

# Hypertext marks in L<sup>A</sup>T<sub>E</sub>X

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## 1 Documentation overview for hyperref

The documentation for package hyperref consists of several files:

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

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

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

**Options** This file provides a short option summary.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT<sub>E</sub>X 1999.

**Bookmark talk, paper** The paper version of the talk.

Source code documentation:

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

**backref.dtx** “Back referencing from bibliographical citations”

**nameref.dtx** “Section name references in L<sup>A</sup>T<sub>E</sub>X”

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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  $\text{\LaTeX}$  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  $\text{\LaTeX}$ 's definitions is parsed.

```

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

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a  $\LaTeX$  definition (number of arguments).

```

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

```

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

```

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

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\cmd_` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

114 \def\HyC@DeclareRobustCommand{%
115   \edef\HyC@robustcmd{%
116     \expandafter\noexpand
117     \csname\expandafter\expandafter\expandafter\@gobble
118     \expandafter\string\HyC@cmd\space\endcsname
119   }%
120   \expandafter\let\expandafter\HyC@org@robustcmd\HyC@robustcmd
121   \expandafter\let\HyC@robustcmd\relax
122   \let\HyC@@cmd\HyC@robustcmd
123   \@ifnextchar[\HyC@nc@opt\HyC@nc@noopt
124 }

```

`\HyC@def` The parameter text of `\def` or `\edef` is stored in the token register `\HyC@Toks`.

```

\HyC@edef
125 \def\HyC@def#1#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<sup>A</sup>T<sub>E</sub>X, 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 Compatibility with format dumps

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

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

```

244 \ifundefined{AfterBeginDocument}{%
245   \def\AfterBeginDocument{\AtBeginDocument}%
246 }{%

```

`\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.

```

247 \def\Hy@AtBeginDocument{%
248   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
249 }

```

`\Hy@AtEndOfPackage`

```
250 \def\Hy@AtEndOfPackage{%
```

```

251 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
252 }

```

\Hy@AtBeginDocumentHook

```

253 \def\Hy@AtBeginDocumentHook{}

```

\Hy@AtEndOfPackageHook

```

254 \def\Hy@AtEndOfPackageHook{}

```

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

```

255 \AtEndOfPackage{%
256   \Hy@AtEndOfPackageHook
257   \let\Hy@AtEndOfPackageHook\@undefined
258   \AfterBeginDocument{%
259     \Hy@AtBeginDocumentHook}%
260   \let\Hy@AtBeginDocumentHook\@undefined
261   }%
262 }

```

### 4.3 Switches

```

263 \newif\ifHy@typexml
264 \newif\ifHy@activeanchor
265 \newif\ifHy@backref
266 \newif\ifHy@bookmarks
267 \newif\ifHy@bookmarksnumbered
268 \newif\ifHy@bookmarksopen
269 \newif\ifHy@breaklinks
270 \newif\ifHy@centerwindow
271 \newif\ifHy@CJKbookmarks
272 \newif\ifHy@colorlinks
273 \newif\ifHy@draft
274 \let\Hy@finaltrue\Hy@draftfalse
275 \let\Hy@finalfalse\Hy@drafttrue
276 \newif\ifHy@escapeform
277 \newif\ifHy@figures
278 \newif\ifHy@fitwindow
279 \newif\ifHy@frenchlinks
280 \newif\ifHy@hyperfootnotes
281 \newif\ifHy@hyperindex
282 \newif\ifHy@hypertextnames
283 \newif\ifHy@implicit
284 \newif\ifHy@linktocpage
285 \newif\ifHy@localanchorname
286 \newif\ifHy@menubar
287 \newif\ifHy@naturalnames
288 \newif\ifHy@nesting
289 \newif\ifHy@newwindowset
290 \newif\ifHy@newwindow
291 \newif\ifHy@ocgcolorlinks
292 \newif\ifHy@pageanchor
293 \newif\ifHy@pagelabels
294 \newif\ifHy@pdfpagehidden
295 \newif\ifHy@pdfstring
296 \newif\ifHy@plainpages
297 \newif\ifHy@psize
298 \newif\ifHy@raiselinks

```

```

299 \newif\ifHy@seminarslides
300 \newif\ifHy@setpagesize
301 \newif\ifHy@texht
302 \newif\ifHy@toolbar
303 \newif\ifHy@unicode
304 \newif\ifHy@usetitle
305 \newif\ifHy@verbose
306 \newif\ifHy>windowui
307 \newif\ifHy@displaydoctitle
308 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

309 \Hy@backreffalse
310 \Hy@bookmarksnumberedfalse
311 \Hy@bookmarksopenfalse
312 \Hy@bookmarkstrue
313 \Hy@breaklinksfalse
314 \Hy@centerwindowfalse
315 \Hy@CJKbookmarksfalse
316 \Hy@escapeformfalse
317 \Hy@figuresfalse
318 \Hy@fitwindowfalse
319 \Hy@hyperfootnotetrue
320 \Hy@hyperindextrue
321 \Hy@hypertextnamestrue
322 \Hy@implicittrue
323 \Hy@linktocpagefalse
324 \Hy@localanchornamefalse
325 \Hy@menubartrue
326 \Hy@naturalnamesfalse
327 \Hy@nestingfalse
328 \Hy@newwindowsetfalse
329 \Hy@newwindowfalse
330 \Hy@pageanchortrue
331 \Hy@pagelabelstrue
332 \Hy@pdfpagehiddenfalse
333 \Hy@pdfstringfalse
334 \Hy@plainpagesfalse
335 \Hy@raiselinksfalse
336 \Hy@setpagesizetrue
337 \Hy@texhtfalse
338 \Hy@toolbartrue
339 \Hy@typexmlfalse
340 \Hy@unicodefalse
341 \Hy@usetitlefalse
342 \Hy@verbosefalse
343 \Hy>windowuitrue
344 \Hy@displaydoctitlefalse
345 \Hy@pdfafalse

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

348 \newdimen\@linkdim
349 \let\Hy@driver\@empty
350 \let\MaybeStopEarly\relax
351 \newcount\Hy@linkcounter
352 \newcount\Hy@pagecounter
353 \Hy@linkcounter0
354 \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.

```

355 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
356 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

357 \let\Hy@ReturnEnd\@empty
358 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
359 \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.

```

360 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
361 \def\Hy@safe@activetruefalse{\csname @safe@activetruefalse\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}
}

```

`\hypercalcbp`

```

362 \begingroup\expandafter\expandafter\expandafter\endgroup
363 \expandafter\ifx\csname dimexpr\endcsname\relax
364 \def\hypercalcbpdef#1#2{%
365 \begingroup
366 \toks@{%
367 \HyCal@scan#2\hypercalcbp\@nil
368 \expandafter\endgroup
369 \expandafter\def\expandafter#1\expandafter{\the\toks@}%
370 }%
371 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
372 \toks@\expandafter{\the\toks@ #1}%
373 \ifx\#2\%
374 \else
375 \Hy@ReturnAfterFi{%
376 \HyCal@do#2\@nil
377 }%
378 \fi
379 }%
380 \def\HyCal@do#1#2\@nil{%
381 \ifpackageloaded{calc}{}%
382 \Hy@Warning{%
383 For calculations \string\hypercalcbp\space needs\MessageBreak
384 package calc or e-TeX%
385 }%
386 }%
387 \setlength{\dimen@}{#1}%
388 \setlength{\dimen@}{0.99626401\dimen@}%
389 \edef\x{%
390 \toks@{%
391 \the\toks@
392 \strip@pt\dimen@
393 }%
394 }\x
395 \HyCal@scan#2\@nil
396 }%
397 \else
398 \def\hypercalcbp#1{%
399 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
400 }%
401 \def\hypercalcbpdef{\def}%
402 \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  $\text{\TeX}$ '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  $\text{\TeX}$  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  $\text{\TeX}$  string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

`\pdfstringdef` `\pdfstringdef` works on the tokens in `#2` and converts them to a PDF string as far as possible:

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

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

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

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

```
404 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
405 \escapechar'\%
```

From the view of  $\text{\TeX}$  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.

```
406 \edef\0{\string\0}%
407 \edef\1{\string\1}%
408 \edef\2{\string\2}%
409 \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.

```
410 \ifHy@unicode
411 \edef\8{\string\8}%
412 \edef\9{\string\9}%
413 \fontencoding{PU}%
414 \HyPsd@UTFviii
415 \def\ifpdfstringunicode##1##2{##1}%
416 \else
417 \fontencoding{PD1}%
418 \def\ifpdfstringunicode##1##2{##2}%
419 \fi
420 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
421 \enc@update
```

**Internal encoding commands.**  $\backslash \text{pdfstringdef}$  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  $\backslash \text{@inmathwarn}$  will be disabled (see below).

```
422 \@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 ( $\backslash \text{edef}$ ), so that the assignments of  $\backslash \text{@changed@cmd}$  don't take place. To patch this behaviour I only found  $\backslash \text{@inmathwarn}$  as a usable hook. While an  $\backslash \text{edef}$  a warning message by  $\backslash \text{@inmathwarn}$  or  $\backslash \text{TextSymbolUnavailable}$  cannot be give out, so  $\backslash \text{@inmathwarn}$  should be disabled. And with the help of it the assignments in  $\backslash \text{@changed@cmd}$  can easily be caught (see below).

```
423 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
424 \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.

```
425 \let\{\textbraceleft
426 \let\}\textbraceright
427 \let\\textbackslash
428 \let\#\textnumbersign
```

```

429 \let\$ \textdollar
430 \let\%\textpercent
431 \let\&\textampersand
432 % \let\~\textasciitilde
433 \let\_ \textunderscore
434 \let\P\textparagraph
435 \let\ldots\textellipsis
436 \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.

```

437 \def\{\pdfstringdefWarn\}%
438 \def\newline{\pdfstringdefWarn\newline}%

```

**Logos.** Because the box shifting used in the T<sub>E</sub>X logo does not work while writing to a file, the standard T<sub>E</sub>X logos are redefined.

```

439 \def\TeX{\TeX}%
440 \def\LaTeX{\LaTeX}%
441 \def\LaTeXe{%
442   \LaTeX2%
443   \ifHy@unicode\textepsilon\else e\fi
444 }%
445 \def\eTeX{%
446   \ifHy@unicode\textepsilon\else e\fi
447   -\TeX%
448 }%
449 \def\SliTeX{\SliTeX}%
450 \def\MF{Metafont}%
451 \def\MP{Metapost}%

```

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

```

452 \let\fontencoding\@gobble
453 \let\fontfamily\@gobble
454 \let\fontseries\@gobble
455 \let\fontshape\@gobble
456 \let\fontsize\@gobbletwo
457 \let\selectfont\@empty
458 \let\usefont\@gobblefour
459 \let\emph\@firstofone
460 \let\textnormal\@firstofone
461 \let\textrm\@firstofone
462 \let\textsf\@firstofone
463 \let\texttt\@firstofone
464 \let\textbf\@firstofone
465 \let\textmd\@firstofone

```

```

466 \let\textit\@firstofone
467 \let\textsc\@firstofone
468 \let\textsl\@firstofone
469 \let\textup\@firstofone
470 \let\normalfont\@empty
471 \let\rmfamily\@empty
472 \let\sffamily\@empty
473 \let\ttfamily\@empty
474 \let\bfseries\@empty
475 \let\mdseries\@empty
476 \let\itshape\@empty
477 \let\scshape\@empty
478 \let\slshape\@empty
479 \let\upshape\@empty
480 \let\em\@empty
481 \let\rm\@empty
482 \let\Huge\@empty
483 \let\LARGE\@empty
484 \let\Large\@empty
485 \let\footnotesize\@empty
486 \let\huge\@empty
487 \let\large\@empty
488 \let\normalsize\@empty
489 \let\scriptsize\@empty
490 \let\small\@empty
491 \let\tiny\@empty
492 \let\mathversion\@gobble
493 \let\phantom\@gobble
494 \let\vphantom\@gobble
495 \let\hphantom\@gobble

```

#### Package color.

```

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

```

#### Upper- and lowercase.

```

497 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
498 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

499 \let\textlatin\@firstofone
500 \let\IfUndefined{language@group}{-}{%
501   \csname HyPsd@babel@language@group\endcsname
502 }%
503 \HyPsd@GreekPatch
504 \HyPsd@SpanishPatch
505 \HyPsd@RussianPatch
506 \HyPsd@BabelPatch
507 \let\@safe@activetrue\relax
508 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

509 \let\cyr\relax

```

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

```

510 \let\es@roman\@Roman

```

**Package german.**

```
511 \let\glqq\textglqq
512 \let\grqq\textgrqq
513 \let\glq\textglq
514 \let\grq\textgrq
515 \let\flqq\textflqq
516 \let\frqq\textfrqq
517 \let\flq\textflq
518 \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}
519 \let\if@mid@expandable\@firstoftwo
```

**AMS classes.**

```
520 \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.

```
521 \let\hspace\HyPsd@hspace
```

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

```
522 \let\label\@gobble
523 \let\index\@gobble
524 \let\glossary\@gobble
525 \let\href\@secondoftwo
526 \let\@mkboth\@gobbletwo
```

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

```
527 \let\ref\HyPsd@ref
528 \let\pageref\HyPsd@pageref
529 \let\nameref\HyPsd@nameref
530 \let\autoref\HyPsd@autoref
```

**Miscellaneous commands.**

```
531 \let\leavevmode\@empty
532 \let\mbox\@empty
```

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

```
533 \def\halign{\pdfstringdefWarn\halign\@gobble}%
534 \let\ignorespaces\HyPsd@ignorespaces
535 \let\Hy@SectionAnchorHref\@gobble
```

**Patch for cjk bookmarks.**

```
536 \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`).

```
537 \Hy@pdfstringtrue
538 \pdfstringdefPreHook
```

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

```
539 \HyPsd@LetUnexpandableSpace\space
540 \HyPsd@LetUnexpandableSpace\ %
541 \HyPsd@LetUnexpandableSpace~%
542 \HyPsd@LetUnexpandableSpace\nobreakspace
```

**Package xspace.**

```
543 \ltx@ifundefined{@xspace}{%
544   \let\xspace\HyPsd@ITALCORR
545 }{%
546   \let\xspace\HyPsd@XSPACE
547 }%
548 \let\/\HyPsd@ITALCORR
549 \let\bgroup\/%
550 \let\egroup\/%
```

**Redefinitions of miscellaneous commands.** Hyphenation does not make sense.

```
551 \let\discretionary\@gobbletwo
    \@ifstar is defined in  $\LaTeX$  as follows:
```

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

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

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

```
552 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
553 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
554 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
555 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

## 6.2.2 Expansion

There are several possibilities to expand tokens within  $\LaTeX$ :

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

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

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

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

```

557 \begingroup
558   \let\GenericError\@gobblefour
559   \let\GenericWarning\@gobbletwo
560   \let\GenericInfo\@gobbletwo

```

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

```

561 \ifx\nofrenchguillemets\@undefined
562   \else
563     \nofrenchguillemets
564   \fi

```

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

```

565 \let\Hy@temp\xdef
566 \let\def\HyPsd@DefCommand
567 \let\gdef\HyPsd@DefCommand
568 \let\edef\HyPsd@DefCommand
569 \let\xdef\HyPsd@DefCommand
570 \let\futurelet\HyPsd@LetCommand
571 \let\let\HyPsd@LetCommand
572 \Hy@temp#1{#2}%
573 \endgroup

```

### 6.2.3 Postprocessing

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

```
574 \ifx#1\@empty
575 \else
```

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with T<sub>E</sub>X's argument parsing. With this method we must the following item takes into account, that makes makes things a little more complicate:

- T<sub>E</sub>X does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by T<sub>E</sub>X's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- T<sub>E</sub>X 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.

```
576 \HyPsd@ProtectSpaces#1%
577 \let\HyPsd@String\@empty
578 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
579 \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.

```
580 \let\HyPsd@SPACEOPTI\relax
581 {%
582 \let\HyPsd@String\@empty
583 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
584 \global\let#1\HyPsd@String
585}%
586 \expandafter\HyPsd@RemoveMask\expandafter
587 \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.

```
588 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
589 \let\HyPsd@String\@empty
590 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
591 \global\let#1\HyPsd@String
```

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

```
592 \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.

```
593 \ifHy@unicode
594 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
595 \HyPsd@SPACEOPTI#1%
596 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
597 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
598 {\HyPsd@SPACEOPTI\80\273}#1%
599 \else
600 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
601 \expandafter\HyPsd@Subst\expandafter{%
602 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
603 \string\273}{\HyPsd@SPACEOPTI\273}#1%
604 \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.

```
605 \ifHy@unicode
606 \HyPsd@StringSubst{\)}{\80\051}#1%
607 \HyPsd@Subst){\80\051}#1%
608 \let\HyPsd@empty\relax
609 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
610 {\HyPsd@empty\80\051}#1%
611 \else
612 \HyPsd@StringSubst{\)}{\051}#1%
613 \HyPsd@Subst){\051}#1%
614 \let\HyPsd@empty\relax
```

```

615      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
616      \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`.

```

617      \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
618      \ltx@ifundefined{@xspace}{%
619      }{%
620          \let\HyPsd@xspace\relax
621          \expandafter\HyPsd@Subst\expandafter
622              {\HyPsd@XSPACE}\HyPsd@xspace#1%
623          \let\HyPsd@xspace\HyPsd@doxspace
624      }%
625      \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.

```

626      \HyPsd@Subst{---}\textemdash#1%
627      \HyPsd@Subst{--}\textendash#1%
628 %      \HyPsd@Subst{fi}\textfi#1%
629 %      \HyPsd@Subst{fl}\textfl#1%
630      \HyPsd@Subst{!'}\textexclamdown#1%
631      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

632      \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.

```

633      \ifHy@unicode
634          \HyPsd@StringSubst{\textparenleft#1%
635          \HyPsd@Subst(\textparenleft#1%
636      \else

```

```

637 \HyPsd@StringSubst\({\050}#1%
638 \HyPsd@Subst({\050}#1%
639 \HyPsd@StringSubst{\050}{\string\{ }#1%
640 \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.

```

641 \ifHy@unicode
642 \edef\HyPsd@SPACEOPTI{\80\040}%
643 \else
644 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
645 \fi
646 \xdef#1{#1\@empty}%
647 \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.

```

648 \endgroup
649 \begingroup
650 \ifHy@unicode
651 \HyPsd@ConvertToUnicode#1%

```

**Try conversion back to PDFDocEncoding.**

```

652 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
653 \ltx@ifundefined{StringEncodingConvertTest}{%
654 }{%
655 \EdefUnescapeString\HyPsd@temp#1%
656 \ifxetex
657 \let\HyPsd@UnescapedString\HyPsd@temp
658 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
659 {utf16be}{ascii-print}{%
660 \EdefEscapeString\HyPsd@temp\HyPsd@temp
661 \global\let#1\HyPsd@temp
662 \HyPsd@EscapeTeX#1%
663 \Hy@unicodefalse
664 }{%
665 \HyPsd@ToBigChars#1%
666 }%
667 \else
668 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
669 {utf16be}{pdfdoc}{%
670 \EdefEscapeString\HyPsd@temp\HyPsd@temp
671 \global\let#1\HyPsd@temp
672 \HyPsd@EscapeTeX#1%
673 \Hy@unicodefalse
674 }{%
675 \fi
676 }%
677 \fi
678 \fi
679 \HyPsd@XeTeXBigCharsfalse

```

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

```
680 \pdfstringdefPostHook#1%
681 \endgroup
682 }
```

`\Hy@pdfstringdef`

```
683 \def\Hy@pdfstringdef#1#2{%
684 \pdfstringdef\Hy@gtemp{#2}%
685 \let#1\Hy@gtemp
686 }
```

## 6.3 Encodings

### 6.3.1 Xe<sub>TeX</sub>

```
687 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
688 \catcode\z@=12 %
689 \ifxetex
690 \expandafter\@firstofone
691 \else
692 \let\HyPsd@XeTeXBigCharstrue\@empty
693 \let\HyPsd@XeTeXBigCharsfalse\@empty
694 \expandafter\@gobble
695 \fi
696 {%
697 \newif\ifHyPsd@XeTeXBigChars
698 \def\HyPsd@XeTeXBigCharsfalse{%
699 \global\let\ifHyPsd@XeTeXBigChars\iffalse
700 }%
701 \def\HyPsd@XeTeXBigCharstrue{%
702 \global\let\ifHyPsd@XeTeXBigChars\iftrue
703 }%
704 \def\HyPsd@ToBigChars#1{%
705 \ifHyPsd@XeTeXBigChars
706 \EdefEscapeHex\HyPsd@UnescapedString{%
707 \expandafter\@gobbletwo\HyPsd@UnescapedString
708 }%
709 \begingroup
710 \toks@{%
711 \escapechar=92\relax
712 \let\x\HyPsd@ToBigChar
713 \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
714 \relax\relax\relax\relax\relax\relax
715 \edef\x{%
716 \endgroup
717 \gdef\noexpand#1{\the\toks@}%
718 }%
719 \x
720 \fi
721 }%
722 \def\HyPsd@ToBigChar#1#2#3#4{%
723 \ifx\relax#1\relax
724 \let\x\relax
725 \else
726 \count@=#1#2#3#4\relax
727 \let\y\@empty
```

```

728 \lccode\z@=\count@
729 \ifnum\count@=40 % (
730 \let\y\@backslashchar
731 \else
732 \ifnum\count@=41 % )
733 \let\y\@backslashchar
734 \else
735 \ifnum\count@=92 % backslash
736 \let\y\@backslashchar
737 \else
738 \ifnum\count@=10 % newline
739 \edef\y###1{\string\n}%
740 \else
741 \ifnum\count@=13 % carriage return
742 \edef\y###1{\string\r}%
743 \fi
744 \fi
745 \fi
746 \fi
747 \fi
748 \lowercase{%
749 \toks@\expandafter{%
750 \the\expandafter\toks@
751 \y
752 ^^@%
753 }%
754 }%
755 \fi
756 \x
757 }%
758 }
759 \Hy@temp

```

### 6.3.2 Workaround for package linguex

```

760 \@ifpackageloaded{linguex}{%
761 \let\HyLinguex@OrgB\b
762 \let\HyLinguex@OrgC\c
763 \let\HyLinguex@OrgD\d
764 \def\HyLinguex@Restore{%
765 \let\b\HyLinguex@OrgB
766 \let\c\HyLinguex@OrgC
767 \let\d\HyLinguex@OrgD
768 }%
769 \Hy@AtEndOfPackage{%
770 \pdfstringdefDisableCommands{%
771 \ltx@ifundefined{oldb}{\let\b\oldb}%
772 \ltx@ifundefined{oldc}{\let\c\oldc}%
773 \ltx@ifundefined{oldd}{\let\d\oldd}%
774 }%
775 }%
776 }{%
777 \let\HyLinguex@Restore\relax
778 }%

```

### 6.3.3 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>'s NFSS. Because the informational strings are not set by T<sub>E</sub>X's typesetting mechanism but for inter-

preting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

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

```

779 \ifundefined{T@PD1}{%
780   \input{pdlenc.def}%
781   \HyLinguex@Restore
782 }{}
783 \DeclareFontFamily{PD1}{pdf}{}
784 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
785 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with L<sup>A</sup>T<sub>E</sub>X'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.

```

786 \def\HyPsd@InitUnicode{%
787   \ifundefined{T@PU}{%
788     \input{puenc.def}%
789     \HyLinguex@Restore
790   }{}%
791   \DeclareFontFamily{PU}{pdf}{}%
792   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
793   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
794   \let\HyPsd@InitUnicode\relax
795 }

```

## 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<sub>E</sub>X's stomach, the second contains the replacement for PDF strings.

```

796 \def\texorpdfstring{%
797   \ifHy@pdfstring
798     \expandafter\@secondoftwo
799   \else
800     \expandafter\@firstoftwo
801   \fi
802 }

```

### 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`.

```

803 \ifundefined{pdfstringdefPreHook}{%
804   \let\pdfstringdefPreHook\@empty
805 }{}

```

```

806 \@ifundefined{pdfstringdefPostHook}{%
807   \let\pdfstringdefPostHook\@gobble
808 }{}

```

`\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`.

```

809 \def\pdfstringdefDisableCommands{%
810   \begingroup
811   \makeatletter
812   \HyPsd@DisableCommands
813 }

```

`\HyPsd@DisableCommands`

```

814 \long\def\HyPsd@DisableCommands#1{%
815   \toks0=\expandafter{\pdfstringdefPreHook}%
816   \toks1={#1}%
817   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
818   \endgroup
819 }

```

`\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`.

```

820 \def\pdfstringdefWarn#1{%
821   \expandafter\noexpand\csname<>-string#1\endcsname
822 }

```

## 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.

```

823 \begingroup

```

```

824 \catcode0=12 %
825 \def\x{\endgroup
826 \def\HyPsd@ignorespaces{%
827 \romannumeral\expandafter'\expandafter^^@%
828 \romannumeral'^^@%
829 }%
830 }%
831 \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`.

```

832 \def\HyPsd@BabelPatch{%
833 \let\HyOrg@languageshorthands\languageshorthands
834 \let\languageshorthands\HyPsd@LanguageShorthands
835 }
836 \RequirePackage{pdftexcmds}[2009/04/10]
837 \begingroup\expandafter\expandafter\expandafter\endgroup
838 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
839 \let\HyPsd@langshort@system\@empty
840 \def\HyPsd@LanguageShorthands#1{%
841 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
842 \HyPsd@langshort@system
843 \expandafter\@gobble
844 \else
845 \expandafter\@firstofone
846 \fi
847 {%
848 \HyOrg@languageshorthands{#1}%
849 }%
850 }%
851 \else
852 \def\HyPsd@LanguageShorthands#1{%
853 \ifnum\pdf@strcmp{#1}{system}=\z@
854 \expandafter\@gobble
855 \else
856 \expandafter\@firstofone
857 \fi
858 {%
859 \HyOrg@languageshorthands{#1}%
860 }%
861 }%
862 \fi
863 \def\Hy@temp{%
864 \@ifpackageloaded{babel}{%
865 \@ifpackagelater{babel}{2008/03/16}{%
866 \let\Hy@temp\@empty
867 }{%

```



```

868 \def\HyPsd@BabelPatch{%
869 \let\HyOrg@languageshorthands\languageshorthands
870 }%
871 }%
872 }{}%
873 }
874 \Hy@temp
875 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
876 \newif\ifHy@next

Nothing to do for english.
877 \ltx@ifundefined{danish@sh@@"@sel}{-}{%
878 \def\HyPsd@babel@danish{%
879 \declare@shorthand{danish}{-}{-}%
880 \declare@shorthand{danish}{-}{-}%
881 }%
882 }
883 \ltx@ifundefined{dutch@sh@@"@sel}{-}{%
884 \def\HyPsd@babel@dutch{%
885 \declare@shorthand{dutch}{-}{-}%
886 \declare@shorthand{dutch}{-}{-}%
887 }%
888 }
889 \ltx@ifundefined{finnish@sh@@"@sel}{-}{%
890 \def\HyPsd@babel@finnish{%
891 \declare@shorthand{finnish}{-}{-}%
892 }%
893 }
894 \ltx@ifundefined{french@sh@@"@sel}{-}{%
895 \def\HyPsd@babel@frenchb{%
896 \def\guill@spacing{ }%
897 }%
898 }
899 \ltx@ifundefined{german@sh@@"@sel}{-}{%
900 \def\HyPsd@babel@german{%
901 \declare@shorthand{german}{f}{f}%
902 \declare@shorthand{german}{-}{-}%
903 \declare@shorthand{german}{-}{-}%
904 }%
905 }
906 \ltx@ifundefined{macedonian@sh@@"@sel}{-}{%
907 \def\HyPsd@babel@macedonian{%
908 \declare@shorthand{macedonian}{-}{-}%
909 \declare@shorthand{macedonian}{-}{-}%
910 }%
911 }{}
912 \ltx@ifundefined{ngerman@sh@@"@sel}{-}{%
913 \def\HyPsd@babel@ngerman{%
914 \declare@shorthand{ngerman}{-}{-}%
915 \declare@shorthand{ngerman}{-}{-}%
916 }%
917 }
918 \ltx@ifundefined{portuges@sh@@"@sel}{-}{%
919 \def\HyPsd@babel@portuges{%
920 \declare@shorthand{portuges}{-}{-}%
921 }%
922 }

```

```

923 \ltx@ifundefined{russian@sh@"@sel}{-}{%
924   \def\HyPsd@babel@russian{%
925     \declare@shorthand{russian}{-}{-}%
926     \declare@shorthand{russian}{-}{-}%
927   }%
928 }
929 \ltx@ifundefined{slovene@sh@"@sel}{-}{%
930   \def\HyPsd@babel@slovene{%
931     \declare@shorthand{slovene}{-}{-}%
932   }%
933 }

```

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

```

934 \ltx@ifundefined{spanish@sh@>@sel}{-}{%
935   \def\HyPsd@babel@spanish{%
936     \declare@shorthand{spanish}{<<}{\guillemotleft}%
937     \declare@shorthand{spanish}{>>}{\guillemotright}%
938     \declare@shorthand{spanish}{=}{}-%
939     \declare@shorthand{spanish}{~}{-}%
940     \declare@shorthand{spanish}{!}{\textexclamdown}%
941     \declare@shorthand{spanish}{?}{\textquestiondown}%
942   }%
943 }
944 \ltx@ifundefined{swedish@sh@"@sel}{-}{%
945   \def\HyPsd@babel@swedish{%
946     \declare@shorthand{swedish}{-}{-}%
947     \declare@shorthand{swedish}{-}{-}%
948   }%
949 }
950 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
951   \def\HyPsd@babel@ukrainian{%
952     \declare@shorthand{ukrainian}{-}{-}%
953     \declare@shorthand{ukrainian}{-}{-}%
954   }%
955 }
956 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
957   \def\HyPsd@babel@usorbian{%
958     \declare@shorthand{usorbian}{f}{f}%
959     \declare@shorthand{usorbian}{-}{-}%
960   }%
961 }
962 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
963   \let\HyPsd@GreekPatch\@empty
964 }{%
965   \def\HyPsd@GreekPatch{%
966     \let\greeknumeral\HyPsd@greeknumeral
967     \let\Greeknatural\HyPsd@greeknumeral
968   }%
969 }
970 \def\HyPsd@greeknumeral#1{%
971   \HyPsd@GreekNum\@firstoftwo{#1}%
972 }
973 \def\HyPsd@Greeknumeral#1{%
974   \HyPsd@GreekNum\@secondoftwo{#1}%
975 }
976 \def\HyPsd@GreekNum#1#2{%
977   \ifHy@unicode
978     \ifnum#2<\@ne

```

