\@empty
10198 \else
10199   /NumCopies \@pdfnumcopies
10200 \fi
10201 >>>}%
10202 \ifx\@pdfpagelayout\@empty
10203 \else
10204 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10205 \fi
10206 }%
10207 \HyInfo@AddonUnsupportedtrue
10208 \def\PDF@FinishDoc{%
10209 \Hy@UseMaketitleInfos
10210 \HyInfo@TrappedUnsupported
10211 \special{!pdfinfo a=<\@pdfauthor>}%
10212 \special{!pdfinfo t=<\@pdftitle>}%
10213 \special{!pdfinfo s=<\@pdfsubject>}%
10214 \special{!pdfinfo c=<\@pdfcreator>}%
10215 \ifx\@pdfproducer\relax
10216 \else
10217 \special{!pdfinfo r=<\@pdfproducer>}%
10218 \fi
10219 \special{!pdfinfo k=<\@pdfkeywords>}%
10220 \Hy@DisableOption{pdfauthor}%
10221 \Hy@DisableOption{pdftitle}%
10222 \Hy@DisableOption{pdfsubject}%
10223 \Hy@DisableOption{pdfcreator}%
10224 \Hy@DisableOption{pdfcreationdate}%
10225 \Hy@DisableOption{pdfmoddate}%
10226 \Hy@DisableOption{pdfproducer}%
10227 \Hy@DisableOption{pdfkeywords}%
10228 \Hy@DisableOption{pdftrapped}%
10229 \Hy@DisableOption{pdfinfo}%
10230 }
10231 </vtx>

```

46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

10232 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10233 <package>\providecommand*{\Hy@DistillerDestFix}{ }
10234 <*pdfmark | dviwindo>
10235 \def\Hy@DistillerDestFix{%
10236 \begingroup
10237 \let\x\literalps@out

```

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

```

10238 \ifnum \@ifundefined{OpMode}{0}{%
10239     \@ifundefined{gexmode}{0}{%
10240     \ifnum\gexmode>0 \OpMode\else 0\fi
10241     }>1 %
10242     \def\x###1{%
10243     \immediate\special{!=##1}%
10244     }%
10245 \fi
10246 \x{%
10247 /product where{%
10248     pop %
10249     product(Distiller)search{%
10250     pop pop pop %
10251     version(.)search{%
10252     exch pop exch pop%
10253     (3011)eq{%
10254         gsave %
10255         newpath 0 0 moveto closepath clip%
10256         /Courier findfont 10 scalefont setfont %
10257         72 72 moveto(.).show %
10258         grestore%
10259     }if%
10260     }{pop}ifelse%
10261     }{pop}ifelse%
10262     }if%
10263     }%
10264 \endgroup
10265 }
10266 </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

```

10267 <*pdfmark>
10268 \Hy@breaklinks@unsupported
10269 \def\HyPat@ObjRef{%
10270     \{[~{}]+~\}%
10271 }
10272 \def\hyper@anchor#1{%
10273     \Hy@SaveLastskip
10274     \Hy@VerboseAnchor{#1}%
10275     \begingroup

```

```

10276 \pdfmark[\anchor@spot]{%
10277 pdfmark=/DEST,%
10278 linktype=anchor,%
10279 View=/\@pdfview \@pdfviewparams,%
10280 DestAnchor={#1}%
10281 }%
10282 \endgroup
10283 \Hy@RestoreLastskip
10284 }
10285 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}
10286 \def\hyper@anchorstart#1{%
10287 \Hy@SaveLastskip
10288 \Hy@VerboseAnchor{#1}%
10289 \literalps@out{H.S}%
10290 \Hy@AllowHyphens
10291 \xdef\hyper@currentanchor{#1}%
10292 \Hy@activeanchortrue
10293 }
10294 \def\hyper@anchorend{%
10295 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10296 \pdfmark{%
10297 pdfmark=/DEST,%
10298 linktype=anchor,%
10299 View=/\@pdfview \@pdfviewparams,%
10300 DestAnchor=\hyper@currentanchor,%
10301 }%
10302 \Hy@activeanchorfalse
10303 \Hy@RestoreLastskip
10304 }
10305 \def\hyper@linkstart#1#2{%
10306 \Hy@VerboseLinkStart{#1}{#2}%
10307 \ifHy@breaklinks
10308 \else
10309 \leavevmode
10310 \Hy@SaveSpaceFactor
10311 \hbox\bgroup
10312 \Hy@RestoreSpaceFactor
10313 \fi
10314 \expandafter\Hy@colorlink\csname @#1color\endcsname
10315 \literalps@out{H.S}%
10316 \Hy@AllowHyphens
10317 \xdef\hyper@currentanchor{#2}%
10318 \gdef\hyper@currentlinktype{#1}%
10319 }
10320 \def\hyper@linkend{%
10321 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10322 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10323 \let\Hy@tempcolor\relax
10324 }{%
10325 \edef\Hy@tempcolor{%
10326 \csname @\hyper@currentlinktype bordercolor\endcsname
10327 }%
10328 }%
10329 \pdfmark{%
10330 pdfmark=/ANN,%
10331 linktype=link,%
10332 Subtype=/Link,%

```

```

10333   PDFAFlags=4,%
10334   Dest=\hyper@currentanchor,%
10335   AcroHighlight=\@pdfhighlight,%
10336   Border=\@pdfborder,%
10337   BorderStyle=\@pdfborderstyle,%
10338   Color=\Hy@tempcolor,%
10339   Raw=H.B%
10340 }%
10341 \Hy@endcolorlink
10342 \ifHy@breaklinks
10343 \else
10344   \Hy@SaveSpaceFactor
10345   \egroup
10346   \Hy@RestoreSpaceFactor
10347 \fi
10348 }

```

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.

```

10349 \begingroup
10350   \catcode'P=12 %
10351   \catcode'T=12 %
10352   \lowercase{\endgroup
10353   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10354 }
10355 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10356 \def\hyper@pagetransition{%
10357   \ifx\@pdfpagetransition\relax
10358   \else
10359     \ifx\@pdfpagetransition\@empty
10360       % 1. Does an old entry have to be deleted?
10361       % 2. If 1=yes, how to delete?
10362     \else
10363       \pdfmark{%
10364         pdfmark=/PUT,%
10365         Raw={%
10366           \string{ThisPage\string}%
10367           <</Trans << /S /\@pdfpagetransition\space >> >>%
10368         }%
10369       }%
10370     \fi
10371   \fi
10372 }

```

`\hyper@pageduration`

```

10373 \def\hyper@pageduration{%
10374   \ifx\@pdfpageduration\relax
10375   \else
10376     \ifx\@pdfpageduration\@empty
10377       % 1. Does an old entry have to be deleted?
10378       % 2. If 1=yes, how to delete?
10379     \else
10380       \pdfmark{%
10381         pdfmark=/PUT,%

```

```

10382     Raw={%
10383         \string{ThisPage\string}%
10384         <</Dur \@pdfpageduration>>%
10385     }%
10386 }%
10387 \fi
10388 \fi
10389 }

```

\hyper@pagehidden

```

10390 \def\hyper@pagehidden{%
10391     \ifHy@useHidKey
10392         \pdfmark{%
10393             pdfmark=/PUT,%
10394             Raw={%
10395                 \string{ThisPage\string}%
10396                 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10397             }%
10398         }%
10399     \fi
10400 }

10401 \g@addto@macro\Hy@EveryPageBoxHook{%
10402     \hyper@pagetransition
10403     \hyper@pageduration
10404     \hyper@pagehidden
10405 }

10406 \def\hyper@image#1#2{%
10407     \hyper@linkurl{#2}{#1}%
10408 }

10409 \def\Hy@undefinedname{UNDEFINED}
10410 \def\hyper@link#1#2#3{%
10411     \Hy@VerboseLinkStart{#1}{#2}%
10412     \ltx@ifundefined{@#1bordercolor}{%
10413         \let\Hy@tempcolor\relax
10414     }{%
10415         \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10416     }%
10417     \begingroup
10418         \protected@edef\Hy@testname{#2}%
10419         \ifx\Hy@testname\@empty
10420             \Hy@Warning{%
10421                 Empty destination name,\MessageBreak
10422                 using '\Hy@undefinedname'%
10423             }%
10424         \let\Hy@testname\Hy@undefinedname
10425     \fi
10426     \pdfmark[{#3}]{%
10427         Color=\Hy@tempcolor,%
10428         linktype={#1},%
10429         AcroHighlight=\@pdfhighlight,%
10430         Border=\@pdfborder,%
10431         BorderStyle=\@pdfborderstyle,%
10432         pdfmark=/ANN,%
10433         Subtype=/Link,%
10434         PDFAFlags=4,%
10435         Dest=\Hy@testname

```

```

10436 }%
10437 \endgroup
10438 }
10439 \newtoks\pdf@docset
10440 \def\PDF@FinishDoc{%
10441   \Hy@UseMaketitleInfos
10442   \HyInfo@GenerateAddons
10443   \let\Hy@temp\@empty
10444   \ifx\@pdfcreationdate\@empty
10445   \else
10446     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10447   \fi
10448   \ifx\@pdfmoddate\@empty
10449   \else
10450     \expandafter\def\expandafter\Hy@temp\expandafter{%
10451       \Hy@temp
10452       ModDate=\@pdfmoddate,%
10453     }%
10454   \fi
10455   \ifx\@pdfproducer\relax
10456   \else
10457     \expandafter\def\expandafter\Hy@temp\expandafter{%
10458       \Hy@temp
10459       Producer=\@pdfproducer,%
10460     }%
10461   \fi
10462   \expandafter
10463   \pdfmark\expandafter{%
10464     \Hy@temp
10465     pdfmark=/DOCINFO,%
10466     Title=\@pdftitle,%
10467     Subject=\@pdfsubject,%
10468     Creator=\@pdfcreator,%
10469     Author=\@pdfauthor,%
10470     Keywords=\@pdfkeywords,%
10471     Trapped=\@pdftrapped
10472   }%
10473   \ifx\HyInfo@Addons\@empty
10474   \else
10475     \pdfmark{%
10476       pdfmark=/DOCINFO,%
10477       Raw={\HyInfo@Addons}%
10478     }%
10479   \fi
10480   \Hy@DisableOption{pdfauthor}%
10481   \Hy@DisableOption{pdftitle}%
10482   \Hy@DisableOption{pdfsubject}%
10483   \Hy@DisableOption{pdfcreator}%
10484   \Hy@DisableOption{pdfcreationdate}%
10485   \Hy@DisableOption{pdfmoddate}%
10486   \Hy@DisableOption{pdfproducer}%
10487   \Hy@DisableOption{pdfkeywords}%
10488   \Hy@DisableOption{pdftrapped}%
10489   \Hy@DisableOption{pdfinfo}%
10490 }
10491 \def\PDF@SetupDoc{%
10492   \def\Hy@temp{}%

```

```

10493 \ifx\@pdfstartpage\@empty
10494 \else
10495 \ifx\@pdfstartview\@empty
10496 \else
10497 \edef\Hy@temp{%
10498   ,Page=\@pdfstartpage
10499   ,View=\@pdfstartview
10500 }%
10501 \fi
10502 \fi
10503 \edef\Hy@temp{%
10504   \noexpand\pdfmark{%
10505     pdfmark=/DOCVIEW,%
10506     PageMode=/\@pdfpagemode
10507   }\Hy@temp
10508 }%
10509 }%
10510 \Hy@temp
10511 \ifx\@pdfpagescrop\@empty
10512 \else
10513 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10514 \fi
10515 \edef\Hy@temp{%
10516   \ifHy@toolbar\else /HideToolbar true\fi
10517   \ifHy@menubar\else /HideMenubar true\fi
10518   \ifHy>windowui\else /HideWindowUI true\fi
10519   \ifHy@fitwindow /FitWindow true\fi
10520   \ifHy@centerwindow /CenterWindow true\fi
10521   \ifHy@displaydoctitle /DisplayDocTitle true\fi
10522   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10523   \Hy@UseNameKey{Direction}\@pdfdirection
10524   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10525   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10526   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10527   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10528   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10529   \Hy@UseNameKey{Duplex}\@pdfduplex
10530   \ifx\@pdfpicktraybypdfsize\@empty
10531   \else
10532     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10533   \fi
10534   \ifx\@pdfprintpagerange\@empty
10535   \else
10536     /PrintPageRange[\@pdfprintpagerange]%
10537   \fi
10538   \ifx\@pdfnumcopies\@empty
10539   \else
10540     /NumCopies \@pdfnumcopies
10541   \fi
10542 }%
10543 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10544 \pdfmark{%
10545   pdfmark=/PUT,%
10546   Raw={%
10547     \string{Catalog\string}<<%
10548     \ifx\Hy@temp\@empty
10549     \else

```

```

10550      /ViewerPreferences<<\Hy@temp>>%
10551      \fi
10552      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10553      \ifx\@pdflang\@empty
10554      \else
10555      /Lang(\@pdflang)%
10556      \fi
10557      \ifx\@baseurl\@empty
10558      \else
10559      /URI<</Base(\Hy@pstringB)>>%
10560      \fi
10561      >>%
10562    }%
10563  }%
10564 }
10565 </pdfmark>
10566 <*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.

```

10567 \newif\ifHy@pdfmarkerror
10568 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
10569 \def\pdfmark@[#1]#2{%
10570   \Hy@pdfmarkerrorfalse
10571   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10572   \@processme
10573   \let\pdf@type\relax
10574   \kvsetkeys{PDF}{#2}%
10575   \ifHy@pdfmarkerror
10576   \else
10577     \ifx\pdf@type\relax
10578       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10579       \ifx\#1\%
10580       \else
10581       \pdf@rect{#1}%
10582       \fi
10583     \else
10584       \ifx\#1\%
10585       \literalps@out{%
10586         [\the\pdf@toks\space\pdf@type\space pdfmark%
10587         }%
10588       \else
10589       \ltx@ifundefined{@\pdf@linktype color}{%
10590         \Hy@colorlink\@linkcolor
10591       }{%
10592         \expandafter\Hy@colorlink
10593         \csname @\pdf@linktype color\endcsname
10594       }%
10595       \pdf@rect{#1}%
10596       \literalps@out{%
10597         [\the\pdf@toks\space\pdf@type\space pdfmark%
10598         }%
10599       \Hy@endcolorlink
10600     \fi

```



```

10601 \fi
10602 \fi
10603 }

```

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}

```

```

10604 \newsavebox{\pdf@box}
10605 \providecommand*{\Hy@setouterhbox}{\sbox}
10606 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10607 \def\Hy@DEST{/DEST}
10608 \def\pdf@rect#1{%
10609   \begingroup
10610   \chardef\x=1 %
10611   \def\Hy@temp{#1}%
10612   \ifx\Hy@temp\ltx@empty
10613     \chardef\x=0 %
10614   \else
10615     \def\y{\anchor@spot}%
10616     \ifx\Hy@temp\y
10617       \def\y{\relax}%
10618       \ifx\anchor@spot\y
10619         \chardef\x=0 %
10620       \fi
10621     \fi
10622   \fi
10623   \expandafter\endgroup
10624   \ifcase\x
10625     \literalps@out{H.S}%
10626     \literalps@out{H.R}%
10627   \else
10628     \leavevmode
10629     \Hy@SaveSpaceFactor
10630     \ifHy@breaklinks
10631       \Hy@setouterhbox\pdf@box{%
10632         \Hy@RestoreSpaceFactor
10633         \Hy@AllowHyphens#1%
10634         \Hy@SaveSpaceFactor
10635       }%
10636     \else
10637       \sbox\pdf@box{%
10638         \Hy@RestoreSpaceFactor
10639         #1%
10640         \Hy@SaveSpaceFactor
10641       }%
10642     \fi
10643     \dimen@ht\pdf@box
10644     \ifdim\dp\pdf@box=\z@
10645       \literalps@out{H.S}%
10646     \else

```

```

10647 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}}%
10648 \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...).

```

10649 \ifHy@breaklinks
10650 \expandafter\Hy@breaklinksunhbox
10651 \else
10652 \expandafter\box
10653 \fi
10654 \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

10655 \ifdim\dimen@=\z@
10656 \literalps@out{H.R.}%
10657 \else
10658 \raise\dimen@\hbox{\literalps@out{H.R.}}%
10659 \fi
10660 \Hy@RestoreSpaceFactor
10661 \fi
10662 \ifx\pdf@type\Hy@DEST
10663 \else
10664 \pdf@addtoksx{H.B}%
10665 \fi
10666 }

```

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.

```

10667 \newtoks\pdf@toks
10668 \newtoks\pdf@defaulttoks
10669 \pdf@defaulttoks={}%
10670 \def\pdf@addtoks#1#2{%
10671 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10672 \@processme
10673 }
10674 \def\pdf@addtoksx#1{%
10675 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10676 \@processme
10677 }
10678 \def\PDFdefaults#1{%
10679 \pdf@defaulttoks={#1}%
10680 }

```

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

```

10681 % what is the type of pdfmark?
10682 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10683 % what is the link type?
10684 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10685 \def\pdf@linktype{link}
10686 % parameter is a stream of PDF
10687 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10688 % parameter is a name
10689 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10690 % parameter is a array

```

```

10691 \define@key{PDF}{Border}{%
10692   \edef\Hy@temp{#1}%
10693   \ifx\Hy@temp\@empty
10694     \else
10695       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10696     \fi
10697 }
10698 \let\Hy@BorderArrayPatch\@empty
10699 % parameter is a dictionary
10700 \define@key{PDF}{BorderStyle}{%
10701   \edef\Hy@temp{#1}%
10702   \ifx\Hy@temp\@empty
10703     \else
10704       \pdf@addtoks{<<#1>>}{BS}%
10705     \fi
10706 }
10707 % parameter is a array
10708 \define@key{PDF}{Color}{%
10709   \ifx\relax#1\relax
10710     \else
10711       \pdf@addtoks{[#1]}{Color}% hash-ok
10712     \fi
10713 }
10714 % parameter is a string
10715 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10716 % parameter is a integer
10717 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10718 % parameter is a array
10719 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10720 % parameter is a string
10721 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10722 % parameter is a string or file
10723 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10724 % parameter is a destination
10725 \define@key{PDF}{Dest}{%
10726   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10727   \ifx\Hy@pstringDest\@empty
10728     \Hy@pdfmarkerrortrue
10729     \Hy@Warning{Destination with empty name ignored}%
10730   \else
10731     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10732   \fi
10733 }
10734 \define@key{PDF}{DestAnchor}{%
10735   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10736   \ifx\Hy@pstringDest\@empty
10737     \Hy@pdfmarkerrortrue
10738     \Hy@Warning{Destination with empty name ignored}%
10739   \else
10740     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10741   \fi
10742 }
10743 % parameter is a string
10744 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10745 % parameter is a string
10746 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10747 % parameter is a int

```

```

10748 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10749 \define@key{PDF}{PDFAFlags}{%
10750   \ifHy@pdfa
10751     \pdf@addtoks{#1}{F}%
10752   \fi
10753 }
10754 % parameter is a name
10755 \define@key{PDF}{AcroHighlight}{%
10756   \begingroup
10757     \edef\x{#1}%
10758     \expandafter\endgroup\ifx\x@empty
10759     \else
10760       \pdf@addtoks{#1}{H}%
10761     \fi
10762 }
10763 % parameter is a string
10764 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10765 % parameter is a string
10766 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10767 % parameter is a string
10768 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10769 % parameter is a string
10770 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10771 % parameter is a Boolean
10772 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10773 % parameter is an integer or name
10774 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10775 % parameter is a name
10776 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10777 % parameter is a string
10778 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10779 % parameter is an array
10780 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10781 % parameter is an integer
10782 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10783 % parameter is a name
10784 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10785 % parameter is a string
10786 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10787 % parameter is a string
10788 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10789 % parameter is a string
10790 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
10791 % parameter is an array
10792 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
10793 % parameter is a string
10794 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10795 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10796 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10797 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10798 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10799 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10800 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10801 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10802 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10803 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}

```

```

10804 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
10805 \define@key{PDF}{Trapped}{%
10806   \edef\Hy@temp{#1}%
10807   \ifx\Hy@temp\@empty
10808   \else
10809     \pdf@addtoks{/#1}{Trapped}%
10810   \fi
10811 }
10812
10813 </pdfmarkbase>
10814 <*pdfmark>
10815 \def\Acrobatmenu#1#2{%
10816   \Hy@Acrobatmenu{#1}{#2}{%
10817     \pdfmark[{#2}]{%
10818       linktype=menu,%
10819       pdfmark=/ANN,%
10820       AcroHighlight=\@pdfhighlight,%
10821       Border=\@pdfborder,%
10822       BorderStyle=\@pdfborderstyle,%
10823       Action={<< /Subtype /Named /N /#1 >>},%
10824       Subtype=/Link,%
10825       PDFAFlags=4%
10826     }%
10827   }%
10828 }

```

And now for some useful examples:

```

10829 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10830 \def\PDFNextPage@[#1]#2{%
10831   \pdfmark[{#2}]{%
10832     #1,%
10833     Border=\@pdfborder,%
10834     BorderStyle=\@pdfborderstyle,%
10835     Color=.2 .1 .5,%
10836     pdfmark=/ANN,%
10837     Subtype=/Link,%
10838     PDFAFlags=4,%
10839     Page=/Next%
10840   }%
10841 }
10842 \def\PDFPreviousPage{%
10843   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10844 }
10845 \def\PDFPreviousPage@[#1]#2{%
10846   \pdfmark[{#2}]{%
10847     #1,%
10848     Border=\@pdfborder,%
10849     BorderStyle=\@pdfborderstyle,%
10850     Color=.4 .4 .1,%
10851     pdfmark=/ANN,%
10852     Subtype=/Link,%
10853     PDFAFlags=4,%
10854     Page=/Prev%
10855   }%
10856 }
10857 \def\PDFOpen#1{%
10858   \pdfmark{#1,pdfmark=/DOCVIEW}%
10859 }

```

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

```
10860 \def\hyper@linkurl#1#2{%
10861   \begingroup
10862   \Hy@pstringdef\Hy@pstringURI{#2}%
10863   \hyper@chars
10864   \leavevmode
10865   \pdfmark[{#1}]{%
10866     pdfmark=/ANN,%
10867     linktype=url,%
10868     AcroHighlight=\@pdfhighlight,%
10869     Border=\@pdfborder,%
10870     BorderStyle=\@pdfborderstyle,%
10871     Color=\@urlbordercolor,%
10872     Action={<<%
10873       /Subtype/URI%
10874       /URI(\Hy@pstringURI)%
10875       \ifHy@href@ismap
10876         /IsMap true%
10877       \fi
10878     >>},%
10879     Subtype=/Link,%
10880     PDFAFlags=4%
10881   }%
10882 \endgroup
10883 }
10884 \def\hyper@linkfile#1#2#3{%
10885   \begingroup
10886   \def\Hy@pstringF{#2}%
10887   \Hy@CleanupFile\Hy@pstringF
10888   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10889   \Hy@pstringdef\Hy@pstringD{#3}%
10890   \Hy@MakeRemoteAction
10891   \leavevmode
10892   \pdfmark[{#1}]{%
10893     pdfmark=/ANN,%
10894     Subtype=/Link,%
10895     PDFAFlags=4,%
10896     AcroHighlight=\@pdfhighlight,%
10897     Border=\@pdfborder,%
10898     BorderStyle=\@pdfborderstyle,%
10899     linktype=file,%
10900     Color=\@filebordercolor,%
10901     Action={%
10902       <<%
10903         /S/GoToR%
10904         \Hy@SetNewWindow
10905         /F(\Hy@pstringF)%
10906         /D%
10907         \ifx\#3\%
10908           [\Hy@href@page\@pdfremotestartview]%
10909         \else
10910           (\Hy@pstringD)cvn%
10911         \fi
10912         \Hy@href@nextactionraw
10913       >>%
10914     }%
10915   }%
```

```

10916 \endgroup
10917 }
10918 \def\@hyper@launch run:#1\|#2#3{%
10919 \begingroup
10920 \Hy@pstringdef\Hy@pstringF{#1}%
10921 \Hy@pstringdef\Hy@pstringP{#3}%
10922 \leavevmode
10923 \pdfmark[{#2}]{%
10924 pdfmark=/ANN,%
10925 Subtype=/Link,%
10926 PDFAFlags=4,%
10927 AcroHighlight=\@pdfhighlight,%
10928 Border=\@pdfborder,%
10929 BorderStyle=\@pdfborderstyle,%
10930 linktype=run,%
10931 Color=\@runbordercolor,%
10932 Action={%
10933 <<%
10934 /S/Launch%
10935 \Hy@SetNewWindow
10936 /F(\Hy@pstringF)%
10937 \ifx\|#3\| %
10938 \else
10939 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10940 \fi
10941 \Hy@href@nextactionraw
10942 >>%
10943 }%
10944 }%
10945 \endgroup
10946 }
10947 </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.

```

10948 <*dvips>
10949 \providecommand*\XR@ext}{pdf}
10950 \def\Hy@raisedlink{}
10951 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10952 \def\headerps@out#1{\special{! #1}}%
10953 \input{pdfmark.def}%
10954 \ifx\@pdfproducer\relax
10955 \def\@pdfproducer{dvips + Distiller}%
10956 \fi
10957 \providecommand*\@pdfborder{0 0 1}
10958 \providecommand*\@pdfborderstyle{}
10959 \providecommand*\@pdfview{XYZ}
10960 \providecommand*\@pdfviewparams{ H.V}
10961 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10962 \g@addto@macro\Hy@FirstPageHook{%
10963 \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.

```
10964 /DvipsToPDF{72.27 mul Resolution div} def%
10965 /PDFToDvips{72.27 div Resolution mul} def%
10966 /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.

```
10967 /BorderArrayPatch{%
10968   [exch{%
10969     dup dup type/integertype eq exch type/realtype eq or%
10970     {BPToDvips}if%
10971   }forall]%
10972 }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.

```
10973 /HyperBorder {1 PDFToDvips} def%
10974 /H.V {pdf@hoff pdf@voff null} def%
10975 /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

```
10976 /H.S {%
10977   currentpoint %
10978   HyperBorder add /pdf@lly exch def %
10979   dup DvipsToPDF 72 add /pdf@hoff exch def %
10980   HyperBorder sub /pdf@llx exch def%
10981 } def%
```

The calculation of upper left *y* is done without raising the point in \TeX , by simply adding on the current \backslash 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

```
10982 /H.L {%
10983   2 sub dup%
10984   /HyperBasePt exch def %
10985   PDFToDvips /HyperBaseDvips exch def %
10986   currentpoint %
10987   HyperBaseDvips sub /pdf@ury exch def%
10988   /pdf@urx exch def%
10989 } def%
10990 /H.A {%
```



```

10991      H.L %
10992 % | /pdf@voff| = the distance from the top of the page to a point
10993 % | \baselineskip| above the current point in PDF coordinates
10994      currentpoint exch pop %
10995      vsize 72 sub exch DvipsToPDF %
10996      HyperBasePt sub % baseline skip
10997      sub /pdf@voff exch def%
10998  } def%
10999  /H.R { %
11000      currentpoint %
11001      HyperBorder sub /pdf@ury exch def %
11002      HyperBorder add /pdf@urx exch def %
11003 % | /pdf@voff| = the distance from the top of the page to the current point, in
11004 % PDF coordinates
11005      currentpoint exch pop vsize 72 sub %
11006      exch DvipsToPDF sub /pdf@voff exch def%
11007  } def%
11008 } %
11009 }
11010 \AtBeginShipoutFirst{ %
11011   \ifHy@setpagesize
11012     \begingroup
11013     \@ifundefined{stockwidth}{ %
11014       \ifdim\paperwidth>\z@
11015         \ifdim\paperheight>\z@
11016           \special{papersize=\the\paperwidth,\the\paperheight}%
11017         \fi
11018       \fi
11019     }{ %
11020       \ifdim\stockwidth>\z@
11021         \ifdim\stockheight>\z@
11022           \special{papersize=\the\stockwidth,\the\stockheight}%
11023         \fi
11024       \fi
11025     } %
11026   \endgroup
11027 \fi
11028 \Hy@DisableOption{setpagesize}%
11029 }
11030 </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.

```

11031 <*vtexpdfmark>
11032 \providecommand*{\XR@ext}{pdf}
11033 \def\Hy@raisedlink{}
11034 \def\literalps@out#1{\special{pS:#1}}%
11035 \def\headerps@out#1{\immediate\special{pS:#1}}%
11036 \input{pdfmark.def}%
11037 \ifx\@pdfproducer\relax
11038   \ifnum\OpMode=\@ne
11039     \def\@pdfproducer{VTeX}%

```

```

11040 \else
11041   \def\@pdfproducer{VTeX + Distiller}%
11042 \fi
11043 \fi
11044 \providecommand*\@pdfborder{0 0 1}
11045 \providecommand*\@pdfborderstyle{}
11046 \providecommand*\@pdfview{XYZ}
11047 \providecommand*\@pdfviewparams{ H.V}

11048 \g@addto@macro\Hy@FirstPageHook{%
11049   \headerps@out{%
11050     /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.

```

11051   /HyperBorder {1} def%
11052   /H.V {pdf@hoff pdf@voff null} def%
11053   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11054   /H.S {%
11055     currentpoint %
11056     HyperBorder sub%
11057     /pdf@lly exch def %
11058     dup 72 add /pdf@hoff exch def %
11059     HyperBorder sub%
11060     /pdf@llx exch def%
11061   } def%

```

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

```

11062   /H.L {%
11063     2 sub%
11064     /HyperBasePt exch def %
11065     currentpoint %
11066     HyperBasePt add HyperBorder add%
11067     /pdf@ury exch def %
11068     HyperBorder add%
11069     /pdf@urx exch def%
11070   } def%
11071   /H.A {%
11072     H.L %
11073     currentpoint exch pop %
11074     vsize 72 sub exch %
11075     HyperBasePt add add%
11076     /pdf@voff exch def%
11077   } def%

```

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

```

11078   /H.R {%
11079     currentpoint %
11080     HyperBorder add%
11081     /pdf@ury exch def %
11082     HyperBorder add%
11083     /pdf@urx exch def %
11084     currentpoint exch pop vsize 72 sub add%
11085     /pdf@voff exch def%

```

```

11086   } def%
11087   }%
11088 }
11089 </vtxpdfmark>

```

46.11 Textures

```

11090 <*textures>
11091 \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.

```

11092 \begingroup
11093   \obeylines %
11094   \gdef\Hy@ps@CR{\noexpand
11095     }%
11096 \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`.

```

11097 \def\literalps@out#1{%
11098   \special{postscript 0 0 transform}%
11099   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11100 }%
11101 %

```

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.

```

11102 \def\headerps@out#1{%
11103   \special{%
11104     prepostscript TeXdict begin\Hy@ps@CR
11105       #1\Hy@ps@CR
11106     end%
11107   }%
11108 }%
11109 %

```

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.

```

11110 \g@addto@macro\Hy@FirstPageHook{%
11111   \headerps@out{%
11112     /betterpdfmark {%

```

```

11113    systemdict begin %
11114        dup /BP eq%
11115        {cleartomark gsave nulldevice []}%
11116        {dup /EP eq%
11117            {cleartomark cleartomark grestore}%
11118            {cleartomark}%
11119            ifelse%
11120        }ifelse %
11121    end%
11122 }def\Hy@ps@CR
11123 ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
11124 }% end of \headerps@out
11125 }% end of \AtBeginShipoutFirst
11126 %
11127 \input{pdfmark.def}%
11128 %
11129 \ifx\@pdfproducer\relax
11130 \def\@pdfproducer{Textures + Distiller}%
11131 \fi
11132 \providecommand*\@pdfborder{0 0 1}
11133 \providecommand*\@pdfborderstyle{}
11134 \providecommand*\@pdfview{XYZ}
11135 \providecommand*\@pdfviewparams{ H.V}
11136 %

```

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 .

```

11137 \Hy@AtBeginDocument{%
11138 \headerps@out{%

```

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

```

11139 /vsize {\Hy@pageheight} def%
11140 /DvipsToPDF {} def%
11141 /PDFToDvips {} def%
11142 /BPTToDvips {} def%
11143 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11144 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11145 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11146 /H.S {%
11147     currentpoint %
11148     HyperBorder add /pdf@lly exch def %
11149     dup DvipsToPDF 72 add /pdf@hoff exch def %
11150     HyperBorder sub /pdf@llx exch def%
11151 } def\Hy@ps@CR
11152 /H.L {%
11153     2 sub %
11154     PDFToDvips /HyperBase exch def %
11155     currentpoint %
11156     HyperBase sub /pdf@ury exch def%
11157     /pdf@urx exch def%
11158 } def\Hy@ps@CR
11159 /H.A {%
11160     H.L %
11161     currentpoint exch pop %
11162     vsize 72 sub exch DvipsToPDF %

```

```

11163   HyperBase sub % baseline skip
11164   sub /pdf@voff exch def%
11165 } def\Hy@ps@CR
11166 /H.R {%
11167   currentpoint %
11168   HyperBorder sub /pdf@ury exch def %
11169   HyperBorder add /pdf@urx exch def %
11170   currentpoint exch pop vsize 72 sub %
11171   exch DvipsToPDF sub /pdf@voff exch def%
11172 } def\Hy@ps@CR
11173 }%
11174 }

11175 \Hy@AtBeginDocument{%
11176   \ifHy@colorlinks
11177     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11178   \fi
11179 }

```

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.

```

11180 \expandafter\let\expandafter\keepPDF@SetupDoc
11181   \csname PDF@SetupDoc\endcsname
11182 \def\PDF@SetupDoc{%
11183   \ifx\@baseurl\@empty
11184     \else
11185       \special{html:<base href="\@baseurl">}%
11186     \fi
11187   \keepPDF@SetupDoc
11188 }

11189 \def\hyper@anchor#1{%
11190   \Hy@SaveLastskip
11191   \Hy@VerboseAnchor{#1}%
11192   \begingroup
11193     \let\protect=\string
11194     \special{html:<a name=%
11195       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11196   \endgroup
11197   \Hy@activeanchortrue
11198   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11199   \special{html:</a>}%
11200   \Hy@activeanchorfalse
11201   \Hy@RestoreLastskip
11202 }

11203 \def\hyper@anchorstart#1{%
11204   \Hy@SaveLastskip
11205   \Hy@VerboseAnchor{#1}%
11206   \begingroup
11207     \hyper@chars
11208     \special{html:<a name=%
11209       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11210   \endgroup
11211   \Hy@activeanchortrue
11212 }

11213 \def\hyper@anchorend{%
11214   \special{html:</a>}%
11215   \Hy@activeanchorfalse
11216   \Hy@RestoreLastskip

```

```

11217 }
11218 \def\@urltype{url}
11219 \def\hyper@linkstart#1#2{%
11220   \Hy@VerboseLinkStart{#1}{#2}%
11221   \expandafter\Hy@colorlink\csname @#1color\endcsname
11222   \def\Hy@tempa{#1}%
11223   \ifx\Hy@tempa\@urltype
11224     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11225   \else
11226     \begingroup
11227       \hyper@chars
11228       \special{%
11229         html:<a href=
11230         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>%
11231       }%
11232     \endgroup
11233   \fi
11234 }
11235 \def\hyper@linkend{%
11236   \special{html:</a>}%
11237   \Hy@endcolorlink
11238 }
11239 \def\hyper@linkfile#1#2#3{%
11240   \hyper@linkurl{#1}{%
11241     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
11242   }%
11243 }
11244 \def\hyper@linkurl#1#2{%
11245   \leavevmode
11246   \ifHy@raiselinks
11247     \Hy@SaveSpaceFactor
11248     \Hy@SaveSavedSpaceFactor
11249     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11250     \Hy@RestoreSavedSpaceFactor
11251     \@linkdim\dp\@tempboxa
11252     \lower\@linkdim\hbox{%
11253       \hyper@chars
11254       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11255     }%
11256     \Hy@colorlink\@urlcolor
11257     \Hy@RestoreSpaceFactor
11258     #1%
11259     \Hy@SaveSpaceFactor
11260     \@linkdim\ht\@tempboxa
11261     \advance\@linkdim by -6.5\p@
11262     \raise\@linkdim\hbox{\special{html:</a>}}%
11263   \Hy@endcolorlink
11264   \Hy@RestoreSpaceFactor
11265 \else
11266   \begingroup
11267     \hyper@chars
11268     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11269     \Hy@colorlink\@urlcolor#1%
11270     \special{html:</a>}%
11271   \Hy@endcolorlink
11272   \endgroup
11273 \fi

```

11274 }

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

11275 \def\hyper@link#1#2#3{%

11276 \Hy@VerboseLinkStart{#1}{#2}%

11277 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%

11278 }

11279 \def\hyper@image#1#2{%

11280 \begin{group}

11281 \hyper@chars

11282 \special{html:}%

11283 \end{group}

11284 }

11285 </textures>

46.12 dvipsone

11286 % \subsection{dvipsone driver}

11287 % Over-ride the default setup macro in pdfmark driver to use Y\&Y

11288 % |\special| commands.

11289 <*dvipsone>

11290 \providecommand*{\XR@ext}{pdf}

11291 \def\Hy@raisedlink{}

11292 \providecommand*\@pdfborder{0 0 1}

11293 \providecommand*\@pdfborderstyle{}

11294 \def\literalps@out#1{\special{ps:#1}}%

11295 \def\headerps@out#1{\special{headertext=#1}}%

11296 \input{pdfmark.def}%

11297 \ifx\@pdfproducer\relax

11298 \def\@pdfproducer{dvipsone + Distiller}%

11299 \fi

11300 \HyInfo@AddonUnsupportedtrue

11301 \def\PDF@FinishDoc{%

11302 \Hy@UseMaketitleInfos

11303 \HyInfo@TrappedUnsupported

11304 \special{PDF: Keywords \@pdfkeywords}%

11305 \special{PDF: Title \@pdftitle}%

11306 \special{PDF: Creator \@pdfcreator}%

11307 \ifx\@pdfcreationdate\@empty

11308 \else

11309 \special{PDF: CreationDate \@pdfcreationdate}%

11310 \fi

11311 \ifx\@pdfmoddate\@empty

11312 \else

11313 \special{PDF: ModDate \@pdfmoddate}%

11314 \fi

11315 \special{PDF: Author \@pdfauthor}%

11316 \ifx\@pdfproducer\relax

11317 \else

11318 \special{PDF: Producer \@pdfproducer}%

11319 \fi

11320 \special{PDF: Subject \@pdfsubject}%

11321 \Hy@DisableOption{pdfauthor}%

11322 \Hy@DisableOption{pdftitle}%

11323 \Hy@DisableOption{pdfsubject}%

11324 \Hy@DisableOption{pdfcreator}%

11325 \Hy@DisableOption{pdfcreationdate}%

11326 \Hy@DisableOption{pdfmoddate}%

```

11327 \Hy@DisableOption{pdfproducer}%
11328 \Hy@DisableOption{pdfkeywords}%
11329 \Hy@DisableOption{pdftrapped}%
11330 \Hy@DisableOption{pdfinfo}%
11331 }
11332 \def\PDF@SetupDoc{%
11333 \def\Hy@temp{}%
11334 \ifx\@pdfstartpage\@empty
11335 \else
11336 \ifx\@pdfstartview\@empty
11337 \else
11338 \edef\Hy@temp{%
11339 ,Page=\@pdfstartpage
11340 ,View=\@pdfstartview
11341 }%
11342 \fi
11343 \fi
11344 \edef\Hy@temp{%
11345 \noexpand\pdfmark{%
11346 pdfmark=/DOCVIEW,%
11347 PageMode=/\@pdfpagemode
11348 \Hy@temp
11349 }%
11350 }%
11351 \Hy@temp
11352 \ifx\@pdfpagescrop\@empty
11353 \else
11354 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11355 \fi
11356 \edef\Hy@temp{%
11357 \ifHy@toolbar\else /HideToolbar true\fi
11358 \ifHy@menubar\else /HideMenubar true\fi
11359 \ifHy>windowui\else /HideWindowUI true\fi
11360 \ifHy@fitwindow /FitWindow true\fi
11361 \ifHy@centerwindow /CenterWindow true\fi
11362 \ifHy@displaydoctitle /DisplayDocTitle true\fi
11363 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11364 \Hy@UseNameKey{Direction}\@pdfdirection
11365 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11366 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11367 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11368 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11369 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11370 \Hy@UseNameKey{Duplex}\@pdfduplex
11371 \ifx\@pdfpicktraybypdfsize\@empty
11372 \else
11373 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11374 \fi
11375 \ifx\@pdfprintpagerange\@empty
11376 \else
11377 /PrintPageRange[\@pdfprintpagerange]%
11378 \fi
11379 \ifx\@pdfnumcopies\@empty
11380 \else
11381 /NumCopies \@pdfnumcopies
11382 \fi
11383 }%

```



```

11384 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11385 \pdfmark{%
11386   pdfmark=/PUT,%
11387   Raw={%
11388     \string{Catalog\string}<<%
11389     \ifx\Hy@temp\@empty
11390     \else
11391       /ViewerPreferences<<\Hy@temp>>%
11392     \fi
11393     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11394     \ifx\@pdflang\@empty
11395     \else
11396       /Lang(\@pdflang)%
11397     \fi
11398     \ifx\@baseurl\@empty
11399     \else
11400       /URI<</Base(\Hy@pstringB)>>%
11401     \fi
11402   >>%
11403 }%
11404 }%
11405 }
11406 \providecommand*\@pdfview{XYZ}
11407 \providecommand*\@pdfviewparams{ %
11408   gsave revscl currentpoint grestore %
11409   72 add exch pop null exch null%
11410 }
11411 \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 .

```

11412 \g@addto@macro\Hy@FirstPageHook{%
11413   \headerps@out{%

```

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

```

11414   /DvipsToPDF { 65781 div } def%
11415   /PDFToDvips { 65781 mul } def%
11416   /BPTToDvips{65781 mul}def%
11417   /HyperBorder { 1 PDFToDvips } def%
11418   /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.