```

979 \@arabic{#2}%
980 \else
981 \ifnum#2<1000000 %
982 \HyPsd@@GreekNum#1{#2}%
983 \else
984 \@arabic{#2}%
985 \fi
986 \fi
987 \else
988 \@arabic{#2}%
989 \fi
990 }
991 \def\HyPsd@@GreekNum#1#2{%
992 \ifnum#2<\@m
993 \ifnum#2<10 %
994 \expandafter\HyPsd@GreekNumI
995 \expandafter\@gobble\expandafter#1\number#2%
996 \else
997 \ifnum#2<100 %
998 \expandafter\HyPsd@GreekNumII
999 \expandafter\@gobble\expandafter#1\number#2%
1000 \else
1001 \expandafter\HyPsd@GreekNumIII
1002 \expandafter\@gobble\expandafter#1\number#2%
1003 \fi
1004 \fi
1005 \ifnum#2>\z@
1006 \textnumeralsigngreek
1007 \fi
1008 \else
1009 \ifnum#2<\@M
1010 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1011 \else
1012 \ifnum#2<100000 %
1013 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1014 \else
1015 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1016 \fi
1017 \fi
1018 \fi
1019 }
1020 \def\HyPsd@GreekNumI#1#2#3{%
1021 #1{%
1022 \ifnum#3>\z@
1023 \textnumeralsignlowergreek
1024 \fi
1025 }%
1026 \expandafter#2%
1027 \ifcase#3 %
1028 {}{}%
1029 \or\textalpha\textAlpha
1030 \or\textbeta\textBeta
1031 \or\textgamma\textGamma
1032 \or\textdelta\textDelta
1033 \or\textepsilon\textEpsilon
1034 \or\textstigmagreek\textStigmagreek
1035 \or\textzeta\textZeta

```

```

1036 \or\texteta\textEta
1037 \or\texttheta\textTheta
1038 \else
1039   {}{}%
1040 \fi
1041 }
1042 \def\HyPsd@GreekNumII#1#2#3#4{%
1043   #1{%
1044     \ifnum#3>\z@
1045       \textnumeralsignlowergreek
1046     \fi
1047   }%
1048   \expandafter#2%
1049   \ifcase#3 %
1050     {}{}%
1051   \or\textiota\textIota
1052   \or\textkappa\textKappa
1053   \or\textlambda\textLambda
1054   \or\textmu\textMu
1055   \or\textnu\textNu
1056   \or\textxi\textXi
1057   \or\textomicron\textOmicron
1058   \or\textpi\textPi
1059   \or\textkoppagreek\textKoppagreek
1060   \else
1061     {}{}%
1062   \fi
1063   \HyPsd@GreekNumI#1#2#4%
1064 }
1065 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1066   #1{%
1067     \ifnum#3>\z@
1068       \textnumeralsignlowergreek
1069     \fi
1070   }%
1071   \expandafter#2%
1072   \ifcase#3 %
1073     {}{}%
1074   \or\textrho\textRho
1075   \or\textsigma\textSigma
1076   \or\texttau\textTau
1077   \or\textupsilon\textUpsilon
1078   \or\textphi\textPhi
1079   \or\textchi\textChi
1080   \or\textpsi\textPsi
1081   \or\textomega\textOmega
1082   \or\textsampigreek\textSampigreek
1083   \else
1084     {}{}%
1085   \fi
1086   \HyPsd@GreekNumII#1#2#4#5%
1087 }
1088 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1089   \HyPsd@GreekNumI\@firstofone#1#2%
1090   \HyPsd@@GreekNum#1{#3#4#5}%
1091 }
1092 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%

```

```

1093 \HyPsd@GreekNumII\@firstofone#1#2#3%
1094 \HyPsd@@GreekNum#1{#4#5#6}%
1095 }
1096 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1097 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1098 \HyPsd@@GreekNum#1{#5#6#7}%
1099 }

1100 \def\HyPsd@SpanishPatch{%
1101 \ltx@ifundefined{es@save@dot}{%
1102 }{%
1103 \let\.\es@save@dot
1104 }%
1105 }

```

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

```

1106 \def\HyPsd@RussianPatch{%
1107 \ltx@ifundefined{russian@sh@"@-@}{%
1108 }{%
1109 \@namedef{russian@sh@"@-@}{-}%
1110 }%
1111 }

```

### 6.5.3 CJK patch

```

1112 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1113 \def\HyPsd@CJKhook{%
1114 \ltx@ifpackageloaded{CJK}{%
1115 \let\CJK@kern\relax
1116 \let\CJKkern\relax
1117 \let\CJK@CJK\relax
1118 \ifHy@CJKbookmarks
1119 \HyPsd@CJKhook@bookmarks
1120 \fi
1121 \HyPsd@CJKhook@unicode
1122 }{%
1123 }

```

### 6.5.4 CJK bookmarks

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

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

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

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

```

1124 \begingroup
1125 \catcode"7F=\active
1126 \toks@{%
1127 \let\CJK@ignorespaces\empty
1128 \def\CJK@char#1{\@gobbletwo}%

```

```

1129 \let\CJK@charx\@gobblefour
1130 \let\CJK@punctchar\@gobblefour
1131 \def\CJK@punctcharx#1{\@gobblefour}%
1132 \catcode"7F=\active
1133 \def^^7f#1^^7f#2^^7f{%
1134   \string #1\HyPsd@DecimalToOctal{#2}%
1135 }%
1136 % ... ?
1137 \ifHy@unicode
1138   \def\Hy@cjku{\80}%
1139 \else
1140   \let\Hy@cjku\@empty
1141 \fi
1142 \HyPsd@CJKActiveChars
1143 }%
1144 \count@=127 %
1145 \@whilenum\count@<255 \do{%
1146   \advance\count@ by 1 %
1147   \lccode'\~=\count@
1148   \lowercase{%
1149     \toks@\expandafter{\the\toks@ ~}%
1150   }%
1151 }%
1152 \toks@\expandafter{\the\toks@ !}%
1153 \xdef\HyPsd@CJKhook@bookmarks{%
1154   \the\toks@
1155 }%
1156 \endgroup

```

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

```

1157 \def\HyPsd@CJKActiveChars#1{%
1158   \ifx#1!%
1159     \let\HyPsd@CJKActiveChars\relax
1160   \else
1161     \edef#1{\noexpand\Hy@cjku\string#1}%
1162   \fi
1163   \HyPsd@CJKActiveChars
1164 }

```

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

```

1165 \def\HyPsd@DecimalToOctal#1{%
1166   \ifcase #1 %
1167     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1168     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1169     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1170     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1171     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1172     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1173     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1174     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1175     \or @\or A\or B\or C\or D\or E\or F\or G%
1176     \or H\or I\or J\or K\or L\or M\or N\or O%
1177     \or P\or Q\or R\or S\or T\or U\or V\or W%
1178     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1179     \or \140\or a\or b\or c\or d\or e\or f\or g%
1180     \or h\or i\or j\or k\or l\or m\or n\or o%

```

```

1181 \or p\or q\or r\or s\or t\or u\or v\or w%
1182 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1183 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1184 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1185 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1186 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1187 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1188 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1189 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1190 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1191 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1192 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1193 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1194 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1195 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1196 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1197 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1198 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1199 \fi
1200 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1201 \def\HyPsd@CJKhook@unicode{%
1202 \let\Unicode\HyPsd@CJK@Unicode
1203 \let\CJKnumber\HyPsd@CJKnumber
1204 \let\CJKdigits\HyPsd@CJKdigits
1205 }

```

\HyPsd@CJK@Unicode

```

1206 \def\HyPsd@CJK@Unicode#1#2{%
1207 \ifnum#1<256 %
1208 \HyPsd@DecimalToOctalFirst{#1}%
1209 \HyPsd@DecimalToOctalSecond{#2}%
1210 \else
1211 \933%
1212 \expandafter\expandafter\expandafter\HyPsd@HighA
1213 \intcalcDiv{#1}{4}!%
1214 \933%
1215 \ifcase\intcalcMod{#1}{4} %
1216 4\or 5\or 6\or 7%
1217 \fi
1218 \HyPsd@DecimalToOctalSecond{#2}%
1219 \fi
1220 }

1221 \def\HyPsd@HighA#1!{%
1222 \expandafter\expandafter\expandafter\HyPsd@HighB
1223 \IntCalcDiv#1!64!!%
1224 \expandafter\expandafter\expandafter\HyPsd@HighD
1225 \IntCalcMod#1!64!!%
1226 }
1227 \def\HyPsd@HighB#1!{%
1228 \expandafter\expandafter\expandafter\HyPsd@HighC
1229 \IntCalcDec#1!!%
1230 }

```

```

1231 \def\HyPsd@HighC#1!{%
1232   \IntCalcDiv#1!4!%
1233   \@backslashchar
1234   \IntCalcMod#1!4!%
1235 }
1236 \def\HyPsd@HighD#1!{%
1237   \ifcase\IntCalcDiv#1!8! %
1238     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1239   \fi
1240   \ifcase\IntCalcMod#1!8! %
1241     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1242   \fi
1243 }
1244 \def\HyPsd@DecimalToOctalFirst#1{%
1245   \9%
1246   \ifcase#1 %
1247     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1248     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1249     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1250     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1251     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1252     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1253     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1254     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1255     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1256     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1257     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1258     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1259     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1260     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1261     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1262     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1263     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1264     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1265     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1266     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1267     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1268     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1269     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1270     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1271     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1272     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1273     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1274     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1275     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1276     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1277     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1278     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1279   \fi
1280 }
1281 \def\HyPsd@DecimalToOctalSecond#1{%
1282   \ifcase #1 %
1283     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1284     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1285     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1286     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1287     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%

```



```

1288 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1289 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1290 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1291 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1292 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1293 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1294 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1295 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1296 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1297 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1298 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1299 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1300 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1301 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1302 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1303 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1304 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1305 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1306 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1307 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1308 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1309 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1310 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1311 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1312 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1313 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1314 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1315 \fi
1316 }

1317 \def\HyPsd@CJKNnumber#1{%
1318 \ifnum#1<\z@
1319 \CJK@minus
1320 \expandafter\HyPsd@@CJKNnumber\expandafter{\number-\number#1}%
1321 \else
1322 \expandafter\HyPsd@@CJKNnumber\expandafter{\number#1}%
1323 \fi
1324 }

1325 \def\HyPsd@@CJKNnumber#1{%
1326 \ifcase#1 %
1327 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1328 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1329 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1330 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1331 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1332 \CJK@ten\CJK@nine
1333 \else
1334 \ifnum#1<10000 %
1335 \HyPsd@CJKNnumberFour#1!\@empty{20}%
1336 \@empty
1337 \else
1338 \ifnum#1<100000000 %
1339 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1340 \IntCalcDiv#1!10000!%
1341 !\{20}%
1342 \CJK@tenthousand
1343 \expandafter\expandafter\expandafter\HyPsd@CJKNnumberFour
1344 \IntCalcMod#1!10000!%

```

```

1345      !\CJK@zero{10}%
1346      \@empty
1347      \else
1348      \expandafter\HyPsd@CJKnumberLarge
1349      \number\IntCalcDiv#1!100000000!\expandafter!%
1350      \number\IntCalcMod#1!100000000!!%
1351      \fi
1352      \fi
1353      \fi
1354  }
1355  \def\HyPsd@CJKnumberLarge#1!#2!{%
1356  \HyPsd@CJKnumberFour#1!{}{20}%
1357  \CJK@hundredmillion
1358  \ifnum#2=\z@
1359  \else
1360  \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1361  \IntCalcDiv#2!10000!%
1362  !\CJK@zero{10}%
1363  \CJK@tenthousand
1364  \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1365  \IntCalcMod#2!10000!%
1366  !\CJK@zero{10}%
1367  \@empty
1368  \fi
1369  }
1370  \def\HyPsd@CJKnumberFour#1!#2#3{%
1371  \ifnum#1=\z@
1372  \expandafter\@gobble
1373  \else
1374  \ifnum#1<1000 %
1375  #2%
1376  \HyPsd@CJKnumberThree#1!{}{#3}%
1377  \else
1378  \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1379  \CJK@thousand
1380  \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1381  \IntCalcMod#1!1000!%
1382  !\CJK@zero{10}%
1383  \fi
1384  \fi
1385  }
1386  \def\HyPsd@CJKnumberThree#1!#2#3{%
1387  \ifnum#1=\z@
1388  \else
1389  \ifnum#1<100 %
1390  #2%
1391  \HyPsd@CJKnumberTwo#1!{}{#3}%
1392  \else
1393  \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1394  \CJK@hundred
1395  \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1396  \IntCalcMod#1!100!%
1397  !\CJK@zero{10}%
1398  \fi
1399  \fi
1400  }
1401  \def\HyPsd@CJKnumberTwo#1!#2#3{%

```

```

1402 \ifnum#1=\z@
1403 \else
1404 \ifnum#1<#3 %
1405   #2%
1406   \HyPsd@@CJKnumber{#1}%
1407 \else
1408   \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1409   \CJK@ten
1410   \ifnum\IntCalcMod#1!10!=\z@
1411   \else
1412     \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1413   \fi
1414 \fi
1415 \fi
1416 }

1417 \def\HyPsd@CJKdigits#1{%
1418   \ifx*#1\relax
1419     \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1420   \else
1421     \HyPsd@@CJKdigits\CJK@null{#1}%
1422   \fi
1423 }

1424 \def\HyPsd@@CJKdigits#1#2{%
1425   \ifx\#2\%
1426   \else
1427     \HyPsd@@@CJKdigits#1#2\@nil
1428   \fi
1429 }%

1430 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1431   \HyPsd@CJKdigit#1{#2}%
1432   \ifx\#3\%
1433     \expandafter\@gobble
1434   \else
1435     \expandafter\@firstofone
1436   \fi
1437   {%
1438     \HyPsd@@@CJKdigits#1#3\@nil
1439   }%
1440 }

1441 \def\HyPsd@CJKdigit#1#2{%
1442   \ifcase#2 %
1443     #1\or
1444     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1445     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1446   \fi
1447 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

```

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

1448 \def\HyPsd@inmathwarn#1#2{%
1449   \ifx#2\expandafter
1450     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1451       \HyPsd@GLYPHERR
1452       \expandafter\@gobble\string#1%
1453     >%
1454     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1455   \else
1456     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1457   \fi
1458 \else
1459   \expandafter#2%
1460 \fi
1461 }
1462 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1463 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1464 \def\HyPsd@add@accent#1#2{%
1465   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1466   #2%
1467 }%

```

### 6.5.7 Unexpandable spaces

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

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

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

```
1468 \def\HyPsd@LetUnexpandableSpace#1{%
1469   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1470 }
```

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

```
1471 \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.

```
1472 \edef\HyPsd@XSPACE{\string#\string X}
1473 \edef\HyPsd@ITALCORR{\string#\string I}
1474 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1475 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1476 \def\HyPsd@@hspace#1*#2\END{%
1477   \ifx\#2\%
1478     \HyPsd@hspacetest{#1}%
1479   \else
1480     \expandafter\HyPsd@hspacetest
1481   \fi
1482 }
```

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

```
1483 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1484 \ltx@ifundefined{tocsection}{%
1485   \let\HyPsd@AMSclassfix\relax
1486 }{%
1487   \def\HyPsd@AMSclassfix{%
1488     \let\tocpart\HyPsd@tocsection
1489     \let\tocchapter\HyPsd@tocsection
1490     \let\tocappendix\HyPsd@tocsection
```

```

1491 \let\tocsection\HyPsd@tocsection
1492 \let\tocsubsection\HyPsd@tocsection
1493 \let\tocsubsubsection\HyPsd@tocsection
1494 \let\tocparagraph\HyPsd@tocsection
1495 }%
1496 \def\HyPsd@tocsection#1#2#3{%
1497 \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1498 #3%
1499 }%
1500 }

```

### 6.5.11 Reference commands

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

```

1501 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1502 \def\HyPsd@@ref#1*#2\END{%
1503 \ifx\#2\%
1504 \HyPsd@@@ref{#1}%
1505 \else
1506 \expandafter\HyPsd@@@ref
1507 \fi
1508 }%

```

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

```

1509 \def\HyPsd@@@ref#1{%
1510 \expandafter\ifx\csname r@#1\endcsname\relax
1511 ??%
1512 \else
1513 \expandafter\expandafter\expandafter
1514 \@car\csname r@#1\endcsname\@nil
1515 \fi
1516 }

```

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

```

1517 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1518 \def\HyPsd@@pageref#1*#2\END{%
1519 \ifx\#2\%
1520 \HyPsd@@@pageref{#1}%
1521 \else
1522 \expandafter\HyPsd@@@pageref
1523 \fi
1524 }

```

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

```

1525 \def\HyPsd@@@pageref#1{%
1526 \expandafter\ifx\csname r@#1\endcsname\relax
1527 ??%
1528 \else
1529 \expandafter\expandafter\expandafter\expandafter
1530 \expandafter\expandafter\expandafter\@car
1531 \expandafter\expandafter\expandafter\@gobble

```

```

1532 \csname r@#1\endcsname{}\@nil
1533 \fi
1534 }

```

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

```

1535 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1536 \def\HyPsd@@nameref#1*#2\END{%
1537 \ifx\#2\%
1538 \HyPsd@@@nameref{#1}%
1539 \else
1540 \expandafter\HyPsd@@@nameref
1541 \fi
1542 }

```

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

```

1543 \def\HyPsd@@@nameref#1{%
1544 \expandafter\ifx\csname r@#1\endcsname\relax
1545 ??%
1546 \else
1547 \expandafter\expandafter\expandafter\expandafter
1548 \expandafter\expandafter\expandafter\@car
1549 \expandafter\expandafter\expandafter\@gobbletwo
1550 \csname r@#1\endcsname{}\}\@nil
1551 \fi
1552 }

```

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

```

1553 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1554 \def\HyPsd@@autoref#1*#2\END{%
1555 \ifx\#2\%
1556 \HyPsd@@@autoref{#1}%
1557 \else
1558 \expandafter\HyPsd@@@autoref
1559 \fi
1560 }

```

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

```

1561 \def\HyPsd@@@autoref#1{%
1562 \expandafter\ifx\csname r@#1\endcsname\relax
1563 ??%
1564 \else
1565 \expandafter\expandafter\expandafter\HyPsd@autorefname
1566 \csname r@#1\endcsname{}\}\}\@nil
1567 \expandafter\expandafter\expandafter
1568 \@car\csname r@#1\endcsname\@nil
1569 \fi
1570 }

```

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

```

1571 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%

```

```

1572 \ifx\#4\%
1573 \else
1574 \HyPsd@@autorefname#4.\@nil
1575 \fi
1576 }

```

\HyPsd@@autorefname

```

1577 \def\HyPsd@@autorefname#1.#2\@nil{%
1578 \ltx@ifundefined{#1autorefname}{%
1579 \ltx@ifundefined{#1name}{%
1580 }{%
1581 \csname#1name\endcsname\space
1582 }%
1583 }{%
1584 \csname#1autorefname\endcsname\space
1585 }%
1586 }

```

### 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

```

1587 \begingroup
1588 \def\x#1#2{%
1589 \endgroup
1590 \let#1\def
1591 \def\HyPsd@DefCommand##1##2##{%
1592 #1%
1593 \expandafter\noexpand

```



```

1594     \csname\expandafter\@gobble\string##1\@empty\endcsname
1595     \@gobble
1596 }%
1597 \let#2\let
1598 \def\HyPsd@@LetCommand##1{%
1599     \expandafter\ifx\csname##1\expandafter\endcsname
1600         \csname iftrue\endcsname
1601         \pdfstringdefWarn\let
1602         \expandafter\@gobble
1603     \else
1604         \expandafter\ifx\csname##1\expandafter\endcsname
1605             \csname iffalse\endcsname
1606             \pdfstringdefWarn\let
1607             \expandafter\expandafter\expandafter\@gobble
1608         \else
1609             #2%
1610             \expandafter\noexpand
1611             \csname##1\expandafter\expandafter\expandafter\endcsname
1612         \fi
1613     \fi
1614 }%
1615 }%
1616 \expandafter\x\csname <def>-command\expandafter\endcsname
1617     \csname <let>-command\endcsname
1618 \def\HyPsd@LetCommand#1{%
1619     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1620     \expandafter\expandafter\expandafter{%
1621     \expandafter\@gobble\string#1\@empty
1622 }%
1623 }

```

### 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).

```

1624 \def\HyPsd@ifnextchar#1{%
1625     \pdfstringdefWarn#1%
1626     \expandafter\@gobbletwo\@gobble
1627 }

```

### 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`.

```

1628 \def\HyPsd@protected@testopt#1{%

```

```

1629 \pdfstringdefWarn#1%
1630 \@gobbletwo
1631 }

```

## 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:

```

1632 \def\HyPsd@Warning#1{%
1633 \begingroup
1634 \def\space{ }%
1635 \Hy@Warning{#1}%
1636 \endgroup
1637 }

```

### 6.6.2 Protecting spaces

```

1638 \RequirePackage{etexcmds}[2007/09/09]
1639 \ifetex@unexpanded
1640 \expandafter\@secondoftwo
1641 \else
1642 \expandafter\@firstoftwo
1643 \fi
1644 {%

```

`\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`.

```

1645 \def\HyPsd@ProtectSpaces#1{%
1646 \iftrue
1647 \expandafter\HyPsd@@ProtectSpacesFi
1648 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1649 \fi
1650 }%

```

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

```

1651 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1652 \fi
1653 \ifx\scrollmode#2\scrollmode
1654 \HyPsd@RemoveMask#1\HyPsd@End#3%
1655 \else
1656 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1657 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1658 \fi
1659 }%

```

### 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.

```

1660 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1661 \toks@{\expandafter{#1}%
1662 \xdef#2{\the\toks@}%
1663 }%

```

```

1664 }{%
1665   \let\HyPsd@fi\fi
1666   \def\HyPsd@ProtectSpaces#1{%
1667     \xdef#1{%
1668       \iftrue
1669         \expandafter\HyPsd@@ProtectSpacesFi
1670         \expandafter|\expandafter\@empty#1| %
1671       \HyPsd@fi
1672     }%
1673     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1674   }%
1675   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1676     \fi
1677     \etex@unexpanded{#1}%
1678     \ifx\scrollmode#2\scrollmode
1679     \else
1680       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1681     \HyPsd@fi
1682   }%
1683   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1684     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1685   }%
1686 }

```

### 6.6.3 Remove grouping braces

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

```

1687 \def\HyPsd@RemoveBraces#1{%
1688   \ifx\scrollmode#1\scrollmode
1689   \else
1690     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1691   \fi
1692 }

```

`\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`.

```

1693 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1694   \fi
1695   \def\Hy@temp@A{#1#2}%
1696   \def\Hy@temp@B{#3}%
1697   \ifx\Hy@temp@A\Hy@temp@B
1698     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1699       \HyPsd@String#1%
1700     }%
1701   \ifx\scrollmode#2\scrollmode
1702   \else
1703     \Hy@ReturnAfterFiFiEnd{%
1704       \HyPsd@RemoveBraces{#2}%
1705     }%

```

```

1706 \fi
1707 \else
1708 \def\Hy@temp@A{#1}%
1709 \HyPsd@AppendItalcrr\HyPsd@String
1710 \ifx\Hy@temp@A\@empty
1711 \Hy@ReturnAfterElseFiFiEnd{%
1712 \HyPsd@RemoveBraces{#2}%
1713 }%
1714 \else
1715 \HyPsd@ProtectSpaces\Hy@temp@A
1716 \HyPsd@AppendItalcrr\Hy@temp@A
1717 \Hy@ReturnAfterFiFiEnd{%
1718 \expandafter\HyPsd@RemoveBraces\expandafter
1719 {\Hy@temp@A#2}%
1720 }%
1721 \fi
1722 \fi
1723 \Hy@ReturnEnd
1724 }

```

\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.

```

1725 \def\HyPsd@AppendItalcrr#1{%
1726 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1}%
1727 }
1728 \def\HyPsd@@AppendItalcrr#1#2{%
1729 \expandafter\def\expandafter#2\expandafter{#2#1}%
1730 }

```

#### 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).

```

1731 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1732 \global\let\HyPsd@Rest\relax
1733 \ifcat\relax\noexpand#1\relax
1734 \ifx#1\protect
1735 \else
1736 \ifx#1\penalty
1737 \setbox\z@=\hbox{%
1738 \afterassignment\HyPsd@AfterCountRemove
1739 \count@=#2\HyPsd@End
1740 }%
1741 \else
1742 \ifx#1\kern
1743 \setbox\z@=\hbox{%
1744 \afterassignment\HyPsd@AfterDimenRemove

```

```

1745         \dimen@=#2\HyPsd@End
1746     }%
1747 \else
1748     \ifx#1\hskip
1749         \setbox\z@=\hbox{%
1750             \afterassignment\HyPsd@AfterSkipRemove
1751             \skip@=#2\HyPsd@End
1752         }%
1753     \else
1754         \HyPsd@CatcodeWarning{#1}%
1755     \fi
1756 \fi
1757 \fi
1758 \fi
1759 \else
1760     \ifcat#1A% letter
1761         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1762             \HyPsd@String#1%
1763         }%
1764     \else
1765         \ifcat#1 % SPACE
1766             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1767                 \HyPsd@String\HyPsd@SPACEOPTI
1768             }%
1769         \else
1770             \ifcat$#1%
1771                 \HyPsd@CatcodeWarning{math shift}%
1772             \else
1773                 \ifcat&#1%
1774                     \HyPsd@CatcodeWarning{alignment tab}%
1775                 \else
1776                     \ifcat^#1%
1777                         \HyPsd@CatcodeWarning{superscript}%
1778                     \else
1779                         \ifcat_#1%
1780                             \HyPsd@CatcodeWarning{subscript}%
1781                         \else
1782                             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1783                                 \HyPsd@String#1%
1784                             }%
1785                         \fi
1786                     \fi
1787                 \fi
1788             \fi
1789         \fi
1790     \fi
1791 \fi
1792 \ifx\HyPsd@Rest\relax
1793     \ifx\scrollmode#2\scrollmode
1794     \else
1795         \Hy@ReturnAfterFiFiEnd{%
1796             \HyPsd@CheckCatcodes#2\HyPsd@End
1797         }%
1798     \fi
1799 \else
1800     \ifx\HyPsd@Rest\@empty
1801     \else

```

```

1802 \Hy@ReturnAfterFiFiEnd{%
1803 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1804 }%
1805 \fi
1806 \fi
1807 \Hy@ReturnEnd
1808 }

```

### Remove counts, dimens, skips.

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

```

1809 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1810 \gdef\HyPsd@Rest{#1}%
1811 }

```

`\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.

```

1812 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1813 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1814 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1815 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1816 \else
1817 \ifdim\dimen@=\z@
1818 \else
1819 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1820 \fi
1821 \gdef\HyPsd@Rest{#1}%
1822 \fi
1823 }

```

`\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).

```

1824 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1825 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1826 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1827 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1828 \else
1829 \ifdim\skip@=\z@
1830 \else
1831 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1832 \fi
1833 \gdef\HyPsd@Rest{#1}%
1834 \fi
1835 }

```

### Catcode warnings.

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

```

1836 \def\HyPsd@CatcodeWarning#1{%
1837 \HyPsd@Warning{%
1838 Token not allowed in a PDF string (%
1839 \ifHy@unicode
1840 Unicode%
1841 \else

```

```

1842     PDFDocEncoding%
1843     \fi
1844   ):%
1845   \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1846 }%
1847 }
1848 \begingroup
1849 \catcode‘\|=0 %
1850 \catcode‘\|=12 %
1851 |gdef|HyPsd@RemoveCmdPrefix#1{%
1852 |expandafter|HyPsd@@RemoveCmdPrefix
1853 |string#1|@empty\<>-|@empty|@empty
1854 }%
1855 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1856 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1857 \def\HyPsd@RemoveSpaceWarning#1{%
1858   \HyPsd@Warning{%
1859     Token not allowed in a PDF string (%)
1860     \ifHy@unicode
1861       Unicode%
1862     \else
1863       PDFDocEncoding%
1864     \fi
1865   ):%
1866   \MessageBreak #1\MessageBreak
1867   removed%
1868 }%
1869 }

```

\HyPsd@ReplaceSpaceWarning

```

1870 \def\HyPsd@ReplaceSpaceWarning#1{%
1871   \HyPsd@Warning{%
1872     Token not allowed in a PDF string (%)
1873     \ifHy@unicode
1874       Unicode%
1875     \else
1876       PDFDocEncoding%
1877     \fi
1878   ):%
1879   \MessageBreak #1\MessageBreak
1880   replaced by space%
1881 }%
1882 }

```

### 6.6.5 Check for wrong glyphs

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

```

1883 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1884   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1885     \HyPsd@String#1%
1886   }%
1887   \ifx\\#2\\%
1888   \else
1889     \Hy@ReturnAfterFi{%

```

```

1890 \HyPsd@GlyphProcessWarning#2\@empty
1891 }%
1892 \fi
1893 }
1894 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1895 \HyPsd@@GlyphProcessWarning#1++>%
1896 \HyPsd@GlyphProcess#2\@empty
1897 }
1898 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1899 \ifx\#2\%
1900 \HyPsd@Warning{%
1901 Glyph not defined in %
1902 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1903 removing \@backslashchar#1'%
1904 }%
1905 \else
1906 \HyPsd@Warning{%
1907 Composite letter \@backslashchar#1+#2'\MessageBreak
1908 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1909 \MessageBreak
1910 removing \@backslashchar#1'%
1911 }%
1912 \fi
1913 }

```

## 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.