```

11419   /BorderArrayPatch{%
11420     [exch{%
11421       dup dup type/integertype eq exch type/realtype eq or%
11422       {BPTToDvips}if%
11423     }forall]%
11424   }def%
11425   /H.S {%
11426     currentpoint %
11427     HyperBorder add /pdf@lly exch def %
11428     dup DvipsToPDF 72 add /pdf@hoff exch def %
11429     HyperBorder sub /pdf@llx exch def%
11430   } def%

```

```

11431 /H.L {%
11432     2 sub %
11433     PDFToDvips /HyperBase exch def %
11434     currentpoint %
11435     HyperBase sub /pdf@ury exch def%
11436     /pdf@urx exch def%
11437 } def%
11438 /H.A {%
11439     H.L %
11440     currentpoint exch pop %
11441     HyperBase sub % baseline skip
11442     DvipsToPDF /pdf@voff exch def%
11443 } def%
11444 /H.R {%
11445     currentpoint %
11446     HyperBorder sub /pdf@ury exch def %
11447     HyperBorder add /pdf@urx exch def %
11448     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11449 } def%
11450 }%
11451 }
11452 </dvipsone>

```

46.13 TeX4ht

```

11453 <*tex4ht>
11454 \providecommand*{\XR@ext}{html}
11455 \def\Hy@raisedlink{}
11456 \@ifpackageloaded{tex4ht}{%
11457   \typeout{hyperref tex4ht: tex4ht already loaded}%
11458 }{%
11459   \RequirePackage[hTex4ht]{tex4ht}%
11460 }
11461 \hyperlinkfileprefix{}
11462 \def\PDF@FinishDoc{}
11463 \def\PDF@SetupDoc{%
11464   \ifx\@baseurl\@empty
11465   \else
11466     \special{t4ht=<base href="\@baseurl">}%
11467   \fi
11468 }
11469 \def\hyper@anchor#1{%
11470   \Hy@SaveLastskip
11471   \Hy@VerboseAnchor{#1}%
11472   \begingroup
11473     \let\protect=\string
11474     \special{t4ht=<a name=%
11475       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11476   \endgroup
11477   \Hy@activeanchortrue
11478   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11479   \special{t4ht=</a>}%
11480   \Hy@activeanchorfalse
11481   \Hy@RestoreLastskip
11482 }
11483 \def\hyper@anchorstart#1{%
11484   \Hy@SaveLastskip
11485   \Hy@VerboseAnchor{#1}%

```

```

11486 \begingroup
11487   \hyper@chars\special{t4ht=<a name=%
11488     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
11489 \endgroup
11490 \Hy@activeanchortrue
11491 }
11492 \def\hyper@anchorend{%
11493   \special{t4ht=</a>}}%
11494 \Hy@activeanchorfalse
11495 \Hy@RestoreLastskip
11496 }
11497 \def\@urltype{url}
11498 \def\hyper@linkstart#1#2{%
11499   \Hy@VerboseLinkStart{#1}{#2}%
11500   \expandafter\Hy@colorlink\csname @#1color\endcsname
11501   \def\Hy@tempa{#1}%
11502   \ifx\Hy@tempa\@urltype
11503     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
11504   \else
11505     \begingroup
11506       \hyper@chars
11507       \special{t4ht=<a href=%
11508         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
11509     \endgroup
11510   \fi
11511 }
11512 \def\hyper@linkend{%
11513   \special{t4ht=</a>}}%
11514 \Hy@endcolorlink
11515 }
11516 \def\hyper@linkfile#1#2#3{%
11517   \hyper@linkurl{#1}\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
11518 }
11519 \def\hyper@linkurl#1#2{%
11520   \leavevmode
11521   \ifHy@raiselinks
11522     \Hy@SaveSpaceFactor
11523     \Hy@SaveSavedSpaceFactor
11524     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11525     \Hy@RestoreSavedSpaceFactor
11526     \@linkdim\dp\@tempboxa
11527     \lower\@linkdim\hbox{%
11528       \begingroup
11529         \hyper@chars
11530         \special{%
11531           t4ht=<a href=\hyper@quote#2\hyper@quote>%
11532         }%
11533       \endgroup
11534     }%
11535     \Hy@colorlink\@urlcolor
11536     \Hy@RestoreSpaceFactor
11537     #1%
11538     \Hy@SaveSpaceFactor
11539     \Hy@endcolorlink
11540     \@linkdim\ht\@tempboxa
11541     \advance\@linkdim by -6.5\p@
11542     \raise\@linkdim\hbox{\special{t4ht=</a>}}}%

```

```

11543 \Hy@RestoreSpaceFactor
11544 \else
11545 \begingroup
11546 \hyper@chars
11547 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11548 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11549 \special{t4ht=</a>}%
11550 \endgroup
11551 \fi
11552 }

```

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

```

11553 \def\hyper@link#1#2#3{%
11554 \Hy@VerboseLinkStart{#1}{#2}%
11555 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
11556 }
11557 \def\hyper@image#1#2{%
11558 \begingroup
11559 \hyper@chars
11560 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11561 \endgroup
11562 }
11563 \let\autoref\ref
11564 \ifx \rEfLiNK \UnDef
11565 \def\rEfLiNK #1#2{#2}%
11566 \fi
11567 \def\backref#1{}

```

Fix for tex4ht.

```

11568 \AtBeginDocument{%
11569 \expandafter\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
11570 \expandafter\def\csname Make:Label\endcsname#1#2{%
11571 \ifhmode
11572 \Hy@SaveSpaceFactor
11573 \else
11574 \global\Hy@SavedSpaceFactor=1000 %
11575 \fi
11576 \Hy@OrgMakeLabel{#1}{%
11577 \Hy@RestoreSpaceFactor
11578 #2%
11579 \Hy@SaveSpaceFactor
11580 }%
11581 \Hy@RestoreSpaceFactor
11582 }%
11583 }
11584 </tex4ht>
11585 <*tex4htcfg>
11586 \IfFileExists{\jobname.cfg}{\endinput}{}
11587 \Preamble{html}
11588 \begin{document}%
11589 \EndPreamble
11590 \def\TeX{\TeX}
11591 \def\OMEGA{\Omega}
11592 \def\LaTeX{\LaTeX}
11593 \def\LaTeXe{\LaTeX2e}
11594 \def\TeXe{\TeX}
11595 \def\MF{Metafont}
11596 \def\MP{MetaPost}
11597 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```
11598 <*pdfmark>
11599 \long\def\@Form[#1]{%
11600 \g@addto@macro\Hy@FirstPageHook{%
11601 \headerps@out{%
11602 [%
11603 \_objdef{pdfDocEncoding}%
11604 /type/dict%
11605 /OBJ pdfmark%
11606 [%
11607 {pdfDocEncoding}%
11608 <<%
11609 /Type/Encoding%
11610 /Differences[%
11611 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11612 /tilde %
11613 39/quotesingle %
11614 96/grave %
11615 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11616 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11617 /quotedblbase/quotedblleft/quotedblright/quoteleft%
11618 /quoteright/quotesinglbase/trademark/fl/fl/Lslash/OE/Scaron%
11619 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11620 164/currency %
11621 166/brokenbar %
11622 168/dieresis/copyright/ordfeminine %
11623 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11624 /twosuperior/threesuperior/acute/mu %
11625 183/periodcentered/cedilla/onesuperior/ordmasculine %
11626 188/onequarter/onehalf/threequarters %
11627 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11628 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11629 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11630 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11631 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11632 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11633 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11634 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11635 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
11636 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11637 ]%
11638 >>%
11639 /PUT pdfmark%
11640 [%
11641 \_objdef{ZaDb}%
11642 /type/dict%
11643 /OBJ pdfmark%
11644 [%
11645 {ZaDb}%
11646 <<%
11647 /Type/Font%
11648 /Subtype/Type1%
11649 /Name/ZaDb%
11650 /BaseFont/ZapfDingbats%
```

```

11651 >>%
11652 /PUT pdfmark%
11653 [%
11654   /__objdef{Helv}%
11655   /type/dict%
11656 /OBJ pdfmark%
11657 [%
11658   {Helv}%
11659 <<%
11660   /Type/Font%
11661   /Subtype/Type1%
11662   /Name/Helv%
11663   /BaseFont/Helvetica%
11664   /Encoding{pdfDocEncoding}%
11665 >>%
11666 /PUT pdfmark%
11667 [%
11668   /__objdef{aform}%
11669   /type/dict%
11670 /OBJ pdfmark%
11671 [%
11672   /__objdef{afields}%
11673   /type/array%
11674 /OBJ pdfmark%
11675 {%
11676   [%
11677     /BBox[0 0 100 100]%
11678     /__objdef{Check}%
11679 /BP pdfmark %
11680 1 0 0 setrgbcolor%
11681 /ZapfDingbats 80 selectfont %
11682 20 20 moveto%
11683 (4)show%
11684 [/EP pdfmark%
11685 [%
11686   /BBox[0 0 100 100]%
11687   /__objdef{Cross}%
11688 /BP pdfmark %
11689 1 0 0 setrgbcolor%
11690 /ZapfDingbats 80 selectfont %
11691 20 20 moveto%
11692 (8)show%
11693 [/EP pdfmark%
11694 [%
11695   /BBox[0 0 250 100]%
11696   /__objdef{Submit}%
11697 /BP pdfmark %
11698 0.6 setgray %
11699 0 0 250 100 rectfill %
11700 1 setgray %
11701 2 2 moveto %
11702 2 98 lineto %
11703 248 98 lineto %
11704 246 96 lineto %
11705 4 96 lineto %
11706 4 4 lineto %
11707 fill %

```

```

11708 0.34 setgray %
11709 248 98 moveto %
11710 248 2 lineto %
11711 2 2 lineto %
11712 4 4 lineto %
11713 246 4 lineto %
11714 246 96 lineto %
11715 fill%
11716 /Helvetica 76 selectfont %
11717 0 setgray %
11718 8 22.5 moveto%
11719 (Submit)show%
11720 [/EP pdfmark%
11721 [%
11722 /BBox[0 0 250 100]%
11723 /_objdef{SubmitP}%
11724 /BP pdfmark %
11725 0.6 setgray %
11726 0 0 250 100 rectfill %
11727 0.34 setgray %
11728 2 2 moveto %
11729 2 98 lineto %
11730 248 98 lineto %
11731 246 96 lineto %
11732 4 96 lineto %
11733 4 4 lineto %
11734 fill %
11735 1 setgray %
11736 248 98 moveto %
11737 248 2 lineto %
11738 2 2 lineto %
11739 4 4 lineto %
11740 246 4 lineto %
11741 246 96 lineto %
11742 fill%
11743 /Helvetica 76 selectfont %
11744 0 setgray %
11745 10 20.5 moveto%
11746 (Submit)show%
11747 [/EP pdfmark%
11748 } ?pdfmark%
11749 [%
11750 {aform}%
11751 <<%
11752 /Fields{afields}%
11753 /DR<<%
11754 /Font<<%
11755 /ZaDb{ZaDb}%
11756 /Helv{Helv}%
11757 >>%
11758 >>%
11759 /DA(/Helv 10 Tf 0 g)%
11760 /CO{corder}%
11761 \ifHy@pdfa
11762 \else
11763 /NeedAppearances true%
11764 \fi

```

```

11765 >>%
11766 /PUT pdfmark%
11767 [%
11768 {Catalog}%
11769 <<%
11770 /AcroForm{aform}%
11771 >>%
11772 /PUT pdfmark%
11773 [%
11774 /__objdef{corder}%
11775 /type/array%
11776 /OBJ pdfmark% dps
11777 }}%
11778 \kvsetkeys{Form}{#1}%
11779 }
11780 \def\@endForm{}
11781 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11782 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11783 }
11784 \def\@TextField[#1]#2{% parameters, label
11785 \def\Fld@name{#2}%
11786 \def\Fld@default{}%
11787 \let\Fld@value\@empty
11788 \def\Fld@width{\DefaultWidthofText}%
11789 \def\Fld@height{%
11790 \ifFld@multiline
11791 \DefaultHeightofTextMultiline
11792 \else
11793 \DefaultHeightofText
11794 \fi
11795 }%
11796 \begingroup
11797 \expandafter\HyField@SetKeys\expandafter{%
11798 \DefaultOptionsofText,#1%
11799 }%
11800 \HyField@FlagsText
11801 \ifFld@hidden\def\Fld@width{1sp}\fi
11802 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11803 \LayoutTextField{#2}{%
11804 \Hy@escapeform\PDFForm@Text
11805 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11806 pdfmark=/ANN,Raw={\PDFForm@Text}%
11807 }%
11808 }%
11809 \endgroup
11810 }
11811 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11812 \def\Fld@name{#2}%
11813 \let\Fld@default\relax
11814 \let\Fld@value\relax
11815 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11816 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11817 \begingroup
11818 \Fld@menulength=0 %
11819 \@tempdima\z@
11820 \@for\@curropt:=#3\do{%
11821 \expandafter\Fld@checkequals\@curropt==\%

```



```

11822 \Hy@StepCount\Fld@menulength
11823 \settowidth{\@tempdimb}{\@currDisplay}%
11824 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11825 }%
11826 \advance\@tempdima by 15\p@
11827 \begingroup
11828 \HyField@SetKeys{#1}%
11829 \edef\x{\endgroup
11830 \noexpand\expandafter
11831 \noexpand\HyField@SetKeys
11832 \noexpand\expandafter{%
11833 \expandafter\noexpand\csname DefaultOptionsof%
11834 \ifFld@radio
11835 Radio%
11836 \else
11837 \ifFld@combo
11838 \ifFld@popdown
11839 PopdownBox%
11840 \else
11841 ComboBox%
11842 \fi
11843 \else
11844 ListBox%
11845 \fi
11846 \fi
11847 \endcsname
11848 }%
11849 }\x
11850 \HyField@SetKeys{#1}%
11851 \ifFld@hidden\def\Fld@width{1sp}\fi
11852 \ifx\Fld@value\relax
11853 \let\Fld@value\Fld@default
11854 \fi
11855 \LayoutChoiceField{#2}{%
11856 \ifFld@radio
11857 \HyField@FlagsRadioButton
11858 \@@Radio{#3}%
11859 \else
11860 \begingroup
11861 \HyField@FlagsChoice
11862 \ifdim\Fld@width<\@tempdima
11863 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11864 \edef\Fld@width{\the\@tempdima}%
11865 \fi
11866 \ifFld@combo
11867 \else
11868 \@tempdima=\the\Fld@menulength\Fld@charsize
11869 \advance\@tempdima by \Fld@borderwidth bp %
11870 \advance\@tempdima by \Fld@borderwidth bp %
11871 \edef\Fld@height{\the\@tempdima}%
11872 \fi
11873 \@@ListBox{#3}%
11874 \endgroup
11875 \fi
11876 }%
11877 \endgroup
11878 }

```

```

11879 \def\@@Radio#1{%
11880   \Fld@listcount=0 %
11881   \for\@curropt:=#1\do{%
11882     \expandafter\Fld@checkequals\@curropt==\\%
11883     \Hy@StepCount\Fld@listcount
11884     \@currDisplay\space
11885     \Hy@escapeform\PDFForm@Radio
11886     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11887       pdfmark=/ANN,%
11888       Raw={%
11889         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11890       }%
11891     } % deliberate space between radio buttons
11892   }%
11893 }
11894 \newcount\Fld@listcount
11895 \def\@@ListBox#1{%
11896   \HyField@PDFChoices{#1}%
11897   \Hy@escapeform\PDFForm@List
11898   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11899     pdfmark=/ANN,Raw={\PDFForm@List}%
11900   }%
11901 }
11902 \def\@PushButton[#1]#2{% parameters, label
11903   \def\Fld@name{#2}%
11904   \begingroup
11905     \expandafter\HyField@SetKeys\expandafter{%
11906       \DefaultOptionsofPushButton,#1%
11907     }%
11908     \ifHy@pdfa
11909       \PackageError{hyperref}{%
11910         PDF/A: Push button with JavaScript is prohibited%
11911       }\@ehc
11912       \LayoutPushButtonField{%
11913         \leavevmode
11914         \MakeButtonField{#2}%
11915       }%
11916     \else
11917       \HyField@FlagsPushButton
11918       \ifFld@hidden\def\Fld@width{1sp}\fi
11919       \LayoutPushButtonField{%
11920         \leavevmode
11921         \Hy@escapeform\PDFForm@Push
11922         \pdfmark[\MakeButtonField{#2}]{%
11923           pdfmark=/ANN,Raw={\PDFForm@Push}%
11924         }%
11925       }%
11926     \fi
11927   \endgroup
11928 }
11929 \def\@Submit[#1]#2{%
11930   \def\Fld@width{\DefaultWidthofSubmit}%
11931   \def\Fld@height{\DefaultHeightofSubmit}%
11932   \begingroup
11933     \expandafter\HyField@SetKeys\expandafter{%
11934       \DefaultOptionsofSubmit,#1%
11935     }%

```

```

11936 \HyField@FlagsPushButton
11937 \HyField@FlagsSubmit
11938 \ifFld@hidden\def\Fld@width{1sp}\fi
11939 \Hy@escapeform\PDFForm@Submit
11940 \pdfmark[\MakeButtonField{#2}]{%
11941   pdfmark=/ANN,%
11942   Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}}%
11943 }%
11944 \endgroup
11945 }
11946 \def\@Reset[#1]#2{%
11947   \def\Fld@width{\DefaultWidthofReset}%
11948   \def\Fld@height{\DefaultHeightofReset}%
11949   \begingroup
11950     \expandafter\HyField@SetKeys\expandafter{%
11951       \DefaultOptionsofReset,#1%
11952     }%
11953     \leavevmode
11954     \ifHy@pdfa
11955       \PackageError{hyperref}{%
11956         PDF/A: Reset action is prohibited%
11957       }\@ehc
11958       \MakeButtonField{#2}%
11959     \else
11960       \HyField@FlagsPushButton
11961       \ifFld@hidden\def\Fld@width{1sp}\fi
11962       \Hy@escapeform\PDFForm@Reset
11963       \pdfmark[\MakeButtonField{#2}]{%
11964         pdfmark=/ANN,Raw={\PDFForm@Reset}%
11965       }%
11966     \fi
11967   \endgroup
11968 }%
11969 \def\@CheckBox[#1]#2{% parameters, label
11970   \def\Fld@name{#2}%
11971   \def\Fld@default{0}%
11972   \begingroup
11973     \def\Fld@width{\DefaultWidthofCheckBox}%
11974     \def\Fld@height{\DefaultHeightofCheckBox}%
11975     \expandafter\HyField@SetKeys\expandafter{%
11976       \DefaultOptionsofCheckBox,#1%
11977     }%
11978     \HyField@FlagsCheckBox
11979     \ifFld@hidden\def\Fld@width{1sp}\fi
11980     \LayoutCheckField{#2}{%
11981       \Hy@escapeform\PDFForm@Check
11982       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11983         pdfmark=/ANN,Raw={\PDFForm@Check}%
11984       }%
11985     }%
11986   \endgroup
11987 }
11988 \pdfmark

```

47.2 HyperTeX

```

11989 (*hypertex)
11990 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}

```

```

11991 \def\@endForm{}
11992 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11993   \typeout{Sorry, HyperTeX does not support FORM gauges}%
11994 }
11995 \def\@TextField[#1]#2{% parameters, label
11996   \typeout{Sorry, HyperTeX does not support FORM text fields}%
11997 }
11998 \def\@CheckBox[#1]#2{% parameters, label
11999   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
12000 }
12001 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12002   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
12003 }
12004 \def\@PushButton[#1]#2{% parameters, label
12005   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
12006 }
12007 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
12008 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
12009 \end{hypertex}

```

47.3 TeX4ht

```

12010 \*tex4ht
12011 \def\@Form[#1]{%
12012   \kvsetkeys{Form}{#1}%
12013   \HCode{<form action="\Form@action" method="\Form@method">}%
12014 }
12015 \def\@endForm{\HCode{</form>}}
12016 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12017   \typeout{Sorry, TeX4ht does not support gauges}%
12018 }
12019 \def\@TextField[#1]#2{% parameters, label
12020   \let\Hy@reserved@a\@empty
12021   \def\Fld@name{#2}%
12022   \def\Fld@default{}%
12023   \bgroup
12024     \Field@toks={ }%
12025     \kvsetkeys{Field}{#1}%
12026     \HCode{<label for="\Fld@name">#2</label>}%
12027     \ifFld@password
12028       \@@PasswordField
12029     \else
12030       \@@TextField
12031     \fi
12032   \egroup
12033 }
12034 \def\@@PasswordField{%
12035   \HCode{%
12036     <input type="password" %
12037       id="\Fld@name" %
12038       name="\Fld@name" %
12039       \ifFld@hidden type="hidden" \fi
12040       value="\Fld@default" %
12041       \the\Field@toks
12042     >%
12043   }%
12044 }
12045 \def\@@TextField{%

```

```

12046 \ifFld@multiline
12047 \HCode{<textarea %
12048 \ifFld@readonly readonly \fi
12049 id="\Fld@name" %
12050 name="\Fld@name" %
12051 \ifFld@hidden type="hidden" \fi
12052 \the\Field@toks>%
12053 }%
12054 \Fld@default
12055 \HCode{</textarea>}%
12056 \else
12057 \HCode{<input type="textbox" %
12058 \ifFld@readonly readonly \fi
12059 id="\Fld@name" %
12060 name="\Fld@name" %
12061 \ifFld@hidden type="hidden" \fi
12062 value="\Fld@default" %
12063 \the\Field@toks>%
12064 }%
12065 \fi
12066 }
12067 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12068 \def\Fld@name{#2}%
12069 \def\Fld@default{}%
12070 \let\Hy@reserved@a\relax
12071 \begingroup
12072 \expandafter\Fld@findlength#3\\%
12073 \Field@toks={ }%
12074 \kvsetkeys{Field}{#1}%
12075 #2%
12076 \ifFld@radio
12077 \expandafter\@@Radio#3\\%
12078 \else
12079 \expandafter\@@Menu#3\\%
12080 \fi
12081 \endgroup
12082 }
12083 \def\Fld@findlength#1\\{%
12084 \Fld@menulength=0 %
12085 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12086 }
12087 \def\@@Menu#1\\{%
12088 \HCode{<select size="\the\Fld@menulength" %
12089 name="\Fld@name" %
12090 \the\Field@toks>%
12091 }%
12092 \@for\@curropt:=#1\do{%
12093 \expandafter\Fld@checkequals\@curropt==\\%
12094 \HCode{<option %
12095 \ifx\@curropt\Fld@default selected \fi
12096 value="\@currValue">\@currDisplay</option>%
12097 }%
12098 }%
12099 \HCode{</select>}%
12100 }
12101 \def\@@Radio#1\\{%
12102 \@for\@curropt:=#1\do{%

```

```

12103 \expandafter\Fld@checkequals\@curropt==\\%
12104 \HCode{<input type="radio" %
12105 \ifx\@curropt\Fld@default checked \fi
12106 name="\Fld@name" %
12107 value="\@currValue" %
12108 \the\Fld@toks>%
12109 }%
12110 \@currDisplay
12111 }%
12112 }
12113 \def\@PushButton[#1]#2{% parameters, label
12114 \def\Fld@name{#2}%
12115 \bgroup
12116 \Field@toks={ }%
12117 \kvsetkeys{Field}{#1}%
12118 \HCode{<input type="button" %
12119 name="\Fld@name" %
12120 value="#2" %
12121 \the\Fld@toks>%
12122 }%
12123 \HCode{</button>}}%
12124 \egroup
12125 }
12126 \def\@Submit[#1]#2{%
12127 \HCode{<button type="submit">#2</button>}}%
12128 }
12129 \def\@Reset[#1]#2{%
12130 \HCode{<button type="reset">#2</button>}}%
12131 }
12132 \def\@CheckBox[#1]#2{% parameters, label
12133 \let\Hy@reserved@a\@empty
12134 \def\Fld@name{#2}%
12135 \def\Fld@default{0}%
12136 \bgroup
12137 \Field@toks={ }%
12138 \kvsetkeys{Field}{#1}%
12139 \HCode{<input type="checkbox" %
12140 \ifFld@checked checked \fi
12141 \ifFld@disabled disabled \fi
12142 \ifFld@readonly readonly \fi
12143 name="\Fld@name" %
12144 \ifFld@hidden type="hidden" \fi
12145 value="\Fld@default" %
12146 \the\Fld@toks>%
12147 #2%
12148 }%
12149 \egroup
12150 }
12151 </tex4ht>

```

47.4 pdfTeX

```

12152 <*pdftex>
12153 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12154 \typeout{Sorry, pdftex does not support FORM gauges}}%
12155 }
12156 \def\MakeFieldObject#1#2{\sbox0{#1}%
12157 \immediate\pdfxform0 %

```

```

12158 \expandafter\edef\csname #2Object\endcsname{%
12159 \the\pdfastxform\space 0 R%
12160 }%
12161 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
12162 }%
12163 \def\HyField@afields{}
12164 \begingroup\expandafter\expandafter\expandafter\endgroup
12165 \expandafter\ifx\csname pdfastlink\endcsname\relax
12166 \let\HyField@AddToFields\relax
12167 \PackageInfo{hyperref}{%
12168 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12169 \MessageBreak
12170 Adobe Reader/Acrobat accepts an empty /Field array,%
12171 \MessageBreak
12172 but other PDF viewers might complain%
12173 }%
12174 \else
12175 \def\HyField@AuxAddToFields#1{}%
12176 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
12177 \Hy@AtBeginDocument{%
12178 \if@filesw
12179 \immediate\write\@mainaux{%
12180 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12181 }%
12182 \fi
12183 \let\HyField@AfterAuxOpen\@firstofone
12184 \def\HyField@AuxAddToFields#1{%
12185 \xdef\HyField@afields{%
12186 \ifx\HyField@afields\@empty
12187 \else
12188 \HyField@afields
12189 \space
12190 \fi
12191 #1 0 R%
12192 }%
12193 }%
12194 }%
12195 \def\HyField@AddToFields{%
12196 \expandafter\HyField@@AddToFields\expandafter{%
12197 \the\pdfastlink
12198 }%
12199 }%
12200 \def\HyField@@AddToFields#1{%
12201 \HyField@AfterAuxOpen{%
12202 \if@filesw
12203 \write\@mainaux{%
12204 \string\HyField@AuxAddToFields{#1}%
12205 }%
12206 \fi
12207 }%
12208 }%
12209 \fi
12210 \def\@Form[#1]{}%
12211 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12212 \kvsetkeys{Form}{#1}%
12213 \Hy@FormObjects
12214 \ifnum\pdftexversion>13 %

```

```

12215 \pdfrefobj\OBJ@pdfdocencoding
12216 \pdfrefobj\OBJ@ZaDb
12217 \pdfrefobj\OBJ@Helv
12218 \fi
12219 \AtVeryEndDocument{%
12220 \immediate\pdfobj{%
12221 <<%
12222 /Fields[\HyField@afields]%
12223 /DR<<%
12224 /Font<<%
12225 /ZaDb \OBJ@ZaDb\space 0 R%
12226 /Helv \OBJ@Helv\space 0 R%
12227 >>%
12228 >>%
12229 /DA(/Helv 10 Tf 0 g)%
12230 \ifHy@pdfa
12231 \else
12232 /NeedAppearances true%
12233 \fi
12234 >>%
12235 }%
12236 \edef\OBJ@acroform{\the\pdfastobj}%
12237 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
12238 }%
12239 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

12240 \begingroup
12241 \fontfamily{pzd}%
12242 \fontencoding{U}%
12243 \fontseries{m}%
12244 \fontshape{n}%
12245 \selectfont
12246 \char123 %
12247 \endgroup
12248 }{Ding}%
12249 \MakeFieldObject{%
12250 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
12251 }{Submit}%
12252 \MakeFieldObject{%
12253 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
12254 }{SubmitP}%
12255 }
12256 \def\@endForm{}
12257 \def\@TextField[#1]#2{% parameters, label
12258 \def\Fld@name{#2}%
12259 \def\Fld@default{}%
12260 \let\Fld@value\@empty
12261 \def\Fld@width{\DefaultWidthofText}%
12262 \def\Fld@height{%
12263 \ifFld@multiline
12264 \DefaultHeightofTextMultiline
12265 \else
12266 \DefaultHeightofText
12267 \fi
12268 }%
12269 \begingroup
12270 \expandafter\HyField@SetKeys\expandafter{%

```



```

12271 \DefaultOptionsofText,#1%
12272 }%
12273 \PDFForm@Name
12274 \HyField@FlagsText
12275 \ifFld@hidden\def\Fld@width{1sp}\fi
12276 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
12277 \LayoutTextField{#2}{%
12278 \Hy@escapeform\PDFForm@Text
12279 \pdfstartlink user {\PDFForm@Text}\relax
12280 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
12281 \HyField@AddToFields
12282 }%
12283 \endgroup
12284 }
12285 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12286 \def\Fld@name{#2}%
12287 \let\Fld@default\relax
12288 \let\Fld@value\relax
12289 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12290 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12291 \begingroup
12292 \Fld@menulength=0 %
12293 \@tempdima\z@
12294 \@for\@curropt:=#3\do{%
12295 \expandafter\Fld@checkequals\@curropt==\%
12296 \Hy@StepCount\Fld@menulength
12297 \settowidth{\@tempdimb}{\@currDisplay}%
12298 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12299 }%
12300 \advance\@tempdima by 15\p@
12301 \begingroup
12302 \HyField@SetKeys{#1}%
12303 \edef\x{\endgroup
12304 \noexpand\expandafter
12305 \noexpand\HyField@SetKeys
12306 \noexpand\expandafter{%
12307 \expandafter\noexpand\csname DefaultOptionsof%
12308 \ifFld@radio
12309 Radio%
12310 \else
12311 \ifFld@combo
12312 \ifFld@popdown
12313 PopdownBox%
12314 \else
12315 ComboBox%
12316 \fi
12317 \else
12318 ListBox%
12319 \fi
12320 \fi
12321 \endcsname
12322 }%
12323 }\x
12324 \HyField@SetKeys{#1}%
12325 \PDFForm@Name
12326 \ifFld@hidden\def\Fld@width{1sp}\fi
12327 \ifx\Fld@value\relax

```

```

12328 \let\Fld@value\Fld@default
12329 \fi
12330 \LayoutChoiceField{#2}{%
12331 \ifFld@radio
12332 \HyField@FlagsRadioButton
12333 \@@Radio{#3}%
12334 \else
12335 \beginngroup
12336 \HyField@FlagsChoice
12337 \ifdim\Fld@width<\@tempdima
12338 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12339 \edef\Fld@width{\the\@tempdima}%
12340 \fi
12341 \ifFld@combo
12342 \else
12343 \@tempdima=\the\Fld@menulength\Fld@charsize
12344 \advance\@tempdima by \Fld@borderwidth bp %
12345 \advance\@tempdima by \Fld@borderwidth bp %
12346 \edef\Fld@height{\the\@tempdima}%
12347 \fi
12348 \@@ListBox{#3}%
12349 \endgroup
12350 \fi
12351 }%
12352 \endgroup
12353 }
12354 \def\@@Radio#1{%
12355 \Fld@listcount=0 %
12356 \@for\@curropt:=#1\do{%
12357 \expandafter\Fld@checkequals\@curropt==\%
12358 \Hy@StepCount\Fld@listcount
12359 \@currDisplay\space
12360 \leavevmode
12361 \Hy@escapeform\PDFForm@Radio
12362 \pdfstartlink user {%
12363 \PDFForm@Radio
12364 /AP<<%
12365 /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.

```

12366 /\@currValue\space \DingObject
12367 >>%
12368 >>%
12369 }%
12370 \relax
12371 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12372 \ifnum\Fld@listcount=1 %
12373 \HyField@AddToFields
12374 \fi
12375 \space % deliberate space between radio buttons
12376 }%
12377 }
12378 \newcount\Fld@listcount
12379 \def\@@ListBox#1{%
12380 \HyField@PDFChoices{#1}%
12381 \leavevmode

```

```

12382 \Hy@escapeform\PDFForm@List
12383 \pdfstartlink user {\PDFForm@List}\relax
12384 \MakeChoiceField{\Fld@width}{\Fld@height}%
12385 \pdfendlink
12386 \HyField@AddToFields
12387 }
12388 \def\@PushButton[#1]#2{% parameters, label
12389 \def\Fld@name{#2}%
12390 \begingroup
12391 \expandafter\HyField@SetKeys\expandafter{%
12392 \DefaultOptionsofPushButton,#1%
12393 }%
12394 \PDFForm@Name
12395 \ifHy@pdfa
12396 \PackageError{hyperref}{%
12397 PDF/A: Push button with JavaScript is prohibited%
12398 }\@ehc
12399 \LayoutPushButtonField{%
12400 \leavevmode
12401 \MakeButtonField{#2}%
12402 }%
12403 \else
12404 \HyField@FlagsPushButton
12405 \ifFld@hidden\def\Fld@width{1sp}\fi
12406 \LayoutPushButtonField{%
12407 \leavevmode
12408 \Hy@escapeform\PDFForm@Push
12409 \pdfstartlink user {\PDFForm@Push}\relax
12410 \MakeButtonField{#2}%
12411 \pdfendlink
12412 \HyField@AddToFields
12413 }%
12414 \fi
12415 \endgroup
12416 }
12417 \def\@Submit[#1]#2{%
12418 \def\Fld@width{\DefaultWidthofSubmit}%
12419 \def\Fld@height{\DefaultHeightofSubmit}%
12420 \begingroup
12421 \expandafter\HyField@SetKeys\expandafter{%
12422 \DefaultOptionsofSubmit,#1%
12423 }%
12424 \HyField@FlagsPushButton
12425 \HyField@FlagsSubmit
12426 \ifFld@hidden\def\Fld@width{1sp}\fi
12427 \leavevmode
12428 \Hy@escapeform\PDFForm@Submit
12429 \pdfstartlink user {%
12430 \PDFForm@Submit
12431 /AP<</N \SubmitObject/D \SubmitPObject>>%
12432 }%
12433 \relax
12434 \MakeButtonField{#2}%
12435 \pdfendlink
12436 \HyField@AddToFields
12437 \endgroup
12438 }

```

```

12439 \def\@Reset[#1]#2{%
12440   \def\Fld@width{\DefaultWidthofReset}%
12441   \def\Fld@height{\DefaultHeightofReset}%
12442   \begingroup
12443     \expandafter\HyField@SetKeys\expandafter{%
12444       \DefaultOptionsofReset,#1%
12445     }%
12446     \leavevmode
12447     \ifHy@pdfa
12448       \PackageError{hyperref}{%
12449         PDF/A: Reset action is prohibited%
12450       }\@ehc
12451       \MakeButtonField{#2}%
12452     \else
12453       \HyField@FlagsPushButton
12454       \ifFld@hidden\def\Fld@width{1sp}\fi
12455       \Hy@escapeform\PDFForm@Reset
12456       \pdfstartlink user {\PDFForm@Reset}\relax
12457       \MakeButtonField{#2}%
12458       \pdfendlink
12459       \HyField@AddToFields
12460     \fi
12461   \endgroup
12462 }
12463 \def\@CheckBox[#1]#2{% parameters, label
12464   \def\Fld@name{#2}%
12465   \def\Fld@default{0}%
12466   \begingroup
12467     \def\Fld@width{\DefaultWidthofCheckBox}%
12468     \def\Fld@height{\DefaultHeightofCheckBox}%
12469     \expandafter\HyField@SetKeys\expandafter{%
12470       \DefaultOptionsofCheckBox,#1%
12471     }%
12472     \PDFForm@Name
12473     \HyField@FlagsCheckBox
12474     \ifFld@hidden\def\Fld@width{1sp}\fi
12475     \LayoutCheckField{#2}{%
12476       \Hy@escapeform\PDFForm@Check
12477       \pdfstartlink user {\PDFForm@Check}\relax
12478       \MakeCheckField{\Fld@width}{\Fld@height}%
12479       \pdfendlink
12480       \HyField@AddToFields
12481     }%
12482   \endgroup
12483 }
12484 \def\Hy@FormObjects{%
12485   \pdfobj {%
12486     <<%
12487       /Type/Encoding%
12488       /Differences[%
12489         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12490         /ring/tilde %
12491         39/quotesingle %
12492         96/grave %
12493         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12494         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12495         /quotedblbase/quotedblleft/quotedblright/quoteleft%

```

```

12496      /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12497      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12498      164/currency %
12499      166/brokenbar %
12500      168/dieresis/copyright/ordfeminine %
12501      172/logicalnot/.notdef/registered/macron/degree/plusminus%
12502      /twosuperior/threesuperior/acute/mu %
12503      183/periodcentered/cedilla/onesuperior/ordmasculine %
12504      188/onequarter/onehalf/threequarters %
12505      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12506      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12507      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12508      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12509      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12510      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12511      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12512      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12513      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12514      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12515      ]%
12516      >>%
12517      }%
12518      \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
12519      \pdfobj{%
12520      <<%
12521      /Type/Font%
12522      /Subtype/Type1%
12523      /Name/ZaDb%
12524      /BaseFont/ZapfDingbats%
12525      >>%
12526      }%
12527      \xdef\OBJ@ZaDb{\the\pdfastobj}%
12528      \pdfobj{%
12529      <<%
12530      /Type/Font%
12531      /Subtype/Type1%
12532      /Name/Helv%
12533      /BaseFont/Helvetica%
12534      /Encoding \OBJ@pdfdocencoding\space 0 R%
12535      >>%
12536      }%
12537      \xdef\OBJ@Helv{\the\pdfastobj}%
12538      \global\let\Hy@FormObjects\relax
12539      }
12540      </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.

```
12541 < *dvipdfm | xetex>
```

\@Gauge

```

12542 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12543   \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12544 }

```

\@Form

```

12545 \def\@Form[#1]{%
12546   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12547   \kvsetkeys{Form}{#1}%
12548   \Hy@FormObjects
12549   \@pdfm@mark{obj @afields []}%
12550   \@pdfm@mark{obj @corder []}%
12551   \@pdfm@mark{%
12552     obj @aform <<%
12553       /Fields @afields%
12554       /DR<<%
12555       /Font<<%
12556       /ZaDb @OBJZaDb%
12557       /Helv @OBJHelv%
12558       >>%
12559       >>%
12560       /DA(/Helv 10 Tf 0 g)%
12561       /CO @corder%
12562       \ifHy@pdfa
12563       \else
12564       /NeedAppearances true%
12565       \fi
12566       >>%
12567     }%
12568   \@pdfm@mark{put @catalog <</AcroForm @aform>>}}%
12569 }

```

\@endForm

```

12570 \def\@endForm{}

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

12571 \def\dvipdfm@setdim{%
12572   height \the\ht\pdfm@box\space
12573   width \the\wd\pdfm@box\space
12574   depth \the\dp\pdfm@box\space
12575 }

```

\HyField@AnnotCount

```

12576 \newcount\HyField@AnnotCount
12577 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

12578 \def\HyField@AdvanceAnnotCount{%
12579   \global\advance\HyField@AnnotCount\@ne
12580 }

```

\HyField@TheAnnotCount

```

12581 \def\HyField@TheAnnotCount{%
12582   \the\HyField@AnnotCount
12583 }

```

\@TextField

```

12584 \def\@TextField[#1]#2{% parameters, label
12585   \def\Fld@name{#2}%
12586   \def\Fld@default{}%
12587   \let\Fld@value\@empty
12588   \def\Fld@width{\DefaultWidthofText}%

```

```

12589 \def\Fld@height{%
12590   \ifFld@multiline
12591     \DefaultHeightofTextMultiline
12592   \else
12593     \DefaultHeightofText
12594   \fi
12595 }%
12596 \begingroup
12597   \expandafter\HyField@SetKeys\expandafter{%
12598     \DefaultOptionsofText,#1%
12599   }%
12600   \PDFForm@Name
12601   \HyField@FlagsText
12602   \ifFld@hidden\def\Fld@width{1sp}\fi
12603   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12604   \setbox\pdfm@box=\hbox{%
12605     \MakeTextField{\Fld@width}{\Fld@height}%
12606   }%
12607   \HyField@AdvanceAnnotCount
12608   \LayoutTextField{#2}{%
12609     \Hy@escapeform\PDFForm@Text
12610     \@pdfm@mark{%
12611       ann @text\HyField@TheAnnotCount\space
12612       \dvipdfm@setdim << \PDFForm@Text >>%
12613     }%
12614   }%
12615   \unhbox\pdfm@box
12616   \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12617   % record in @afields array
12618 \endgroup
12619 }

```

\@ChoiceMenu

```

12620 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12621   \def\Fld@name{#2}%
12622   \let\Fld@default\relax
12623   \let\Fld@value\relax
12624   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12625   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12626   \begingroup
12627     \Fld@menulength=0 %
12628     \@tempdima\z@
12629     \@for\@curropt:=#3\do{%
12630       \expandafter\Fld@checkequals\@curropt==\%
12631       \Hy@StepCount\Fld@menulength
12632       \settowidth{\@tempdimb}{\@currDisplay}%
12633       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12634     }%
12635     \advance\@tempdima by 15\p@
12636     \begingroup
12637       \HyField@SetKeys{#1}%
12638     \edef\x{\endgroup
12639       \noexpand\expandafter
12640       \noexpand\HyField@SetKeys
12641       \noexpand\expandafter{%
12642         \expandafter\noexpand\csname DefaultOptionsof%
12643           \ifFld@radio

```

```

12644         Radio%
12645     \else
12646         \ifFld@combo
12647             \ifFld@popdown
12648                 PopdownBox%
12649             \else
12650                 ComboBox%
12651         \fi
12652     \else
12653         ListBox%
12654     \fi
12655 \fi
12656 \endcsname
12657 }%
12658 }\x
12659 \HyField@SetKeys{#1}%
12660 \PDFForm@Name
12661 \ifFld@hidden\def\Fld@width{1sp}\fi
12662 \ifx\Fld@value\relax
12663     \let\Fld@value\Fld@default
12664 \fi
12665 \LayoutChoiceField{#2}{%
12666     \ifFld@radio
12667         \HyField@FlagsRadioButton
12668         \@@Radio{#3}%
12669     \else
12670         \begingroup
12671         \HyField@FlagsChoice
12672         \ifdim\Fld@width<\@tempdima
12673             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12674         \edef\Fld@width{\the\@tempdima}%
12675         \fi
12676         \ifFld@combo
12677         \else
12678             \@tempdima=\the\Fld@menulength\Fld@charsize
12679             \advance\@tempdima by \Fld@borderwidth bp %
12680             \advance\@tempdima by \Fld@borderwidth bp %
12681             \edef\Fld@height{\the\@tempdima}%
12682         \fi
12683         \@@ListBox{#3}%
12684     \endgroup
12685 \fi
12686 }%
12687 \endgroup
12688 }

```

\@@Radio

```

12689 \def\@@Radio#1{%
12690     \Fld@listcount=0 %
12691     \setbox\pdfm@box=\hbox{%
12692         \MakeRadioField{\Fld@width}{\Fld@height}%
12693     }%
12694     \@for\@curropt:=#1\do{%
12695         \expandafter\Fld@checkequals\@curropt==\\%
12696         \Hy@StepCount\Fld@listcount
12697         \@currDisplay\space
12698         \leavevmode

```