```

1914 \def\HyPsd@spaceopti#1{ % first space
1915 \ifx\HyPsd@spaceopti#1%
1916 \040%
1917 \else
1918 #1%
1919 \fi
1920 }%

```

### 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.

1921 \def\HyPsd@Subst#1#2#3{%
1922 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
1923 \fi
1924 ##1%
1925 \ifx\scrollmode##2\scrollmode
1926 \else
1927 #2%
1928 \HyPsd@@ReplaceFi##2\END
1929 \fi
1930 }%

```



```

1931 \xdef#3{%
1932   \iftrue
1933     \expandafter\HyPsd@@ReplaceFi#3#1\END
1934   \fi
1935 }%
1936 }

```

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

```

1937 \def\HyPsd@StringSubst#1{%
1938   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1939 }

```

`\HyPsd@EscapeTeX`

```

1940 \begingroup
1941   \lccode'\!='\%%
1942   \lccode'\|= '\%%
1943   \lccode'\(= '\{%
1944   \lccode'\)= '\}%
1945   \lccode'0=\ltx@zero
1946   \lccode'1=\ltx@zero
1947   \lccode'3=\ltx@zero
1948   \lccode'4=\ltx@zero
1949   \lccode'5=\ltx@zero
1950   \lccode'7=\ltx@zero
1951 \lowercase{\endgroup
1952 \def\HyPsd@EscapeTeX#1{%
1953   \HyPsd@Subst!{|045}#1%
1954   \HyPsd@Subst({|173}#1%
1955   \HyPsd@Subst){|175}#1%
1956 }%
1957 }

```

### 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.

```

1958 \def\HyPsd@doxspace#1{%
1959   \ifx#1\relax\else
1960     \ifx#1.\else
1961       \ifx#1:\else
1962         \ifx#1,\else
1963           \ifx#1;\else
1964             \ifx#1!\else
1965               \ifx#1?\else
1966                 \ifx#1/\else
1967                   \ifx#1-\else
1968                     \ifx#1'\else
1969                       \HyPsd@SPACEOPTI
1970                     \fi
1971                   \fi
1972                 \fi
1973               \fi
1974             \fi
1975           \fi

```

```

1976   \fi
1977   \fi
1978   \fi
1979   \fi
1980   #1%
1981 }%

```

### 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.

```

1982 \begingroup
1983   \catcode'\|=0 %
1984   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1985 |gdef|HyPsd@ConvertToUnicode#1{%
1986 |xdef#1{%
1987   |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1988 }%
1989 |ifx#1|@empty
1990 |else
1991 |xdef#1{%
1992   \376\377%
1993   #1%
1994 }%
1995 |fi
1996 }%

```

\HyPsd@DoConvert

```

1997 |gdef|HyPsd@DoConvert#1{%
1998 |ifx#1|@empty
1999 |else
2000 |Hy@ReturnAfterFi{%
2001 |ifx#1\%%
2002 \%%
2003 |expandafter|HyPsd@DoEscape
2004 |else
2005 |HyPsd@Char{#1}%
2006 |expandafter|HyPsd@DoConvert
2007 |fi
2008 }%
2009 |fi
2010 }%

```

\HyPsd@DoEscape

```

2011 |gdef|HyPsd@DoEscape#1{%
2012 |ifx#19%
2013 |expandafter|HyPsd@GetTwoBytes
2014 |else
2015 |Hy@ReturnAfterFi{%
2016 |ifx#18%
2017 00%
2018 |expandafter|HyPsd@GetTwoBytes
2019 |else

```

```

2020      #1%
2021      |expandafter|HyPsd@GetOneByte
2022      |fi
2023      }%
2024      |fi
2025      }%

```

\HyPsd@GetTwoBytes

```

2026 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2027   #1\#2#3#4%
2028   |HyPsd@DoConvert
2029   }%

```

\HyPsd@GetOneByte

```

2030 |gdef|HyPsd@GetOneByte#1#2{%
2031   #1#2%
2032   |HyPsd@DoConvert
2033   }%
2034 |endgroup

```

\HyPsd@@GetNextTwoTokens **T**<sub>E</sub>**X** does only allow nine parameters, so we need another macro to get more arguments.

```

2035 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2036   \xdef#4{#4#1#2}%
2037   \HyPsd@@ConvertToUnicode#3\END#4%
2038 }

```

\HyPsd@Char

```

2039 \begingroup
2040 \catcode0=9 %
2041 \catcode'\^=7 %
2042 \catcode'\^^=12 %
2043 \def\x{^^^0000}%
2044 \expandafter\endgroup
2045 \ifx\x\@empty
2046   \def\HyPsd@Char#1{%
2047     \ifnum'#1<128 %
2048       \@backslashchar 000#1%
2049     \else
2050       \ifnum'#1<65536 %
2051         \expandafter\HyPsd@CharTwoByte\number'#1!%
2052       \else
2053         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2054         \intcalcSub{'#1}{65536}!%
2055       \fi
2056     \fi
2057   }%
2058 \def\HyPsd@CharTwoByte#1!{%
2059   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2060   \IntCalcDiv#1!256!!%
2061   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2062   \IntCalcMod#1!256!!%
2063 }%
2064 \def\HyPsd@CharOctByte#1!{%
2065   \@backslashchar
2066   \IntCalcDiv#1!64!%
2067   \intcalcDiv{\IntCalcMod#1!64!}{8}%
2068   \IntCalcMod#1!8!%

```

```

2069 }%
2070 \def\HyPsd@CharSurrogate#1!{%
2071 \@@backslashchar 33%
2072 \IntCalcDiv#1!262144!%
2073 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2074 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2075 \@@backslashchar 33%
2076 \expandafter\expandafter\expandafter\IntCalcAdd
2077 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2078 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2079 \IntCalcMod#1!256!!%
2080 }%
2081 \else
2082 \def\HyPsd@Char#1{%
2083 \@@backslashchar 000#1%
2084 }%
2085 \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`

```

2086 \begingroup\expandafter\expandafter\expandafter\endgroup
2087 \expandafter\ifx\csname numexpr\endcsname\relax
2088 \let\HyPsd@UTFviii\relax
2089 \else
2090 \begingroup
2091 \lccode'\~='^f4\relax
2092 \lowercase{\endgroup
2093 \def\HyPsd@UTFviii{%
2094 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2095 \let\UTFviii@three@octets\HyPsd@UTFviii@three
2096 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2097 \ifx~\HyPsd@UTFviii@ccxliv@undef
2098 \let~\HyPsd@UTFviii@ccxliv@def
2099 \fi
2100 \let\unichar\HyPsd@unichar
2101 }%
2102 }%
2103 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2104 \edef\HyPsd@UTFviii@ccxliv@def{%
2105 \noexpand\UTFviii@four@octets\string ^f4%
2106 }%

```

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.

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

$$\begin{aligned} b &:= A - 4 * (A/4) & (2) \\ c &:= B/8 - 8 * ((8 * (B/8))/8) & (3) \\ d &:= B - 8 * (B/8) & (4) \end{aligned}$$

```

2107 \def\HyPsd@UTFviii@two#1#2{%
2108 \expandafter\HyPsd@UTFviii@@two
2109 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2110 \number'#1\expandafter| %
2111 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2112 \number'#2 \@nil
2113 }%
2114 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2115 \expandafter\8%
2116 \number\numexpr #1-48\expandafter\relax
2117 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2118 \number\numexpr #3-8*%
2119 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2120 \number\numexpr #4-8*#3\relax
2121 }%

```

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

$$\begin{aligned} a &:= A/4 - 56 & (6) \\ b &:= 2 * (A - 4 * (A/4)) + ((B - 128 < 32)?0 : 1) & (7) \\ c &:= B/4 - 32 - ((B - 128 < 32)?0 : 8) & (8) \\ d &:= B - 4 * (B/4) & (9) \\ e &:= C/8 - 16 & (10) \\ f &:= C - 8 * (C/8) & (11) \end{aligned}$$

```

2122 \def\HyPsd@UTFviii@three#1#2#3{%
2123 \expandafter\HyPsd@UTFviii@@three
2124 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2125 \number'#1\expandafter| %
2126 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2127 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2128 \number'#2\expandafter| %
2129 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2130 \number'#3 \@nil
2131 }%
2132 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2133 \expandafter\9%
2134 \number\numexpr #1-56\expandafter\relax
2135 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2136 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2137 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2138 \number\numexpr #6-16\expandafter\relax
2139 \number\numexpr #7-8*#6\relax
2140 }%

```

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 11011yy yyxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2141 \def\HyPsd@UTFviii@four#1#2{%
2142 \expandafter\HyPsd@@UTFviii@four\number
2143 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2144 \expandafter|\number
2145 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2146 }%
2147 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2148 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2149 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2150 \ifodd#2 %
2151 \number\dimexpr(#2-1)/2\relax
2152 \else
2153 \number\dimexpr#2/2\relax
2154 \fi
2155 \number\dimexpr\ifodd#2 4+\fi
2156 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2157 \933%
2158 \expandafter\HyPsd@@@UTFviii@four\number
2159 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2160 }%
2161 \def\HyPsd@@@UTFviii@four#1|#2{%
2162 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2163 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2164 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2165 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2166 }%

```

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

```

2167 \def\HyPsd@unichar#1{%
2168 \ifHy@unicode
2169 \ifnum#1>"10FFFF %
2170 \HyPsd@UnicodeReplacementCharacter % illegal
2171 \else
2172 \ifnum#1>"FFFF %

```

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

```

2173 \expandafter\HyPsd@unichar\expandafter{%
2174 \number\dimexpr 55296+ %
2175 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2176 \relax\relax\relax
2177 }%

```

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

```

2178 \expandafter\HyPsd@unichar\expandafter{%
2179 \number\dimexpr#1-9216%
2180 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2181 \relax\relax\relax
2182 }%
2183 \else
2184 \ifnum#1>"7FF %
2185 \9%
2186 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2187 \number
2188 \dimexpr.00390625\dimexpr\number#1sp\relax\relax

```

```

2189     }%
2190     \else
2191     \8%
2192     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2193     \fi
2194     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2195     \number
2196     \numexpr#1-256*\number
2197     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2198     }%
2199     \fi
2200     \fi
2201     \else
2202     .% unsupported (Unicode -> PDF Doc Encoding)
2203     \fi
2204 }%
2205 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2206 \def\HyPsd@unichar@first@byte#1{%
2207     \number\dimexpr.015625\dimexpr#1sp\relax\relax
2208     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2209     \number
2210     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2211     \relax\relax\relax
2212     }%
2213 }%
2214 \def\HyPsd@unichar@second@byte#1{%
2215     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2216     \expandafter\HyPsd@unichar@octtwo\expandafter{%
2217     \number
2218     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2219     \relax\relax\relax
2220     }%
2221 }%
2222 \def\HyPsd@unichar@octtwo#1{%
2223     \number\dimexpr.125\dimexpr#1sp\relax\relax
2224     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2225     \relax\relax\relax
2226 }%
2227 \fi

```

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

```

2228 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2229     \ifx\@gobble#1%
2230     \else
2231     [Please insert \textbackslash PrerenderUnicode%
2232     \textbraceleft#1\textbraceright\space
2233     into preamble]%
2234     \fi
2235 }%

```

## 7 Support of other packages

### 7.1 Class memoir

```

2236 \@ifclassloaded{memoir}{%
2237     \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}}%

```

```
2238 }{}

```

## 7.2 Package subfigure

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

```
2239 \ifpackageloaded{subfigure}{%
2240   \ltx@ifundefined{sub@label}{%
2241     \Hy@hypertextnamesfalse
2242   }{%
2243     \renewcommand*{\sub@label}[1]{%
2244       \bsphack
2245       \subfig@oldlabel{#1}%
2246       \if@filesw
2247         \begingroup
2248         \edef\@currentlabstr{%
2249           \expandafter\strip@prefix\meaning\@currentlabelname
2250         }%
2251         \protected@write\@auxout{}{%
2252           \string\newlabel{sub@#1}{%
2253             {\@nameuse{\@thesub\@capytype}}%
2254             {\thepage}%
2255             {%
2256               \expandafter\strip@period\@currentlabstr
2257               \relax.\relax\@@@%
2258             }%
2259             {\@currentHref}%
2260             }%
2261           }%
2262         }%
2263       \endgroup
2264     \fi
2265     \esphack
2266   }%
2267   \@ifpackagelater{subfigure}{2002/03/26}{}{}%
2268   \providecommand*\toclevel@subfigure{1}%
2269   \providecommand*\toclevel@subtable{1}%
2270 }%
2271 }%
2272 }{}

```

## 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:

```
2273 \ltx@ifundefined{XR@addURL}{%
2274 }{}%

```

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.

```
2275 \def\XR@addURL#1{\XR@@dURL#1{}{}{}\\}%
2276 \def\XR@@dURL#1#2#3#4#5\\{%
2277   {#1}{#2}%
2278   \if!#4!%
2279   \else
2280     {#3}{#4}{\XR@URL}%
2281   \fi
2282 }%
2283 }

```



```

2284 \def\Hy@true{true}
2285 \def\Hy@false{false}

    Providing dummy definitions.

2286 \let\literalps@out\@gobble
2287 \newcommand\pdfbookmark[3][]{ }
2288 \def\Acrobatmenu#1#2{\leavevmode#2}
2289 \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

```

2290 \let\HyperRaiseLinkHook\@empty
2291 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2292 \def\Hy@raisedlink#1{%
2293   \ifvmode
2294     #1%
2295   \else
2296     \penalty\@M
2297     \smash{%
2298       \begingroup
2299         \let\HyperRaiseLinkLength\@tempdima
2300         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2301         \HyperRaiseLinkHook
2302         \expandafter\endgroup
2303         \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
2304       }%
2305   \fi
2306 }

```

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

```

2307 \def\Hy@SaveLastskip{%
2308   \let\Hy@RestoreLastskip\relax
2309   \ifvmode
2310     \ifdim\lastskip=\z@
2311       \let\Hy@RestoreLastskip\nobreak
2312     \else
2313       \begingroup
2314         \skip@=-\lastskip
2315         \edef\x{%
2316           \endgroup
2317         \def\noexpand\Hy@RestoreLastskip{%
2318           \noexpand\ifvmode
2319             \noexpand\nobreak

```

```

2320         \vskip\the\skip@
2321         \vskip\the\lastskip\relax
2322     \noexpand\fi
2323 }%
2324 }%
2325 \x
2326 \fi
2327 \else
2328     \ifhmode
2329     \ifdim\lastskip=\z@
2330     \let\Hy@RestoreLastskip\nobreak
2331     \else
2332     \begingroup
2333     \skip@=-\lastskip
2334     \edef\x{%
2335     \endgroup
2336     \def\noexpand\Hy@RestoreLastskip{%
2337     \noexpand\ifhmode
2338     \noexpand\nobreak
2339     \hskip\the\skip@
2340     \hskip\the\lastskip\relax
2341     \noexpand\fi
2342     }%
2343     }%
2344     \x
2345     \fi
2346 \fi
2347 \fi
2348 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

2349 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
2350 \def\Hy@@boolkey[#1]#2#3{%
2351     \edef\Hy@tempa{#3}%
2352     \lowercase\expandafter{%
2353     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2354     }%
2355     \ifx\Hy@tempa\@empty
2356     \let\Hy@tempa\Hy@true
2357     \fi
2358     \ifx\Hy@tempa\Hy@true
2359     \else
2360     \ifx\Hy@tempa\Hy@false
2361     \else
2362     \let\Hy@tempa\relax
2363     \fi
2364     \fi
2365     \ifx\Hy@tempa\relax
2366     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
2367     \else
2368     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2369     \csname Hy@#2\Hy@tempa\endcsname

```

```

2370 \fi
2371 }

```

\Hy@WarnOptionValue

```

2372 \def\Hy@WarnOptionValue#1#2#3{%
2373 \Hy@Warning{%
2374   Unexpected value '#1'\MessageBreak
2375   of option '#2' instead of\MessageBreak
2376   #3%
2377 }%
2378 }

```

\Hy@DisableOption

```

2379 \def\Hy@DisableOption#1{%
2380 \ifundefined{KV@Hyp@#1@default}{%
2381 \define@key{Hyp}{#1}%
2382 }{%
2383 \define@key{Hyp}{#1}[]%
2384 }%
2385 {\Hy@WarnOptionDisabled{#1}}%
2386 }

```

\Hy@WarnOptionDisabled

```

2387 \def\Hy@WarnOptionDisabled#1{%
2388 \Hy@Warning{%
2389   Option '#1' has already been used,\MessageBreak
2390   setting the option has no effect%
2391 }%
2392 }

```

\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.

```

2393 \def\Hy@CheckOptionValue#1#2#3{%
2394 \begingroup
2395 \edef\x{#1}%
2396 \@onelevel@sanitize\x
2397 \let\y=y%
2398 \def\do##1##2{%
2399 \def\z{##1}%
2400 \@onelevel@sanitize\z
2401 \ifx\x\z
2402 \let\y=n%
2403 \let\do\@gobbletwo
2404 \fi
2405 }%
2406 #3%
2407 \ifx\y y%
2408 \def\do##1##2{%
2409 * '##1'%
2410 \ifx\##2\\else\space(##2)\fi
2411 \MessageBreak
2412 }%
2413 \Hy@Warning{%
2414   Values of option '#2':\MessageBreak
2415   #3%
2416   * An empty value disables the option.\MessageBreak
2417   Unknown value '\x'%

```

```

2418 }%
2419 \fi
2420 \endgroup
2421 }

```

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

```

2422 \def\Hy@DefNameKey#1{%
2423   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2424 }

```

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

```

2425 \def\Hy@@DefNameKey#1#2#3{%
2426   \define@key{Hyp}{#2}{%
2427     \edef#1{##1}%
2428     \ifx#1\@empty
2429       \else
2430         \Hy@CheckOptionValue{##1}{#2}{#3}%
2431       \fi
2432   }%
2433   \let#1\@empty
2434 }

```

`\Hy@UseNameKey`

```

2435 \def\Hy@UseNameKey#1#2{%
2436   \ifx#2\@empty
2437     \else
2438       /#1/#2%
2439   \fi
2440 }

```

## 9.2 Defining the options

```

2441 \define@key{Hyp}{implicit}[true]{%
2442   \Hy@boolkey{implicit}{#1}%
2443 }
2444 \define@key{Hyp}{draft}[true]{%
2445   \Hy@boolkey{draft}{#1}%
2446 }
2447 \define@key{Hyp}{final}[true]{%
2448   \Hy@boolkey{final}{#1}%
2449 }
2450 \let\KV@Hyp@nolinks\KV@Hyp@draft
2451 \def\Hy@ObsoletePaperOption#1{%
2452   \Hy@WarningNoLine{%
2453     Option ‘#1’ is no longer used%
2454   }%
2455   \define@key{Hyp}{#1}[true]{}%
2456 }
2457 \def\Hy@temp#1{%
2458   \define@key{Hyp}{#1}[true]{%
2459     \Hy@ObsoletePaperOption{#1}%
2460   }%

```

```

2461 }
2462 \Hy@temp{a4paper}
2463 \Hy@temp{a5paper}
2464 \Hy@temp{b5paper}
2465 \Hy@temp{letterpaper}
2466 \Hy@temp{legalpaper}
2467 \Hy@temp{executivepaper}

2468 \define@key{Hyp}{setpagesize}[true]{%
2469   \Hy@boolkey{setpagesize}{#1}%
2470 }
2471 \define@key{Hyp}{debug}[true]{%
2472   \Hy@boolkey{debug}{verbose}{#1}%
2473 }
2474 \define@key{Hyp}{linktocpage}[true]{%
2475   \Hy@boolkey{linktocpage}{#1}%
2476   \ifHy@linktocpage
2477     \let\Hy@linktoc\Hy@linktoc@page
2478   \else
2479     \let\Hy@linktoc\Hy@linktoc@section
2480   \fi
2481 }
2482 \chardef\Hy@linktoc@none=0 %
2483 \chardef\Hy@linktoc@section=1 %
2484 \chardef\Hy@linktoc@page=2 %
2485 \chardef\Hy@linktoc@all=3 %
2486 \ifHy@linktocpage
2487   \let\Hy@linktoc\Hy@linktoc@page
2488 \else
2489   \let\Hy@linktoc\Hy@linktoc@section
2490 \fi
2491 \define@key{Hyp}{linktoc}{%
2492   \@ifundefined{Hy@linktoc@#1}{%
2493     \Hy@Warning{%
2494       Unexpected value '#1' of\MessageBreak
2495       option 'linktoc' instead of 'none',\MessageBreak
2496       'section', 'page' or 'all'%
2497     }%
2498   }{%
2499     \expandafter\let\expandafter\Hy@linktoc
2500     \csname Hy@linktoc@#1\endcsname
2501   }%
2502 }
2503 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2504 \let\XR@ext\relax
2505 \define@key{Hyp}{verbose}[true]{%
2506   \Hy@boolkey{verbose}{#1}%
2507 }
2508 \define@key{Hyp}{typexml}[true]{%
2509   \Hy@boolkey{typexml}{#1}%
2510 }

```

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.

```

2511 \define@key{Hyp}{raiselinks}[true]{%
2512   \Hy@boolkey{raiselinks}{#1}%

```

2513 }

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

```
2514 \def\Hy@setbreaklinks#1{%
2515   \csname breaklinks#1\endcsname
2516 }

2517 \def\Hy@breaklinks@unsupported{%
2518   \ifx\Hy@setbreaklinks\@gobble
2519     \ifHy@breaklinks
2520       \Hy@WarningNoLine{%
2521         You have enabled option 'breaklinks'.\MessageBreak
2522         But driver '\Hy@driver.def' does not support this.\MessageBreak
2523         Expect trouble with the link areas of broken links%
2524       }%
2525     \fi
2526   \fi
2527 }

2528 \define@key{Hyp}{breaklinks}[true]{%
2529   \Hy@boolkey{breaklinks}{#1}%
2530   \let\Hy@setbreaklinks\@gobble
2531 }

2532 \define@key{Hyp}{localanchorname}[true]{%
2533   \Hy@boolkey{localanchorname}{#1}%
2534 }
```

Determines whether an automatic anchor is put on each page

```
2535 \define@key{Hyp}{pageanchor}[true]{%
2536   \Hy@boolkey{pageanchor}{#1}%
2537 }
```

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.

```
2538 \define@key{Hyp}{plainpages}[true]{%
2539   \Hy@boolkey{plainpages}{#1}%
2540 }
```

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

```
2541 \define@key{Hyp}{naturalnames}[true]{%
2542   \Hy@boolkey{naturalnames}{#1}%
2543 }
```

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

```
2544 \define@key{Hyp}{hypertexnames}[true]{%
2545   \Hy@boolkey{hypertexnames}{#1}%
2546 }
```

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

```
2547 \define@key{Hyp}{nesting}[true]{%
2548   \Hy@boolkey{nesting}{#1}%
2549 }

2550 \define@key{Hyp}{unicode}[true]{%
2551   \Hy@boolkey{unicode}{#1}%
2552   \ifHy@unicode
2553     \def\HyPsd@pdfencoding{unicode}%
2554     \HyPsd@LoadUnicode
2555   \else
2556     \def\HyPsd@pdfencoding{pdfdoc}%
2557   \fi
```

```

2558 }
2559 \def\HyPsd@LoadUnicode{%
2560   \ifundefined{T@PU}{%
2561     \input{puenc.def}%
2562     \HyLinguex@Restore
2563   }{}%
2564   \DeclareFontFamily{PU}{pdf}{}%
2565   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
2566   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2567   \global\let\HyPsd@LoadUnicode\relax
2568 }
2569 \Hy@AtBeginDocument{%
2570   \ifx\HyPsd@LoadUnicode\relax
2571     \else
2572       \def\HyPsd@LoadUnicode{%
2573         \PackageError{hyperref}{%
2574           Unicode support for bookmarks is not available.\MessageBreak
2575           Activate unicode support by using one of the options\MessageBreak
2576           ‘unicode’, ‘pdfencoding=unicode’, ‘pdfencoding=auto’\MessageBreak
2577           in the preamble%
2578         }\@ehc
2579         \global\let\HyPsd@LoadUnicode\relax
2580         \global\Hy@unicodedefalse
2581         \global\let\Hy@unicodetrue\Hy@unicodedefalse
2582       }%
2583     \fi
2584 }
2585 \define@key{Hyp}{pdfencoding}{%
2586   \edef\HyPsd@temp{#1}%
2587   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2588     \let\HyPsd@pdfencoding\HyPsd@temp
2589     \Hy@unicodedefalse
2590   \else
2591     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2592       \z@
2593     \else
2594       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2595         \z@
2596       \else
2597         \@ne
2598       \fi
2599     \fi
2600     \let\HyPsd@pdfencoding\HyPsd@temp
2601     \hypersetup{unicode}%
2602     \ifHy@unicode
2603       \def\HyPsd@pdfencoding{#1}%
2604       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2605         \HyPsd@LoadStringEnc
2606       \fi
2607     \else
2608       \Hy@Warning{Cannot switch to unicode bookmarks}%
2609       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2610     \fi
2611   \else
2612     \@onelevel@sanitize\HyPsd@temp
2613     \Hy@Warning{%
2614       Values of option ‘pdfencoding’: \MessageBreak

```

```

2615     'pdfdoc', 'unicode', 'auto'.\MessageBreak
2616     Ignoring unknown value '\HyPsd@temp'%
2617   }%
2618 \fi
2619 \fi
2620 }
2621 \def\HyPsd@pdfencoding@auto{auto}
2622 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2623 \def\HyPsd@pdfencoding@unicode{unicode}
2624 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2625 \def\HyPsd@LoadStringEnc{%
2626   \RequirePackage{stringenc}[2009/12/15]%
2627   \let\HyPsd@LoadStringEnc\relax
2628 }
2629 \Hy@AtBeginDocument{%
2630   \ifpackageloaded{stringenc}{%
2631     \let\HyPsd@LoadStringEnc\relax
2632   }{%
2633     \def\HyPsd@LoadStringEnc{%
2634       \Hy@WarningNoLine{%
2635         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2636         in the preamble or load the package there%
2637       }%
2638     }%
2639   }%
2640 }

2641 \def\hypersetup{\kvsetkeys{Hyp}}

2642 \newif\ifHy@setpdfversion
2643 \define@key{Hyp}{pdfversion}{%
2644   \ifundefined{Hy@pdfversion@#1}{%
2645     \PackageWarning{hyperref}{%
2646       Unsupported PDF version '#1'.\MessageBreak
2647       Valid values: 1.2 until 1.9%
2648     }%
2649   }{%
2650     \Hy@setpdfversiontrue
2651     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2652   }%
2653 }
2654 \@namedef{Hy@pdfversion@1.2}{2}%
2655 \@namedef{Hy@pdfversion@1.3}{3}%
2656 \@namedef{Hy@pdfversion@1.4}{4}%
2657 \@namedef{Hy@pdfversion@1.5}{5}%
2658 \@namedef{Hy@pdfversion@1.6}{6}%
2659 \@namedef{Hy@pdfversion@1.7}{7}%
2660 \@namedef{Hy@pdfversion@1.8}{8}%
2661 \@namedef{Hy@pdfversion@1.9}{9}%
2662 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2663 \define@key{Hyp}{hyperref}[true]{}
2664 \define@key{Hyp}{tex4ht}[true]{}%
2665 \Hy@texhttrue
2666 \kvsetkeys{Hyp}{colorlinks=true}%
2667 \def\BeforeTeXIVht{\usepackage{color}}%
2668 \def\Hy@driver{htex4ht}%

```



```

2669 \def\MaybeStopEarly{%
2670 \typeout{Hyperref stopped early}%
2671 \Hy@AtBeginDocument{%
2672 \PDF@FinishDoc
2673 \gdef\PDF@FinishDoc{%}
2674 }%
2675 \endinput
2676 }%
2677 }
2678 \define@key{Hyp}{pdftex}[true]{%
2679 \def\Hy@driver{hpdftex}%
2680 }
2681 \define@key{Hyp}{nativepdf}[true]{%
2682 \def\Hy@driver{hdvips}%
2683 }
2684 \define@key{Hyp}{dvipdfm}[true]{%
2685 \def\Hy@driver{hdvipdfm}%
2686 }
2687 \define@key{Hyp}{dvipdfmx}[true]{%
2688 \def\Hy@driver{hdvipdfm}%
2689 }
2690 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2691 \expandafter\ifx\csname if#1\expandafter\endcsname
2692 \csname iftrue\endcsname
2693 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2694 \else
2695 \chardef\SpecialDvipdfmxOutlineOpen\z@
2696 \fi
2697 }
2698 \define@key{Hyp}{xetex}[true]{%
2699 \def\Hy@driver{hxetex}%
2700 }
2701 \define@key{Hyp}{pdfmark}[true]{%
2702 \def\Hy@driver{hdvips}%
2703 }
2704 \define@key{Hyp}{dvips}[true]{%
2705 \def\Hy@driver{hdvips}%
2706 }
2707 \define@key{Hyp}{hypertex}[true]{%
2708 \def\Hy@driver{hypertex}%
2709 }
2710 \let\Hy@MaybeStopNow\relax
2711 \define@key{Hyp}{vtex}[true]{%
2712 \begingroup\expandafter\expandafter\expandafter\endgroup
2713 \expandafter\ifx\csname OpMode\endcsname\relax
2714 \@latex@error{Non-VTeX processor}{}%
2715 \global\let\Hy@MaybeStopNow\endinput
2716 \endinput
2717 \else
2718 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2719 \def\Hy@driver{hvtex}%
2720 \else
2721 \ifnum\OpMode=10\relax
2722 \def\Hy@driver{hvtexhtm}%
2723 \def\MaybeStopEarly{%
2724 \typeout{Hyperref stopped early}%
2725 \Hy@AtBeginDocument{%

```

```

2726         \PDF@FinishDoc
2727         \gdef\PDF@FinishDoc{}}%
2728     }%
2729     \endinput
2730 }%
2731 \else
2732     \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2733     \global\let\Hy@MaybeStopNow\endinput
2734     \endinput
2735 \fi
2736 \fi
2737 \fi
2738 }
2739 \define@key{Hyp}{vtexpdfmark}[true]{%
2740 \begingroup\expandafter\expandafter\expandafter\endgroup
2741 \expandafter\ifx\csname OpMode\endcsname\relax
2742     \@latex@error{Non-VTeX processor}{}%
2743     \let\Hy@MaybeStopNow\endinput
2744     \endinput
2745 \else
2746     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2747     \def\Hy@driver{hvtexmrk}%
2748     \else
2749         \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2750         \let\Hy@MaybeStopNow\endinput
2751         \endinput
2752     \fi
2753 \fi
2754 }
2755 \define@key{Hyp}{dviwindo}[true]{%
2756 \def\Hy@driver{hdviwind}%
2757 \kvsetkeys{Hyp}{colorlinks}%
2758 \ifpdf
2759 \else
2760     \ifxetex
2761     \else
2762         \PassOptionsToPackage{dviwindo}{color}%
2763     \fi
2764 \fi
2765 }
2766 \define@key{Hyp}{dvipsone}[true]{%
2767 \def\Hy@driver{hdvipson}%
2768 }
2769 \define@key{Hyp}{textures}[true]{%
2770 \def\Hy@driver{htexture}%
2771 }
2772 \define@key{Hyp}{latex2html}[true]{%
2773 \Hy@AtBeginDocument{\@@@latextohtmlX}%
2774 }

```

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

```

2775 \define@key{Hyp}{ps2pdf}[true]{%
2776 \def\Hy@driver{hdvips}%
2777 \providecommand*\@pdfborder{0 0 1}%
2778 }

```

## 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.