```

12699 \Hy@escapeform\PDFForm@Radio
12700 \ifnum\Fld@listcount=1 %
12701 \HyField@AdvanceAnnotCount
12702 \fi
12703 \@pdfm@mark{%
12704 ann %
12705 \ifnum\Fld@listcount=1 %
12706 @radio\HyField@TheAnnotCount%
12707 \space
12708 \fi
12709 \dvipdfm@setdim
12710 <<%
12711 \PDFForm@Radio
12712 /AP<</N<</\@currValue /null>>>>%
12713 >>%
12714 }%
12715 \unhcopy\pdfm@box\space% deliberate space between radio buttons
12716 \ifnum\Fld@listcount=1 %
12717 \@pdfm@mark{%
12718 put @afields @radio\HyField@TheAnnotCount
12719 }%
12720 \fi
12721 }%
12722 }

```

\Fld@listcount

```

12723 \newcount\Fld@listcount

```

\@@Listbox

```

12724 \def\@@Listbox#1{%
12725 \HyField@PDFChoices{#1}%
12726 \setbox\pdfm@box=\hbox{%
12727 \MakeChoiceField{\Fld@width}{\Fld@height}%
12728 }%
12729 \leavevmode
12730 \Hy@escapeform\PDFForm@List
12731 \HyField@AdvanceAnnotCount
12732 \@pdfm@mark{%
12733 ann @list\HyField@TheAnnotCount\space
12734 \dvipdfm@setdim
12735 <<\PDFForm@List>>%
12736 }%
12737 \unhbox\pdfm@box
12738 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12739 }

```

\@PushButton

```

12740 \def\@PushButton[#1]#2{% parameters, label
12741 \def\Fld@name{#2}%
12742 \begingroup
12743 \expandafter\HyField@SetKeys\expandafter{%
12744 \DefaultOptionsofPushButton,#1%
12745 }%
12746 \PDFForm@Name
12747 \ifHy@pdfa
12748 \PackageError{hyperref}{%
12749 PDF/A: Push button with JavaScript is prohibited%

```

```

12750 } \@ehc
12751 \LayoutPushButtonField{%
12752   \leavevmode
12753   \MakeButtonField{#2}%
12754 }%
12755 \else
12756 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12757 \HyField@FlagsPushButton
12758 \ifFld@hidden\def\Fld@width{1sp}\fi
12759 \HyField@AdvanceAnnotCount
12760 \LayoutPushButtonField{%
12761   \leavevmode
12762   \Hy@escapeform\PDFForm@Push
12763   \@pdfm@mark{%
12764     ann @push\HyField@TheAnnotCount\space
12765     \dvi pdfm@setdim
12766     <<\PDFForm@Push>>%
12767   }%
12768 }%
12769 \unhbox\pdfm@box
12770 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12771 \fi
12772 \endgroup
12773 }

```

\@Submit

```

12774 \def\@Submit[#1]#2{%
12775   \def\Fld@width{\DefaultWidthofSubmit}%
12776   \def\Fld@height{\DefaultHeightofSubmit}%
12777   \begingroup
12778   \expandafter\HyField@SetKeys\expandafter{%
12779     \DefaultOptionsofSubmit,#1%
12780   }%
12781   \HyField@FlagsPushButton
12782   \HyField@FlagsSubmit
12783   \ifFld@hidden\def\Fld@width{1sp}\fi
12784   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12785   \leavevmode
12786   \Hy@escapeform\PDFForm@Submit
12787   \HyField@AdvanceAnnotCount
12788   \@pdfm@mark{%
12789     ann @submit\HyField@TheAnnotCount\space
12790     \dvi pdfm@setdim
12791     <<\PDFForm@Submit>>%
12792   }%
12793   \unhbox\pdfm@box%
12794   \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12795   \endgroup
12796 }

```

\@Reset

```

12797 \def\@Reset[#1]#2{%
12798   \def\Fld@width{\DefaultWidthofReset}%
12799   \def\Fld@height{\DefaultHeightofReset}%
12800   \begingroup
12801   \expandafter\HyField@SetKeys\expandafter{%
12802     \DefaultOptionsofReset,#1%

```

```

12803 }%
12804 \leavevmode
12805 \ifHy@pdfa
12806   \PackageError{hyperref}{%
12807     PDF/A: Reset action is prohibited%
12808   }\@ehc
12809   \MakeButtonField{#2}%
12810 \else
12811   \HyField@FlagsPushButton
12812   \ifFld@hidden\def\Fld@width{1sp}\fi
12813   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12814   \Hy@escapeform\PDFForm@Reset
12815   \HyField@AdvanceAnnotCount
12816   \@pdfm@mark{%
12817     ann @reset\HyField@TheAnnotCount\space
12818     \dvipdfm@setdim
12819     <<\PDFForm@Reset>>%
12820   }%
12821   \unhbox\pdfm@box
12822   \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12823   \fi
12824 \endgroup
12825 }

```

\@CheckBox

```

12826 \def\@CheckBox[#1]#2{% parameters, label
12827   \def\Fld@name{#2}%
12828   \def\Fld@default{0}%
12829   \begingroup
12830     \def\Fld@width{\DefaultWidthofCheckBox}%
12831     \def\Fld@height{\DefaultHeightofCheckBox}%
12832     \expandafter\HyField@SetKeys\expandafter{%
12833       \DefaultOptionsofCheckBox,#1%
12834     }%
12835     \PDFForm@Name
12836     \HyField@FlagsCheckBox
12837     \ifFld@hidden\def\Fld@width{1sp}\fi
12838     \setbox\pdfm@box=\hbox{%
12839       \MakeCheckField{\Fld@width}{\Fld@height}%
12840     }%
12841     \HyField@AdvanceAnnotCount
12842     \LayoutCheckField{#2}{%
12843       \Hy@escapeform\PDFForm@Check
12844       \@pdfm@mark{%
12845         ann @check\HyField@TheAnnotCount\space
12846         \dvipdfm@setdim
12847         <<\PDFForm@Check>>%
12848       }%
12849       \unhbox\pdfm@box
12850       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12851     }%
12852   \endgroup
12853 }

12854 \def\Hy@FormObjects{%
12855   \@pdfm@mark{obj @OBJpdfdocencoding%
12856     <<%
12857     /Type/Encoding%

```

12858 /Differences[%
 12859 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
 12860 39/quotesingle %
 12861 96/grave %
 12862 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
 12863 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
 12864 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
 12865 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
 12866 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
 12867 164/currency %
 12868 166/brokenbar %
 12869 168/dieresis/copyright/ordfeminine %
 12870 172/logicalnot/.notdef/registered/macron/degree/plusminus%
 12871 /twosuperior/threesuperior/acute/mu %
 12872 183/periodcentered/cedilla/onesuperior/ordmasculine %
 12873 188/onequarter/onehalf/threequarters %
 12874 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
 12875 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
 12876 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
 12877 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
 12878 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
 12879 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
 12880 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
 12881 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
 12882 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
 12883 /thorn/ydieresis%
 12884]%
 12885 >>%
 12886 }%
 12887 \@pdfm@mark{obj @OBJZaDb%
 12888 <<%
 12889 /Type/Font%
 12890 /Subtype/Type1%
 12891 /Name/ZaDb%
 12892 /BaseFont/ZapfDingbats%
 12893 >>%
 12894 }%
 12895 \@pdfm@mark{obj @OBJHelv%
 12896 <<%
 12897 /Type/Font%
 12898 /Subtype/Type1%
 12899 /Name/Helv%
 12900 /BaseFont/Helvetica%
 12901 /Encoding @OBJpdfdocencoding%
 12902 >>%
 12903 }%
 12904 \global\let\Hy@FormObjects\relax
 12905 }
 12906 </dvipdfm | xetex>

47.6 Common forms part

12907 <*pdfm>

\Hy@escapestring

12908 \begingroup\expandafter\expandafter\expandafter\endgroup
 12909 \expandafter\ifx\csname pdfescapestring\endcsname\relax

```

12910 \let\Hy@escapestring\@firstofone
12911 \def\Hy@escapeform#1{%
12912   \ifHy@escapeform
12913     \def\Hy@escapestring##1{%
12914       \noexpand\Hy@escapestring{\noexpand##1}%
12915     }%
12916     \edef\Hy@temp{#1}%
12917     \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
12918   \def\Hy@escapestring##1{%
12919     \ifundefined{Hy@esc@\string##1}{%
12920       ##1%
12921       \ThisShouldNotHappen
12922     }{%
12923       \csname Hy@esc@\string##1\endcsname
12924     }%
12925   }%
12926 \else
12927   \let\Hy@escapestring\@firstofone
12928 \fi
12929 }%
12930 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
12931   \ifx\#3\%
12932   \else
12933     \expandafter
12934     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12935     \Hy@ReturnAfterFi{%
12936       \Hy@@@escapeform#3\@nil
12937     }%
12938   \fi
12939 }%
12940 \else
12941   \def\Hy@escapeform#1{%
12942     \ifHy@escapeform
12943       \let\Hy@escapestring\pdfescapestring
12944     \else
12945       \let\Hy@escapestring\@firstofone
12946     \fi
12947   }%
12948   \Hy@escapeform{ }%
12949 \fi

```

\PDFForm@Name

```

12950 \def\PDFForm@Name{%
12951   \begingroup
12952   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12953     \ifHy@unicode
12954       \Hy@unicodedefalse
12955     \fi
12956   \fi
12957   \HyPsd@XeTeXBigCharstrue
12958   \pdfstringdef\Hy@gtemp\Fld@name
12959 \endgroup
12960 \let\Fld@name\Hy@gtemp
12961 }

```

\Fld@additionalactions

```

12962 \def\Fld@@@additionalactions{%

```

K input (keystroke) format

```
12963 \ifx\Fld@keystroke@code\@empty
12964 \else
12965 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12966 \fi
```

F display format

```
12967 \ifx\Fld@format@code\@empty
12968 \else
12969 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
12970 \fi
```

V validation

```
12971 \ifx\Fld@validate@code\@empty
12972 \else
12973 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12974 \fi
```

C calculation

```
12975 \ifx\Fld@calculate@code\@empty
12976 \else
12977 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12978 \fi
```

Fo receiving the input focus

```
12979 \ifx\Fld@onfocus@code\@empty
12980 \else
12981 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12982 \fi
```

Bl loosing the input focus (blurred)

```
12983 \ifx\Fld@onblur@code\@empty
12984 \else
12985 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12986 \fi
```

D pressing the mouse button (down)

```
12987 \ifx\Fld@onmousedown@code\@empty
12988 \else
12989 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12990 \fi
```

U releasing the mouse button (up)

```
12991 \ifx\Fld@onmouseup@code\@empty
12992 \else
12993 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12994 \fi
```

E cursor enters the annotation's active area.

```
12995 \ifx\Fld@onenter@code\@empty
12996 \else
12997 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12998 \fi
```

X cursor exits the annotation's active area.

```
12999 \ifx\Fld@onexit@code\@empty
13000 \else
13001 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13002 \fi
13003 }
13004 \def\Fld@additionalactions{%
```

```

13005 \if\Fld@@additionalactions-%
13006 \else
13007 \ifHy@pdfa
13008 \else
13009 /AA<<\Fld@@additionalactions>>%
13010 \fi
13011 \fi
13012 }

```

\PDFForm@Check

```

13013 \def\PDFForm@Check{%
13014 /Subtype/Widget%
13015 \Fld@annotflags
13016 /T(\Fld@name)%
13017 /FT/Btn%
13018 \Fld@flags
13019 /Q \Fld@align
13020 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13021 /MK<<%
13022 \ifnum\Fld@rotation=\z@
13023 \else
13024 /R \Fld@rotation
13025 \fi
13026 \ifx\Fld@bordercolor\relax
13027 \else
13028 /BC[\Fld@bordercolor]%
13029 \fi
13030 \ifx\Fld@bcolor\relax
13031 \else
13032 /BG[\Fld@bcolor]%
13033 \fi
13034 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13035 >>%
13036 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13037 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13038 /H/P%
13039 \ifFld@checked /V/Yes\else /V/Off\fi
13040 \Fld@additionalactions
13041 }

```

\PDFForm@Push

```

13042 \ifHy@pdfa
13043 \else
13044 \def\PDFForm@Push{%
13045 /Subtype/Widget%
13046 \Fld@annotflags
13047 /T(\Fld@name)%
13048 /FT/Btn%
13049 \Fld@flags
13050 /H/P%
13051 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13052 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13053 \ifx\Fld@bordercolor\relax\else 1\fi
13054 \space
13055 \else
13056 /MK<<%
13057 \ifnum\Fld@rotation=\z@

```

```

13058     \else
13059         /R \Fld@rotation
13060     \fi
13061     \ifx\Fld@bordercolor\relax
13062     \else
13063         /BC[\Fld@bordercolor]%
13064     \fi
13065     >>%
13066 \fi
13067 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13068 \Fld@additionalactions
13069 }%
13070 \fi

```

\PDFForm@List

```

13071 \def\PDFForm@List{%
13072 /Subtype/Widget%
13073 \Fld@annotflags
13074 /T(\Fld@name)%
13075 /FT/Ch%
13076 \Fld@flags
13077 /Q \Fld@align
13078 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13079 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13080     \ifx\Fld@bordercolor\relax\else 1\fi
13081     \ifx\Fld@bcolor\relax \else 1\fi
13082     \space
13083 \else
13084 /MK<<%
13085     \ifnum\Fld@rotation=\z@
13086     \else
13087         /R \Fld@rotation
13088     \fi
13089     \ifx\Fld@bordercolor\relax
13090     \else
13091         /BC[\Fld@bordercolor]%
13092     \fi
13093     \ifx\Fld@bcolor\relax
13094     \else
13095         /BG[\Fld@bcolor]%
13096     \fi
13097     >>%
13098 \fi
13099 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13100     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13101 \Fld@choices
13102 \Fld@additionalactions
13103 }

```

\PDFForm@Radio

```

13104 \def\PDFForm@Radio{%
13105 /Subtype/Widget%
13106 \Fld@annotflags
13107 /T(\Fld@name)%
13108 /FT/Btn%
13109 \Fld@flags
13110 /H/P%

```



```

13111 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13112 /MK<<%
13113 \ifnum\Fld@rotation=\z@
13114 \else
13115 /R \Fld@rotation
13116 \fi
13117 \ifx\Fld@bordercolor\relax
13118 \else
13119 /BC[\Fld@bordercolor]%
13120 \fi
13121 \ifx\Fld@bcolor\relax
13122 \else
13123 /BG[\Fld@bcolor]%
13124 \fi
13125 /CA(\Fld@radiosymbol)%
13126 >>%
13127 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13128 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13129 \ifx\@currValue\Fld@default
13130 /V/\Fld@default
13131 \else
13132 /V/Off%
13133 \fi
13134 \Fld@additionalactions
13135 }

```

\PDFForm@Text

```

13136 \def\PDFForm@Text{%
13137 /Subtype/Widget%
13138 \Fld@annotflags
13139 /T(\Fld@name)%
13140 /FT/Tx%
13141 \Fld@flags
13142 /Q \Fld@align
13143 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
13144 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13145 \ifx\Fld@bordercolor\relax\else 1\fi
13146 \ifx\Fld@bcolor\relax \else 1\fi
13147 \space
13148 \else
13149 /MK<<%
13150 \ifnum\Fld@rotation=\z@
13151 \else
13152 /R \Fld@rotation
13153 \fi
13154 \ifx\Fld@bordercolor\relax
13155 \else
13156 /BC[\Fld@bordercolor]%
13157 \fi
13158 \ifx\Fld@bcolor\relax
13159 \else
13160 /BG[\Fld@bcolor]%
13161 \fi
13162 >>%
13163 \fi
13164 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
13165 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

```

13166 /DV(\Hy@escapestring{\Fld@default}))%
13167 /V(\Hy@escapestring{\Fld@value}))%
13168 \Fld@additionalactions
13169 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
13170 }

```

\PDFForm@Submit

```

13171 \def\PDFForm@Submit{%
13172 /Subtype/Widget%
13173 \Fld@annotflags
13174 /T(\Fld@name)%
13175 /FT/Btn%
13176 \Fld@flags
13177 /H/P%
13178 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13179 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13180 \ifx\Fld@bordercolor\relax\else 1\fi
13181 \space
13182 \else
13183 /MK<<%
13184 \ifnum\Fld@rotation=\z@
13185 \else
13186 /R \Fld@rotation
13187 \fi
13188 \ifx\Fld@bordercolor\relax
13189 \else
13190 /BC[\Fld@bordercolor]%
13191 \fi
13192 >>%
13193 \fi
13194 /A<<%
13195 /S/SubmitForm%
13196 /F<<%
13197 /FS/URL%
13198 /F(\Hy@escapestring{\Form@action}))%
13199 >>%
13200 \Fld@submitflags
13201 >>%
13202 \Fld@additionalactions
13203 }

```

\PDFForm@Reset

```

13204 \ifHy@pdfa
13205 \else
13206 \def\PDFForm@Reset{%
13207 /Subtype/Widget%
13208 \Fld@annotflags
13209 /T(\Fld@name)%
13210 /FT/Btn%
13211 \Fld@flags
13212 /H/P%
13213 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
13214 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13215 \ifx\Fld@bordercolor\relax\else 1\fi
13216 \space
13217 \else
13218 /MK<<%

```

```

13219 \ifnum\Fld@rotation=\z@
13220 \else
13221 /R \Fld@rotation
13222 \fi
13223 \ifx\Fld@bordercolor\relax
13224 \else
13225 /BC[\Fld@bordercolor]%
13226 \fi
13227 % /CA (Clear)
13228 % /AC (Done)
13229 >>%
13230 \fi
13231 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13232 /A<</S/ResetForm>>%
13233 \Fld@additionalactions
13234 }%
13235 \fi

13236 </pdfform>
13237 <*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`

```

13238 \def\phantomsection{%
13239 \Hy@MakeCurrentHrefAuto{section*}%
13240 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
13241 }
13242 </package>

```

48.1 Bookmarks

```
13243 <*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.

```
13244 \def\Hy@writebookmark#1#2#3#4#5{%
```

```

13245 % section number, text, label, level, file
13246 \ifx\WriteBookmarks\relax%
13247 \else
13248 \ifnum#4>\Hy@bookmarksdepth\relax
13249 \else
13250 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
13251 \fi
13252 \fi
13253 }
13254 \def\Hy@currentbookmarklevel{0}
13255 \def\Hy@numberline#1{#1 }
13256 \def\@@writetorep#1#2#3#4#5{%
13257 \begingroup
13258 \edef\Hy@tempa{#5}%
13259 \ifx\Hy@tempa\Hy@bookmarkstype
13260 \edef\Hy@level{#4}%
13261 \ifx\Hy@levelcheck Y%
13262 \@tempcnta\Hy@level\relax
13263 \advance\@tempcnta by -1 %
13264 \ifnum\Hy@currentbookmarklevel<\@tempcnta
13265 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
13266 \advance\@tempcnta by 1 %
13267 \Hy@Warning{%
13268 Difference (\the\@tempcnta) between bookmark levels is %
13269 greater \MessageBreak than one, level fixed%
13270 }%
13271 \@tempcnta\Hy@currentbookmarklevel
13272 \advance\@tempcnta by 1 %
13273 \edef\Hy@level{\the\@tempcnta}%
13274 \fi
13275 \else
13276 \global\let\Hy@levelcheck Y%
13277 \fi
13278 \global\let\Hy@currentbookmarklevel\Hy@level
13279 \@tempcnta\Hy@level\relax
13280 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
13281 \advance\@tempcnta by -1 %
13282 \edef\Hy@tempa{#3}%
13283 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
13284 \ifx\Hy@tempa\Hy@tempb
13285 \Hy@Warning{%
13286 The anchor of a bookmark and its parent's must not%
13287 \MessageBreak be the same. Added a new anchor%
13288 }%
13289 \phantomsection
13290 \fi
13291 \ifHy@bookmarksnumbered
13292 \let\numberline\Hy@numberline
13293 \let\booknumberline\Hy@numberline
13294 \let\partnumberline\Hy@numberline
13295 \let\chapternumberline\Hy@numberline
13296 \else
13297 \let\numberline\@gobble
13298 \let\booknumberline\@gobble
13299 \let\partnumberline\@gobble
13300 \let\chapternumberline\@gobble
13301 \fi

```

```

13302 \HyPsd@XeTeXBigCharstrue
13303 \pdfstringdef\Hy@tempa{#2}%
13304 \HyPsd@SanitizeForOutFile\Hy@tempa
13305 \if@filesw
13306 \stepcounter{bookmark@seq@number}%
13307 \ifundefined{@outlinefile}{%
13308 }{%
13309 \protected@write\@outlinefile{}{%
13310 \protect\BOOKMARK
13311 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
13312 {\Hy@tempa}{\Hy@tempb}%
13313 \@percentchar\space\thebookmark@seq@number
13314 }%
13315 }%
13316 \fi
13317 \fi
13318 \endgroup
13319 }
13320 \newcounter{bookmark@seq@number}

13321 \begingroup
13322 \lccode'('= '{%
13323 \lccode')='}%
13324 \lccode'1=\z@
13325 \lccode'2=\z@
13326 \lccode'3=\z@
13327 \lccode'5=\z@
13328 \lccode'7=\z@
13329 \lccode'\#=\z@
13330 \lccode'\='=\z@
13331 \lccode'\{=\z@
13332 \lccode'\}=\z@
13333 \lowercase{%
13334 \endgroup
13335 \def\HyPsd@SanitizeForOutFile#1{%
13336 \@onelevel@sanitize\Hy@tempa
13337 \escapechar'\%
13338 \edef\Hy@tempa{%
13339 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
13340 }%
13341 \edef\Hy@tempa{%
13342 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
13343 }%
13344 }%
13345 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
13346 #1%
13347 \ifx\#2\%
13348 \expandafter\ltx@gobble
13349 \else
13350 \expandafter\ltx@firstofone
13351 \fi
13352 {%
13353 \string\173%
13354 \HyPsd@SanitizeOut@BraceLeft#2\@nil
13355 }%
13356 }%
13357 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
13358 #1%

```

```

13359 \ifx\#2\%
13360 \expandafter\ltx@gobble
13361 \else
13362 \expandafter\ltx@firstofone
13363 \fi
13364 {%
13365 \string\175%
13366 \HyPsd@SanitizeOut@BraceRight#2\@nil
13367 }%
13368 }%
13369 }

```

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

```

13370 \newcommand{\currentpdfbookmark}{%
13371 \pdfbookmark[\Hy@currentbookmarklevel]%
13372 }
13373 \newcommand{\subpdfbookmark}{%
13374 \@tempcnta\Hy@currentbookmarklevel
13375 \Hy@StepCount\@tempcnta
13376 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13377 }
13378 \newcommand{\belowpdfbookmark}[2]{%
13379 \@tempcnta\Hy@currentbookmarklevel
13380 \Hy@StepCount\@tempcnta
13381 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13382 \advance\@tempcnta by -1 %
13383 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13384 }

```

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.

```

13385 \renewcommand\pdfbookmark[3][0]{%
13386 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
13387 \hyper@anchorstart{#3.#1}\hyper@anchorend
13388 }
13389 \def\BOOKMARK{%
13390 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
13391 }
13392 \def\@BOOKMARK[#1]{%
13393 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
13394 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfopdf` macros.

48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

13395 \RequirePackage{rerunfilecheck}[2009/12/10]
13396 \def\Hy@OutlineRerunCheck{%
13397 \RerunFileCheck{\jobname.out}{%
13398 \immediate\closeout\@outlinefile
13399 }{%
13400 Rerun to get outlines right\MessageBreak
13401 or use package ‘bookmark’%
13402 }%
13403 }

```

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.