```
2779 \define@key{Hyp}{hyperfigures}[true]{%
2780   \Hy@boolkey[hyperfigures]{figures}{#1}%
2781 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2782 \define@key{Hyp}{hyperfootnotes}[true]{%
2783   \Hy@boolkey[hyperfootnotes]{#1}%
2784 }
```

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

```
2785 \def\back@none{none}
2786 \def\back@section{section}
2787 \def\back@page{page}
2788 \def\back@slide{slide}
2789 \define@key{Hyp}{backref}[section]{%
2790   \lowercase{\def\Hy@tempa{#1}}%
2791   \ifx\Hy@tempa\@empty
2792     \let\Hy@tempa\back@section
2793   \fi
2794   \ifx\Hy@tempa\Hy@false
2795     \let\Hy@tempa\back@none
2796   \fi
2797   \ifx\Hy@tempa\back@slide
2798     \let\Hy@tempa\back@section
2799   \fi
2800   \ifx\Hy@tempa\back@page
2801     \PassOptionsToPackage{hyperpageref}{backref}%
2802     \Hy@backreftrue
2803   \else
2804     \ifx\Hy@tempa\back@section
2805       \PassOptionsToPackage{hyperref}{backref}%
2806       \Hy@backreftrue
2807     \else
2808       \ifx\Hy@tempa\back@none
2809         \Hy@backreffalse
2810       \else
2811         \Hy@WarnOptionValue{#1}{backref}{%
2812           'section', 'slide', 'page', 'none',\MessageBreak
2813           or 'false'}%
2814       \fi
2815     \fi
2816   \fi
2817 }
2818 \define@key{Hyp}{pagebackref}[true]{%
2819   \edef\Hy@tempa{#1}%
2820   \lowercase\expandafter{%
2821     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2822   }%
2823   \ifx\Hy@tempa\@empty
2824     \let\Hy@tempa\Hy@true
2825   \fi
2826   \ifx\Hy@tempa\Hy@true
2827     \PassOptionsToPackage{hyperpageref}{backref}%
2828     \Hy@backreftrue
```

```

2829 \else
2830 \ifx\Hy@tempa\Hy>false
2831 \Hy@backreffalse
2832 \else
2833 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2834 \fi
2835 \fi
2836 }

```

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

```

2837 \define@key{Hyp}{hyperindex}[true]{%
2838 \Hy@boolkey{hyperindex}{#1}%
2839 }

```

Configuration of encap char.

```

2840 \define@key{Hyp}{encap}[|]{%
2841 \def\HyInd@EncapChar{#1}%
2842 }

```

## 12 Language options

The \autoref feature depends on the language.

```

2843 \def\HyLang@afrikaans{%
2844 \def\equationautorefname{Vergelyking}%
2845 \def\footnoteautorefname{Voetnota}%
2846 \def\itemautorefname{Item}%
2847 \def\figureautorefname{Figuur}%
2848 \def\tableautorefname{Tabel}%
2849 \def\partautorefname{Deel}%
2850 \def\appendixautorefname{Bylae}%
2851 \def\chapterautorefname{Hoofstuk}%
2852 \def\sectionautorefname{Afdeling}%
2853 \def\subsectionautorefname{Subafdeling}%
2854 \def\subsubsectionautorefname{Subsubafdeling}%
2855 \def\paragraphautorefname{Paragraaf}%
2856 \def\subparagraphautorefname{Subparagraaf}%
2857 \def\FancyVerbLineautorefname{Lyn}%
2858 \def\theoremautorefname{Teorema}%
2859 \def\pageautorefname{Bladsy}%
2860 }
2861 \def\HyLang@english{%
2862 \def\equationautorefname{Equation}%
2863 \def\footnoteautorefname{footnote}%
2864 \def\itemautorefname{item}%
2865 \def\figureautorefname{Figure}%
2866 \def\tableautorefname{Table}%
2867 \def\partautorefname{Part}%
2868 \def\appendixautorefname{Appendix}%
2869 \def\chapterautorefname{chapter}%
2870 \def\sectionautorefname{section}%
2871 \def\subsectionautorefname{subsection}%
2872 \def\subsubsectionautorefname{subsubsection}%
2873 \def\paragraphautorefname{paragraph}%
2874 \def\subparagraphautorefname{subparagraph}%
2875 \def\FancyVerbLineautorefname{line}%
2876 \def\theoremautorefname{Theorem}%

```

```

2877 \def\pageautorefname{page}%
2878 }
2879 \def\HyLang@french{%
2880 \def\equationautorefname{'Equation}%
2881 \def\footnoteautorefname{note}%
2882 \def\itemautorefname{item}%
2883 \def\figureautorefname{Figure}%
2884 \def\tableautorefname{Tableau}%
2885 \def\partautorefname{Partie}%
2886 \def\appendixautorefname{Appendice}%
2887 \def\chapterautorefname{chapitre}%
2888 \def\sectionautorefname{section}%
2889 \def\subsectionautorefname{sous-section}%
2890 \def\subsubsectionautorefname{sous-sous-section}%
2891 \def\paragraphautorefname{paragraphe}%
2892 \def\subparagraphautorefname{sous-paragraphe}%
2893 \def\FancyVerbLineautorefname{ligne}%
2894 \def\theoremautorefname{Th\'eor\`eme}%
2895 \def\pageautorefname{page}%
2896 }
2897 \def\HyLang@german{%
2898 \def\equationautorefname{Gleichung}%
2899 \def\footnoteautorefname{Fu\ss note}%
2900 \def\itemautorefname{Punkt}%
2901 \def\figureautorefname{Abbildung}%
2902 \def\tableautorefname{Tabelle}%
2903 \def\partautorefname{Teil}%
2904 \def\appendixautorefname{Anhang}%
2905 \def\chapterautorefname{Kapitel}%
2906 \def\sectionautorefname{Abschnitt}%
2907 \def\subsectionautorefname{Unterabschnitt}%
2908 \def\subsubsectionautorefname{Unterunterabschnitt}%
2909 \def\paragraphautorefname{Absatz}%
2910 \def\subparagraphautorefname{Unterabsatz}%
2911 \def\FancyVerbLineautorefname{Zeile}%
2912 \def\theoremautorefname{Theorem}%
2913 \def\pageautorefname{Seite}%
2914 }
2915 \def\HyLang@italian{%
2916 \def\equationautorefname{Equazione}%
2917 \def\footnoteautorefname{nota}%
2918 \def\itemautorefname{punto}%
2919 \def\figureautorefname{Figura}%
2920 \def\tableautorefname{Tabella}%
2921 \def\partautorefname{Parte}%
2922 \def\appendixautorefname{Appendice}%
2923 \def\chapterautorefname{Capitolo}%
2924 \def\sectionautorefname{sezione}%
2925 \def\subsectionautorefname{sottosezione}%
2926 \def\subsubsectionautorefname{sottosottosezione}%
2927 \def\paragraphautorefname{paragrafo}%
2928 \def\subparagraphautorefname{sottoparagrafo}%
2929 \def\FancyVerbLineautorefname{linea}%
2930 \def\theoremautorefname{Teorema}%
2931 \def\pageautorefname{Pag.\@}%
2932 }
2933 \def\HyLang@magyar{%

```

```

2934 \def\equationautorefname{Egyenlet}%
2935 \def\footnoteautorefname{l\`abjegyzet}%
2936 \def\itemautorefname{Elem}%
2937 \def\figureautorefname{\`Abra}%
2938 \def\tableautorefname{T\`abl\`azat}%
2939 \def\partautorefname{R\`esz}%
2940 \def\appendixautorefname{F\`uggel\`ek}%
2941 \def\chapterautorefname{fejezet}%
2942 \def\sectionautorefname{szakasz}%
2943 \def\subsectionautorefname{alszakasz}%
2944 \def\subsubsectionautorefname{alalszakasz}%
2945 \def\paragraphautorefname{bekezd\`es}%
2946 \def\subparagraphautorefname{albekezd\`es}%
2947 \def\FancyVerbLineautorefname{sor}%
2948 \def\theoremautorefname{T\`etel}%
2949 \def\pageautorefname{oldal}%
2950 }
2951 \def\HyLang@portuges{%
2952 \def\equationautorefname{Equa\c c\~ao}%
2953 \def\footnoteautorefname{Nota de rodap\`e}%
2954 \def\itemautorefname{Item}%
2955 \def\figureautorefname{Figura}%
2956 \def\tableautorefname{Tabela}%
2957 \def\partautorefname{Parte}%
2958 \def\appendixautorefname{Ap\`endice}%
2959 \def\chapterautorefname{Cap\`itulo}%
2960 \def\sectionautorefname{Se\c c\~ao}%
2961 \def\subsectionautorefname{Subse\c c\~ao}%
2962 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2963 \def\paragraphautorefname{par\`agrafo}%
2964 \def\subparagraphautorefname{subpar\`agrafo}%
2965 \def\FancyVerbLineautorefname{linha}%
2966 \def\theoremautorefname{Teorema}%
2967 \def\pageautorefname{P\`agina}%
2968 }

```

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`.

```

2969 \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`?

```

2970 \def\equationautorefname{\cyr\cyrv\cyrery\cyrr.}%

```

The name of the equation reference has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`” etc. The full name must follow full name of the `\theoremautorefname`.

```

2971 % \def\equationautorefname{%
2972 % \cyr\cyrv\cyrery\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
2973 % }%

```

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

```
2974 \def\footnoteautorefname{%
2975   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2976 }%
```

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}”

```
2977 % \def\footnoteautorefname{%
2978 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
2979 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
2980 % }%
```

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

```
2981 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2982 % \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.

```
2983 \def\itemautorefname{\cyr\cyrp.}%
2984 % \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.

```
2985 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2986 \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.

```
2987 \def\partautorefname{\cyr\cyrch.}%
2988 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2989 \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.

```
2990 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2991 % \def\appendixautorefname{%
2992 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre
2993 % }%
```

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.

```
2994 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2995 \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.

```
2996 \def\paragraphautorefname{\cyr\cyrp.}%
2997 \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.

```
2998 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2999 % \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.

```
3000 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3001 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
3002 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3003 % \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 . . .

```
3004 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3005 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3006 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3007 \def\pageautorefname{\cyr\cyrs.}%
```

```
3008 }
```

```
3009 \def\HyLang@spanish{%
```

```
3010 \def\equationautorefname{Ecuaci'on}%
```

```
3011 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
3012 \def\itemautorefname{Elemento}%
```

```
3013 \def\figureautorefname{Figura}%
```

```
3014 \def\tableautorefname{Tabla}%
```

```
3015 \def\partautorefname{Parte}%
```

```
3016 \def\appendixautorefname{Ap'endice}%
```

```
3017 \def\chapterautorefname{Cap'itulo}%
```

```
3018 \def\sectionautorefname{Secci'on}%
```

```
3019 \def\subsectionautorefname{Subsecci'on}%
```

```
3020 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
3021 \def\paragraphautorefname{P'arrafo}%
```

```
3022 \def\subparagraphautorefname{Subp'arrafo}%
```

```
3023 \def\FancyVerbLineautorefname{L'inea}%
```

```
3024 \def\theoremautorefname{Teorema}%
```

```
3025 \def\pageautorefname{P'agina}%
```

```
3026 }
```

```
3027 \def\HyLang@vietnamese{%
```

```
3028 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\inh}%
```

```
3029 \def\footnoteautorefname{Ch'u th'ich}%
```

```
3030 \def\itemautorefname{m\du{c}}%
```

```
3031 \def\figureautorefname{H\inh}%
```

```
3032 \def\tableautorefname{B\h{a}ng}%
```

```
3033 \def\partautorefname{Ph'\acircumflex{}n}%
```

```
3034 \def\appendixautorefname{Ph\du{ }l\du{c}}%
```

```
3035 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
```

```
3036 \def\sectionautorefname{m\du{c}}%
```

```
3037 \def\subsectionautorefname{m\du{c}}%
```

```
3038 \def\subsubsectionautorefname{m\du{c}}%
```

```
3039 \def\paragraphautorefname{\dj{ }o\da{n}}%
```



```

3040 \def\subparagraphautorefname{\dj{ }o\ d{a}n}%
3041 \def\FancyVerbLineautorefname{d\`ong}%
3042 \def\theoremautorefname{\DJ{ }\ d{i}nh l\`y}%
3043 \def\pageautorefname{Trang}%
3044 }

```

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

```

3045 \def\HyLang@addto#1#2{%
3046   #2%
3047   \@temptokena{#2}%
3048   \ifx#1\relax
3049     \let#1\@empty
3050   \fi
3051   \ifx#1\@undefined
3052     \edef#1{\the\@temptokena}%
3053   \else
3054     \toks@\expandafter{#1}%
3055     \edef#1{\the\toks@\the\@temptokena}%
3056   \fi
3057   \@temptokena{}\toks@\@temptokena
3058 }

3059 \def\HyLang@DeclareLang#1#2#3{%
3060   \ifpackagewith{babel}{#1}{%
3061     \expandafter\HyLang@addto
3062       \csname extras#1\expandafter\endcsname
3063       \csname HyLang@#2\endcsname
3064     \begingroup
3065       \edef\x{\endgroup
3066         #3%
3067       }%
3068       \x
3069       \@namedef{HyLang@#1@done}{}%
3070     }{%
3071       \begingroup
3072       \edef\x##1##2{%
3073         \noexpand\ifx##2\relax
3074           \errmessage{No definitions for language #2' found!}%
3075         \noexpand\fi
3076       \endgroup
3077       \noexpand\define@key{Hyp}{#1}[]{%
3078         \noexpand\@ifundefined{HyLang@#1@done}{%
3079           \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3080           #3%
3081         \noexpand\@namedef{HyLang@#1@done}{}%
3082       }{%
3083       }%
3084     }%
3085     \expandafter\x\csname extras#1\expandafter\endcsname
3086       \csname HyLang@#2\endcsname
3087   }

3088 \HyLang@DeclareLang{english}{english}{}
3089 \HyLang@DeclareLang{UKenglish}{english}{}
3090 \HyLang@DeclareLang{british}{english}{}
3091 \HyLang@DeclareLang{USenglish}{english}{}
3092 \HyLang@DeclareLang{american}{english}{}
3093 \HyLang@DeclareLang{german}{german}{}

```

```

3094 \HyLang@DeclareLang{austrian}{german}{}
3095 \HyLang@DeclareLang{ngerman}{german}{}
3096 \HyLang@DeclareLang{naustrian}{german}{}
3097 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3098 \HyLang@DeclareLang{brazil}{portuges}{}
3099 \HyLang@DeclareLang{brazilian}{portuges}{}
3100 \HyLang@DeclareLang{portuguese}{portuges}{}
3101 \HyLang@DeclareLang{spanish}{spanish}{}
3102 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3103 \HyLang@DeclareLang{french}{french}{}
3104 \HyLang@DeclareLang{frenchb}{french}{}
3105 \HyLang@DeclareLang{francais}{french}{}
3106 \HyLang@DeclareLang{acadian}{french}{}
3107 \HyLang@DeclareLang{canadien}{french}{}
3108 \HyLang@DeclareLang{italian}{italian}{}
3109 \HyLang@DeclareLang{magyar}{magyar}{}
3110 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3111 \define@key{Hyp}{vietnamese}[]{}%
3112 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3113 \Hy@AtEndOfPackage{%
3114 \ifundefined{T@PU}{}{}%
3115 \input{puvnenc.def}%
3116 }%
3117 }%
3118 }
3119 \define@key{Hyp}{vietnam}[]{}%
3120 \HyLang@addto\extravietnam\HyLang@vietnamese
3121 \Hy@AtEndOfPackage{%
3122 \ifundefined{T@PU}{}{}%
3123 \input{puvnenc.def}%
3124 }%
3125 }%
3126 }

```

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

```

3127 \define@key{Hyp}{arabic}[]{}%
3128 \Hy@AtEndOfPackage{%
3129 \ifundefined{T@PU}{}{}%
3130 \input{puarenc.def}%
3131 }%
3132 }%
3133 }

```

## 13 Options to change appearance of links

Colouring links at the L<sup>A</sup>T<sub>E</sub>X level is useful for debugging, perhaps.

```

3134 \define@key{Hyp}{colorlinks}[true]{}%
3135 \Hy@boolkey{colorlinks}{#1}%
3136 }
3137 \define@key{Hyp}{ocgcolorlinks}[true]{}%
3138 \Hy@boolkey{ocgcolorlinks}{#1}%
3139 }
3140 \Hy@AtBeginDocument{%
3141 \begingroup
3142 \ifundefined{OBJ@OCG@view}{}%

```

```

3143 \ifHy@ocgcolorlinks
3144 \Hy@Warning{%
3145     Driver does not support 'ocgcolorlinks',\MessageBreak
3146     using 'colorlinks' instead%
3147 }%
3148 \fi
3149 }{}%
3150 \endgroup
3151 }
3152 \define@key{Hyp}{frenchlinks}[true]{%
3153 \Hy@boolkey{frenchlinks}{#1}%
3154 }

```

## 14 Bookmarking

```

3155 \begingroup\expandafter\expandafter\expandafter\endgroup
3156 \expandafter\ifx\csname chapter\endcsname\relax
3157 \def\toclevel@part{0}%
3158 \else
3159 \def\toclevel@part{-1}%
3160 \fi
3161 \def\toclevel@chapter{0}
3162 \def\toclevel@section{1}
3163 \def\toclevel@subsection{2}
3164 \def\toclevel@subsubsection{3}
3165 \def\toclevel@paragraph{4}
3166 \def\toclevel@subparagraph{5}
3167 \def\toclevel@figure{0}
3168 \def\toclevel@table{0}
3169 \@ifpackageloaded{listings}{%
3170 \providecommand*\theHlstlisting{\thelstlisting}%
3171 \providecommand*\toclevel@lstlisting{0}%
3172 }{}
3173 \@ifpackageloaded{listing}{%
3174 \providecommand*\theHlisting{\thelisting}%
3175 \providecommand*\toclevel@listing{0}%
3176 }{}

3177 \define@key{Hyp}{bookmarks}[true]{%
3178 \Hy@boolkey{bookmarks}{#1}%
3179 }

3180 \define@key{Hyp}{bookmarksopen}[true]{%
3181 \Hy@boolkey{bookmarksopen}{#1}%
3182 }

```

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.

```

3183 \let\Hy@bookmarksdepth\c@tocdepth

```

```

3184 \define@key{Hyp}{bookmarksdepth}[]{}%
3185 \begingroup
3186 \edef\x{#1}%
3187 \ifx\x\empty
3188 \global\let\Hy@bookmarksdepth\c@tocdepth
3189 \else
3190 \@ifundefined{toclevel@x}{%
3191 \@onelevel@sanitize\x
3192 \edef\y{\expandafter\@car\x\@nil}%
3193 \ifcase 0\expandafter\ifx\y-1\fi
3194 \expandafter\ifnum\expandafter\y>47 %
3195 \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3196 \Hy@Warning{Unknown document division name (\x)}%
3197 \else
3198 \setbox\z@=\hbox{%
3199 \count@=\x
3200 \xdef\Hy@bookmarksdepth{\the\count@}%
3201 }%
3202 \fi
3203 }{%
3204 \setbox\z@=\hbox{%
3205 \count@=\csname toclevel@x\endcsname
3206 \xdef\Hy@bookmarksdepth{\the\count@}%
3207 }%
3208 }%
3209 \fi
3210 \endgroup
3211 }

```

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

```

3212 \define@key{Hyp}{bookmarksopenlevel}{%
3213 \def\@bookmarksopenlevel{#1}%
3214 }
3215 \def\@bookmarksopenlevel{\maxdimen}
3216 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3217 \define@key{Hyp}{bookmarkstype}{%
3218 \def\Hy@bookmarkstype{#1}%
3219 }
3220 \def\Hy@bookmarkstype{toc}

```

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

```

3221 \define@key{Hyp}{bookmarksnumbered}[true]{%
3222 \Hy@boolkey{bookmarksnumbered}{#1}%
3223 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3224 \define@key{Hyp}{CJKbookmarks}[true]{%
3225 \Hy@boolkey{CJKbookmarks}{#1}%
3226 }
3227 \def\Hy@temp#1{%
3228 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3229 }
3230 \def\Hy@@temp#1#2#3{%
3231 \define@key{Hyp}{#2color}{%
3232 \Hy@Color@HyperrefColor{##1}#1%
3233 }%
3234 \def#1{#3}%

```

```

3235 }
3236 \Hy@temp{link}{red}
3237 \Hy@temp{anchor}{black}
3238 \Hy@temp{cite}{green}
3239 \Hy@temp{file}{cyan}
3240 \Hy@temp{url}{magenta}
3241 \Hy@temp{menu}{red}
3242 \Hy@temp{run}{\@filecolor}
3243 \define@key{Hyp}{pagecolor}{%
3244   \Hy@WarningPageColor
3245 }
3246 \def\Hy@WarningPageColor{%
3247   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3248   \global\let\Hy@WarningPageColor\relax
3249 }

3250 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3251 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3252 \let\@baseurl\@empty
3253 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3254 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3255 \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.

```

3256 \let\@pdfpagetransition\relax
3257 \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.

```

3258 \let\@pdfpageduration\relax
3259 \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.

```

3260 \newif\ifHy@useHidKey
3261 \Hy@useHidKeyfalse
3262 \define@key{Hyp}{pdfpagehidden}[true]{%
3263   \Hy@boolkey{pdfpagehidden}{#1}%
3264   \ifHy@pdfpagehidden
3265     \global\Hy@useHidKeytrue
3266   \fi
3267 }

```

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).

```

3268 \def\Hy@ColorList{cite,file,link,menu,run,url}
3269 \@for\Hy@temp:=\Hy@ColorList\do{%
3270   \edef\Hy@temp{%
3271     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3272       \noexpand\HyColor@HyperrefBorderColor
3273       {##1}%
3274       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3275       {hyperref}%
3276       {\Hy@temp bordercolor}%
3277     }%
3278   }%
3279   \Hy@temp
3280 }
3281 \define@key{Hyp}{pagebordercolor}{%
3282   \Hy@WarningPageBorderColor
3283 }
3284 \def\Hy@WarningPageBorderColor{%
3285   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3286   \global\let\Hy@WarningPageBorderColor\relax
3287 }

3288 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3289 \Hy@DefNameKey{pdfhighlight}{%
3290   \do{/I}{Invert}%
3291   \do{/N}{None}%
3292   \do{/O}{Outline}%
3293   \do{/P}{Push}%
3294 }
3295 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
3296 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
3297 \def\Hy@setpdfborder{%
3298   \ifx\@pdfborder\@empty
3299     \else
3300       /Border[\@pdfborder]%
3301     \fi
3302     \ifx\@pdfborderstyle\@empty
3303     \else
3304       /BS<<\@pdfborderstyle>>%
3305     \fi
3306 }
3307 \Hy@DefNameKey{pdfpagemode}{%
3308   \do{UseNone}{}%
3309   \do{UseOutlines}{}%
3310   \do{UseThumbs}{}%
3311   \do{FullScreen}{}%
3312   \do{UseOC}{PDF 1.5}%
3313   \do{UseAttachments}{PDF 1.6}%
3314 }
3315 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3316   \do{UseNone}{}%
3317   \do{UseOutlines}{}%
3318   \do{UseThumbs}{}%
3319   \do{FullScreen}{}%
3320   \do{UseOC}{PDF 1.5}%
3321   \do{UseAttachments}{PDF 1.6}%
3322 }
3323 \Hy@DefNameKey{pdfdirection}{%
3324   \do{L2R}{Left to right}%

```

```

3325 \do{R2L}{Right to left}%
3326 }
3327 \Hy@DefNameKey{pdfviewarea}{%
3328 \do{MediaBox}{}%
3329 \do{CropBox}{}%
3330 \do{BleedBox}{}%
3331 \do{TrimBox}{}%
3332 \do{ArtBox}{}%
3333 }
3334 \Hy@DefNameKey{pdfviewclip}{%
3335 \do{MediaBox}{}%
3336 \do{CropBox}{}%
3337 \do{BleedBox}{}%
3338 \do{TrimBox}{}%
3339 \do{ArtBox}{}%
3340 }
3341 \Hy@DefNameKey{pdfprintarea}{%
3342 \do{MediaBox}{}%
3343 \do{CropBox}{}%
3344 \do{BleedBox}{}%
3345 \do{TrimBox}{}%
3346 \do{ArtBox}{}%
3347 }
3348 \Hy@DefNameKey{pdfprintclip}{%
3349 \do{MediaBox}{}%
3350 \do{CropBox}{}%
3351 \do{BleedBox}{}%
3352 \do{TrimBox}{}%
3353 \do{ArtBox}{}%
3354 }
3355 \Hy@DefNameKey{pdfprintscaling}{%
3356 \do{AppDefault}{}%
3357 \do{None}{}%
3358 }
3359 \Hy@DefNameKey{pdfduplex}{%
3360 \do{Simplex}{}%
3361 \do{DuplexFlipShortEdge}{}%
3362 \do{DuplexFlipLongEdge}{}%
3363 }
3364 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3365 \do{true}{}%
3366 \do{false}{}%
3367 }
3368 \define@key{Hyp}{pdfprintpagerange}{%
3369 \def\@pdfprintpagerange{#1}%
3370 }
3371 \Hy@DefNameKey{pdfnumcopies}{%
3372 \do{2}{two copies}%
3373 \do{3}{three copies}%
3374 \do{4}{four copies}%
3375 \do{5}{five copies}%
3376 }
3377 \define@key{Hyp}{pdfusetitle}[true]{%
3378 \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
3379 }
3380 \def\HyXeTeX@CheckUnicode{%
3381 \ifxetex

```

```

3382 \ifHy@unicode
3383 \else
3384 \Hy@WarningNoLine{%
3385 XeTeX driver only supports unicode.\MessageBreak
3386 Enabling option 'unicode'%
3387 }%
3388 \kvsetkeys{Hyp}{unicode}%
3389 \fi
3390 \else
3391 \let\HyXeTeX@CheckUnicode\relax
3392 \fi
3393 }
3394 \def\HyPsd@PrerenderUnicode#1{%
3395 \begingroup
3396 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3397 \else
3398 \sbox0{%
3399 \let\GenericInfo\@gobbletwo
3400 \let\GenericWarning\@gobbletwo
3401 \let\GenericError\@gobblefour
3402 \PrerenderUnicode{#1}%
3403 }%
3404 \fi
3405 \endgroup
3406 }
3407 \define@key{Hyp}{pdftitle}{%
3408 \HyXeTeX@CheckUnicode
3409 \HyPsd@XeTeXBigCharstrue
3410 \HyPsd@PrerenderUnicode{#1}%
3411 \pdfstringdef\@pdftitle{#1}%
3412 }
3413 \define@key{Hyp}{pdfauthor}{%
3414 \HyXeTeX@CheckUnicode
3415 \HyPsd@XeTeXBigCharstrue
3416 \HyPsd@PrerenderUnicode{#1}%
3417 \pdfstringdef\@pdfauthor{#1}%
3418 }
3419 \define@key{Hyp}{pdfproducer}{%
3420 \HyXeTeX@CheckUnicode
3421 \HyPsd@XeTeXBigCharstrue
3422 \HyPsd@PrerenderUnicode{#1}%
3423 \pdfstringdef\@pdfproducer{#1}%
3424 }
3425 \define@key{Hyp}{pdfcreator}{%
3426 \HyXeTeX@CheckUnicode
3427 \HyPsd@XeTeXBigCharstrue
3428 \HyPsd@PrerenderUnicode{#1}%
3429 \pdfstringdef\@pdfcreator{#1}%
3430 }
3431 \define@key{Hyp}{pdfcreationdate}{%
3432 \begingroup
3433 \Hy@unicodedefalse
3434 \pdfstringdef\@pdfcreationdate{#1}%
3435 \endgroup
3436 }
3437 \define@key{Hyp}{pdfmoddate}{%
3438 \begingroup

```



```

3439 \Hy@unicodedefalse
3440 \pdfstringdef\@pdfmoddate{#1}%
3441 \endgroup
3442 }
3443 \define@key{Hyp}{pdfsubject}{%
3444 \HyXeTeX@CheckUnicode
3445 \HyPsd@XeTeXBigCharstrue
3446 \HyPsd@PrerenderUnicode{#1}%
3447 \pdfstringdef\@pdfsubject{#1}%
3448 }
3449 \define@key{Hyp}{pdfkeywords}{%
3450 \HyXeTeX@CheckUnicode
3451 \HyPsd@XeTeXBigCharstrue
3452 \HyPsd@PrerenderUnicode{#1}%
3453 \pdfstringdef\@pdfkeywords{#1}%
3454 }
3455 \define@key{Hyp}{pdftrapped}{%
3456 \lowercase{\edef\Hy@temp{#1}}%
3457 \ifx\Hy@temp\HyInfo@trapped@true
3458 \def\@pdftrapped{True}%
3459 \else
3460 \ifx\Hy@temp\HyInfo@trapped@false
3461 \def\@pdftrapped{False}%
3462 \else
3463 \ifx\Hy@temp\HyInfo@trapped@unknown
3464 \def\@pdftrapped{Unknown}%
3465 \else
3466 \ifx\Hy@temp\@empty
3467 \else
3468 \Hy@Warning{%
3469     Unsupported value '#1'\MessageBreak
3470     for option 'pdftrapped'%
3471 }%
3472 \fi
3473 \def\@pdftrapped{}%
3474 \fi
3475 \fi
3476 \fi
3477 }
3478 \def\HyInfo@trapped@true{true}
3479 \def\HyInfo@trapped@false{false}
3480 \def\HyInfo@trapped@unknown{unknown}
3481 \def\HyInfo@TrappedUnsupported{%
3482 \ifx\@pdftrapped\@empty
3483 \else
3484 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3485 \gdef\HyInfo@TrappedUnsupported{}%
3486 \fi
3487 }
3488 \define@key{Hyp}{pdfinfo}{%
3489 \kvsetkeys{pdfinfo}{#1}%
3490 }
3491 \def\Hy@temp#1{%
3492 \lowercase{\Hy@temp@A{#1}}{#1}%
3493 }
3494 \def\Hy@temp@A#1#2{%
3495 \define@key{pdfinfo}{#2}{%

```

```

3496 \hypersetup{pdf#1={##1}}%
3497 }%
3498 }
3499 \Hy@temp{Title}
3500 \Hy@temp{Author}
3501 \Hy@temp{Keywords}
3502 \Hy@temp{Subject}
3503 \Hy@temp{Creator}
3504 \Hy@temp{Producer}
3505 \Hy@temp{CreationDate}
3506 \Hy@temp{ModDate}
3507 \Hy@temp{Trapped}
3508 \newif\ifHyInfo@AddonUnsupported
3509 \kv@set@family@handler{pdfinfo}{%
3510 \HyInfo@AddonHandler{#1}{#2}%
3511 }
3512 \let\HyInfo@do\relax
3513 \def\HyInfo@AddonHandler#1#2{%
3514 \ifx\kv@value\relax
3515 \Hy@Warning{%
3516 Option 'pdfinfo': ignoring key '\kv@key' without value%
3517 }%
3518 \else
3519 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3520 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3521 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3522 \ifHyInfo@AddonUnsupported
3523 \Hy@Warning{%
3524 This driver does not support additional\MessageBreak
3525 information entries, therefore\MessageBreak
3526 '\kv@key' is ignored%
3527 }%
3528 \else
3529 \define@key{pdfinfo}{\HyInfo@Key}{%
3530 \HyXeTeX@CheckUnicode
3531 \HyPsd@XeTeXBigCharstrue
3532 \HyPsd@PrerenderUnicode{##1}%
3533 \pdfstringdef\HyInfo@Value{##1}%
3534 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
3535 \HyInfo@Value
3536 }%
3537 \edef\HyInfo@AddonList{%
3538 \HyInfo@AddonList
3539 \HyInfo@do{\HyInfo@Key}%
3540 }%
3541 \kv@parse@normalized{%
3542 \HyInfo@Key={#2}%
3543 }{%
3544 \kv@processor@default{pdfinfo}%
3545 }%
3546 \fi
3547 \else
3548 \kv@parse@normalized{%
3549 \HyInfo@Key={#2}%
3550 }{%
3551 \kv@processor@default{pdfinfo}%
3552 }%

```

```

3553 \fi
3554 \fi
3555 }
3556 \def\HyInfo@GenerateAddons{%
3557 \ifHyInfo@AddonUnsupported
3558 \def\HyInfo@Addons{}%
3559 \else
3560 \begingroup
3561 \toks@{}%
3562 \def\HyInfo@do##1{%
3563 \edef\EscapeName\HyInfo@Key{##1}%
3564 \edef\x{%
3565 \toks@{}%
3566 \the\toks@
3567 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3568 }%
3569 }%
3570 \x
3571 }%
3572 \HyInfo@AddonList
3573 \edef\x{\endgroup
3574 \def\noexpand\HyInfo@Addons{\the\toks@}%
3575 }%
3576 \x
3577 \fi
3578 }
3579 \def\HyInfo@AddonList{}

3580 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3581 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3582 \let\setpdfinkmargin\@gobble
3583 \def\calculate@pdfview#1 #2\{%
3584 \def\@pdfview{#1}%
3585 \ifx\#2\%
3586 \def\@pdfviewparams{-32768}%
3587 \else
3588 \def\@pdfviewparams{#2}%
3589 \fi
3590 }
3591 \begingroup\expandafter\expandafter\expandafter\endgroup
3592 \expandafter\ifx\csname numexpr\endcsname\relax
3593 \def\Hy@number#1{%
3594 \expandafter\@firstofone\expandafter{\number#1}%
3595 }%
3596 \else
3597 \def\Hy@number#1{%
3598 \the\numexpr#1\relax
3599 }%
3600 \fi
3601 \define@key{Hyp}{pdfstartpage}{%
3602 \ifx\#1\%
3603 \def\@pdfstartpage{}%
3604 \else
3605 \edef\@pdfstartpage{\Hy@number{#1}}%
3606 \fi
3607 }%
3608 \define@key{Hyp}{pdfstartview}{%
3609 \ifx\#1\%

```

```

3610 \def\@pdfstartview{ }%
3611 \else
3612 \hypercalcbpdef\@pdfstartview{ /#1 }%
3613 \fi
3614 }
3615 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3616 \define@key{Hyp}{pdftoolbar}[true]{%
3617 \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
3618 }
3619 \define@key{Hyp}{pdfmenubar}[true]{%
3620 \Hy@boolkey[pdfmenubar]{menubar}{#1}%
3621 }
3622 \define@key{Hyp}{pdfwindowui}[true]{%
3623 \Hy@boolkey[pdfwindowui]{windowui}{#1}%
3624 }
3625 \define@key{Hyp}{pdffitwindow}[true]{%
3626 \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
3627 }
3628 \define@key{Hyp}{pdfcenterwindow}[true]{%
3629 \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
3630 }
3631 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3632 \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
3633 }
3634 \define@key{Hyp}{pdfa}[true]{%
3635 \Hy@boolkey{pdfa}{#1}%
3636 }
3637 \define@key{Hyp}{pdfnewwindow}[true]{%
3638 \def\Hy@temp{#1}%
3639 \ifx\Hy@temp\@empty
3640 \Hy@newwindowsetfalse
3641 \else
3642 \Hy@newwindowsettrue
3643 \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
3644 \fi
3645 }
3646 \def\Hy@SetNewWindow{%
3647 \ifHy@newwindowset
3648 /NewWindow %
3649 \ifHy@newwindow true\else false\fi
3650 \fi
3651 }
3652 \Hy@DefNameKey{pdfpagelayout}{%
3653 \do{SinglePage}{ }%
3654 \do{OneColumn}{ }%
3655 \do{TwoColumnLeft}{ }%
3656 \do{TwoColumnRight}{ }%
3657 \do{TwoPageLeft}{PDF 1.5}%
3658 \do{TwoPageRight}{PDF 1.5}%
3659 }
3660 \define@key{Hyp}{pdflang}{%
3661 \def\@pdflang{#1}%
3662 }
3663 \define@key{Hyp}{pdfpagelabels}[true]{%
3664 \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
3665 }
3666 \define@key{Hyp}{pdfescapeform}[true]{%

```

```

3667 \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
3668 }

```

Default values:

```

3669 \def\@linkbordercolor{1 0 0}
3670 \def\@urlbordercolor{0 1 1}
3671 \def\@menubordercolor{1 0 0}
3672 \def\@filebordercolor{0 .5 .5}
3673 \def\@runbordercolor{0 .7 .7}
3674 \def\@citebordercolor{0 1 0}
3675 \def\@pdfhighlight{/I}
3676 \def\@pdftitle{}
3677 \def\@pdfauthor{}
3678 \let\@pdfproducer\relax
3679 \def\@pdfcreator{LaTeX with hyperref package}
3680 \def\@pdfcreationdate{}
3681 \def\@pdfmoddate{}
3682 \def\@pdfsubject{}
3683 \def\@pdfkeywords{}
3684 \def\@pdftrapped{}
3685 \def\@pdfpagescrop{}
3686 \def\@pdfstartview{/Fit }
3687 \def\@pdfstartpage{1}
3688 \def\@pdfprintpagerange{}
3689 \def\@pdflang{}
3690 \let\PDF@SetupDoc\@empty
3691 \let\PDF@FinishDoc\@empty
3692 \let\phantomsection\@empty
3693 \let\special@paper\@empty
3694 \def\HyperDestNameFilter#1{#1}
3695 \Hy@AtBeginDocument{%
3696   \begingroup
3697     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
3698     \dimen@=\x\relax
3699     \ifdim\dimen@>\z@
3700       \else
3701         \dimen@=11in\relax
3702         \Hy@WarningNoLine{%
3703           Height of page (\expandafter\string\x) %
3704           is invalid (\the\x),\MessageBreak
3705           using 11in%
3706         }%
3707         \fi
3708         \dimen@=0.99626401\dimen@
3709         \xdef\Hy@pageheight{\strip@pt\dimen@}%
3710       \endgroup
3711 }
3712 \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.

```

3713 \let\hyper@normalise\ExecuteOptions
3714 \let\ExecuteOptions\hypersetup
3715 \Hy@RestoreCatcodes
3716 \InputIfFileExists{hyperref.cfg}{-}{-}
3717 \Hy@SetCatcodes
3718 \let\ExecuteOptions\hyper@normalise

```

3719 \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`.

3720 \RequirePackage{kvoptions}[2009/07/21]

3721 \SetupKeyvalOptions{family=Hyp}

3722 \DeclareLocalOptions{%

3723   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%

3724 }

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

3725 \ifpackageloaded{tex4ht}{%

3726   \ifpackagewith{hyperref}{tex4ht}{%}

3727     \PassOptionsToPackage{tex4ht}{hyperref}%

3728   }%

3729 }{}

3730 \let\ReadBookmarks\relax

3731 \ProcessKeyvalOptions{Hyp}

    After processing options.

3732 \Hy@AtBeginDocument{%

3733   \ifHy@draft

3734     \let\hyper@@anchor\@gobble

3735     \gdef\hyper@link#1#2#3{#3}%

3736     \let\hyper@anchorstart\@gobble

3737     \let\hyper@anchorend\@empty

3738     \let\hyper@linkstart\@gobbletwo

3739     \let\hyper@linkend\@empty

3740     \def\hyper@linkurl#1#2{#1}%

3741     \def\hyper@linkfile#1#2#3{#1}%

3742     \def\hyper@link@{#1}#2#3{#1}%

3743     \def\Acrobatmenu#1#2{\leavevmode#2}%

3744     \let\PDF@SetupDoc\@empty

3745     \let\PDF@FinishDoc\@empty

3746     \let\@fifthoffive\@secondoftwo

3747     \let\@secondoffive\@secondoftwo

3748     \let\ReadBookmarks\relax

3749     \let\WriteBookmarks\relax

3750     \Hy@WarningNoLine{ draft mode on}%

3751   \fi

3752   \Hy@DisableOption{draft}%

3753   \Hy@DisableOption{nolinks}%

3754   \Hy@DisableOption{final}%

3755 }

## 15.1 PDF/A

3756 \Hy@DisableOption{pdfa}

3757 \ifHy@pdfa

3758   \kvsetkeys{Hyp}{pdfversion=1.4}%

3759   \def\Hy@Acrobatmenu#1#2{%

3760     \leavevmode

3761     \begingroup

3762       \edef\x{#1}%

```

3763 \@onelevel@sanitize\x
3764 \ifx\x\Hy@NextPage
3765 \let\y=Y%
3766 \else
3767 \ifx\x\Hy@PrevPage
3768 \let\y=Y%
3769 \else
3770 \ifx\x\Hy@FirstPage
3771 \let\y=Y%
3772 \else
3773 \ifx\x\Hy@LastPage
3774 \let\y=Y%
3775 \else
3776 \let\y=N%
3777 \fi
3778 \fi
3779 \fi
3780 \fi
3781 \expandafter\endgroup
3782 \ifx\y Y%
3783 \else
3784 \PackageError{hyperref}{%
3785 PDF/A: Named action '#1' is not permitted%
3786 }\@ehc
3787 {#2}%
3788 \expandafter\@gobble
3789 \fi
3790 }%
3791 \def\Hy@temp#1{%
3792 \expandafter\def\csname Hy@#1\endcsname{#1}%
3793 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3794 }%
3795 \Hy@temp{NextPage}%
3796 \Hy@temp{PrevPage}%
3797 \Hy@temp{FirstPage}%
3798 \Hy@temp{LastPage}%
3799 \else
3800 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3801 \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.

```

3802 \Hy@nextfalse
3803 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
3804 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
3805 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
3806 \ifHy@next
3807 \let\texttilde\~%
3808 \fi
3809 \ifHy@figures
3810 \Hy@Info{Hyper figures ON}%
3811 \else
3812 \Hy@Info{Hyper figures OFF}%
3813 \fi
3814 \ifHy@nesting

```

```

3815 \Hy@Info{Link nesting ON}%
3816 \else
3817 \Hy@Info{Link nesting OFF}%
3818 \fi
3819 \ifHy@hyperindex
3820 \Hy@Info{Hyper index ON}%
3821 \else
3822 \Hy@Info{Hyper index OFF}%
3823 \fi
3824 \ifHy@plainpages
3825 \Hy@Info{Plain pages ON}%
3826 \else
3827 \Hy@Info{Plain pages OFF}%
3828 \fi
3829 \ifHy@backref
3830 \Hy@Info{Backreferencing ON}%
3831 \else
3832 \Hy@Info{Backreferencing OFF}%
3833 \fi
3834 \ifHy@typexml
3835 \Hy@AtEndOfPackage{%
3836 \RequirePackage{color}%
3837 \RequirePackage{nameref}%
3838 }%
3839 \fi
3840 \Hy@DisableOption{typexml}
3841 \ifHy@implicit
3842 \typeout{Implicit mode ON; LaTeX internals redefined}%
3843 \else
3844 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3845 \def\MaybeStopEarly{%
3846 \typeout{Hyperref stopped early}%
3847 \Hy@AtBeginDocument{%
3848 \PDF@FinishDoc
3849 \gdef\PDF@FinishDoc{}%
3850 }%
3851 \endinput
3852 }%
3853 \Hy@AtBeginDocument{%
3854 \let\autoref\ref
3855 \let\autopageref\pageref
3856 \ifx\@pdfpagemode\@empty
3857 \gdef\@pdfpagemode{UseNone}%
3858 \fi
3859 \global\Hy@backreffalse
3860 }%
3861 \Hy@AtEndOfPackage{%
3862 \global\let\ReadBookmarks\relax
3863 \global\let\WriteBookmarks\relax
3864 }%
3865 \fi
3866 \Hy@DisableOption{implicit}

```

### 15.2.1 Driver loading

```

3867 \Hy@AtEndOfPackage{%
3868 \@ifpackageloaded{tex4ht}{%

```



```

3869 \def\Hy@driver{htex4ht}%
3870 \Hy@texhttrue
3871 }{}%

```

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.

```

3872 \ifx\Hy@driver\@empty
3873 \else
3874 \def\Hy@temp{hpdftex}%
3875 \ifpdf
3876 \ifx\Hy@driver\Hy@temp
3877 \else
3878 \Hy@WarningNoLine{%
3879   Wrong driver '\Hy@driver.def';\MessageBreak
3880   pdfTeX is running in PDF mode.\MessageBreak
3881   Forcing driver '\Hy@temp.def'%
3882 }%
3883 \let\Hy@driver\Hy@temp
3884 \fi
3885 \else
3886 \ifx\Hy@driver\Hy@temp
3887 \Hy@WarningNoLine{%
3888   Wrong driver '\Hy@driver.def';\MessageBreak
3889   pdfTeX is not running in PDF mode.\MessageBreak
3890   Using default driver%
3891 }%
3892 \let\Hy@driver\@empty
3893 \fi
3894 \fi
3895 \fi
3896 \ifx\Hy@driver\@empty
3897 \else
3898 \def\Hy@temp{hxtex}%
3899 \ifxetex
3900 \ifx\Hy@driver\Hy@temp
3901 \else
3902 \Hy@WarningNoLine{%
3903   Wrong driver '\Hy@driver.def';\MessageBreak
3904   XeTeX is running.\MessageBreak
3905   Forcing driver '\Hy@temp.def' for XeTeX%
3906 }%
3907 \let\Hy@driver\Hy@temp
3908 \fi
3909 \fi
3910 \fi
3911 \ifx\Hy@driver\@empty
3912 \else
3913 \def\Hy@temp{hvtexhtm}%
3914 \ifvtexhtml
3915 \ifx\Hy@driver\Hy@temp
3916 \else
3917 \Hy@WarningNoLine{%
3918   Wrong driver '\Hy@driver.def';\MessageBreak
3919   VTeX is running in HTML mode.\MessageBreak
3920   Forcing driver '\Hy@temp.def'%
3921 }%
3922 \let\Hy@driver\Hy@temp
3923 \fi

```

```

3924 \else
3925   \ifx\Hy@driver\Hy@temp
3926     \Hy@WarningNoLine{%
3927       Wrong driver '\Hy@driver.def';\MessageBreak
3928       VTeX is not running in HTML mode.\MessageBreak
3929       Using default driver%
3930     }%
3931     \let\Hy@driver\@empty
3932   \fi
3933 \fi
3934 \fi

```

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

```

3935 \ifx\Hy@driver\@empty
3936   \providecommand*{\Hy@defaultdriver}{hypertex}%
3937   \ifpdf
3938     \def\Hy@driver{hpdfTeX}%
3939   \else
3940     \ifxetex
3941       \def\Hy@driver{hxetex}%
3942     \else
3943       \ifvtexhtml
3944         \def\Hy@driver{hvtexhtm}%
3945       \def\MaybeStopEarly{%
3946         \typeout{Hyperref stopped early}%
3947         \Hy@AtBeginDocument{%
3948           \PDF@FinishDoc
3949           \gdef\PDF@FinishDoc{}}%
3950       }%
3951       \endinput
3952     }%
3953   \else
3954     \ifvtexpdf
3955       \def\Hy@driver{hvtex}%
3956     \else
3957       \ifvtexps
3958         \def\Hy@driver{hvtex}%
3959       \else
3960         \let\Hy@driver\Hy@defaultdriver
3961       \fi
3962     \fi
3963   \fi
3964 \fi
3965 \fi
3966 \ifx\Hy@driver\Hy@defaultdriver
3967   \def\Hy@temp{hdvwind}%
3968   \ifx\Hy@temp\Hy@driver
3969     \kvsetkeys{Hyp}{colorlinks}%
3970     \PassOptionsToPackage{dviwindo}{color}%
3971   \fi
3972 \fi
3973 \typeout{* hyperref using default driver \Hy@driver\ltx@space*}%
3974 \else
3975   \typeout{* hyperref using driver \Hy@driver\ltx@space*}%
3976 \fi
3977 \input{\Hy@driver.def}%
3978 \let\@unprocessedoptions\relax
3979 \Hy@RestoreCatcodes

```

```
3980 }
```

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.

```
3981 \newif\ifHy@DvipdfmxOutlineOpen
3982 \ifxetex
3983   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3984   \else
3985     \Hy@DvipdfmxOutlineOpentruer
3986   \fi
3987 \fi
3988 \begingroup\expandafter\expandafter\expandafter\endgroup
3989 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3990 \else
3991   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3992     \Hy@DvipdfmxOutlineOpentruer
3993   \fi
3994 \fi
3995 \Hy@DisableOption{tex4ht}
3996 \Hy@DisableOption{pdftex}
3997 \Hy@DisableOption{nativepdf}
3998 \Hy@DisableOption{dvipdfm}
3999 \Hy@DisableOption{dvipdfmx}
4000 \Hy@DisableOption{dvipdfmx-outline-open}
4001 \Hy@DisableOption{pdfmark}
4002 \Hy@DisableOption{dvips}
4003 \Hy@DisableOption{hypertex}
4004 \Hy@DisableOption{vtex}
4005 \Hy@DisableOption{vtexpdfmark}
4006 \Hy@DisableOption{dviwindo}
4007 \Hy@DisableOption{dvipsone}
4008 \Hy@DisableOption{textures}
4009 \Hy@DisableOption{latex2html}
4010 \Hy@DisableOption{ps2pdf}
4011 \Hy@DisableOption{xetex}
4012 \Hy@AtEndOfPackage{%
4013   \Hy@DisableOption{pdfversion}%
4014 }
```

### 15.2.2 Bookmarks

```
4015 \def\WriteBookmarks{0}
4016 \def\@bookmarkopenstatus#1{%
4017   \ifHy@bookmarksopen
```

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

```
4018   \ifnum#1<\expandafter\@firstofone\expandafter
4019     {\number\@bookmarkopenlevel} % explicit space
4020   \else
4021     -%
4022   \fi
4023 \else
4024   -%
4025 \fi
4026 }
4027 \ifHy@bookmarks
4028   \Hy@Info{Bookmarks ON}%
```

```

4029 \ifx\@pdfpagemode\@empty
4030   \def\@pdfpagemode{UseOutlines}%
4031 \fi
4032 \else
4033   \def\@bookmarkopenstatus#1{%
4034     \Hy@Info{Bookmarks OFF}%
4035     \Hy@AtEndOfPackage{%
4036       \global\let\ReadBookmarks\relax
4037       \global\let\WriteBookmarks\relax
4038     }%
4039   \ifx\@pdfpagemode\@empty
4040     \def\@pdfpagemode{UseNone}%
4041   \fi
4042 \fi
4043 \Hy@DisableOption{bookmarks}

```

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

```

4044 \def\Hy@CatcodeWrapper#1{%
4045   \def\Hy@EndWrap{%
4046     \def\TMP@EnsureCode##1##2{%
4047       \edef\Hy@EndWrap{%
4048         \Hy@EndWrap
4049         \catcode##1 \the\catcode##1\relax
4050       }%
4051       \catcode##1 ##2\relax
4052     }%
4053     \TMP@EnsureCode{10}{12}% ^^J
4054     \TMP@EnsureCode{33}{12}% !
4055     \TMP@EnsureCode{34}{12}% "
4056     \TMP@EnsureCode{36}{3}% $ (math)
4057     \TMP@EnsureCode{38}{4}% & (alignment)
4058     \TMP@EnsureCode{39}{12}% '
4059     \TMP@EnsureCode{40}{12}% (
4060     \TMP@EnsureCode{41}{12}% )
4061     \TMP@EnsureCode{42}{12}% *
4062     \TMP@EnsureCode{43}{12}% +
4063     \TMP@EnsureCode{44}{12}% ,
4064     \TMP@EnsureCode{45}{12}% -
4065     \TMP@EnsureCode{46}{12}% .
4066     \TMP@EnsureCode{47}{12}% /
4067     \TMP@EnsureCode{58}{12}% :
4068     \TMP@EnsureCode{59}{12}% ;
4069     \TMP@EnsureCode{60}{12}% <
4070     \TMP@EnsureCode{61}{12}% =
4071     \TMP@EnsureCode{62}{12}% >
4072     \TMP@EnsureCode{63}{12}% ?
4073     \TMP@EnsureCode{91}{12}% [
4074     \TMP@EnsureCode{93}{12}% ]
4075     \TMP@EnsureCode{94}{7}% ^ (superscript)
4076     \TMP@EnsureCode{95}{8}% _ (subscript)
4077     \TMP@EnsureCode{96}{12}% '
4078     \TMP@EnsureCode{124}{12}% |
4079     \TMP@EnsureCode{126}{13}% ~ (active)
4080     ##1\relax
4081   \Hy@EndWrap
4082 }

```

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

```

4083 \Hy@AtBeginDocument{%
4084   \ifHy@ocgcolorlinks
4085     \kvsetkeys{Hyp}{colorlinks}%
4086     \ifHy@pdfa
4087       \Hy@Warning{%
4088         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4089         using 'colorlinks' instead of 'ocgcolorlinks'%
4090       }%
4091     \Hy@ocgcolorlinksfalse
4092   \fi
4093 \fi
4094 \ifHy@ocgcolorlinks
4095 \else
4096   \Hy@DisableOption{ocgcolorlinks}%
4097 \fi
4098 \ifHy@colorlinks
4099   \def\@pdfborder{0 0 0}%
4100   \let\@pdfborderstyle\@empty
4101   \ifHy@typexml
4102   \else
4103     \Hy@CatcodeWrapper{%
4104       \RequirePackage{color}%
4105     }%
4106   \fi
4107   \def\Hy@colorlink#1{%
4108     \begingroup
4109     \HyColor@UseColor#1%
4110   }%
4111   \def\Hy@endcolorlink{\endgroup}%
4112   \Hy@Info{Link coloring ON}%
4113 \else
4114   \ifHy@frenchlinks
4115     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4116     \def\Hy@endcolorlink{\endgroup}%
4117     \Hy@Info{French linking ON}%
4118   \else
4119     \def\Hy@colorlink#1{\begingroup}%
4120     \def\Hy@endcolorlink{\endgroup}%
4121     \Hy@Info{Link coloring OFF}%
4122   \fi
4123 \fi
4124 \Hy@DisableOption{colorlinks}%
4125 \Hy@DisableOption{frenchlinks}%
4126 \ifHy@texht
4127   \long\def\@firstoffive#1#2#3#4#5{#1}%
4128   \long\def\@secondoffive#1#2#3#4#5{#2}%
4129   \long\def\@thirdoffive#1#2#3#4#5{#3}%
4130   \long\def\@fourthoffive#1#2#3#4#5{#4}%
4131   \long\def\@fifthoffive#1#2#3#4#5{#5}%
4132   \providecommand*\@safe@activetrue{}%
4133   \providecommand*\@safe@activesfalse{}%
4134   \def\T@ref#1{%
4135     \Hy@safe@activetrue
4136     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4137     \Hy@safe@activesfalse
4138   }%

```

```

4139 \def\T@pageref#1{%
4140   \Hy@safe@activetrue
4141   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4142   \Hy@safe@activesfalse
4143 }%
4144 \else
4145   \ifHy@typexml
4146   \else
4147     \Hy@CatcodeWrapper{%
4148       \RequirePackage{nameref}%
4149     }%
4150   \fi
4151 \fi
4152 \DeclareRobustCommand\ref{%
4153   \@ifstar\@refstar\T@ref
4154 }%
4155 \DeclareRobustCommand\pageref{%
4156   \@ifstar\@pagerefstar\T@pageref
4157 }%
4158 % \@ifclassloaded{memoir}{%
4159 %   \ltx@ifundefined{@mem@titlerefnohref}\ltx@secondoftwo{%
4160 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4161 %   }%
4162 % }%
4163 % \ltx@secondoftwo
4164 % {%
4165 %   \DeclareRobustCommand*{\nameref}{%
4166 %     \@ifstar\@mem@titlerefnohref\@mem@titleref
4167 %   }%
4168 % }%
4169 % \DeclareRobustCommand*{\nameref}{%
4170 %   \@ifstar\@namerefstar\T@nameref
4171 % }%
4172 % }%
4173 \Hy@AtBeginDocument{%
4174   \ifHy@texht
4175   \else
4176     \Hy@CatcodeWrapper{%
4177       \ReadBookmarks
4178     }%
4179   \fi
4180 }
4181 \ifHy@backref
4182   \RequirePackage{backref}%
4183 \else
4184   \let\Hy@backout\@gobble
4185 \fi
4186 \Hy@DisableOption{backref}
4187 \Hy@DisableOption{pagebackref}
4188 \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`.

```

4189 \begingroup
4190 \endlinechar=-1 %
4191 \catcode'\^^A=14 %
4192 \catcode'\^^M\active
4193 \catcode'\%\active
4194 \catcode'\#\active
4195 \catcode'\_\active
4196 \catcode'\$\active
4197 \catcode'\&\active
4198 \gdef\hyper@normalise{^^A
4199   \begingroup
4200   \catcode'\^^M\active
4201   \def^^M{ }^^A
4202   \catcode'\%\active
4203   \let%\@percentchar
4204   \let%\@percentchar
4205   \catcode'\#\active
4206   \def#{\hyper@hash}^^A
4207   \def\#{\hyper@hash}^^A
4208   \@makeother\&^^A
4209   \edef&{\string&}^^A
4210   \edef&{\string&}^^A
4211   \edef\textunderscore{\string_}^^A
4212   \let_\textunderscore
4213   \catcode'\_\active
4214   \let_\textunderscore
4215   \let~\hyper@tilde
4216   \let~\hyper@tilde
4217   \let\textasciitilde\hyper@tilde
4218   \let\\ \@backslashchar
4219   \edef${\string$}^^A
4220   \Hy@safe@activetrue
4221   \hyper@n@rmalise
4222 }^^A
4223 \catcode'\#=6 ^^A
4224 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4225 \gdef\hyper@n@rmalise#1#2{^^A
4226   \def\Hy@tempa{#2}^^A
4227   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4228     \Hy@ReturnAfterElseFi{^^A
4229       \hyper@@normalise{#1}^^A
4230     }^^A
4231   \else
4232     \Hy@ReturnAfterFi{^^A
4233       \hyper@@normalise{#1}{#2}^^A
4234     }^^A
4235   \fi
4236 }^^A
4237 \gdef\hyper@@normalise#1#2{^^A
4238   \edef\Hy@tempa{^^A
4239     \endgroup
4240     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4241   }^^A
4242   \Hy@tempa
4243 }^^A

```

```

4244 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4245   #1^^A
4246   \ifx\limits#2\limits
4247   \else
4248     \Hy@ReturnAfterFi{^^A
4249     \Hy@RemovePercentCr #2\@nil
4250   }^^A
4251   \fi
4252 }^^A
4253 \endgroup
4254 \providecommand*\hyper@chars{%
4255   \let\#\hyper@hash
4256   \let\%\@percentchar
4257   \Hy@safe@activetrue
4258 }

4259 \def\hyperlink#1#2{%
4260   \hyper@@link{}{#1}{#2}%
4261 }

4262 \def\Hy@VerboseLinkStart#1#2{%
4263   \ifHy@verbose
4264     \begingroup
4265     \Hy@safe@activetrue
4266     \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4267     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4268     \xdef\Hy@VerboseGlobalTemp{%
4269       \Hy@VerboseGlobalTemp, %
4270       line \the\inputlineno
4271     }%
4272   \endgroup
4273   \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4274   \@onelevel@sanitize\Hy@VerboseLinkInfo
4275   \fi
4276 }

4277 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4278 \def\Hy@VerboseLinkStop{%
4279   \ifHy@verbose
4280     \begingroup
4281     \edef\x{\endgroup
4282       \write\m@ne{%
4283         Package 'hyperref' Info: %
4284         End of reference \Hy@VerboseLinkInfo.%
4285       }%
4286     }%
4287     \x
4288   \fi
4289 }

4290 \def\Hy@VerboseAnchor#1{%
4291   \ifHy@verbose
4292     \begingroup
4293     \Hy@safe@activetrue
4294     \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4295   \endgroup
4296   \fi
4297 }

4298 \def\Hy@AllowHyphens{%
4299   \relax