13404 `*vtex`

13405 `\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.

```

13406 \begingroup
13407 \catcode'\'=12 %
13408 \ifnum\Hy@VTeXversion<650 %
13409 \catcode'\ "=12 %
13410 \gdef\hv@pdf@char#1#2#3{%
13411 \char
13412 \ifcase'#1#2#3 %
13413 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13414 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13415 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13416 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13417 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13418 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13419 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13420 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13421 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13422 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13423 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13424 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13425 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13426 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13427 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13428 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13429 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13430 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13431 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13432 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13433 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13434 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13435 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13436 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13437 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13438 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13439 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
13440 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13441 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13442 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13443 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13444 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
13445 \fi
13446 }%
13447 \else
13448 \gdef\hv@pdf@char{\char'}%
13449 \fi
13450 \endgroup

```

\@@BOOKMARK

```
13451 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13452   \expandafter\edef\csname @count@#3\endcsname{%
13453     \the\@serial@counter
13454   }%
13455   \edef\@mycount{\the\@serial@counter}%
13456   \Hy@StepCount\@serial@counter
13457   \edef\@parcount{%
13458     \expandafter\ifx\csname @count@#5\endcsname\relax
13459       0%
13460     \else
13461       \csname @count@#5\endcsname
13462     \fi
13463   }%
13464   \immediate\special{%
13465     !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13466     s=\ifx#2-c\else o\fi,t=#4%
13467   }%
13468 }
```

\ReadBookmarks

```
13469 \def\ReadBookmarks{%
13470   \begingroup
13471   \def\0{\hv@pdf@char 0}%
13472   \def\1{\hv@pdf@char 1}%
13473   \def\2{\hv@pdf@char 2}%
13474   \def\3{\hv@pdf@char 3}%
13475   \def\{({}%
13476   \def\)}{)%
13477   \def\do##1{%
13478     \ifnum\catcode'##1=\active
13479       \@makeother##1%
13480     \else
13481       \ifnum\catcode'##1=6 %
13482         \@makeother##1%
13483       \fi
13484     \fi
13485   }%
13486   \dospecials
13487   \Hy@safe@activetrue
13488   \InputIfFileExists{\jobname.out}{\}{}%
13489   \endgroup
13490   \ifx\WriteBookmarks\relax
13491   \else
13492     \if@filesw
13493       \newwrite\@outlinefile
13494       \Hy@OutlineRerunCheck
13495       \immediate\openout\@outlinefile=\jobname.out\relax
13496       \ifHy@typexml
13497         \immediate\write\@outlinefile{<relaxxml>\relax}%
13498       \fi
13499     \fi
13500   \fi
13501 }

13502 </vtex>
13503 <!*vtex>
```



```

13504 \def\ReadBookmarks{%
13505   \begingroup
13506   \def\do##1{%
13507     \ifnum\catcode'##1=\active
13508       \@makeother##1%
13509     \else
13510       \ifnum\catcode'##1=6 %
13511         \@makeother##1%
13512       \fi
13513     \fi
13514   }%
13515   \dospecials
13516   \Hy@safe@activetrue
13517   \escapechar='\%
13518   \def\@BOOKMARK[##1][##2]##3##4##5{%
13519     \calc@bm@number{##5}%
13520   }%
13521   \InputIfFileExists{\jobname.out}{\relax}{\relax}%
13522   \ifx\WriteBookmarks\relax
13523     \global\let\WriteBookmarks\relax
13524   \fi
13525   \def\@BOOKMARK[##1][##2]##3##4##5{%
13526     \def\Hy@temp{##4}%
13527   }%
13528   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13529   \Hy@OutlineName{\Hy@pstringName{##3}}%
13530   \check@bm@number{##3}%
13531   \expandafter\strip@prefix\meaning\Hy@temp
13532   \expandafter\strip@prefix\meaning\Hy@temp
13533   \expandafter\strip@prefix\meaning\Hy@temp
13534 }%
13535 \end{document}
13536 \pdfmark{%
13537   pdfmark=/OUT,%
13538   Count={##2\check@bm@number{##3}},%
13539   Dest={##3},%
13540   Title=\expandafter\strip@prefix\meaning\Hy@temp
13541 }%
13542 \end{document}
13543 \end{document}
13544 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13545 \pdfmark{%
13546   outline \ifHy@DvipdfmxOutlineOpen
13547     [%
13548     \ifnum##21>\z@
13549     \else
13550     -%
13551     \fi
13552     ] %
13553     \fi
13554     ##1<<%
13555     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13556     /A<<%
13557     /S/GoTo%
13558     /D(\Hy@pstringName)%
13559     >>%
13560     >>%

```

```

13561 }%
13562 </dvipdfm | xetex>
13563 }%
13564 {%
13565   \def\WriteBookmarks{0}%
13566   \InputIfFileExists{\jobname.out}{-}{-}%
13567 }%
13568 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
13569 \ifx\WriteBookmarks\relax
13570 \else
13571   \if@filesw
13572     \newwrite\@outlinefile
13573     \Hy@OutlineRerunCheck
13574     \immediate\openout\@outlinefile=\jobname.out\relax
13575     \ifHy@typexml
13576       \immediate\write\@outlinefile{<relaxxml>\relax}%
13577     \fi
13578   \fi
13579 \fi
13580 \endgroup
13581 }
13582 <*pdfTeX>
13583 \def\Hy@OutlineName#1#2#3#4{%
13584   \pdfoutline goto name{#2}count#3{#4}%
13585 }
13586 </pdfTeX>
13587 \def\check@bm@number#1{%
13588   \expandafter\ifx\csname B_#1\endcsname\relax
13589     0%
13590   \else
13591     \csname B_#1\endcsname
13592   \fi
13593 }
13594 \def\calc@bm@number#1{%
13595   \@tempcnta=\check@bm@number{#1}\relax
13596   \advance\@tempcnta by 1 %
13597   \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
13598 }
13599 </!vTeX>

13600 \ifHy@implicit
13601 \else
13602   \expandafter\endinput
13603 \fi

13604 </outlines>
13605 <*outlines | hypertex>

13606 \newlength\Hy@SectionHShift
13607 \def\Hy@SectionAnchorHref#1{%
13608   \ifx\protect\@typeset@protect
13609     \Hy@@@SectionAnchor{#1}%
13610   \fi
13611 }
13612 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
13613   \leavevmode
13614   \hbox to 0pt{%
13615     \kern-\Hy@SectionHShift
13616     \Hy@raisedlink{%

```

```

13617 \hyper@anchorstart{#1}\hyper@anchorend
13618 }%
13619 \hss
13620 }%
13621 }
13622 \let\H@old@ssect\@ssect
13623 \def\@ssect#1#2#3#4#5{%
13624 \Hy@MakeCurrentHrefAuto{section*}%
13625 \setlength{\Hy@SectionHShift}{#1}%
13626 \begingroup
13627 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13628 \toks\tw@\expandafter{%
13629 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13630 #5%
13631 }%
13632 \edef\x{\endgroup
13633 \the\toks@\the\toks\tw@}%
13634 }\x
13635 }
13636 \let\H@old@schapter\@schapter
13637 \def\@schapter#1{%
13638 \begingroup
13639 \let\@mkboth\@gobbletwo
13640 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13641 \Hy@raisedlink{%
13642 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13643 }%
13644 \endgroup
13645 \H@old@schapter{#1}%
13646 }

```

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:

```

13647 \ltx@ifundefined{@chapter}{-}{%
13648 \let\Hy@org@chapter\@chapter
13649 \def\@chapter{%
13650 \def\Hy@next{%
13651 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13652 \Hy@raisedlink{%
13653 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13654 }%
13655 }%
13656 \ifnum\c@secnumdepth>\m@ne
13657 \ltx@ifundefined{if@mainmatter}%
13658 \iftrue{\csname if@mainmatter\endcsname}%
13659 \let\Hy@next\relax
13660 \fi
13661 \fi
13662 \Hy@next
13663 \Hy@org@chapter
13664 }%
13665 }
13666 \let\H@old@part\@part
13667 \begingroup\expandafter\expandafter\expandafter\endgroup
13668 \expandafter\ifx\csname chapter\endcsname\relax
13669 \let\Hy@secnum@part\z@

```

```

13670 \else
13671   \let\Hy@secnum@part\m@ne
13672 \fi
13673 \def\@part{%
13674   \ifnum\Hy@secnum@part>\c@secnumdepth
13675     \phantomsection
13676   \fi
13677   \H@old@part
13678 }

13679 \let\H@old@spart\@spart
13680 \def\@spart#1{%
13681   \Hy@MakeCurrentHrefAuto{part*}%
13682   \Hy@raisedlink{%
13683     \hyper@anchorstart{\@currentHref}\hyper@anchorend
13684   }%
13685   \H@old@spart{#1}%
13686 }
13687 \let\H@old@sect\@sect
13688 \def\@sect#1#2#3#4#5#6[#7]#8{%
13689   \ifnum #2>\c@secnumdepth
13690     \expandafter\@firstoftwo
13691   \else
13692     \expandafter\@secondoftwo
13693   \fi
13694   {%
13695     \Hy@MakeCurrentHrefAuto{section*}%
13696     \setlength{\Hy@SectionHShift}{#3}%
13697     \begingroup
13698       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13699       \toks\tw@\expandafter{%
13700         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13701         #8%
13702       }%
13703       \edef\x{\endgroup
13704         \the\toks@{\the\toks\tw@}}%
13705       }\x
13706     }{%
13707       \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13708     }%
13709 }

13710 </outlines | hypertex>
13711 <*outlines>

13712 \expandafter\def\csname Parent-4\endcsname{}
13713 \expandafter\def\csname Parent-3\endcsname{}
13714 \expandafter\def\csname Parent-2\endcsname{}
13715 \expandafter\def\csname Parent-1\endcsname{}
13716 \expandafter\def\csname Parent0\endcsname{}
13717 \expandafter\def\csname Parent1\endcsname{}
13718 \expandafter\def\csname Parent2\endcsname{}
13719 \expandafter\def\csname Parent3\endcsname{}
13720 \expandafter\def\csname Parent4\endcsname{}

13721 </outlines>

```

49 Compatibility with koma-script classes

13722 <*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.

```
13723 \def\Hy@tempa{%
13724   \def\@addchap{##1}##2{%
13725     \typeout{##2}%
13726     \if@twoside
13727       \@mkboth{##1}{}%
13728     \else
13729       \@mkboth{}{##1}%
13730     \fi
13731     \addtocontents{lof}{\protect\addvspace{10\p@}}%
13732     \addtocontents{lot}{\protect\addvspace{10\p@}}%
13733     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13734     \Hy@raisedlink{%
13735       \hyper@anchorstart{\@currentHref}\hyper@anchorend
13736     }%
13737     \if@twocolumn
13738       \@topnewpage[\@makeschapterhead{##2}]%
13739     \else
13740       \@makeschapterhead{##2}%
13741       \@afterheading
13742     \fi
13743     \addcontentsline{toc}{chapter}{##1}%
13744   }%
13745 }
13746 \ifclassloaded{scrbook}{%
13747   \ifclasslater{scrbook}{2001/01/01}{%
13748     \let\Hy@tempa\@empty
13749   }{}%
13750 }{%
13751   \ifclassloaded{scrreprt}{%
13752     \ifclasslater{scrreprt}{2001/01/01}{%
13753       \let\Hy@tempa\@empty
13754     }{}%
13755   }{%
13756     \let\Hy@tempa\@empty
13757   }%
13758 }%
13759 \Hy@tempa
13760 </outlines | hypertex)
```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

50.1 PD1 encoding

```
13761 <*pd1enc)
13762 \DeclareFontEncoding{PD1}{}{}

Accents
13763 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
13764 \DeclareTextAccent{\'}{PD1}{\textacute}
13765 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
```

```

13766 \DeclareTextAccent{\~}{PD1}{\texttilde}
13767 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
13768 \DeclareTextAccent{\r}{PD1}{\textring}
13769 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13770 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13771 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13772 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
13773 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13774 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13775 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textasciigrave}
13776 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13777 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
13778 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
13779 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
13780 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13781 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13782 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13783 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13784 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13785 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13786 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13787 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
13788 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13789 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
13790 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
13791 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
13792 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13793 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13794 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13795 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13796 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13797 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13798 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13799 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}{#1}}
13800 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}{#1}}
13801 \DeclareTextCommand{\newtie}{PD1}[1]{%
13802 \TextSymbolUnavailable{\newtie{#1}}{#1}}
13803 }

```

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

```

13804 % U+0009 (CHARACTER TABULATION)
13805 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13806 % U+000A (LINE FEED)
13807 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13808 % U+000D (CARRIAGE RETURN)
13809 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

13810 % U+02D8 BREVE; breve
13811 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13812 % U+02C7 CARON; caron
13813 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13814 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13815 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13816 % U+02D9 DOT ABOVE; dotaccent
13817 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13818 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13819 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13820 % U+02DB OGONEK; ogonek

```

13821 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13822 % U+02DA RING ABOVE; ring
13823 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
13824 % U+02DC SMALL TILDE; ilde, *tilde
13825 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC
\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
13826 % U+0022 QUOTATION MARK; quotedbl
13827 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
13828 % U+0023 NUMBER SIGN; numbersign
13829 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
13830 % U+0024 DOLLAR SIGN; dollar
13831 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
13832 % U+0025 PERCENT SIGN; percent
13833 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
13834 % U+0026 AMPERSAND; ampersand
13835 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
\047: U+0027 APOSTROPHE; quotesingle

13836 % U+0028 LEFT PARENTHESIS; parenleft
13837 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
13838 % U+0029 RIGHT PARENTHESIS; parenright
13839 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
13840 % U+002E FULL STOP; period
13841 \DeclareTextCommand{\textdotbelow}{PD1}{\056}% \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
13842 % U+003C LESS-THAN SIGN; less
13843 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
\075: U+003D EQUALS SIGN; equal
13844 % U+003E GREATER-THAN SIGN; greater
13845 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E
\077: U+003F QUESTION MARK; question
\100: U+0040 COMMERCIAL AT; at
\101: U+0041 LATIN CAPITAL LETTER A; A
...
\132: U+005A LATIN CAPITAL LETTER Z; Z
\133: U+005B LEFT SQUARE BRACKET; bracketleft
13846 % U+005C REVERSE SOLIDUS; backslash
13847 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
\135: U+005D RIGHT SQUARE BRACKET; bracketright
13848 % U+005E CIRCUMFLEX ACCENT; asciicircum
13849 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
13850 % U+005F LOW LINE; underscore
13851 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F

13852 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 13853 % U+0060 GRAVE ACCENT; grave
 13854 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 13855 % U+0069 LATIN SMALL LETTER I; i
 13856 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 13857 % U+007B LEFT CURLY BRACKET; braceleft
 13858 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 13859 % U+007C VERTICAL LINE; *bar, verticalbar
 13860 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 13861 % U+007D RIGHT CURLY BRACKET; braceright
 13862 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 13863 % U+007E TILDE; asciitilde
 13864 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 13865 % U+2022 BULLET; bullet
 13866 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 13867 % U+2020 DAGGER; dagger
 13868 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 13869 % U+2021 DOUBLE DAGGER; daggerdbl
 13870 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 13871 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 13872 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 13873 % U+2014 EM DASH; emdash
 13874 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 13875 % U+2013 EN DASH; endash
 13876 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 13877 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 13878 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 13879 % U+2044 FRACTION SLASH; fraction
 13880 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 13881 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 13882 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 13883 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 lingright
 13884 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 13885 % U+2212 MINUS SIGN; minus
 13886 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 13887 % U+2030 PER MILLE SIGN; perthousand
 13888 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 13889 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 13890 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 13891 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 13892 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 13893 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 13894 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 13895 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 13896 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 13897 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 13898 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019

13899 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 13900 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 13901 % U+2122 TRADE MARK SIGN; trademark
 13902 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 13903 % U+FB01 LATIN SMALL LIGATURE FI; fi
 13904 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 13905 % U+FB02 LATIN SMALL LIGATURE FL; fl
 13906 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 13907 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 13908 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 13909 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 13910 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 13911 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 13912 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 13913 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 13914 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 13915 \DeclareTextCommand{\IJ}{PD1}{\230}
 13916 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 13917 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 13918 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 13919 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 13920 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 13921 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 13922 % U+0153 LATIN SMALL LIGATURE OE; oe
 13923 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 13924 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 13925 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 13926 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 13927 \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.
 13928 % U+20AC EURO SIGN; *Euro, euro
 13929 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 13930 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 13931 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 13932 % U+00A2 CENT SIGN; cent
 13933 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 13934 % U+00A3 POUND SIGN; sterling
 13935 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 13936 % U+00A4 CURRENCY SIGN; currency
 13937 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 13938 % U+00A5 YEN SIGN; yen
 13939 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 13940 % U+00A6 BROKEN BAR; brokenbar
 13941 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 13942 % U+00A7 SECTION SIGN; section
 13943 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 13944 % U+00A8 DIAERESIS; dieresis
 13945 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 13946 % U+00A9 COPYRIGHT SIGN; copyright
 13947 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 13948 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 13949 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 13950 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 13951 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 13952 % U+00AC NOT SIGN; logicalnot

13953 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
13954 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
13955 % U+00AE REGISTERED SIGN; registered
13956 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
13957 % U+00AF MACRON; *macron, overscore
13958 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
13959 % U+00B0 DEGREE SIGN; degree
13960 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
13961 % U+00B1 PLUS-MINUS SIGN; plusminus
13962 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
13963 % U+00B2 SUPERSCRIPT TWO; twosuperior
13964 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2
13965 % U+00B3 SUPERSCRIPT THREE; threesuperior
13966 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3
13967 % U+00B4 ACUTE ACCENT; acute
13968 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
13969 % U+00B5 MICRO SIGN; mu, mu1
13970 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
13971 % U+00B6 PILCROW SIGN; paragraph
13972 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
13973 % U+00B7 MIDDLE DOT; middot, *periodcentered
13974 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
13975 % U+00B8 CEDILLA; cedilla
13976 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
13977 % U+00B9 SUPERSCRIPT ONE; onesuperior
13978 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9
13979 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
13980 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
13981 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
motright
13982 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
13983 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
13984 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
13985 % U+00BD VULGAR FRACTION ONE HALF; onehalf
13986 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
13987 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
13988 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
13989 % U+00BF INVERTED QUESTION MARK; questiondown
13990 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
13991 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
13992 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
13993 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
13994 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
13995 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
13996 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
13997 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
13998 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
13999 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14000 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14001 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14002 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14003 % U+00C6 LATIN CAPITAL LETTER AE; AE
14004 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14005 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14006 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14007 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave

14008 \DeclareTextCompositeCommand{\'}{PD1}{E}{\310}% U+00C8
14009 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14010 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14011 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14012 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14013 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14014 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14015 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14016 \DeclareTextCompositeCommand{\'}{PD1}{I}{\314}% U+00CC
14017 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14018 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14019 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14020 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14021 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14022 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14023 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14024 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14025 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14026 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14027 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14028 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14029 \DeclareTextCompositeCommand{\'}{PD1}{O}{\322}% U+00D2
14030 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14031 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14032 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14033 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14034 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14035 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14036 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14037 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14038 % U+00D7 MULTIPLICATION SIGN; multiply
14039 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14040 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14041 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14042 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14043 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9
14044 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14045 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14046 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14047 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14048 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14049 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14050 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14051 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14052 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14053 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14054 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14055 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14056 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14057 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0
14058 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14059 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14060 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14061 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14062 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14063 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14064 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis

14065 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14066 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14067 \DeclareTextCompositeCommand{r}{PD1}{a}{\345}% U+00E5
14068 % U+00E6 LATIN SMALL LETTER AE; ae
14069 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14070 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14071 \DeclareTextCompositeCommand{c}{PD1}{c}{\347}% U+00E7
14072 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14073 \DeclareTextCompositeCommand{'}{PD1}{e}{\350}% U+00E8
14074 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14075 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9
14076 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14077 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA
14078 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14079 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
14080 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14081 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
14082 \DeclareTextCompositeCommand{'}{PD1}{i}{\354}% U+00EC
14083 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14084 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14085 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14086 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14087 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14088 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14089 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14090 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14091 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14092 % U+00F0 LATIN SMALL LETTER ETH; eth
14093 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14094 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14095 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1
14096 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14097 \DeclareTextCompositeCommand{'}{PD1}{o}{\362}% U+00F2
14098 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14099 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3
14100 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14101 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4
14102 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14103 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5
14104 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14105 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
14106 % U+00F7 DIVISION SIGN; divide
14107 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14108 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14109 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14110 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14111 \DeclareTextCompositeCommand{'}{PD1}{u}{\371}% U+00F9
14112 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14113 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA
14114 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14115 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB
14116 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14117 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
14118 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14119 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
14120 % U+00FE LATIN SMALL LETTER THORN; thorn
14121 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE

```

14122 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14123 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14124 \DeclareTextCommand{ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

14125 \DeclareTextCommand{SS}{PD1}{SS}
14126 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

14127 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
14128 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
14129 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
14130 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
14131 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
14132 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
14133 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
14134 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

14135 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
14136 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
14137 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
14138 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
14139 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
14140 \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).

```

14141 \DeclareTextCompositeCommand{k}{PD1}{a}{a}% aogonek
14142 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
14143 \DeclareTextCompositeCommand{k}{PD1}{e}{e}% eogonek
14144 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
14145 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
14146 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
14147 \DeclareTextCompositeCommand{.}{PD1}{z}{z}% zdot
14148 \DeclareTextCompositeCommand{k}{PD1}{A}{A}% Aogonek
14149 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
14150 \DeclareTextCompositeCommand{k}{PD1}{E}{E}% Eogonek
14151 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
14152 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
14153 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
14154 \DeclareTextCompositeCommand{.}{PD1}{Z}{Z}% Zdot
14155 </pd1enc>

```

50.2 PU encoding

```

14156 <*puenc>
14157 \DeclareFontEncoding{PU}{}{}

```

50.2.1 NFSS2 accents

```

14158 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
14159 \DeclareTextCommand{'}{PU}[1]{\#1\83\000}% U+0300
14160 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
14161 \DeclareTextCommand{'}{PU}[1]{\#1\83\001}% U+0301
14162 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
14163 \DeclareTextCommand{'}{PU}[1]{\#1\83\002}% U+0302
14164 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
14165 \DeclareTextCommand{'}{PU}[1]{\#1\83\003}% U+0303
14166 % U+0304 COMBINING MACRON; macroncmb

```

```

14167 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
14168 % U+0306 COMBINING BREVE; brevecmb
14169 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
14170 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
14171 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
14172 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
14173 % U+0308 COMBINING DIAERESIS; dieresiscmb
14174 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
14175 % U+030A COMBINING RING ABOVE; ringcmb
14176 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
14177 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
14178 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
14179 % U+030C COMBINING CARON; caroncmb
14180 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
14181 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
14182 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
14183 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
14184 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
14185 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
14186 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
14187 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
14188 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
14189 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
14190 % U+0327 COMBINING CEDILLA; cedillacmb
14191 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
14192 % U+0328 COMBINING OGONEK; ogonekcmb
14193 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
14194 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
14195 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
14196 % U+20DD COMBINING ENCLOSING CIRCLE
14197 \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.

```

14198 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
14199 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
14200 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
14201 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
14202 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
14203 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
14204 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
14205 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
14206 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
14207 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
14208 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
14209 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
14210 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
14211 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
14212 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
14213 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
14214 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
14215 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
14216 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
14217 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
14218 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
14219 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
14220 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
14221 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}

```

```

14222 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
14223 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
14224 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
14225 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
14226 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
14227 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
14228 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
14229 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
14230 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
14231 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
14232 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
14233 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
14234 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
14235 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

14236 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
14237 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
14238 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
14239 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
14240 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
14241 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
14242 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\^{#1}}
14243 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
14244 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
14245 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
14246 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
14247 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
14248 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
14249 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
14250 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

14251 % U+0009 (CHARACTER TABULATION)
14252 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
14253 % U+000A (LINE FEED)
14254 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
14255 % U+000D (CARRIAGE RETURN)
14256 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

14257 % U+0022 QUOTATION MARK; quotedbl
14258 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
14259 % U+0023 NUMBER SIGN; numbersign
14260 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
14261 % U+0024 DOLLAR SIGN; dollar
14262 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
14263 % U+0025 PERCENT SIGN; percent
14264 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
14265 % U+0026 AMPERSAND; ampersand
14266 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
14267 % U+0027 APOSTROPHE; quotesingle
14268 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
14269 % U+0028 LEFT PARENTHESIS; parenleft
14270 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
14271 % U+0029 RIGHT PARENTHESIS; parenright

```

14272 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 14273 % U+002A ASTERISK; asterisk
 14274 \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
 14275 % U+003C LESS-THAN SIGN; less
 14276 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
 \80\075: U+003D EQUALS SIGN; equal
 14277 % U+003E GREATER-THAN SIGN; greater
 14278 \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
 14279 % U+005C REVERSE SOLIDUS; backslash
 14280 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright
 14281 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14282 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
 14283 % U+005F LOW LINE; underscore
 14284 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 14285 % U+0060 GRAVE ACCENT; grave
 14286 \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
 14287 % U+0069 LATIN SMALL LETTER I; i
 14288 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
 14289 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
 \80\152: U+006A LATIN SMALL LETTER J; j
 ...
 \80\172: U+007A LATIN SMALL LETTER Z; z
 14290 % U+007B LEFT CURLY BRACKET; braceleft
 14291 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 14292 % U+007C VERTICAL LINE; *bar, verticalbar
 14293 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 14294 % U+007D RIGHT CURLY BRACKET; braceright
 14295 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 14296 % U+007E TILDE; asciitilde
 14297 \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
14298 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
14299 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
14300 % U+00A2 CENT SIGN; cent
14301 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
14302 % U+00A3 POUND SIGN; sterling
14303 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
14304 % U+00A4 CURRENCY SIGN; currency
14305 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
14306 % U+00A5 YEN SIGN; yen
14307 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
14308 % U+00A6 BROKEN BAR; brokenbar
14309 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
14310 % U+00A7 SECTION SIGN; section
14311 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
14312 % U+00A8 DIAERESIS; diaeresis
14313 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
14314 % U+00A9 COPYRIGHT SIGN; copyright
14315 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9
14316 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14317 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
14318 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
14319 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
14320 % U+00AC NOT SIGN; logicalnot
14321 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
14322 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
14323 % U+00AE REGISTERED SIGN; registered
14324 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
14325 % U+00AF MACRON; *macron, overscore
14326 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
14327 % U+00B0 DEGREE SIGN; degree
14328 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
14329 % U+00B1 PLUS-MINUS SIGN; plusminus
14330 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
14331 % U+00B2 SUPERScript TWO; twosuperior
14332 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2
14333 % U+00B3 SUPERScript THREE; threesuperior
14334 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3
14335 % U+00B4 ACUTE ACCENT; acute
14336 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
14337 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
14338 % U+00B5 MICRO SIGN; mu, mul
14339 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
14340 % U+00B6 PILCROW SIGN; paragraph
14341 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
14342 % U+00B7 MIDDLE DOT; middot, *periodcentered
14343 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
14344 % U+00B8 CEDILLA; cedilla
14345 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
14346 % U+00B9 SUPERScript ONE; onesuperior
14347 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9
14348 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14349 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA

14350 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 14351 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 14352 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 14353 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 14354 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 14355 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 14356 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 14357 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
 14358 % U+00BF INVERTED QUESTION MARK; questiondown
 14359 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
 14360 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
 14361 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 14362 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
 14363 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
 14364 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
 14365 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
 14366 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
 14367 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 14368 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
 14369 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
 14370 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
 14371 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
 14372 % U+00C6 LATIN CAPITAL LETTER AE; AE
 14373 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
 14374 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
 14375 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
 14376 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
 14377 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
 14378 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
 14379 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 14380 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
 14381 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
 14382 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
 14383 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
 14384 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
 14385 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
 14386 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
 14387 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 14388 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
 14389 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
 14390 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
 14391 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
 14392 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
 14393 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
 14394 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
 14395 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
 14396 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
 14397 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
 14398 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
 14399 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
 14400 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
 14401 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
 14402 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
 14403 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
 14404 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
 14405 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6

14406 % U+00D7 MULTIPLICATION SIGN; multiply
14407 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
14408 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14409 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
14410 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14411 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
14412 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14413 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
14414 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14415 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
14416 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14417 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
14418 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14419 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
14420 % U+00DE LATIN CAPITAL LETTER THORN; Thorn
14421 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
14422 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14423 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
14424 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14425 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
14426 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14427 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
14428 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14429 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
14430 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14431 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
14432 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14433 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
14434 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14435 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
14436 % U+00E6 LATIN SMALL LETTER AE; ae
14437 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
14438 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14439 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
14440 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14441 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
14442 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14443 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
14444 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14445 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
14446 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14447 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
14448 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14449 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
14450 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
14451 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14452 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
14453 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\355}% U+00ED
14454 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14455 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
14456 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
14457 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14458 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
14459 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
14460 % U+00F0 LATIN SMALL LETTER ETH; eth
14461 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
14462 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde

14463 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
 14464 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 14465 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 14466 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 14467 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 14468 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 14469 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
 14470 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 14471 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 14472 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 14473 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 14474 % U+00F7 DIVISION SIGN; divide
 14475 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 14476 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 14477 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 14478 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 14479 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 14480 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 14481 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 14482 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 14483 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 14484 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 14485 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 14486 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 14487 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 14488 % U+00FE LATIN SMALL LETTER THORN; thorn
 14489 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 14490 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 14491 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

14492 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 14493 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 14494 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 14495 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 14496 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 14497 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 14498 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 14499 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 14500 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 14501 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 14502 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 14503 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 14504 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 14505 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 14506 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 14507 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 14508 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 14509 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 14510 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 14511 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 14512 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
 14513 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 14514 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 14515 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 14516 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron

14517 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
14518 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
14519 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
14520 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
14521 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
14522 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
14523 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
14524 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
14525 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
14526 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron
14527 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
14528 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
14529 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
14530 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
14531 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
14532 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
14533 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
14534 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
14535 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
14536 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
14537 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
14538 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
14539 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
14540 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
14541 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
14542 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
14543 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
14544 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
14545 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
14546 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
14547 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
14548 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
14549 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
14550 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
14551 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
14552 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
14553 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
14554 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
14555 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
14556 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
14557 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
14558 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
14559 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
14560 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-
cent
14561 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
14562 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
14563 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
14564 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
14565 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
14566 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
14567 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
14568 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
14569 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
14570 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar
14571 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127
14572 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde

14573 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\050}% U+0128
14574 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
14575 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}% U+0129
14576 \DeclareTextCompositeCommand{\-}{PU}{i}{\81\051}% U+0129
14577 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
14578 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
14579 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
14580 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14581 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
14582 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
14583 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
14584 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
14585 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14586 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
14587 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
14588 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
14589 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
14590 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14591 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
14592 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
14593 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
14594 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14595 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
14596 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
14597 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
14598 % U+0133 LATIN SMALL LIGATURE IJ; ij
14599 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
14600 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
14601 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
14602 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
14603 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14604 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
14605 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
14606 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
14607 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
14608 \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.

14609 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
14610 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
14611 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
14612 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
14613 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
14614 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
14615 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
14616 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
14617 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
14618 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
14619 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
14620 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
14621 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
14622 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘I’ with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.

14623 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
14624 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
14625 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
14626 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
14627 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14628 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
14629 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14630 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
14631 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
14632 \DeclareTextCompositeCommand{\' }{PU}{N}{\81\103}% U+0143
14633 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
14634 \DeclareTextCompositeCommand{\' }{PU}{n}{\81\104}% U+0144
14635 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
14636 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
14637 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
14638 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
14639 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
14640 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
14641 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
14642 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
14643 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
14644 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
14645 % U+014A LATIN CAPITAL LETTER ENG; Eng
14646 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
14647 % U+014B LATIN SMALL LETTER ENG; eng
14648 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
14649 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
14650 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
14651 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
14652 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
14653 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
14654 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
14655 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
14656 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
14657 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacut
14658 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
14659 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacut, ohungarumlaut
14660 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
14661 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14662 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
14663 % U+0153 LATIN SMALL LIGATURE OE; oe
14664 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
14665 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
14666 \DeclareTextCompositeCommand{\' }{PU}{R}{\81\124}% U+0154
14667 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
14668 \DeclareTextCompositeCommand{\' }{PU}{r}{\81\125}% U+0155
14669 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
14670 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
14671 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
14672 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157

14673 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
14674 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
14675 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
14676 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
14677 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
14678 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
14679 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
14680 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
14681 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
14682 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
14683 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
14684 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
14685 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
14686 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
14687 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
14688 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
14689 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14690 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
14691 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14692 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
14693 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
14694 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
14695 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
14696 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
14697 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
14698 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
14699 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
14700 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
14701 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
14702 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
14703 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
14704 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
14705 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
14706 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
14707 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
14708 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
14709 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
14710 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
14711 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
14712 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
14713 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
14714 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
14715 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
14716 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
14717 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
14718 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
14719 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
14720 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
14721 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
cute, Uhungarumlaut
14722 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
14723 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhun-
garumlaut
14724 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
14725 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
14726 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172

14727 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 14728 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 14729 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 14730 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 14731 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 14732 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 14733 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 14734 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 14735 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 14736 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 14737 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14738 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 14739 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 14740 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 14741 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 14742 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 14743 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 14744 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 14745 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 14746 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 14747 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14748 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 14749 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14750 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 14751 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 14752 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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

14753 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14754 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 14755 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 14756 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 14757 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 14758 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 14759 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 14760 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 14761 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 14762 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 14763 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 14764 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 14765 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 14766 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 14767 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 14768 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 14769 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 14770 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 14771 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 14772 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 14773 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 14774 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 14775 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
 14776 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
 14777 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
 14778 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
 14779 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
 14780 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
 14781 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8

14782 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
 14783 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
 14784 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
 14785 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
 14786 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
 14787 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
 14788 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
 14789 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 14790 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
 14791 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
 14792 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
 14793 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
 14794 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
 14795 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
 14796 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
 14797 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
 14798 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
 14799 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
 14800 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC
 14801 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
 14802 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD
 14803 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; *Oslasha-
 cute, Ostrokeacut
 14804 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE
 14805 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; *oslasha-
 cute, ostrokeacute
 14806 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF
 14807 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
 14808 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
 14809 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
 14810 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
 14811 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
 14812 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
 14813 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
 14814 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
 14815 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
 14816 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
 14817 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
 14818 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 14819 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
 14820 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
 14821 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
 14822 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 14823 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 14824 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 14825 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 14826 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 14827 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 14828 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 14829 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 14830 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 14831 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 14832 % U+021E LATIN CAPITAL LETTER H WITH CARON
 14833 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 14834 % U+021F LATIN SMALL LETTER H WITH CARON
 14835 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 14836 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE

14837 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 14838 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 14839 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 14840 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 14841 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 14842 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 14843 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 14844 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 14845 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 14846 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 14847 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 14848 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 14849 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 14850 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 14851 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 14852 % U+0237 LATIN SMALL LETTER DOTLESS J
 14853 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

14854 % U+02C7 CARON; caron
 14855 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 14856 % U+02D8 BREVE; breve
 14857 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 14858 % U+02D9 DOT ABOVE; dotaccent
 14859 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 14860 % U+02DA RING ABOVE; ring
 14861 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 14862 % U+02DB OGONEK; ogonek
 14863 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 14864 % U+02DC SMALL TILDE; ilde, *tilde
 14865 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 14866 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 14867 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 14868 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD
 14869 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 14870 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 14871 % U+02F7 MODIFIER LETTER LOW TILDE
 14872 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

14873 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 14874 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 14875 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 14876 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 14877 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 14878 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 14879 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 14880 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 14881 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 14882 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

14883 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 14884 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 14885 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 14886 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 14887 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos

14888 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
14889 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
14890 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
14891 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
14892 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
14893 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
14894 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
14895 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
crontonos
14896 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
14897 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos
14898 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
14899 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
14900 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
14901 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; io-
tadiesisistonos
14902 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
14903 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
14904 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
14905 % U+0392 GREEK CAPITAL LETTER BETA; Beta
14906 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
14907 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma
14908 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393
14909 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta
14910 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394
14911 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
14912 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
14913 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
14914 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
14915 % U+0397 GREEK CAPITAL LETTER ETA; Eta
14916 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
14917 % U+0398 GREEK CAPITAL LETTER THETA; Theta
14918 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398
14919 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
14920 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
14921 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
14922 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
14923 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda
14924 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B
14925 % U+039C GREEK CAPITAL LETTER MU; Mu
14926 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
14927 % U+039D GREEK CAPITAL LETTER NU; Nu
14928 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
14929 % U+039E GREEK CAPITAL LETTER XI; Xi
14930 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E
14931 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
14932 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
14933 % U+03A0 GREEK CAPITAL LETTER PI; Pi
14934 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0
14935 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
14936 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
14937 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma
14938 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3
14939 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
14940 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
14941 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon
14942 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5

14943 % U+03A6 GREEK CAPITAL LETTER PHI; Phi
 14944 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6
 14945 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
 14946 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
 14947 % U+03A8 GREEK CAPITAL LETTER PSI; Psi
 14948 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8
 14949 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega
 14950 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9
 14951 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
 14952 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
 14953 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
 14954 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
 silondieresis
 14955 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
 14956 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
 14957 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC
 14958 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
 14959 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
 14960 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
 14961 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
 14962 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
 14963 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
 14964 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-
 silondieresis
 14965 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
 14966 % U+03B1 GREEK SMALL LETTER ALPHA; alpha
 14967 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1
 14968 % U+03B2 GREEK SMALL LETTER BETA; beta
 14969 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2
 14970 % U+03B3 GREEK SMALL LETTER GAMMA; gamma
 14971 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3
 14972 % U+03B4 GREEK SMALL LETTER DELTA; delta
 14973 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4
 14974 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon
 14975 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5
 14976 % U+03B6 GREEK SMALL LETTER ZETA; zeta
 14977 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6
 14978 % U+03B7 GREEK SMALL LETTER ETA; eta
 14979 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7
 14980 % U+03B8 GREEK SMALL LETTER THETA; theta
 14981 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8
 14982 % U+03B9 GREEK SMALL LETTER IOTA; iota
 14983 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9
 14984 % U+03BA GREEK SMALL LETTER KAPPA; kappa
 14985 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA
 14986 % U+03BB GREEK SMALL LETTER LAMDA; lambda
 14987 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB
 14988 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu
 14989 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC
 14990 % U+03BD GREEK SMALL LETTER NU; nu
 14991 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD
 14992 % U+03BE GREEK SMALL LETTER XI; xi
 14993 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE
 14994 % U+03BF GREEK SMALL LETTER OMICRON; omicron
 14995 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
 14996 % U+03C0 GREEK SMALL LETTER PI; pi
 14997 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0

14998 % U+03C1 GREEK SMALL LETTER RHO; rho
 14999 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1
 15000 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
 15001 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2
 15002 % U+03C3 GREEK SMALL LETTER SIGMA; sigma
 15003 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3
 15004 % U+03C4 GREEK SMALL LETTER TAU; tau
 15005 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
 15006 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon
 15007 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
 15008 % U+03C6 GREEK SMALL LETTER PHI; phi
 15009 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
 15010 % U+03C7 GREEK SMALL LETTER CHI; chi
 15011 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
 15012 % U+03C8 GREEK SMALL LETTER PSI; psi
 15013 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
 15014 % U+03C9 GREEK SMALL LETTER OMEGA; omega
 15015 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
 15016 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iodadieresis
 15017 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
 15018 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
 silondieresis
 15019 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
 15020 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
 15021 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
 15022 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
 15023 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
 15024 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
 15025 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
 15026 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
 15027 % U+03DA GREEK LETTER STIGMA; Stigmagreek
 15028 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
 15029 % U+03DB GREEK SMALL LETTER STIGMA
 15030 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
 15031 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
 15032 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
 15033 % U+03DD GREEK SMALL LETTER DIGAMMA
 15034 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
 15035 % U+03DE GREEK LETTER KOPPA; Koppagreek
 15036 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
 15037 % U+03DF GREEK SMALL LETTER KOPPA
 15038 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
 15039 % U+03E0 GREEK LETTER SAMPI; Sampigreek
 15040 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
 15041 % U+03E1 GREEK SMALL LETTER SAMPI
 15042 \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.