```



```

4300 \ifhmode
4301   \penalty\@M
4302   \hskip\z@skip
4303 \fi
4304 }

4305 \DeclareRobustCommand*{\href}{%
4306   \@ifnextchar\bgrouphy@href{\hyper@normalise\href@}%
4307 }
4308 \def\hy@href#{%
4309   \hyper@normalise\href@
4310 }
4311 \begingroup
4312   \catcode'\$=6 %
4313   \catcode'\#=12 %
4314   \gdef\href$1{\expandafter\href@split$1##\}%
4315   \gdef\href@split$1#$2#$3\{%
4316     \hyper@@link{$1}{$2}%
4317   }%
4318 \endgroup

```

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

```

4319 \RequirePackage{url}
4320 \let\HyOrg@url\url
4321 \def\Hurl{\begingroup \Url}
4322 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4323 \def\nolinkurl@#1{\Hurl{#1}}
4324 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4325 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4326 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4327 \providecommand\hyper@image[2]{#2}

4328 \def\hypertarget#1#2{%
4329   \ifHy@nesting
4330     \hyper@@anchor{#1}{#2}%
4331   \else
4332     \hyper@@anchor{#1}{\relax}#2%
4333   \fi
4334 }

```

\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<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of \hyperref later, to avoid remembering the name and category.

```

4335 \DeclareRobustCommand*{\hyperref}{%
4336   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4337 }
4338 \def\Hy@babelnormalise#1[#2]{%
4339   \begingroup
4340     \Hy@safe@activetrue
4341     \edef\Hy@tempa{%
4342       \endgroup
4343       \noexpand#1[#2]}%
4344   }%
4345   \Hy@tempa
4346 }

```

```

4347 \def\@hyperref{\hyper@normalise\@hyperref}
4348 \def\@@hyperref#1#2#3{%
4349   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
4350   \expandafter\tryhyper@link\ref@one\\{#1}%
4351 }
4352 \def\tryhyper@link#1\\#2{%
4353   \hyper@@link{#2}{#1}%
4354 }
4355 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4356 \def\@hyperdef#1#2#3{%, category, name, text
4357   \ifx\\#1\\%
4358     \def\Hy@AnchorName{#2}%
4359   \else
4360     \def\Hy@AnchorName{#1.#2}%
4361   \fi
4362   \ifHy@nesting
4363     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4364   \else
4365     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4366   \fi
4367 }

```

```

4368 \def\label@hyperref[#1]{%
4369 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4370 }%
4371 \def\label@@hyperref#1#2#3{%
4372 \ifx#1\relax
4373 \protect\G@refundefinedtrue
4374 \@latex@warning{%
4375   Hyper reference ‘#2’ on page \thepage \space undefined%
4376 }%
4377 \hyper@@link{}{??}{#3}%
4378 \else
4379 \hyper@@link{\expandafter\@fifthoffive#1}%
4380   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4381 \fi
4382 }
4383 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4384                               % anchor text
4385 \@bsphack
4386 \ifx\\#2\\%
4387 \def\Hy@AnchorName{#3}%
4388 \else
4389 \def\Hy@AnchorName{#2.#3}%
4390 \fi
4391 \if@filesw
4392 \protected@write\@auxout{}{%
4393   \string\newlabel{#1}{\{#\}\}\{\Hy@AnchorName\}\}%
4394 }%
4395 \fi
4396 \@esphack
4397 \ifHy@nesting
4398 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4399 \else
4400 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%

```

```

4401 \fi
4402 }

```

## 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.

```

4403 \def\hyper@@link{\let\Hy@reserved@a\relax
4404 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
4405 }
4406 \def\hyper@link@[#1]#2#3#4{%
4407 \begingroup
4408 \protected@edef\Hy@tempa{#2}%
4409 \Hy@safe@activestrue
4410 \edef\x{#3}%
4411 \ifx\Hy@tempa\@empty
4412 \toks0{\hyper@link{#1}}%
4413 \else
4414 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
4415 \fi
4416 \toks2{%
4417 \Hy@safe@activesfalse
4418 #4%
4419 }%
4420 \edef\Hy@tempa{\the\toks2}%
4421 \edef\x{\endgroup
4422 \ifx\Hy@tempa\@empty
4423 \noexpand\Hy@Warning{Suppressing empty link}%
4424 \else
4425 \the\toks0 {\x}{\the\toks2}}%
4426 \fi
4427 }%
4428 \x
4429 }

```

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.

```

4430 \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.

```

4431 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
4432 }

```

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

```
4433 \def\@pdftempwordfile{file}%
4434 \def\@pdftempwordrun{run}%
4435 \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:

```
4436 \ifx\\#6\\%
4437 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
4438 \else
4439 \ifx\\#4\\%
4440 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
4441 \else
```

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

```
4442 \def\@pdftempa{#4}%
4443 \ifx\@pdftempa\@pdftempwordfile
4444 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
4445 \else
```

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

```
4446 \ifx\@pdftempa\@pdftempwordrun
4447 \ifHy@pdfa
4448 \PackageError{hyperref}{%
4449 PDF/A: Launch action is prohibited%
4450 }\@ehc
4451 \begingroup
4452 \leavevmode
4453 #2%
4454 \endgroup
4455 \else
4456 \expandafter\@hyper@launch#7\\{#3}{#2}%
4457 \fi
4458 \else
```

otherwise its a URL

```
4459 \hyper@linkurl{#3}{#7\ifx\\#2\\% \else\hyper@hash#2\fi}%
4460 \fi
4461 \fi
4462 \fi
4463 \fi
4464 }
```

By default, turn run: into file:

```
4465 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
4466 \hyper@linkurl{#2}{%
4467 \Hy@linkfileprefix
4468 #1%
4469 \ifx\\#3\\%
4470 \else
4471 \hyper@hash
4472 #3%
4473 \fi
4474 }%
4475 }
```

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

```

4476 \def\@hyper@linkfile file:#1\\#2#3{%
4477   %file url,link string, name
4478   \filename@parse{#1}%
4479   \ifx\filename@ext\relax
4480     \edef\filename@ext{\XR@ext}%
4481   \fi
4482   \def\use@file{\filename@area\filename@base.\filename@ext}%
4483   \Hy@ifStringEndsWith\filename@ext\XR@ext{%
4484     \hyper@linkfile{#2}{\use@file}{#3}%
4485   }{%
4486     \ifx\@baseurl\@empty
4487       \hyper@linkurl{#2}{%
4488         \Hy@linkfileprefix\use@file\ifx\\#3\\else\hyper@hash#3\fi
4489       }%
4490     \else
4491       \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
4492     \fi
4493   }%
4494 }

4495 \def\Hy@ifStringEndsWith#1#2{%
4496   \begingroup
4497   \edef\x{#1}%
4498   \@onelevel@sanitize\x
4499   \edef\x{.\x$}%
4500   \edef\y{#2}%
4501   \@onelevel@sanitize\y
4502   \edef\y{.\y$}%
4503   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
4504     \endgroup
4505     \ifx\relax##2\relax
4506       \expandafter\ltx@secondoftwo
4507     \else
4508       \expandafter\ltx@firstoftwo
4509     \fi
4510   }%
4511   \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
4512 }

```

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 it's 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.

```

4513 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
4514 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
4515   \ifx\\#1\\%
4516     #2\Hy@Warning{Ignoring empty anchor}%
4517   \else
4518     \def\anchor@spot{#2#3}%
4519     \let\put@me@back\@empty
4520     \ifx\relax#2\relax
4521     \else

```

```

4522 \ifHy@nesting
4523 \else
4524 \ifcat a\noexpand#2\relax
4525 \else
4526 \ifcat 0\noexpand#2 \relax
4527 \else
4528 % \typeout{Anchor start is not alphanumeric %
4529 % on input line\the\inputlineno%
4530 % }%
4531 \let\anchor@spot\@empty
4532 \def\put@me@back{#2#3}%
4533 \fi
4534 \fi
4535 \fi
4536 \fi
4537 \ifHy@activeanchor
4538 \anchor@spot
4539 \else
4540 \hyper@anchor{#1}%
4541 \fi
4542 \expandafter\put@me@back
4543 \fi
4544 \let\anchor@spot\@empty
4545 }

```

## 18 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

4546 \let\htmladding\hyperimage
4547 \def\htmladdnormallink#1#2{\href{#2}{#1}}
4548 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
4549 \def\htmlref#1#2{% anchor text, label
4550 \label@hyperref[{#2}]{#1}%
4551 }

```

This is really too much. The *L<sup>A</sup>T<sub>E</sub>X2html* 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.

```

4552 \def\@latexhtmlX{%
4553 \let\hhyperref\hyperref
4554 \def\hyperref##1##2##3##4{% anchor text for HTML
4555 % text to print before label in print
4556 % label
4557 % post-label text in print
4558 ##2\ref{##4}##3%
4559 }%
4560 }

```

## 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.

```
4561 \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
4562 \def\HyField@NewFlag#1#2{%
4563   \lowercase{\HyField@NewOption{#2}}}%
4564   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4565 }
```

```
\HyField@NewFlagOnly
4566 \def\HyField@NewFlagOnly#1#2{%
4567   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
4568 }
```

```
\HyField@NewOption #1: option name
4569 \def\HyField@NewOption#1{%
4570   \expandafter\newif\csname ifFld@#1\endcsname
4571   \define@key{Field}{#1}[true]{%
4572     \lowercase{\Field@boolkey{##1}}{#1}%
4573   }%
4574 }
```

\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
4575 \def\HyField@NewBitsetFlag#1#2#3#4{%
4576   \begingroup
4577   \count@=#4\relax
4578   \advance\count@\m@ne
4579   \def\x##1{%
4580     \endgroup
4581     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
4582     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
4583       \expandafter\edef\csname HyField@#3@##1\endcsname{%
4584         (\number#4) #2%
4585       }%
4586     \else
4587       \expandafter\edef\csname HyField@#3@##1\endcsname{%
```

```

4588     \csname HyField@#3@#1\endcsname
4589     /#2%
4590   }%
4591   \fi
4592 }%
4593 \expandafter\x\expandafter{\the\count@}%
4594 }

```

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

```

4595 \def\HyField@UseFlag#1#2{%
4596   \lowercase{\HyField@@UseFlag{#2}}{#1}%
4597 }

```

\HyField@@UseFlag

```

4598 \def\HyField@@UseFlag#1#2{%
4599   \bitsetSetValue{HyField@#2}{%
4600     \csname HyField@#2@#1\endcsname
4601   }{%
4602     \csname ifFld@#1\endcsname 1\else 0\fi
4603   }%
4604 }

```

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

```

4605 \def\HyField@SetFlag#1#2{%
4606   \lowercase{\HyField@@SetFlag{#2}}{#1}%
4607 }

```

\HyField@@SetFlag

```

4608 \def\HyField@@SetFlag#1#2{%
4609   \bitsetSetValue{HyField@#2}{%
4610     \csname HyField@#2@#1\endcsname
4611   }{1}%
4612 }

```

\HyField@PrintFlags

```

4613 \def\HyField@PrintFlags#1#2{%
4614   \ifHy@verbose
4615     \begingroup
4616     \let\Hy@temp\@empty
4617     \let\MessageBreak\relax
4618     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
4619     \bitsetGetSetBitList{HyField@#1}\do{%
4620       \edef\Hy@temp{%
4621         \Hy@temp
4622         \csname HyField@#1@\x\endcsname\MessageBreak
4623       }%
4624     }%
4625   \edef\x{\endgroup
4626     \noexpand\Hy@Info{%
4627       Field flags: %
4628       \expandafter\ifx\@car#1\@nil S\else/\fi
4629       #1 %
4630       \bitsetGetDec{HyField@#1} %
4631       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
4632     \Hy@temp
4633     for #2%

```



```

4634     }%
4635     }\x
4636     \fi
4637 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

4638 \HyField@NewFlag{Ff}{ReadOnly}{1}
4639 \HyField@NewFlag{Ff}{Required}{2}
4640 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

4641 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
4642 \HyField@NewFlag{Ff}{Radio}{16}
4643 \HyField@NewFlag{Ff}{Pushbutton}{17}
4644 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

4645 \HyField@NewFlag{Ff}{Multiline}{13}
4646 \HyField@NewFlag{Ff}{Password}{14}
4647 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
4648 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4649 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
4650 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
4651 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

4652 \HyField@NewFlag{Ff}{Combo}{18}
4653 \HyField@NewFlag{Ff}{Edit}{19}
4654 \HyField@NewFlag{Ff}{Sort}{20}
4655 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
4656 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
4657 \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.

```

4658 \newif\ifFld@popdown
4659 \define@key{Field}{popdown}[true]{%
4660   \lowercase{\Field@boolkey{#1}}{popdown}%
4661 }

```

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.

```

4662 \HyField@NewFlag{F}{Invisible}{1}
4663 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
4664 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
4665 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
4666 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
4667 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
4668 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
4669 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
4670 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

```

```

4671 \ifHy@pdfa
4672 \def\HyField@PDFAFlagWarning#1#2{%
4673   \Hy@Warning{%
4674     PDF/A: Annotation flag '#1' must\MessageBreak
4675     be set to '#2'%
4676   }%
4677 }%
4678 \Fld@invisiblefalse
4679 \def\Fld@invisibletrue{%
4680   \HyField@PDFAFlagWarning{invisible}{false}%
4681 }%
4682 \Fld@hiddenfalse
4683 \def\Fld@hiddentruetrue{%
4684   \HyField@PDFAFlagWarning{hidden}{false}%
4685 }%
4686 \Fld@printtrue
4687 \def\Fld@printfalse{%
4688   \HyField@PDFAFlagWarning{print}{true}%
4689 }%
4690 \Fld@nozoomtrue
4691 \def\Fld@nozoomfalse{%
4692   \HyField@PDFAFlagWarning{nozoom}{true}%
4693 }%
4694 \Fld@norotatetrue
4695 \def\Fld@norotatefalse{%
4696   \HyField@PDFAFlagWarning{norotate}{true}%
4697 }%
4698 \Fld@noviewfalse
4699 \def\Fld@noviewtrue{%
4700   \HyField@PDFAFlagWarning{noview}{false}%
4701 }%
4702 \fi

```

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

```

4703 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
4704 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
4705 \HyField@NewFlag{Submit}{GetMethod}{4}
4706 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
4707 \HyField@NewFlagOnly{Submit}{XFDF}{6}
4708 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
4709 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
4710 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
4711 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
4712 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
4713 \HyField@NewFlag{Submit}{ExclFKey}{12}
4714 \HyField@NewFlag{Submit}{EmbedForm}{14}

4715 \define@key{Field}{export}{%
4716   \lowercase{\def\Hy@temp{#1}}%
4717   \@ifundefined{Fld@export@\Hy@temp}{%
4718     \@onelevel@sanitize\Hy@temp
4719     \PackageError{hyperref}{%
4720       Unknown export format '\Hy@temp'\MessageBreak
4721       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
4722     }\@ehc
4723   }{%
4724     \let\Fld@export\Hy@temp
4725   }%

```

```

4726 }
4727 \def\Fld@export{fdf}
4728 \@namedef{Fld@export@fdf}{0}%
4729 \@namedef{Fld@export@html}{1}%
4730 \@namedef{Fld@export@xfdf}{2}%
4731 \@namedef{Fld@export@pdf}{3}%

```

### 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

4732 \def\HyField@FlagsSubmit{%
4733   \bitsetReset{HyField@Submit}%
4734   \ifcase\@nameuse{Fld@export@Fld@export} %
4735     % FDF
4736     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4737     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4738     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
4739     \HyField@UseFlag{Submit}{IncludeAnnotations}%
4740     \HyField@UseFlag{Submit}{CanonicalFormat}%
4741     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
4742     \HyField@UseFlag{Submit}{ExclFKey}%
4743     \HyField@UseFlag{Submit}{EmbedForm}%
4744   \or % HTML
4745     \HyField@SetFlag{Submit}{ExportFormat}%
4746     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4747     \HyField@UseFlag{Submit}{GetMethod}%
4748     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4749     \HyField@UseFlag{Submit}{CanonicalFormat}%
4750   \or % XFDF
4751     \HyField@SetFlag{Submit}{XFDF}%
4752     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
4753     \HyField@UseFlag{Submit}{SubmitCoordinates}%
4754     \HyField@UseFlag{Submit}{CanonicalFormat}%
4755   \or % PDF
4756     \HyField@SetFlag{Submit}{SubmitPDF}%
4757     \HyField@UseFlag{Submit}{GetMethod}%
4758   \fi
4759   \HyField@PrintFlags{Submit}{submit button field}%
4760   \bitsetIsEmpty{HyField@Submit}{%
4761     \def\Fld@submitflags{%
4762     }{%
4763       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}}%
4764   }%
4765 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4766 \def\HyField@FlagsAnnot#1{%
4767   \bitsetReset{HyField@F}%
4768   \HyField@UseFlag{F}{Invisible}%
4769   \HyField@UseFlag{F}{Hidden}%
4770   \HyField@UseFlag{F}{Print}%
4771   \HyField@UseFlag{F}{NoZoom}%
4772   \HyField@UseFlag{F}{NoRotate}%
4773   \HyField@UseFlag{F}{NoView}%

```

```

4774 \HyField@UseFlag{F}{Locked}%
4775 \HyField@UseFlag{F}{ToggleNoView}%
4776 \HyField@UseFlag{F}{LockedContents}%
4777 \HyField@PrintFlags{F}{#1}%
4778 \bitsetIsEmpty{HyField@F}{%
4779   \def\Fld@annotflags{%
4780   }{%
4781   \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
4782 }%
4783 }

```

#### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4784 \def\HyField@FlagsPushButton{%
4785 \HyField@FlagsAnnot{push button field}%
4786 \bitsetReset{HyField@Ff}%
4787 \HyField@UseFlag{Ff}{ReadOnly}%
4788 \HyField@UseFlag{Ff}{Required}%
4789 \HyField@UseFlag{Ff}{NoExport}%
4790 \HyField@SetFlag{Ff}{Pushbutton}%
4791 \HyField@PrintFlags{Ff}{push button field}%
4792 \bitsetIsEmpty{HyField@Ff}{%
4793   \def\Fld@flags{%
4794   }{%
4795   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4796 }%
4797 }

```

#### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4798 \def\HyField@FlagsCheckBox{%
4799 \HyField@FlagsAnnot{check box field}%
4800 \bitsetReset{HyField@Ff}%
4801 \HyField@UseFlag{Ff}{ReadOnly}%
4802 \HyField@UseFlag{Ff}{Required}%
4803 \HyField@UseFlag{Ff}{NoExport}%
4804 \HyField@PrintFlags{Ff}{check box field}%
4805 \bitsetIsEmpty{HyField@Ff}{%
4806   \def\Fld@flags{%
4807   }{%
4808   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4809 }%
4810 }

```

#### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4811 \def\HyField@FlagsRadioButton{%
4812 \HyField@FlagsAnnot{radio button field}%
4813 \bitsetReset{HyField@Ff}%
4814 \HyField@UseFlag{Ff}{ReadOnly}%
4815 \HyField@UseFlag{Ff}{Required}%
4816 \HyField@UseFlag{Ff}{NoExport}%
4817 \HyField@UseFlag{Ff}{NoToggleToOff}%

```

```

4818 \HyField@SetFlag{Ff}{Radio}%
4819 \HyField@UseFlag{Ff}{RadiosInUnison}%
4820 \HyField@PrintFlags{Ff}{radio button field}%
4821 \bitsetIsEmpty{HyField@Ff}{%
4822   \def\Fld@flags{%
4823   }{%
4824     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4825   }%
4826 }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

4827 \def\HyField@FlagsText{%
4828   \HyField@FlagsAnnot{text field}%
4829   \bitsetReset{HyField@Ff}%
4830   \HyField@UseFlag{Ff}{ReadOnly}%
4831   \HyField@UseFlag{Ff}{Required}%
4832   \HyField@UseFlag{Ff}{NoExport}%
4833   \HyField@UseFlag{Ff}{Multiline}%
4834   \HyField@UseFlag{Ff}{Password}%
4835   \HyField@UseFlag{Ff}{FileSelect}%
4836   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4837   \HyField@UseFlag{Ff}{DoNotScroll}%
4838   \ifFld@comb
4839     \ifcase0\ifFld@multiline
4840       \else\ifFld@password
4841       \else\ifFld@fileselect
4842       \else 1\fi\fi\fi\relax
4843     \PackageError{hyperref}{%
4844       Field option ‘comb’ cannot used together with\MessageBreak
4845       ‘multiline’, ‘password’, or ‘fileselect’%
4846     }\@ehc
4847   \else
4848     \HyField@UseFlag{Ff}{Comb}%
4849   \fi
4850 \fi
4851 \HyField@UseFlag{Ff}{RichText}%
4852 \HyField@PrintFlags{Ff}{text field}%
4853 \bitsetIsEmpty{HyField@Ff}{%
4854   \def\Fld@flags{%
4855   }{%
4856     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4857   }%
4858 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4859 \def\HyField@FlagsChoice{%
4860   \HyField@FlagsAnnot{choice field}%
4861   \bitsetReset{HyField@Ff}%
4862   \HyField@UseFlag{Ff}{ReadOnly}%
4863   \HyField@UseFlag{Ff}{Required}%
4864   \HyField@UseFlag{Ff}{NoExport}%
4865   \HyField@UseFlag{Ff}{Combo}%

```

```

4866 \ifFld@combo
4867 \HyField@UseFlag{Ff}{Edit}%
4868 \fi
4869 \HyField@UseFlag{Ff}{Sort}%
4870 \HyField@UseFlag{Ff}{MultiSelect}%
4871 \ifFld@combo
4872 \ifFld@edit
4873 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4874 \fi
4875 \fi
4876 \HyField@UseFlag{Ff}{CommitOnSelChange}%
4877 \HyField@PrintFlags{Ff}{choice field}%
4878 \bitsetIsEmpty{HyField@Ff}{%
4879 \def\Fld@flags{%
4880 }{%
4881 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
4882 }%
4883 }

```

## 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.

```

4884 \def\HyField@PDFChoices#1{%
4885 \begingroup
4886 \gdef\Fld@choices{%
4887 \def\HyTmp@optlist{%
4888 \let\HyTmp@optitem\relax
4889 \count@=0 %
4890 \kv@parse{#1}{%
4891 \Hy@pdfstringdef\kv@key\kv@key
4892 \ifx\kv@value\relax
4893 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4894 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4895 \else
4896 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4897 \fi
4898 \else
4899 \Hy@pdfstringdef\kv@value\kv@value
4900 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
4901 \fi
4902 \edef\HyTmp@optlist{%
4903 \HyTmp@optlist
4904 \HyTmp@optitem{\the\count@}{\kv@key}0%
4905 }%
4906 \advance\count@ by 1 %
4907 \@gobbletwo
4908 }%
4909 \xdef\Fld@choices{/Opt[\Fld@choices]}%
4910 \ifFld@multiselect
4911 \HyField@@PDFChoices{DV}\Fld@default
4912 \HyField@@PDFChoices{V}\Fld@value
4913 \else
4914 \ifx\Fld@default\relax
4915 \else
4916 \pdfstringdef\Hy@gtemp\Fld@default

```

```

4917 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4918 \fi
4919 \ifx\Fld@value\relax
4920 \else
4921 \pdfstringdef\Hy@gtemp\Fld@value
4922 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4923 \fi
4924 \fi
4925 \endgroup
4926 }

```

\HyField@@PDFChoices

```

4927 \def\HyField@@PDFChoices#1#2{%
4928 \ifx#2\relax
4929 \else
4930 \count@=0 %
4931 \def\HyTmp@optitem##1##2##3{%
4932 \def\HyTmp@key{##2}%
4933 \ifx\HyTmp@key\Hy@gtemp
4934 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4935 \HyTmp@optlist
4936 \HyTmp@optitem{##1}{##2}1%
4937 }%
4938 \let\HyTmp@found=Y%
4939 \else
4940 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4941 \HyTmp@optlist
4942 \HyTmp@optitem{##1}{##2}##3%
4943 }%
4944 \fi
4945 }%
4946 \expandafter\comma@parse\expandafter{#2}{%
4947 \pdfstringdef\Hy@gtemp\comma@entry
4948 \let\HyTmp@found=N %
4949 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4950 \HyTmp@optlist
4951 \ifx\HyTmp@found Y%
4952 \advance\count@ by 1 %
4953 \else
4954 \@onelevel@sanitize\comma@entry
4955 \PackageWarning{hyperref}{%
4956 \string\ChoiceBox: Ignoring value '\comma@entry',%
4957 \MessageBreak
4958 it cannot be found in the choices%
4959 }%
4960 \fi
4961 \@gobble
4962 }%
4963 \def\HyTmp@optitem##1##2##3{%
4964 \ifnum##3=1 %
4965 (##2)%
4966 \fi
4967 }%
4968 \ifcase\count@
4969 \or
4970 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4971 \else

```

```

4972 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]]}%
4973 \ifx#1V%
4974 \def\HyTmp@optitem##1##2##3{%
4975 \ifnum##3=1 %
4976 \@firstofone{ ##1}%
4977 \fi
4978 }%
4979 \edef\HyTmp@optlist{\HyTmp@optlist}%
4980 \xdef\Fld@choices{%
4981 \Fld@choices
4982 /I[\expandafter\@firstofone\HyTmp@optlist]%
4983 }%
4984 \fi
4985 \fi
4986 \fi
4987 }

```

### 19.3 Forms

\HyField@SetKeys

```

4988 \def\HyField@SetKeys{%
4989 \kvsetkeys{Field}%
4990 }

4991 \newif\ifFld@checked
4992 \newif\ifFld@disabled
4993 \Fld@checkedfalse
4994 \Fld@disabledfalse
4995 \newcount\Fld@menulength
4996 \newdimen\Fld@Width
4997 \newdimen\Fld@charsize
4998 \Fld@charsize=10\p@
4999 \def\Fld@maxlen{0}
5000 \def\Fld@align{0}
5001 \def\Fld@color{0 0 0 rg}
5002 \def\Fld@bcolor{1 1 1}
5003 \def\Fld@bordercolor{1 0 0}
5004 \def\Fld@bordersep{1\p@}
5005 \def\Fld@borderwidth{1}
5006 \def\Fld@borderstyle{S}
5007 \def\Fld@cbsymbol{4}
5008 \def\Fld@radiosymbol{H}
5009 \def\Fld@rotation{0}
5010 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5011 \def\endForm{\@endForm}
5012 \newif\ifForm@html
5013 \Form@htmlfalse
5014 \def\Form@boolkey#1#2{%
5015 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5016 }
5017 \define@key{Form}{action}{%
5018 \hyper@normalise\Hy@DefFormAction{#1}%
5019 }
5020 \def\Hy@DefFormAction{\def\Form@action}
5021 \def\enc@html{html}
5022 \define@key{Form}{encoding}{%
5023 \def\Hy@tempa{#1}%

```



```

5024 \ifx\Hy@tempa\enc@@html
5025 \Form@htmltrue
5026 \def\Fld@export{html}%
5027 \else
5028 \Hy@Warning{%
5029   Form 'encoding' key with \MessageBreak
5030   unknown value '#1'%
5031 }%
5032 \Form@htmlfalse
5033 \fi
5034 }
5035 \define@key{Form}{method}{%
5036 \lowercase{\def\Hy@temp{#1}}%
5037 \@ifundefined{Form@method@\Hy@temp}{%
5038 \onelevel@sanitize\Hy@temp
5039 \PackageError{hyperref}{%
5040   Unknown method '\Hy@temp'.\MessageBreak
5041   Known values are 'post' and 'get'%
5042 }\@ehc
5043 }{%
5044 \let\Form@method\Hy@temp
5045 \ifcase\@nameuse{Form@method@\Hy@temp} %
5046 \Fld@getmethodfalse
5047 \else
5048 \Fld@getmethodtrue
5049 \fi
5050 }%
5051 }
5052 \def\Form@method{}
5053 \@namedef{Form@method@post}{0}
5054 \@namedef{Form@method@get}{1}
5055 \def\Field@boolkey#1#2{%
5056 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5057 }
5058 \newtoks\Field@toks
5059 \Field@toks={ }%
5060 \def\Field@addtoks#1#2{%
5061 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5062 \@processme
5063 }
5064 \def\Fld@checkequals#1=#2=#3\{\{%
5065 \def\@currDisplay{#1}%
5066 \ifx\#2\%
5067 \def\@currValue{#1}%
5068 \else
5069 \def\@currValue{#2}%
5070 \fi
5071 }
5072 \define@key{Field}{loc}{%
5073 \def\Fld@loc{#1}%
5074 }
5075 \define@key{Field}{checked}[true]{%
5076 \lowercase{\Field@boolkey{#1}}{checked}%
5077 }
5078 \define@key{Field}{disabled}[true]{%
5079 \lowercase{\Field@boolkey{#1}}{disabled}%
5080 }

```