15043 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
 15044 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
 15045 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
 15046 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
 15047 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
 15048 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
 15049 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402

15050 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
 15051 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
 15052 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
 15053 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
 15054 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
 15055 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
 15056 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
 15057 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
 15058 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
 15059 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
 15060 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
 15061 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
 15062 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
 15063 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
 15064 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
 15065 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
 15066 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
 15067 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
 15068 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
 15069 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
 15070 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
 15071 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
 15072 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
 15073 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
 15074 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
 15075 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
 15076 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
 15077 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
 15078 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
 15079 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
 15080 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
 15081 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
 15082 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
 15083 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
 15084 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
 15085 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
 15086 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
 15087 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
 15088 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
 15089 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
 15090 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
 15091 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
 15092 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
 15093 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
 15094 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
 15095 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
 15096 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
 15097 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
 15098 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
 15099 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
 15100 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
 15101 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
 15102 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
 15103 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 15104 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 15105 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031

15106 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
15107 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
15108 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
15109 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
15110 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
15111 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
15112 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
15113 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
15114 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
15115 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
15116 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
15117 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
15118 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
15119 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
15120 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
15121 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
15122 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
15123 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
15124 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
15125 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
15126 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
15127 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
15128 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
15129 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
15130 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
15131 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, *afii10044
15132 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
15133 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
15134 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
15135 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, *afii10046
15136 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
15137 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
15138 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
15139 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
15140 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
15141 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
15142 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
15143 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
15144 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
15145 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
15146 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
15147 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
15148 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
15149 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
15150 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
15151 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
15152 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
15153 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
15154 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
15155 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
15156 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
15157 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
15158 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
15159 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
15160 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
15161 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
15162 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439

15163 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
15164 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
15165 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
15166 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
15167 \DeclareTextCommand{\cyrI}{PU}{\84\073}% U+043B
15168 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
15169 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
15170 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
15171 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
15172 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
15173 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
15174 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
15175 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
15176 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
15177 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
15178 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
15179 \DeclareTextCommand{\cyrS}{PU}{\84\101}% U+0441
15180 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
15181 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
15182 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
15183 \DeclareTextCommand{\cyrU}{PU}{\84\103}% U+0443
15184 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
15185 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
15186 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
15187 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
15188 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
15189 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
15190 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
15191 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
15192 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
15193 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
15194 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
15195 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
15196 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
15197 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
15198 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
15199 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
15200 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
15201 \DeclareTextCommand{\cyrSftsn}{PU}{\84\114}% U+044C
15202 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
15203 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
15204 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
15205 \DeclareTextCommand{\cyrYU}{PU}{\84\116}% U+044E
15206 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
15207 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
15208 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
15209 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
15210 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
15211 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
15212 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
15213 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
15214 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
15215 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
15216 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
15217 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
15218 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
15219 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic

15220 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
15221 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; *afii10103, icyril-
lic
15222 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
15223 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
15224 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
15225 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
15226 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
15227 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
15228 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
15229 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
15230 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
15231 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
15232 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
15233 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
15234 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
15235 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
15236 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
15237 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
15238 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
15239 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
15240 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
15241 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
15242 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
15243 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
15244 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
15245 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
15246 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
15247 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
15248 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
15249 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
15250 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
15251 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
15252 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
15253 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
15254 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
15255 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
15256 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
15257 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
15258 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
15259 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-
tifiedcyrillic
15260 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
15261 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
fiedcyrillic
15262 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
15263 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
15264 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
15265 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
15266 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
15267 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
15268 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
15269 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-
lic
15270 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
15271 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic

15272 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 15273 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 15274 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 15275 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 15276 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 15277 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 15278 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 15279 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 15280 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 15281 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 15282 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 15283 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 15284 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 15285 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 15286 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 15287 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; Izhitsadblgravecyrillic
 15288 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 15289 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-
 CENT; izhitsadblgravecyrillic
 15290 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 15291 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 15292 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 15293 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 15294 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 15295 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
 lic
 15296 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 15297 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 15298 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 15299 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 15300 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 15301 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 15302 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 15303 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 15304 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 15305 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 15306 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 15307 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 15308 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 15309 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 15310 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 15311 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 15312 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-
 licmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-
 cyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-
 licmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN

15313 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 15314 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 15315 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 15316 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 15317 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 15318 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 15319 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 15320 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 15321 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 15322 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 15323 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 15324 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 15325 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 15326 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 15327 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 15328 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 15329 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 15330 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 15331 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 15332 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 15333 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-
 dlehookcyrillic
 15334 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 15335 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-
 dlehookcyrillic
 15336 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 15337 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-
 dercyrillic
 15338 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 15339 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-
 dercyrillic
 15340 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 15341 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 15342 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 15343 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 15344 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 15345 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
 15346 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 15347 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 15348 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 15349 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescender-
 cyrillic
 15350 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 15351 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-
 ticalstrokecyrillic
 15352 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 15353 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-
 ticalstrokecyrillic
 15354 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 15355 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 15356 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E

15357 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 15358 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 15359 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 15360 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 15361 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 15362 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 15363 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 15364 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 15365 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 15366 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 15367 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 15368 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 15369 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 15370 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 15371 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 15372 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 15373 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 15374 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 15375 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 15376 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 15377 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 15378 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 15379 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 15380 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 15381 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 15382 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 15383 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 15384 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 15385 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 15386 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 15387 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 15388 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
 15389 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 15390 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 15391 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 15392 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
 15393 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 15394 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 15395 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 15396 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
 15397 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic
 15398 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 15399 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 15400 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3

15401 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 15402 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 15403 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 15404 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 15405 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic
 15406 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 15407 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 15408 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 15409 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-
 erticalstrokecyrillic
 15410 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 15411 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-
 erticalstrokecyrillic
 15412 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 15413 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 15414 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 15415 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 15416 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 15417 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
 cyrillic
 15418 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 15419 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
 lic
 15420 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 15421 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; Chedescenderabkhasiancyrillic
 15422 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 15423 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 15424 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; chedescenderabkhasiancyrillic
 15425 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 15426 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 15427 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 15428 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 15429 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 15430 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 15431 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 15432 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 15433 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 15434 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 15435 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 15436 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 15437 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 15438 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 15439 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 15440 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 15441 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 15442 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 15443 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 15444 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 15445 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-
 cyrillic
 15446 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 15447 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
 cyrillic

15448 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
15449 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
15450 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
15451 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
15452 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
15453 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic
15454 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
15455 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic
15456 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
15457 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic
15458 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
15459 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
15460 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
15461 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
15462 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
15463 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
15464 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
15465 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic
15466 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
15467 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic
15468 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
15469 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
15470 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
15471 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
15472 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
15473 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-
15474 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
15475 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-
15476 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB
15477 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
15478 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
15479 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
15480 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD
15481 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
15482 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE
15483 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
15484 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF
15485 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
15486 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
15487 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
15488 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
15489 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
15490 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2
15491 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
15492 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3
15493 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
15494 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4
15495 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
15496 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5

15497 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
 15498 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 15499 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 15500 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 15501 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 15502 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 15503 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 15504 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 15505 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic
 15506 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 15507 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic
 15508 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 15509 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 15510 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 15511 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 15512 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 15513 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 15514 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
 15515 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 15516 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF
 15517 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 15518 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 15519 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 15520 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 15521 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 15522 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2
 15523 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 15524 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3
 15525 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 15526 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 15527 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 15528 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 15529 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 15530 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 15531 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 15532 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 15533 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 15534 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 15535 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 15536 \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
 15537 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 15538 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 15539 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 15540 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD

\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

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

15541 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 15542 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

15543 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 15544 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 15545 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 15546 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 15547 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 15548 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 15549 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 15550 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 15551 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 15552 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 15553 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 15554 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 15555 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 15556 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 15557 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 15558 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 15559 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 15560 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 15561 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 15562 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 15563 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 15564 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
 15565 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 15566 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
 15567 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 15568 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 15569 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 15570 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 15571 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 15572 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
 15573 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 15574 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
 15575 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 15576 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
 15577 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 15578 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
 15579 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 15580 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
 15581 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
 15582 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
 15583 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
 15584 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
 15585 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
 15586 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
 15587 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
 15588 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
 15589 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
 15590 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35

15591 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
15592 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
15593 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
15594 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
15595 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
15596 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
15597 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
15598 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
15599 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
15600 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
15601 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
15602 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
15603 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
15604 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
15605 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
15606 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
15607 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
15608 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
15609 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
15610 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
15611 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
15612 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
15613 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
15614 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
15615 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
15616 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
15617 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
15618 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
15619 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
15620 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
15621 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
15622 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
15623 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
15624 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
15625 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
15626 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
15627 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
15628 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
15629 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
15630 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
15631 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
15632 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
15633 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
15634 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
15635 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
15636 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
15637 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
15638 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
15639 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
15640 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\200}% U+1E80
15641 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
15642 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81
15643 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
15644 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
15645 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
15646 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
15647 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis

15648 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84
 15649 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
 15650 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85
 15651 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
 15652 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
 15653 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
 15654 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
 15655 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
 15656 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A
 15657 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
 15658 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B
 15659 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
 15660 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
 15661 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
 15662 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
 15663 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
 15664 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E
 15665 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
 15666 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F
 15667 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
 15668 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90
 15669 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
 15670 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91
 15671 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
 15672 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
 15673 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
 15674 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
 15675 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
 15676 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
 15677 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
 15678 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
 15679 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
 15680 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
 15681 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
 15682 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
 15683 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-
 cent
 15684 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B
 15685 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
 15686 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 15687 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
 15688 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 15689 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 15690 \DeclareTextCompositeCommand{`}{PU}{Y}{\9036\362}% U+1EF2
 15691 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 15692 \DeclareTextCompositeCommand{`}{PU}{y}{\9036\363}% U+1EF3
 15693 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 15694 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 15695 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 15696 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

15697 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 15698 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 15699 % U+2013 EN DASH; endash
 15700 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 15701 % U+2014 EM DASH; emdash

15702 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 15703 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 15704 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 15705 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 15706 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 15707 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 15708 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 15709 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 15710 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 15711 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 15712 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 15713 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 15714 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 15715 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 15716 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 15717 % U+2020 DAGGER; dagger
 15718 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020
 15719 % U+2021 DOUBLE DAGGER; daggerdbl
 15720 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 15721 % U+2022 BULLET; bullet
 15722 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022
 15723 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 15724 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 15725 % U+2030 PER MILLE SIGN; perthousand
 15726 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 15727 % U+2031 PER TEN THOUSAND SIGN
 15728 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 15729 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 singlleft
 15730 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 15731 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singlright
 15732 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 15733 % U+203B REFERENCE MARK; referencemark
 15734 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 15735 % U+203D INTERROBANG
 15736 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 15737 % U+2044 FRACTION SLASH; fraction
 15738 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 15739 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 15740 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 15741 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 15742 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 15743 % U+2052 COMMERCIAL MINUS SIGN
 15744 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

15745 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 15746 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070
 15747 % U+2074 SUPERSCRIPT FOUR; foursuperior
 15748 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074
 15749 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 15750 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075
 15751 % U+2076 SUPERSCRIPT SIX; sixsuperior
 15752 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076
 15753 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 15754 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077

15755 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 15756 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078
 15757 % U+2079 SUPERSCRIPT NINE; ninesuperior
 15758 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079
 15759 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 15760 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A
 15761 % U+207B SUPERSCRIPT MINUS
 15762 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}
 15763 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 15764 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}
 15765 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 15766 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}
 15767 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 15768 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}
 15769 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 15770 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}
 15771 % U+2080 SUBSCRIPT ZERO; zeroinferior
 15772 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080
 15773 % U+2081 SUBSCRIPT ONE; oneinferior
 15774 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081
 15775 % U+2082 SUBSCRIPT TWO; twoinferior
 15776 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082
 15777 % U+2083 SUBSCRIPT THREE; threeinferior
 15778 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083
 15779 % U+2084 SUBSCRIPT FOUR; fourinferior
 15780 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084
 15781 % U+2085 SUBSCRIPT FIVE; fiveinferior
 15782 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085
 15783 % U+2086 SUBSCRIPT SIX; sixinferior
 15784 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086
 15785 % U+2087 SUBSCRIPT SEVEN; seveninferior
 15786 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087
 15787 % U+2088 SUBSCRIPT EIGHT; eightinferior
 15788 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088
 15789 % U+2089 SUBSCRIPT NINE; nineinferior
 15790 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089
 15791 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 15792 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D
 15793 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 15794 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

15795 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 15796 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 15797 % U+20A4 LIRA SIGN; afii08941, *lira
 15798 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 15799 % U+20A6 NAIRA SIGN
 15800 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 15801 % U+20A7 PESETA SIGN; peseta
 15802 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 15803 % U+20A9 WON SIGN; won
 15804 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 15805 % U+20AB DONG SIGN; dong
 15806 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 15807 % U+20AC EURO SIGN; *Euro, euro
 15808 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 15809 % U+20B1 PESO SIGN

15810 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 15811 % U+20B2 GUARANI SIGN
 15812 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

15813 % U+2103 DEGREE CELSIUS; centigrade
 15814 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 15815 % U+2116 NUMERO SIGN; *afi61352, numero
 15816 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 15817 % U+2117 SOUND RECORDING COPYRIGHT
 15818 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 15819 % U+211E PRESCRIPTION TAKE; prescription
 15820 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 15821 % U+2120 SERVICE MARK
 15822 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 15823 % U+2122 TRADE MARK SIGN; trademark
 15824 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 15825 % U+2126 OHM SIGN; Ohm, Omega
 15826 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 15827 % U+2127 INVERTED OHM SIGN
 15828 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127
 15829 % U+212B ANGSTROM SIGN; angstrom
 15830 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 15831 % U+212E ESTIMATED SYMBOL; estimated
 15832 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 15833 % U+2135 ALEF SYMBOL; aleph
 15834 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

50.2.16 Arrows: U+2190 to U+21FF

15835 % U+2190 LEFTWARDS ARROW; arrowleft
 15836 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190
 15837 % U+2191 UPWARDS ARROW; arrowup
 15838 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191
 15839 % U+2192 RIGHTWARDS ARROW; arrowright
 15840 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192
 15841 % U+2193 DOWNWARDS ARROW; arrowdown
 15842 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

15843 % U+2212 MINUS SIGN; minus
 15844 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
 15845 % U+221A SQUARE ROOT; radical
 15846 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

15847 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft
 15848 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
 15849 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright
 15850 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

15851 % U+2422 BLANK SYMBOL
 15852 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 15853 % U+2423 OPEN BOX; blank
 15854 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

15855 % U+2460 CIRCLED DIGIT ONE; onecircle
 15856 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 15857 % U+2461 CIRCLED DIGIT TWO; twocircle
 15858 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 15859 % U+2462 CIRCLED DIGIT THREE; threecircle
 15860 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 15861 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 15862 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 15863 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 15864 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 15865 % U+2465 CIRCLED DIGIT SIX; sixcircle
 15866 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 15867 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
 15868 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 15869 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 15870 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 15871 % U+2468 CIRCLED DIGIT NINE; ninecircle
 15872 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 15873 % U+2469 CIRCLED NUMBER TEN; tencircle
 15874 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 15875 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 15876 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 15877 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 15878 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 15879 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 15880 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 15881 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 15882 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 15883 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 15884 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 15885 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 15886 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 15887 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 15888 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 15889 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 15890 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 15891 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 15892 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 15893 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 15894 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 15895 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 15896 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 15897 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
 15898 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
 15899 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
 15900 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
 15901 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
 15902 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
 15903 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
 15904 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
 15905 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
 15906 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
 15907 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
 15908 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
 15909 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 15910 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 15911 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle

15912 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 15913 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 15914 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 15915 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 15916 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 15917 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 15918 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 15919 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 15920 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 15921 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 15922 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 15923 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 15924 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 15925 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 15926 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 15927 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 15928 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 15929 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 15930 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 15931 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 15932 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 15933 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 15934 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 15935 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 15936 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 15937 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 15938 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 15939 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 15940 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 15941 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 15942 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 15943 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 15944 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 15945 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 15946 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 15947 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 15948 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 15949 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 15950 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 15951 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 15952 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 15953 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 15954 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 15955 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 15956 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 15957 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 15958 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 15959 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 15960 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 15961 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 15962 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 15963 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 15964 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 15965 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 15966 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 15967 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 15968 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA

15969 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 15970 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 15971 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 15972 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 15973 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 15974 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 15975 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 15976 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 15977 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 15978 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 15979 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 15980 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 15981 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 15982 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 15983 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 15984 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 15985 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 15986 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 15987 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 15988 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 15989 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 15990 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 15991 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 15992 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 15993 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 15994 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 15995 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 15996 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 15997 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 15998 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 15999 % U+24EA CIRCLED DIGIT ZERO
 16000 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

16001 % U+25E6 WHITE BULLET; *openbullet, whitebullet
 16002 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6
 16003 % U+25EF LARGE CIRCLE; largecircle
 16004 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

16005 % U+266A EIGHTH NOTE; musicalnote
 16006 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
 16007 % U+26AD MARRIAGE SYMBOL
 16008 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 16009 % U+26AE DIVORCE SYMBOL
 16010 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

16011 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 16012 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
 16013 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 16014 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

16015 % U+FB01 LATIN SMALL LIGATURE FI; fi
 16016 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 16017 % U+FB02 LATIN SMALL LIGATURE FL; fl

```
16018 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02
```

50.2.25 Miscellaneous

```
16019 \DeclareTextCommand{\SS}{PU}{SS}
```

50.2.26 Aliases

Aliases (german.sty)

```
16020 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
16021 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
16022 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
16023 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
16024 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
16025 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
16026 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
16027 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
16028 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
16029 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
16030 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
16031 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
16032 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
16033 \puenc
```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
16034 \puvncenc

16035 \DeclareTextCommand{\abreve}{PU}{\81\003}
16036 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
16037 \DeclareTextCommand{\dj}{PU}{\81\021}
16038 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
16039 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
16040 \DeclareTextCommand{\ohorn}{PU}{\81\241}
16041 \DeclareTextCommand{\uhorn}{PU}{\81\260}
16042 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
16043 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
16044 \DeclareTextCommand{\DJ}{PU}{\81\020}
16045 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
16046 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
16047 \DeclareTextCommand{\OHORN}{PU}{\81\240}
16048 \DeclareTextCommand{\UHORN}{PU}{\81\257}

16049 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
16050 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
16051 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
16052 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
16053 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
16054 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
16055 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
16056 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
16057 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
16058 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
16059 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
16060 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
16061 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
```

16062 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
16063 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
16064 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
16065 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
16066 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
16067 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
16068 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
16069 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
16070 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
16071 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
16072 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
16073 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
16074 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
16075 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
16076 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
16077 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
16078 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
16079 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
16080 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
16081 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
16082 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
16083 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
16084 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
16085 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
16086 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
16087 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
16088 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
16089 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
16090 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
16091 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
16092 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
16093 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
16094 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
16095 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
16096 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
16097 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
16098 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
16099 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
16100 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
16101 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
16102 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
16103 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
16104 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
16105 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
16106 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
16107 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
16108 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
16109 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
16110 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
16111 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
16112 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
16113 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
16114 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
16115 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
16116 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
16117 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
16118 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}

```

16119 \DeclareTextCompositeCommand{'}{PU}{\ACIRCUMFLEX}{\9036\244}
16120 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
16121 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
16122 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
16123 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
16124 \DeclareTextCompositeCommand{'}{PU}{E}{\80\311}
16125 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
16126 \DeclareTextCompositeCommand{'}{PU}{E}{\80\310}
16127 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
16128 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
16129 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\276}
16130 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
16131 \DeclareTextCompositeCommand{'}{PU}{\ECIRCUMFLEX}{\9036\300}
16132 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
16133 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
16134 \DeclareTextCompositeCommand{'}{PU}{I}{\80\315}
16135 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
16136 \DeclareTextCompositeCommand{'}{PU}{I}{\80\314}
16137 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
16138 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
16139 \DeclareTextCompositeCommand{'}{PU}{O}{\80\323}
16140 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
16141 \DeclareTextCompositeCommand{'}{PU}{O}{\80\322}
16142 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
16143 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
16144 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\320}
16145 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
16146 \DeclareTextCompositeCommand{'}{PU}{\OCIRCUMFLEX}{\9036\322}
16147 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
16148 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
16149 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\332}
16150 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
16151 \DeclareTextCompositeCommand{'}{PU}{\OHORN}{\9036\334}
16152 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
16153 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
16154 \DeclareTextCompositeCommand{'}{PU}{U}{\80\332}
16155 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
16156 \DeclareTextCompositeCommand{'}{PU}{U}{\80\331}
16157 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
16158 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
16159 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\350}
16160 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
16161 \DeclareTextCompositeCommand{'}{PU}{\UHORN}{\9036\352}
16162 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
16163 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
16164 \DeclareTextCompositeCommand{'}{PU}{Y}{\80\335}
16165 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
16166 \DeclareTextCompositeCommand{'}{PU}{Y}{\9036\362}
16167 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
16168 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
16169 </puvnenc>

```

50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
16170 <*puarenc>
```

16171 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA

16172 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE

16173 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE

16174 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE

16175 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW

16176 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE

16177 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF

16178 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH

16179 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA

16180 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH

16181 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH

16182 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM

16183 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH

16184 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH

16185 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL

16186 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL

16187 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH

16188 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN

16189 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN

16190 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN

16191 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD

16192 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD

16193 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH

16194 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH

16195 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN

16196 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

16197 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWHEEL

16198 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH

16199 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

16200 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF

16201 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM

16202 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM

16203 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON

16204 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH

16205 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW

16206 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA

16207 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

16208 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN

16209 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

16210 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN

16211 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA

16212 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

16213 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA

16214 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

16215 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

```
16216 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH
16217 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-
TER TCHEH
16218 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH
16219 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-
TER KAF
16220 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF
16221 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-
TER YEH

16222 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
16223 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
16224 </puarenc>
```

51 End of file hyccheck.tex

```
16225 <*check>
16226 \typeout{}
16227 \begin{document}
16228 \end{document}
16229 </check>
```

52 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

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