```

5081 \define@key{Field}{accesskey}{%
5082   \Field@addtoks{accesskey}{#1}%
5083 }
5084 \define@key{Field}{tabkey}{%
5085   \Field@addtoks{tabkey}{#1}%
5086 }
5087 \define@key{Field}{name}{%
5088   \def\Fld@name{#1}%
5089 }
5090 \define@key{Field}{width}{%
5091   \def\Fld@width{#1}%
5092   \Field@Width#1\setbox0=\hbox{m}%
5093 }
5094 \define@key{Field}{maxlen}{%
5095   \def\Fld@maxlen{#1}%
5096 }
5097 \define@key{Field}{menulength}{%
5098   \Fld@menulength=#1\relax
5099 }
5100 \define@key{Field}{height}{%
5101   \def\Fld@height{#1}%
5102 }
5103 \define@key{Field}{charsize}{%
5104   \Fld@charsize#1%
5105 }
5106 \define@key{Field}{borderwidth}{%
5107   \def\Fld@borderwidth{#1}%
5108 }
5109 \define@key{Field}{borderstyle}{%
5110   \def\Fld@borderstyle{#1}%
5111 }
5112 \define@key{Field}{bordersep}{%
5113   \def\Fld@bordersep{#1}%
5114 }
5115 \define@key{Field}{default}{%
5116   \def\Fld@default{#1}%
5117 }
5118 \define@key{Field}{align}{%
5119   \def\Fld@align{#1}%
5120 }
5121 \define@key{Field}{value}{%
5122   \def\Fld@value{#1}%
5123 }
5124 \define@key{Field}{checkboxsymbol}{%
5125   \Fld@DingDef\Fld@cbsymbol{#1}%
5126 }
5127 \define@key{Field}{radiosymbol}{%
5128   \Fld@DingDef\Fld@radiosymbol{#1}%
5129 }
5130 \def\Fld@DingDef#1#2{%
5131   \def\Fld@temp{}%
5132   \Fld@@DingDef#2\ding{}\@nil
5133   \let#1\Fld@temp
5134 }
5135 \def\Fld@@DingDef#1\ding#2#3\@nil{%
5136   \expandafter\def\expandafter\Fld@temp\expandafter{%
5137     \Fld@temp

```

```

5138   #1%
5139 }%
5140 \ifx\\#3\\%
5141   \expandafter\@gobble
5142 \else
5143   \begingroup
5144     \lccode'0=#2\relax
5145   \lowercase{\endgroup
5146     \expandafter\def\expandafter\Fld@temp\expandafter{%
5147       \Fld@temp
5148       0%
5149     }%
5150   }%
5151   \expandafter\@firstofone
5152 \fi
5153 {%
5154   \Fld@@DingDef#3\@nil
5155 }%
5156 }

5157 \define@key{Field}{rotation}{%
5158   \def\Fld@rotation{#1}%
5159 }

5160 \define@key{Field}{backgroundcolor}{%
5161   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5162 }
5163 \define@key{Field}{bordercolor}{%
5164   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
5165 }
5166 \define@key{Field}{color}{%
5167   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
5168 }

5169 \def\Fld@onclick@code{}
5170 \def\Fld@format@code{}
5171 \def\Fld@validate@code{}
5172 \def\Fld@calculate@code{}
5173 \def\Fld@keystroke@code{}
5174 \def\Fld@onfocus@code{}
5175 \def\Fld@onblur@code{}
5176 \def\Fld@onmousedown@code{}
5177 \def\Fld@onmouseup@code{}
5178 \def\Fld@onenter@code{}
5179 \def\Fld@onexit@code{}
5180 \def\Hy@temp#1{%
5181   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
5182 }
5183 \def\Hy@@temp#1#2{%
5184   \ifHy@pdfa
5185     \define@key{Field}{#2}{%
5186       \PackageError{hyperref}{%
5187         PDF/A: Additional action ‘#2’ is prohibited%
5188       }\@ehc
5189     }%
5190   \else
5191     \define@key{Field}{#2}{%
5192       \def#1{##1}%
5193     }%

```

```

5194 \fi
5195 }
5196 \Hy@temp{keystroke}
5197 \Hy@temp{format}
5198 \Hy@temp{validate}
5199 \Hy@temp{calculate}
5200 \Hy@temp{onfocus}
5201 \Hy@temp{onblur}
5202 \Hy@temp{onenter}
5203 \Hy@temp{onexit}
5204 \def\Hy@temp#1{%
5205   \define@key{Field}{#1}{%
5206     \Field@addtoks{#1}{##1}%
5207   }%
5208 }
5209 \Hy@temp{onselect}
5210 \Hy@temp{onchange}
5211 \Hy@temp{ondblclick}
5212 \Hy@temp{onmousedown}
5213 \Hy@temp{onmouseup}
5214 \Hy@temp{onmouseover}
5215 \Hy@temp{onmousemove}
5216 \Hy@temp{onmouseout}
5217 \Hy@temp{onkeypress}
5218 \Hy@temp{onkeydown}
5219 \Hy@temp{onkeyup}
5220 \ifHy@pdfa
5221   \define@key{Field}{onclick}{%
5222     \PackageError{hyperref}{%
5223       PDF/A: Action 'onclick' is prohibited%
5224     }\@ehc
5225   }%
5226 \else
5227   \define@key{Field}{onclick}{%
5228     \def\Fld@onclick@code{#1}%
5229     \Field@addtoks{onclick}{#1}%
5230   }%
5231 \fi

5232 \DeclareRobustCommand\TextField{%
5233   \@ifnextchar[{\@TextField}{\@TextField[]}%
5234 }
5235 \DeclareRobustCommand\ChoiceMenu{%
5236   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
5237 }
5238 \DeclareRobustCommand\CheckBox{%
5239   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
5240 }
5241 \DeclareRobustCommand\PushButton{%
5242   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
5243 }
5244 \DeclareRobustCommand\Gauge{%
5245   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
5246 }
5247 \DeclareRobustCommand\Submit{%
5248   \@ifnextchar[{\@Submit}{\@Submit[]}%
5249 }
5250 \DeclareRobustCommand\Reset{%

```

```

5251 \ifnextchar[{\@Reset}{\@Reset[]}%
5252 }
5253 \def\LayoutTextField#1#2{% label, field
5254 #1 #2%
5255 }
5256 \def\LayoutChoiceField#1#2{% label, field
5257 #1 #2%
5258 }
5259 \def\LayoutCheckField#1#2{% label, field
5260 #1 #2%
5261 }
5262 \def\LayoutPushButtonField#1{% button
5263 #1%
5264 }
5265 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5266 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5267 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5268 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
5269 \def\MakeButtonField#1{%
5270 \sbox0{%
5271 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
5272 }%
5273 \@tempdima\ht0 %
5274 \advance\@tempdima by \Fld@borderwidth bp %
5275 \advance\@tempdima by \Fld@borderwidth bp %
5276 \ht0\@tempdima
5277 \@tempdima\dp0 %
5278 \advance\@tempdima by \Fld@borderwidth bp %
5279 \advance\@tempdima by \Fld@borderwidth bp %
5280 \dp0\@tempdima
5281 \box0\relax
5282 }
5283 \def\DefaultHeightofSubmit{14pt}
5284 \def\DefaultWidthofSubmit{2cm}
5285 \def\DefaultHeightofReset{14pt}
5286 \def\DefaultWidthofReset{2cm}
5287 \def\DefaultHeightofCheckBox{\baselineskip}
5288 \def\DefaultWidthofCheckBox{\baselineskip}
5289 \def\DefaultHeightofChoiceMenu{\baselineskip}
5290 \def\DefaultWidthofChoiceMenu{\baselineskip}
5291 \def\DefaultHeightofText{\baselineskip}
5292 \def\DefaultHeightofTextMultiline{4\baselineskip}
5293 \def\DefaultWidthofText{3cm}
5294 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
5295 \def\DefaultOptionsofReset{print,name=Reset,noexport}
5296 \def\DefaultOptionsofPushButton{print}
5297 \def\DefaultOptionsofCheckBox{print}
5298 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
5299 \def\DefaultOptionsofListBox{print}
5300 \def\DefaultOptionsofComboBox{print,edit,sort}
5301 \def\DefaultOptionsofPopdownBox{print}
5302 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

5303 \ifHy@figures
5304 \Hy@Info{Hyper figures ON}%
5305 \else
5306 \Hy@Info{Hyper figures OFF}%
5307 \fi
5308 \ifHy@nesting
5309 \Hy@Info{Link nesting ON}%
5310 \else
5311 \Hy@Info{Link nesting OFF}%
5312 \fi
5313 \ifHy@hyperindex
5314 \Hy@Info{Hyper index ON}%
5315 \else
5316 \Hy@Info{Hyper index OFF}%
5317 \fi
5318 \ifHy@backref
5319 \Hy@Info{backreferencing ON}%
5320 \else
5321 \Hy@Info{backreferencing OFF}%
5322 \fi
5323 \ifHy@colorlinks
5324 \Hy@Info{Link coloring ON}%
5325 \else
5326 \Hy@Info{Link coloring OFF}%
5327 \fi
5328 \ifHy@ocgcolorlinks
5329 \Hy@Info{Link coloring with OCG ON}%
5330 \else
5331 \Hy@Info{Link coloring with OCG OFF}%
5332 \fi
5333 \ifHy@pdfa
5334 \Hy@Info{PDF/A mode ON}%
5335 \else
5336 \Hy@Info{PDF/A mode OFF}%
5337 \fi

```

## 21 Low-level utility macros

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

```

5338 \edef\hyper@hash{\string#}
5339 \edef\hyper@tilde{\string~}
5340 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

5341 \def\@currentHref{Doc-Start}
5342 \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.

```

5343 \Hy@AtBeginDocument{%
5344 \Hy@pdfstringtrue
5345 \PDF@SetupDoc
5346 \let\PDF@SetupDoc\@empty
5347 \Hy@DisableOption{pdfpagescrop}%
5348 \Hy@DisableOption{pdfpagemode}%
5349 \Hy@DisableOption{pdfnonfullscreenpagemode}%
5350 \Hy@DisableOption{pdfdirection}%
5351 \Hy@DisableOption{pdfviewarea}%

```

```

5352 \Hy@DisableOption{pdfviewclip}%
5353 \Hy@DisableOption{pdfprintarea}%
5354 \Hy@DisableOption{pdfprintclip}%
5355 \Hy@DisableOption{pdfprintscaling}%
5356 \Hy@DisableOption{pdfduplex}%
5357 \Hy@DisableOption{pdfpicktraybypdfsize}%
5358 \Hy@DisableOption{pdfprintpagerange}%
5359 \Hy@DisableOption{pdfnumcopies}%
5360 \Hy@DisableOption{pdfstartview}%
5361 \Hy@DisableOption{pdfstartpage}%
5362 \Hy@DisableOption{pdftoolbar}%
5363 \Hy@DisableOption{pdfmenubar}%
5364 \Hy@DisableOption{pdfwindowui}%
5365 \Hy@DisableOption{pdfitwindow}%
5366 \Hy@DisableOption{pdfcenterwindow}%
5367 \Hy@DisableOption{pdfdisplaydoctitle}%
5368 \Hy@DisableOption{pdfpagelayout}%
5369 \Hy@DisableOption{pdflang}%
5370 \Hy@DisableOption{baseurl}%
5371 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
5372 \Hy@pdfstringfalse
5373 }

```

Ignore star from referencing macros:

```

5374 \LetLtxMacro\NoHy@OrgRef\ref
5375 \DeclareRobustCommand*{\ref}{%
5376 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
5377 }
5378 \LetLtxMacro\NoHy@OrgPageRef\pageref
5379 \DeclareRobustCommand*{\pageref}{%
5380 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5381 }

```

## 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.

```

5382 \def\NoHyper{%
5383 \def\hyper@link@{##1}##2##3##4{##4}%
5384 \def\hyper@anchor##1{%
5385 \global\let\hyper@livelink\hyper@link
5386 \gdef\hyper@link##1##2##3{##3}%
5387 \def\hyper@anchor##1{%
5388 \def\hyper@anchorstart##1{%
5389 \let\hyper@anchorend\@empty
5390 \def\hyper@linkstart##1##2{%
5391 \let\hyper@linkend\@empty
5392 \def\hyper@linkurl##1##2{##1}%
5393 \def\hyper@linkfile##1##2##3{##1}%
5394 \def\hyper@link@{##1}##2##3{%
5395 \let\Hy@backout\@gobble
5396 }
5397 \def\stop@hyper{%
5398 \def\hyper@link@{##1}##2##3##4{##4}%

```

```

5399 \let\Hy@backout\@gobble
5400 \def\hyper@@anchor##1{}%
5401 \def\hyper@link##1##2##3{##3}%
5402 \def\hyper@anchor##1{}%
5403 \def\hyper@anchorstart##1{}%
5404 \let\hyper@anchorend\@empty
5405 \def\hyper@linkstart##1##2{}%
5406 \let\hyper@linkend\@empty
5407 \def\hyper@linkurl##1##2{##1}%
5408 \def\hyper@linkfile##1##2##3{##1}%
5409 \def\hyper@link@[##1]##2##3{}%
5410 }
5411 \def\endNoHyper{%
5412 \global\let\hyper@link\hyper@livelink
5413 }
5414 \</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:

```

5415 \*nohyperref
5416 \RequirePackage{letltxmacro}[2008/06/13]
5417 \let\hyper@@anchor\@gobble
5418 \def\hyper@link##1##2##3{##3}%
5419 \let\hyper@anchorstart\@gobble
5420 \let\hyper@anchorend\@empty
5421 \let\hyper@linkstart\@gobbletwo
5422 \let\hyper@linkend\@empty
5423 \def\hyper@linkurl##1##2{##1}%
5424 \def\hyper@linkfile##1##2##3{##1}%
5425 \def\hyper@link@[##1]##2##3{}%
5426 \let\PDF@SetupDoc\@empty
5427 \let\PDF@FinishDoc\@empty
5428 \def\nohyperpage##1{##1}

```

Some top-level commands:

```

5429 \def\Acrobatmenu##1##2{\leavevmode##2}
5430 \let\pdfstringdefDisableCommands\@gobbletwo
5431 \let\texorpdfstring\@firstoftwo
5432 \let\pdfbookmark\@undefined
5433 \newcommand\pdfbookmark[3]{}
5434 \let\phantomsection\@empty
5435 \let\hypersetup\@gobble
5436 \let\hyperbaseurl\@gobble
5437 \let\href\@gobble
5438 \let\hyperdef\@gobbletwo
5439 \let\hyperlink\@gobble
5440 \let\hypertarget\@gobble
5441 \def\hyperref{%
5442 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
5443 }

```



```

5444 \long\def\@gobbleopt[#1]{%
5445 \let\hyperpage\@empty
Ignore star from referencing macros:
5446 \LetLtxMacro\NoHy@OrgRef\ref
5447 \DeclareRobustCommand*\ref{%
5448 \ifstar\NoHy@OrgRef\NoHy@OrgRef
5449 }
5450 \LetLtxMacro\NoHy@OrgPageRef\pageref
5451 \DeclareRobustCommand*\pageref{%
5452 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
5453 }
5454 \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}

```

5455 \*package
5456 \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.

```

5457 \if@filesw
5458 \ifHy@typexml
5459 \immediate\closeout\@mainaux
5460 \immediate\openout\@mainaux\jobname.aux\relax
5461 \immediate\write\@auxout{<relaxxml>\relax}%
5462 \fi
5463 \immediate\write\@auxout{%
5464 \string\providecommand\string\HyperFirstAtBeginDocument{%
5465 \string\AtBeginDocument}^^J%
5466 \string\HyperFirstAtBeginDocument{%
5467 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5468 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
5469 \string\gdef\string\contentsline%
5470 \string#1\string#2\string#3\string#4{%
5471 \string\oldcontentsline%
5472 {\string#1}{\string#2}{\string#3}}^^J%
5473 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
5474 \string\gdef\string\newlabel\string#1\string#2{%
5475 \string\newlabelxx{\string#1}\string#2}^^J%
5476 \string\gdef\string\newlabelxx%
5477 \string#1\string#2\string#3\string#4\string#5\string#6{%
5478 \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.

```

5479 \string\AtEndDocument{%
5480 \string\ifx\string\hyper@anchor\string\@undefined^^J%
5481 \string\let\string\contentsline\string\oldcontentsline^^J%
5482 \string\let\string\newlabel\string\oldnewlabel^^J%
5483 \string\fi%
5484 }^^J%

```



```

5528 \def\Hy@scanauthor#1{%
5529   \gdef\Hy@author{#1}%
5530   \HyOrg@author{#1}%
5531 }%

```

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.

```

5532 \begingroup
5533 \def\process@me#1\@nil#2{%
5534   \expandafter\let\expandafter\x\csname @#2\endcsname
5535   \edef\y{\expandafter\strip@prefix\meaning\x}%
5536   \def\c##1#1##2\@nil{%
5537     \ifx\\##1\\%
5538     \else
5539       \expandafter\gdef\csname Hy@#2\expandafter\endcsname
5540         \expandafter{x}%
5541     \fi
5542   }%
5543   \expandafter\c\y\relax#1\@nil
5544 }%
5545 \expandafter\process@me\string\@latex@\@nil{title}%
5546 \expandafter\process@me\string\@latex@\@nil{author}%
5547 \endgroup
5548 \fi
5549 \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.

```

5550 \def\Hy@UseMaketitleString#1{%
5551   \ltx@ifundefined{Hy@#1}{-}{%
5552     \begingroup
5553     \let\Hy@saved@hook\pdfstringdefPreHook
5554     \pdfstringdefDisableCommands{%
5555       \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
5556       \let\newline\\%
5557     }%
5558     \expandafter\ifx\csname @pdf#1\endcsname\@empty
5559     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
5560       \csname Hy@#1\endcsname\@empty
5561     }%
5562     \fi
5563     \global\let\pdfstringdefPreHook\Hy@saved@hook
5564   \endgroup
5565 }%
5566 }
5567 \def\Hy@newline@title#1{ #1}
5568 \def\Hy@newline@author#1{, #1}
5569 \def\Hy@UseMaketitleInfos{%
5570   \Hy@UseMaketitleString{title}%
5571   \Hy@UseMaketitleString{author}%

```

```
5572 }
```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```
5573 \RequirePackage{atbegshi}[2007/09/09]
5574 \def\Hy@EveryPageHook{}
5575 \def\Hy@EveryPageBoxHook{}
5576 \def\Hy@FirstPageHook{}
5577 \AtBeginShipout{%
5578   \Hy@EveryPageHook
5579   \ifx\Hy@EveryPageBoxHook\@empty
5580   \else
5581     \setbox\AtBeginShipoutBox=\vbox{%
5582       \offinterlineskip
5583       \Hy@EveryPageBoxHook
5584       \box\AtBeginShipoutBox
5585     }%
5586   \fi
5587 }
5588 \AtBeginShipoutFirst{%
5589   \Hy@FirstPageHook
5590 }
5591 \g@addto@macro\Hy@FirstPageHook{%
5592   \PDF@FinishDoc
5593   \gdef\PDF@FinishDoc{}%
5594 }
```

### 27.1 PDF /PageLabels

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

```
5595 \ifHy@pagelabels
5596   \begingroup\expandafter\expandafter\expandafter\endgroup
5597   \expandafter\ifx\csname thepage\endcsname\relax
5598     \Hy@pagelabelsfalse
5599     \Hy@WarningNoLine{%
5600       Option 'pdfpagelabels' is turned off\MessageBreak
5601       because \string\thepage\space is undefined%
5602     }%
5603     \csname fi\endcsname
5604     \csname iffalse\expandafter\endcsname
5605   \fi
```

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

```
5606 \def\thispdfpagelabel#1{%
5607   \gdef\HyPL@thisLabel{#1}%
5608 }%
5609 \global\let\HyPL@thisLabel\relax
```

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

```
5610 \def\HyPL@Labels{}%
```

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

```
5611 \newcount\Hy@abspage
5612 \Hy@abspage=0 %
```

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

```
5613 \def\HyPL@LastType{init}%
5614 \def\HyPL@LastNumber{0}%
5615 \def\HyPL@LastPrefix{}%
```

Definitions for the PDF names of the L<sup>A</sup>T<sub>E</sub>X pendants.

```
5616 \def\HyPL@arabic{D}%
5617 \def\HyPL@Roman{R}%
5618 \def\HyPL@roman{r}%
5619 \def\HyPL@Alph{A}%
5620 \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.

```
5621 \def\HyPL@EveryPage{%
5622   \begingroup
5623   \ifx\HyPL@thisLabel\relax
5624     \let\HyPL@page\thepage
5625   \else
5626     \let\HyPL@page\HyPL@thisLabel
5627     \global\let\HyPL@thisLabel\relax
5628   \fi
5629   \let\HyPL@Type\relax
5630   \ifnum\the\c@page>0 %
5631     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
5632   \fi
5633   \let\Hy@temp Y%
5634   \ifx\HyPL@Type\HyPL@LastType
5635   \else
5636     \let\Hy@temp N%
5637   \fi
5638   \ifx\HyPL@Type\relax
5639     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
5640   \else
5641     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
5642   \fi
5643   \ifx\HyPL@Prefix\HyPL@LastPrefix
5644   \else
5645     \let\Hy@temp N%
5646   \fi
5647   \if Y\Hy@temp
5648     \advance\c@page by -1 %
5649     \ifnum\HyPL@LastNumber=\the\c@page\relax
5650     \else
5651       \let\Hy@temp N%
5652     \fi
5653     \Hy@StepCount\c@page
5654   \fi
5655   \if N\Hy@temp
5656     \ifx\HyPL@Type\relax
5657       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
5658     \else
5659       \HyPL@StorePageLabel{%
```

```

5660     \ifx\HyPL@Prefix\@empty
5661     \else
5662     /P(\HyPL@Prefix)%
5663     \fi
5664     /S/\csname HyPL\HyPL@Type\endcsname
5665     \ifnum\the\c@page=1 %
5666     \else
5667     \space/St \the\c@page
5668     \fi
5669     }%
5670     \fi
5671     \fi
5672     \xdef\HyPL@LastNumber{\the\c@page}%
5673     \global\let\HyPL@LastType\HyPL@Type
5674     \global\let\HyPL@LastPrefix\HyPL@Prefix
5675     \endgroup
5676     \Hy@GlobalStepCount\Hy@abspage
5677     }%

```

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

```

5678 \def\HyPL@CheckThePage#1\@nil{%
5679   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
5680 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in  $\text{\LaTeX}$ , 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`.

```

5681 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
5682   \def\Hy@tempa{#4}%
5683   \def\Hy@tempb{\csname\endcsname\c@page}%
5684   \ifx\Hy@tempa\Hy@tempb
5685     \expandafter\ifx\csname HyPL#3\endcsname\relax
5686     \else
5687     \def\HyPL@Type{#3}%
5688     \def\HyPL@Prefix{#2}%
5689     \fi
5690   \else
5691     \begingroup
5692     \let\Hy@next\endgroup
5693     \let\HyPL@found\@undefined
5694     \def\arabic{\HyPL@Format{arabic}}%
5695     \def\Roman{\HyPL@Format{Roman}}%
5696     \def\roman{\HyPL@Format{roman}}%
5697     \def\Alph{\HyPL@Format{Alph}}%
5698     \def\alph{\HyPL@Format{alph}}%
5699     \protected@edef\Hy@temp{#1}%
5700     \ifx\HyPL@found\relax
5701     \toks@{\expandafter{\Hy@temp}}%
5702     \edef\Hy@next{\endgroup
5703       \noexpand\HyPL@@@CheckThePage\the\toks@
5704       \noexpand\HyPL@found\relax\noexpand\@nil
5705     }%
5706     \fi
5707     \Hy@next
5708   \fi

```

5709 }%

`\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`.

```
5710 \def\HyPL@Format#1#2{%
5711   \ifx\HyPL@found\@undefined
5712     \expandafter\ifx\csname c@#2\endcsname\c@page
5713       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
5714     \else
5715       \expandafter\noexpand\csname#1\endcsname{#2}%
5716     \fi
5717   \else
5718     \expandafter\noexpand\csname#1\endcsname{#2}%
5719   \fi
5720 }%
```

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

```
5721 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
5722   \def\Hy@tempa{#3}%
5723   \def\Hy@tempb{\HyPL@found\relax}%
5724   \ifx\Hy@tempa\Hy@tempb
5725     \def\HyPL@Type{#2}%
5726     \def\HyPL@Prefix{#1}%
5727   \fi
5728 }%
```

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

```
5729 \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`.

```
5730 \def\HyPL@Useless{0<</S/D>>}%
5731 \@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.

```
5732 \def\HyPL@SetPageLabels{%
5733   \@onelevel@sanitize\HyPL@Labels
5734   \ifx\HyPL@Labels\@empty
5735     \else
5736       \ifx\HyPL@Labels\HyPL@Useless
5737         \else
5738           \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
5739         \fi
5740       \fi
5741   }%
```

```
5742 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
5743 \fi
```

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

```
5744 \Hy@DisableOption{pdfpagelabels}
```

```
5745 </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`

```
5746 <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.

```
5747 <*vtex>
5748 \providecommand*{\XR@ext}{pdf}
5749 \edef\Hy@VTeXversion{%
5750   \ifx\VTeXversion\@undefined
5751     \z@
5752   \else
5753     \ifx\VTeXversion\relax
5754       \z@
5755     \else
5756       \VTeXversion
5757     \fi
5758   \fi
5759 }
5760 \begingroup
5761   \ifnum\Hy@VTeXversion<660 %
5762     \gdef\Hy@PutCatalog#1{%
5763       \Hy@WarningNoLine{%
5764         VTeX 6.59g or above required for pdfpagelabels%
5765       }%
5766     }%
5767   \else
5768     \gdef\Hy@PutCatalog#1{%
5769       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
5770     }%
5771     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
5772       \ifx\#2\%
5773         \else
5774           \immediate\special{!pdfpagelabels #2}%
5775         \fi
5776       }%
5777     \fi
5778 \endgroup
5779 </vtex>

5780 <*pdfTeX | vtex>
```

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

```
5781 \ifHy@pagelabels
5782   \def\HyPL@StorePageLabel#1{%
5783     \toks@\expandafter{\HyPL@Labels}%
5784     \xdef\HyPL@Labels{%
5785       \the\toks@
5786       \the\Hy@abspage<<#1>>%
5787     }%
5788   }%
```



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.

```
5789 \RequirePackage{atveryend}[2009/12/07]%
5790 \AtVeryEndDocument{%
5791   \HyPL@SetPageLabels
5792 }%

5793 \fi
5794 \pdfTeX | vtex>
```

### 27.1.2 xetex

```
5795 <*xetex>
5796 \HyPsd@LoadUnicode
5797 \Hy@unicodetrue
5798 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
5799 \else
5800   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
5801 \fi
5802 \HyPsd@LoadStringEncoding
5803 \define@key{Hyp}{unicode}[true]{%
5804   \Hy@boolkey{unicode}{#1}%
5805   \ifHy@unicode
5806     \else
5807       \Hy@Warning{%
5808         XeTeX driver only supports 'unicode=true'.\MessageBreak
5809         Ignoring option setting 'unicode=false'%
5810       }%
5811       \Hy@unicodetrue
5812 \fi
5813 }
5814 \define@key{Hyp}{pdfencoding}{%
5815   \edef\HyPsd@temp{#1}%
5816   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
5817     \let\HyPsd@pdfencoding\HyPsd@temp
5818   \else
5819     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
5820       \let\HyPsd@pdfencoding\HyPsd@temp
5821     \else
5822       \Hy@Warning{%
5823         XeTeX driver only supports\MessageBreak
5824         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
5825         setting 'pdfencoding=\HyPsd@temp'%
5826       }%
5827     \fi
5828   \fi
5829 }
5830 \let\HyXeTeX@CheckUnicode\relax
5831 </xetex>
```

### 27.1.3 pdfmarkbase, dvipdfm, xetex

```
5832 <*pdfmarkbase>
5833 \begingroup
5834 \ifundefined{headerps@out}{}%
5835   \toks@\expandafter{\Hy@FirstPageHook}%
5836   \xdef\Hy@FirstPageHook{%
```

```

5837 \noexpand\headerps@out{%
5838 systemdict /pdfmark known%
5839 {%
5840 userdict /?pdfmark systemdict /exec get put%
5841 }{%
5842 userdict /?pdfmark systemdict /pop get put %
5843 userdict /pdfmark systemdict /cleartomark get put%
5844 }%
5845 ifelse%
5846 }%
5847 \the\toks@
5848 }%
5849 }%
5850 \endgroup
5851 \</pdfmarkbase>

```

\Hy@PutCatalog

```

5852 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
5853 <*pdfmarkbase>
5854 \def\Hy@PutCatalog#1{%
5855 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}}%
5856 }
5857 \</pdfmarkbase>

5858 <*pdfmarkbase | dvipdfm | xetex>
5859 \ifHy@pagelabels

```

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

```

5860 \def\HyPL@StorePageLabel#1{%
5861 \if@filesw
5862 \begingroup
5863 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5864 \immediate\write\@mainaux{%
5865 \string\HyPL@Entry{\Hy@tempa}%
5866 }%
5867 \endgroup
5868 \fi
5869 }%

```

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.

```

5870 \Hy@AtBeginDocument{%
5871 \if@filesw
5872 \immediate\write\@mainaux{%
5873 \string\providecommand\string*\string\HyPL@Entry[1]{}%
5874 }%
5875 \fi
5876 \ifx\HyPL@Labels\@empty
5877 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5878 \else
5879 \HyPL@SetPageLabels
5880 \fi
5881 \let\HyPL@Entry\@gobble
5882 }%

```

\HyPL@Entry

```

5883 \def\HyPL@Entry#1{%

```

```

5884 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5885 \HyPL@Labels
5886 #1%
5887 }%
5888 }%

5889 \fi
5890 </pdfmarkbase | dvipdfm | xetex>

5891 <*package>

5892 \MaybeStopEarly

```

## 28 Automated L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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

```

5893 \def\Hy@CounterExists#1{%
5894 \begingroup\expandafter\expandafter\expandafter\endgroup
5895 \expandafter\ifx\csname c@#1\endcsname\relax
5896 \expandafter\@gobble
5897 \else
5898 \begingroup\expandafter\expandafter\expandafter\endgroup
5899 \expandafter\ifx\csname the#1\endcsname\relax
5900 \expandafter\expandafter\expandafter\@gobble
5901 \else
5902 \expandafter\expandafter\expandafter\@firstofone
5903 \fi
5904 \fi
5905 }
5906 \Hy@CounterExists{section}{%
5907 \newcommand\theHequation{\theHsection.\arabic{equation}}}%
5908 }
5909 \Hy@CounterExists{part}{%
5910 \newcommand\theHpart{\arabic{part}}}%
5911 }
5912 \ltx@ifundefined{thechapter}{%
5913 \newcommand\theHsection {\arabic{section}}}%
5914 \newcommand\theHfigure {\arabic{figure}}}%
5915 \newcommand\theHtable {\arabic{table}}}%
5916 }{%
5917 \newcommand\theHchapter {\arabic{chapter}}}%

```

```

5918 \newcommand\theHfigure    {\theHchapter.\arabic{figure}}%
5919 \newcommand\theHtable     {\theHchapter.\arabic{table}}%
5920 \newcommand\theHsection    {\theHchapter.\arabic{section}}%
5921 }
5922 \newcommand\theHsubsection  {\theHsection.\arabic{subsection}}
5923 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5924 \newcommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
5925 \newcommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
5926 \newcommand\theHtheorem     {\theHsection.\arabic{theorem}}
5927 \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.

```

5928 \let\H@item\item
5929 \newcounter{Item}
5930 \def\theHItem{\arabic{Item}}
5931 \def\item{%
5932   \@hyper@itemfalse
5933   \if@nmbrlist\@hyper@itemtrue\fi
5934   \H@item
5935 }
5936 \newcommand\theHenumi      {\theHItem}
5937 \newcommand\theHenumii     {\theHItem}
5938 \newcommand\theHenumiii    {\theHItem}
5939 \newcommand\theHenumiv     {\theHItem}
5940 \newcommand\theHHfootnote  {\arabic{Hfootnote}}
5941 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5942 \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.

```

5943 \let\H@refstepcounter\refstepcounter
5944 \edef\name@of@eq{equation}%
5945 \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.

```

5946 \newif\if@hyper@item
5947 \newif\if@skiphyperref
5948 \@hyper@itemfalse
5949 \@skiphyperreffalse
5950 \def\refstepcounter#1{%
5951   \ifHy@pdfstring
5952   \else
5953     \H@refstepcounter{#1}%
5954     \edef\This@name{#1}%
5955     \ifx\This@name\name@of@slide
5956     \else
5957       \if@skiphyperref
5958       \else
5959         \if@hyper@item
5960         \stepcounter{Item}%
5961         \hyper@refstepcounter{Item}%
5962         \@hyper@itemfalse
5963       \else

```

```

5964      \hyper@refstepcounter{#1}%
5965      \fi
5966      \fi
5967      \fi
5968      \fi
5969 }
5970 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS<sub>La</sub>T<sub>E</sub>X 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.

```

5971 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5972 \def\hyper@refstepcounter#1{%
5973   \edef\This@name{#1}%
5974   \ifx\This@name\name@of@eq
5975     \ifundefined{theHequation}{%
5976       \make@stripped@name{theequation}%
5977       \let\theHequation\newname
5978     }{}%
5979   \fi
5980   \ifundefined{theH#1}{%
5981     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5982   }{}%
5983   \hyper@makecurrent{#1}%
5984   \ifmeasuring@
5985   \else
5986     \Hy@raisedlink{%
5987       \hyper@anchorstart{\@currentHref}\hyper@anchorend
5988     }%
5989   \fi
5990 }

```

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`.

```

5991 \begingroup\expandafter\expandafter\expandafter\endgroup
5992 \expandafter\ifx\csname chapter\endcsname\relax
5993   \def\Hy@chapterstring{section}%
5994 \else
5995   \def\Hy@chapterstring{chapter}%
5996 \fi
5997 \def\Hy@appendixstring{appendix}
5998 \def\Hy@chapapp{\Hy@chapterstring}
5999 \let\HyOrg@appendix\appendix
6000 \def\appendix{%
6001   \ltx@ifundefined{chapter}%
6002     {\gdef\theHsection{\Alph{section}}}%
6003     {\gdef\theHchapter{\Alph{chapter}}}%
6004   \xdef\Hy@chapapp{\Hy@appendixstring}%
6005   \HyOrg@appendix
6006 }

```

`\Hy@Test@alph`

```

6007 \def\Hy@Test@alph#1{%
6008   \ifcase#1\or
6009     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6010     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6011     u\or v\or w\or x\or y\or z%
6012   \else
6013     \@ctrerr
6014   \fi
6015 }

```

\Hy@Test@Alph

```

6016 \def\Hy@Test@Alph#1{%
6017   \ifcase#1\or
6018     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6019     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6020     U\or V\or W\or X\or Y\or Z%
6021   \else
6022     \@ctrerr
6023   \fi
6024 }

```

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

```

6025 \def\hyper@makecurrent#1{%
6026   \begingroup
6027   \edef\Hy@param{#1}%
6028   \ifx\Hy@param\Hy@chapterstring
6029     \let\Hy@param\Hy@chapapp
6030   \fi
6031   \ifHy@hypertextnames
6032     \let\@number\@firstofone
6033     \def\@fnsymbol##1{fnsymbol\number##1}%
6034     \ifx\@alph\Hy@Test@alph
6035       \else
6036         \def\@alph{alph\number}%
6037       \fi
6038     \ifx\@Alph\Hy@Test@Alph
6039       \else
6040         \def\@Alph{Alph\number}%
6041       \fi
6042     \ifHy@naturalnames
6043       \let\textlatin\@firstofone
6044       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6045     \else
6046       \xdef\HyperGlobalCurrentHref{%
6047         \csname
6048           the%
6049           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6050           #1%
6051         \endcsname
6052       }%
6053     \fi
6054     \xdef\HyperGlobalCurrentHref{%
6055       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6056     }%
6057   \else
6058     \Hy@GlobalStepCount\Hy@linkcounter

```

```

6059 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6060 \fi
6061 \endgroup
6062 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6063 \ifHy@localanchorname
6064 \let\@currentHref\HyperLocalCurrentHref
6065 \else
6066 \global\let\@currentHref\HyperGlobalCurrentHref
6067 \fi
6068 }

```

`\Hy@MakeCurrentHref`

```

6069 \def\Hy@MakeCurrentHref#1{%
6070 \edef\HyperLocalCurrentHref{#1}%
6071 \@onelevel@sanitize\HyperLocalCurrentHref
6072 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6073 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6074 \ifHy@localanchorname
6075 \let\@currentHref\HyperLocalCurrentHref
6076 \else
6077 \global\let\@currentHref\HyperGlobalCurrentHref
6078 \fi
6079 }

```

`\Hy@MakeCurrentHrefAuto`

```

6080 \def\Hy@MakeCurrentHrefAuto#1{%
6081 \Hy@GlobalStepCount\Hy@linkcounter
6082 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6083 }

```

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

```

6084 \def\@currentHlabel{\@currentHref}

6085 \@ifpackageloaded{fancyvrb}{%
6086 \@ifpackagelater{fancyvrb}{1998/05/20}{%
6087 \def\FV@StepLineNo{%
6088 \FV@SetLineNo
6089 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
6090 \FV@StepLineNo
6091 }%
6092 }%
6093 }{}

```

## 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`

```

6094 \Hy@AtBeginDocument{%

```

```

6095 \@ifclassloaded{revtex4}{%
6096   \@namedef{ver@lastpage.sty}{1994/06/25}%
6097 }{}%
6098 \@ifpackageloaded{lastpage}{%
6099   \ifHy@pageanchor
6100   \else
6101     \Hy@WarningNoLine{%
6102       The \string\pageref{LastPage} link doesn't work\MessageBreak
6103       with disabled option 'pageanchor'%
6104     }%
6105   \fi
6106   \def\lastpage@putlabel{%
6107     \addtocounter{page}{-1}%
6108     \if@filesw
6109       \begingroup
6110       \let\@number\@firstofone
6111       \ifHy@pageanchor
6112         \ifHy@hypertextnames
6113           \ifHy@plainpages
6114             \def\Hy@temp{\arabic{page}}%
6115           \else
6116             \Hy@unicodefalse
6117             \pdfstringdef\Hy@temp{\thepage}%
6118           \fi
6119         \else
6120           \def\Hy@temp{\the\Hy@pagecounter}%
6121         \fi
6122       \fi
6123       \immediate\write\@auxout{%
6124         \string\newlabel
6125         {LastPage}{-1}{\thepage}{-1}%
6126         \ifHy@pageanchor page.\Hy@temp\fi}{-1}}%
6127     }%
6128   \endgroup
6129   \fi
6130   \addtocounter{page}{1}%
6131 }{}%
6132 \@ifclassloaded{revtex4}{%
6133   \begingroup
6134   \toks@\expandafter{\lastpage@putlabel}%
6135   \edef\x{\endgroup
6136     \def\noexpand\lastpage@putlabel{%
6137       \noexpand\stepcounter{page}%
6138       \the\toks@
6139       \noexpand\addtocounter{page}\noexpand\m@ne
6140     }%
6141   }%
6142   \x
6143 }{}%
6144 }{}%
6145 }
6146 \end{package}
6147 \check
6148 \checkpackage{lastpage}[1994/06/25]
6149 \checkcommand\def\lastpage@putlabel{%
6150   \addtocounter{page}{-1}%
6151   \immediate\write\@auxout{%

```



```

6152 \string\newlabel{LastPage}{\thepage}%
6153 }%
6154 \addtocounter{page}{1}%
6155 }
6156 </check>
6157 <*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.

```

6158 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
6159 \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:

```

6160 \ifpackageloaded{titlesec}{%
6161 \def\ttl@Hy@steplink#1{%
6162 \Hy@MakeCurrentHrefAuto{#1*}%
6163 \edef\ttl@Hy@saveanchor{%
6164 \noexpand\Hy@raisedlink{%
6165 \noexpand\hyper@anchorstart{\@currentHref}%
6166 \noexpand\hyper@anchorend
6167 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
6168 \noexpand\ttl@Hy@PatchSaveWrite
6169 }%
6170 }%
6171 }%
6172 \def\ttl@Hy@PatchSaveWrite{%
6173 \begingroup
6174 \toks@{\expandafter{\ttl@savewrite}}%
6175 \edef\x{\endgroup
6176 \def\noexpand\ttl@savewrite{%
6177 \let\noexpand\@currentHref
6178 \noexpand\ttl@Hy@SavedCurrentHref
6179 \the\toks@
6180 }%
6181 }%
6182 \x
6183 }%
6184 \def\ttl@Hy@refstepcounter#1{%
6185 \let\ttl@b\Hy@raisedlink
6186 \def\Hy@raisedlink##1{%
6187 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
6188 }%
6189 \refstepcounter{#1}%
6190 \let\Hy@raisedlink\ttl@b
6191 }%
6192 }{}

```

Package titletoc support:

```

6193 \ifpackageloaded{titletoc}{%

```

```

6194 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
6195 }{}

```

## 32 Package varioref support

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

```

6196 \def\Hy@varioref@undefined{{??}{??}{-}{-}}
6197 \ifpackageloaded{varioref}{%
6198   \def\vref@pagenum#1#2{%
6199     \ifundefined{r@#2}{%
6200       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
6201     }{}%
6202     \edef#1{\getpagerefnumber{#2}}%
6203   }%
6204 }{}

```

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

```

6205 \def\Hy@varioref@refstepcounter#1{%
6206   \stepcounter{#1}%
6207   \protected@edef\@currentlabel{%
6208     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
6209   }%
6210 }
6211 \AtBeginDocument{%
6212   \ifx\refstepcounter\Hy@varioref@refstepcounter
6213     \let\H@refstepcounter\refstepcounter
6214     \let\refstepcounter\Hy@saved@refstepcounter
6215   \fi
6216 }

```

## 33 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by hyperref's \refstepcounter and the anchor setting is moved after \vskip\LTpre.

Patch of \LT@array: replace \refstepcounter by the original \H@refstepcounter without anchor generation

```

6217 \ifpackageloaded{longtable}{%
6218   \begingroup
6219   \def\y{\LT@array}%
6220   \ifundefined{scr@LT@array}{%
6221     \ifundefined{adl@LT@array}{-}{\def\y{\adl@LT@array}}%
6222   }{\def\y{\scr@LT@array}}%
6223   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
6224     \expandafter\endgroup
6225     \expandafter\def\y[##1]##2{%
6226       \H@refstepcounter{#1}%
6227       \hyper@makecurrent{table}%
6228       \let\Hy@LT@currentHref\@currentHref
6229       #2\@sharp###4%
6230     }%
6231   }%
6232   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

6233 \begingroup
6234 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
6235 \endgroup
6236 \def\LT@start{%
6237   #1%
6238   \ifvoid\LT@foot#2\fi
6239   \let\@currentHref\Hy@LT@currentHref
6240   \Hy@raisedlink{%
6241     \hyper@anchorstart{\@currentHref}\hyper@anchorend
6242   }%
6243   #3%
6244 }%
6245 }%
6246 \expandafter\x\LT@start\@nil
6247 }{}

```

## 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.

```

6248 \let\new@refstepcounter\refstepcounter
6249 \let\H@equation\equation
6250 \let\H@endequation\endequation
6251 \ifpackageloaded{amsmath}{%
6252   \long\def\Hy@temp{%
6253     \incr@eqnum
6254     \mathdisplay@push
6255     \st@rredfalse \global\@eqnswtrue
6256     \mathdisplay{equation}%
6257   }%
6258   \ifx\Hy@temp\equation
6259     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
6260       \csname iftrue\endcsname
6261   \else
6262     \long\def\equation{%
6263       \mathdisplay@push
6264       \st@rredfalse \global\@eqnswtrue
6265       \mathdisplay{equation}%
6266       \incr@eqnum
6267     }%
6268   \fi
6269 \fi
6270 }{}%
6271 \def\equation{%
6272   \let\refstepcounter\H@refstepcounter
6273   \H@equation
6274   \ifundefined{theHequation}{%
6275     \make@stripped@name{\theequation}%
6276     \let\theHequation\newname
6277   }{}%
6278   \hyper@makecurrent{equation}%

```

```

6279 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
6280 \let\refstepcounter\new@refstepcounter
6281 }%
6282 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
6283 }

```

My goodness, why can't L<sup>A</sup>T<sub>E</sub>X 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.

```

6284 \newif\if@eqnstar
6285 \@eqnstarfalse
6286 \let\H@eqnarray\eqnarray
6287 \let\H@endeqnarray\endeqnarray
6288 \def\eqnarray{%
6289 \let\Hy@reserved@a\relax
6290 \def\@currentHref{}%
6291 \H@eqnarray
6292 \if@eqnstar
6293 \else
6294 \ifx\\\@currentHref\\%
6295 \else
6296 \@ifundefined{theHequation}{%
6297 \make@stripped@name{\theequation}%
6298 \let\theHequation\newname
6299 }{}%
6300 \hyper@makecurrent{equation}%
6301 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
6302 \fi
6303 \fi
6304 }
6305 \def\endeqnarray{%
6306 \H@endeqnarray
6307 }

```

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.

```

6308 \@namedef{eqnarray*}{%
6309 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
6310 }
6311 \@namedef{endeqnarray*}{%
6312 \nonumber\endeqnarray\@eqnstarfalse
6313 }

```

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

```

6314 \ltx@ifundefined{subeqnarray}{}{%
6315 \let\H@subeqnarray\subeqnarray
6316 \let\H@endsubeqnarray\endsubeqnarray
6317 \def\subeqnarray{%
6318 \let\Hy@reserved@a\relax
6319 \H@subeqnarray
6320 \@ifundefined{theHequation}{%
6321 \make@stripped@name{\theequation}%
6322 \let\theHequation\newname
6323 }{}%
6324 \hyper@makecurrent{equation}%
6325 \hyper@anchorstart{\@currentHref}{\hyper@anchorend

```

```

6326 }%
6327 \def\endsubeqnarray{%
6328   \H@endsubeqnarray
6329 }%
6330 \newcommand\theHsubequation{\theHequation\alph{subequation}}%
6331 }

```

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

```

6332 \def\make@stripped@name#1{%
6333   \begingroup
6334     \escapechar\m@ne
6335     \global\let\newname\@empty
6336     \protected@edef\Hy@tempa{#1}%
6337     \edef\@tempb{%
6338       \noexpand\@tfor\noexpand\Hy@tempa:=%
6339       \expandafter\strip@prefix\meaning\Hy@tempa
6340     }%
6341     \@tempb\do{%
6342       \if\Hy@tempa\else
6343         \if\Hy@tempa\else
6344           \xdef\newname{\newname\Hy@tempa}%
6345         \fi
6346       \fi
6347     }%
6348   \endgroup
6349 }

```

Support for amsmath's subequations:

```

6350 \begingroup\expandafter\expandafter\expandafter\endgroup
6351 \expandafter\ifx\csname subequations\endcsname\relax
6352 \else
6353   \let\HyOrg@subequations\subequations
6354   \def\subequations{%
6355     \stepcounter{equation}%
6356     \protected@edef\theHparentequation{%
6357       \ifundefined{theHequation}\theequation\theHequation
6358     }%
6359     \addtocounter{equation}{-1}%
6360     \HyOrg@subequations
6361     \def\theHequation{\theHparentequation\alph{equation}}%
6362     \ignorespaces
6363   }%
6364 \fi

```

Support for package amsthm (Daniel Müllner):

```

6365 \@ifpackageloaded{amsthm}{%
6366   \def\@thm#1#2#3{%
6367     \ifhmode
6368       \unskip\unskip\par
6369     \fi
6370     \normalfont
6371     \trivlist
6372     \let\thmheadn\relax
6373     \let\thm@swap\@gobble
6374     \thm@notefont{\fontseries\mddefault\upshape}%
6375     \thm@headpunct{.}% add period after heading
6376     \thm@headsep 5\p@ plus\p@ minus\p@\relax
6377     \thm@space@setup

```

```

6378 #1% style overrides
6379 \@topsep \thm@preskip % used by thm head
6380 \@topsepadd \thm@postskip % used by \Endparentv
6381 \def\dth@counter{#2}%
6382 \ifx\@empty\dth@counter
6383 \def\@tempa{%
6384 \oparg{\@begintheorem{#3}{}}[]%
6385 }%
6386 \else
6387 \H@refstepcounter{#2}%
6388 \hyper@makecurrent{#2}%
6389 \let\Hy@dth@currentHref\@currentHref
6390 \def\@tempa{%
6391 \oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
6392 }%
6393 \fi
6394 \@tempa
6395 }%
6396 \dth@everypar={%
6397 \@minipagefalse
6398 \global\@newlistfalse
6399 \@noparitemfalse
6400 \if@inlabel
6401 \global\@inlabelfalse
6402 \begingroup
6403 \setbox\z@\lastbox
6404 \ifvoid\z@
6405 \kern-\itemindent
6406 \fi
6407 \endgroup
6408 \ifx\@empty\dth@counter
6409 \else
6410 \Hy@raisedlink{%
6411 \hyper@anchorstart{%
6412 \ltx@ifundefined{Hy@dth@currentHref}%
6413 \@currentHref\Hy@dth@currentHref
6414 }\hyper@anchorend
6415 }%
6416 \fi
6417 \unhbox\@labels
6418 \fi
6419 \if@nobreak
6420 \@nobreakfalse \clubpenalty\@M
6421 \else
6422 \clubpenalty\@clubpenalty \everypar{}%
6423 \fi
6424 }%
6425 }{}

```

## 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.

```

6426 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
6427 \ifHy@hyperfootnotes
6428   \newcounter{Hfootnote}%
6429   \let\H@@footnotetext\@footnotetext
6430   \let\H@@footnotemark\@footnotemark
6431   \def\@xfootnotenext[#1]{%
6432     \begingroup
6433       \csname c@\@mpfn\endcsname #1\relax
6434       \unrestored@protected@xdef\@thefnmark{\thempfn}%
6435     \endgroup
6436     \ifx\@footnotetext\@mpfootnotetext
6437       \expandafter\H@@mpfootnotetext
6438     \else
6439       \expandafter\H@@footnotetext
6440     \fi
6441   }%
6442   \def\@xfootnotemark[#1]{%
6443     \begingroup
6444       \c@footnote #1\relax
6445       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6446     \endgroup
6447     \H@@@footnotemark
6448   }%
6449   \let\H@@@mpfootnotetext\@mpfootnotetext
6450   \long\def\@mpfootnotetext#1{%
6451     \H@@@mpfootnotetext{%
6452       \ifHy@nesting
6453         \expandafter\hyper@@@anchor\expandafter{%
6454           \Hy@footnote@currentHref
6455         }{#1}%
6456       \else
6457         \Hy@raisedlink{%
6458           \expandafter\hyper@@@anchor\expandafter{%
6459             \Hy@footnote@currentHref
6460           }{\relax}%
6461         }#1%
6462       \fi
6463     }%
6464   }%
6465   \long\def\@footnotetext#1{%
6466     \H@@@footnotetext{%
6467       \ifHy@nesting
6468         \expandafter\hyper@@@anchor\expandafter{%
6469           \Hy@footnote@currentHref
6470         }{#1}%
6471       \else
6472         \Hy@raisedlink{%
6473           \expandafter\hyper@@@anchor\expandafter{%
6474             \Hy@footnote@currentHref
6475           }{\relax}%
6476         }%
6477       \let\@currentHref\Hy@footnote@currentHref
6478       \let\@currentlabelname\@empty
6479       #1%
6480     \fi
6481   }%
6482 }%

```

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.

```

6483 \def\@footnotemark{%
6484   \leavevmode
6485   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
6486   \stepcounter{Hfootnote}%
6487   \global\let\Hy@saved@currentHref\@currentHref
6488   \hyper@makecurrent{Hfootnote}%
6489   \global\let\Hy@footnote@currentHref\@currentHref
6490   \global\let\@currentHref\Hy@saved@currentHref
6491   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
6492   \@makefnmark
6493   \hyper@linkend
6494   \ifhmode\spacefactor\x@sf\fi
6495   \relax
6496 }%
```

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

```

6497 \@ifpackageloaded{longtable}{%
6498   \CheckCommand*{\LT@p@ftntext}[1]{%
6499     \edef\@tempa{%
6500       \the\LT@p@ftn
6501       \noexpand\footnotetext[\the\c@footnote]%
6502     }%
6503     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
6504   }%
6505   \long\def\LT@p@ftntext#1{%
6506     \edef\@tempa{%
6507       \the\LT@p@ftn
6508       \begingroup
6509         \noexpand\c@footnote=\the\c@footnote\relax
6510         \noexpand\protected@xdef
6511           \noexpand\@thefnmark{\noexpand\thempfn}%
6512         \noexpand\protected@xdef\noexpand\@thefnmark{%
6513           \noexpand\thempfn
6514         }%
6515         \expandafter\noexpand\expandafter\Hy@LT@footnotetext
6516         \expandafter{%
6517           \Hy@footnote@currentHref
6518         }%
6519       }%
6520       \global\LT@p@ftn\expandafter{%
6521         \@tempa{#1}%
6522       }%
6523     }%
6524   }%
6525   \long\def\Hy@LT@footnotetext#1#2{%
6526     \H@@footnotetext{%
6527       \ifHy@nesting
6528         \hyper@@anchor{#1}{#2}%
6529       \else
6530         \Hy@raisedlink{%

```



```

6531      \hyper@@anchor{#1}{\relax}%
6532    }%
6533    \def\@currentHref{#1}%
6534    \let\@currentlabelname\@empty
6535    #2%
6536  \fi
6537 }%
6538 }%
6539 }{}%

```

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

```

6540 \ifpackageloaded{fancyvrb}{%
6541   \def\V@@footnotetext{%
6542     \insert\footins\bgroup
6543     \csname reset@font\endcsname
6544     \footnotesize
6545     \interlinepenalty\interfootnotelinepenalty
6546     \splittopskip\footnotesep
6547     \splitmaxdepth\dp\strutbox
6548     \floatingpenalty \@MM
6549     \hsize\columnwidth
6550     \@parboxrestore
6551     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
6552     \@makefntext{}%
6553     \rule{\z@}{\footnotesep}%
6554     \bgroup
6555     \aftergroup\V@@@footnotetext
6556     \Hy@raisedlink{%
6557       \expandafter\hyper@@anchor\expandafter{%
6558         \Hy@footnote@currentHref
6559       }\relax}%
6560     }%
6561     \let\@currentHref\Hy@footnote@currentHref
6562     \let\@currentlabelname\@empty
6563     \ignorespaces
6564   }%
6565 }{}%

```

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

```

6566 \def\Hy@temp#1{%
6567   \begingroup
6568   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6569   \endgroup
6570   \@footnotemark
6571 }%
6572 \ifx\Hy@temp\footref
6573   \def\footref#1{%
6574     \begingroup
6575     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
6576     \endgroup
6577     \H@@@footnotemark
6578   }%
6579 \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.

```

6580 \let\HyOrg@maketitle\maketitle
6581 \def\maketitle{%

```

```

6582 \let\Hy@samed@footnotemark\@footnotemark
6583 \let\Hy@samed@footnotetext\@footnotetext
6584 \let\@footnotemark\H@@footnotemark
6585 \let\@footnotetext\H@@footnotetext
6586 \ifnextchar\Hy@maketitle@optarg{% ]
6587   \HyOrg@maketitle
6588   \Hy@maketitle@end
6589 }%
6590 }%
6591 \def\Hy@maketitle@optarg[#1]{%
6592   \HyOrg@maketitle[{#1}]%
6593   \Hy@maketitle@end
6594 }%
6595 \def\Hy@maketitle@end{%
6596   \ifx\@footnotemark\H@@footnotemark
6597     \let\@footnotemark\Hy@samed@footnotemark
6598   \fi
6599   \ifx\@footnotetext\H@@footnotetext
6600     \let\@footnotetext\Hy@samed@footnotetext
6601   \fi
6602 }%

```

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

```

6603 \def\realfootnote{%
6604   \ifnextchar\@xfootnote{%
6605     \stepcounter{\@mpfn}%
6606     \protected@xdef\@thefnmark{\thempfn}%
6607     \H@@@footnotemark\H@@@footnotetext
6608   }%
6609 }%

6610 \fi
6611 \Hy@DisableOption{hyperfootnotes}

6612 </package>
6613 <*check>
6614 \checklatex
6615 \checkcommand\def\@xfootnotenext[#1]{%
6616   \begingroup
6617     \csname c@\@mpfn\endcsname #1\relax
6618     \unrestored@protected@xdef\@thefnmark{\thempfn}%
6619   \endgroup
6620   \@footnotetext
6621 }
6622 \checkcommand\def\@xfootnotemark[#1]{%
6623   \begingroup
6624     \c@footnote #1\relax
6625     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
6626   \endgroup
6627   \@footnotemark
6628 }
6629 \checkcommand\def\@footnotemark{%
6630   \leavevmode
6631   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
6632   \@makefnmark
6633   \ifhmode\spacefactor\@x@sf\fi
6634   \relax
6635 }

```

```

6636 </check>
6637 <*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.

```

6638 \def\caption{%
6639   \ifx\@captype\@undefined
6640     \@latex@error{\noexpand\caption outside float}\@ehd
6641     \expandafter\@gobble
6642   \else
6643     \H@refstepcounter\@captype
6644     \let\Hy@tempa\@caption
6645     \ifundefined{float@caption}{%
6646       {%
6647         \expandafter\ifx\csname @float@c@\@captype\endcsname
6648           \float@caption
6649         \let\Hy@tempa\Hy@float@caption
6650       \fi
6651     }%
6652     \expandafter\@firstofone
6653   \fi
6654   {\@dblarg{\Hy@tempa\@captype}}%
6655 }
6656 \long\def\@caption#1[#2]#3{%
6657   \expandafter\ifx\csname if@capstart\expandafter\endcsname
6658     \csname iftrue\endcsname
6659     \global\let\@currentHref\hc@currentHref
6660   \else
6661     \hyper@makecurrent{\@captype}%
6662   \fi
6663   \@ifundefined{NR@gettitle}{%
6664     \def\@currentlabelname{#2}%
6665   }{%
6666     \NR@gettitle{#2}%
6667   }%
6668   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
6669     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6670   }%
6671   \begingroup
6672     \@parboxrestore
6673     \if@minipage
6674       \@setminipage
6675     \fi
6676     \normalsize
6677     \expandafter\ifx\csname if@capstart\expandafter\endcsname
6678       \csname iftrue\endcsname
6679       \global\@capstartfalse
6680       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
6681     \else
6682       \makecaption{\csname fnum@#1\endcsname}{%
6683         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

6684     \ifHy@nesting

```

```

6685     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
6686     \else
6687     \Hy@raisedlink{%
6688     \expandafter\hyper@@anchor\expandafter{%
6689     \@currentHref
6690     }{\relax}%
6691     }%
6692     #3%
6693     \fi
6694     }%
6695     \fi
6696     \par
6697     \endgroup
6698 }

```

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.

```

6699 \let\Hy@float@caption\@caption
6700 \@ifpackageloaded{float}{%
6701 \def\Hy@float@caption{%
6702 \ifx\Hy@float@currentHref\@undefined
6703 \hyper@makecurrent{\@capttype}%
6704 \global\let\Hy@float@currentHref\@currentHref
6705 \else
6706 \let\@currentHref\Hy@float@currentHref
6707 \fi
6708 \float@caption
6709 }%
6710 \let\HyOrg@float@makebox\float@makebox
6711 \renewcommand{\float@makebox}[1]{%
6712 \HyOrg@float@makebox{%
6713 #1\relax
6714 \ifx\Hy@float@currentHref\@undefined
6715 \else
6716 \expandafter\hyper@@anchor\expandafter{%
6717 \Hy@float@currentHref
6718 }{\relax}%
6719 \global\let\Hy@float@currentHref\@undefined
6720 \fi
6721 }%
6722 }%
6723 }{}

6724 \</package>
6725 \< *check>
6726 \checklatex[1999/06/01 - 2000/06/01]
6727 \checkcommand\def\caption{%
6728 \ifx\@capttype\@undefined
6729 \latex@error{\noexpand\caption outside float}\@ehd
6730 \expandafter\@gobble
6731 \else
6732 \refstepcounter\@capttype
6733 \expandafter\@firstofone
6734 \fi
6735 {\@dblarg{\@caption\@capttype}}%
6736 }
6737 \checkcommand\long\def\@caption#1[#2]#3{%
6738 \par

```

```

6739 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
6740   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
6741 }%
6742 \begingroup
6743   \@parboxrestore
6744   \if@minipage
6745     \setminipage
6746   \fi
6747   \normalsize
6748   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
6749 \endgroup
6750 }
6751 </check>
6752 <*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, lets make an attempt to get *natbib* right, because thats a powerful, important package. Patrick Daly ([daly@linmpi.mpg.de](mailto:daly@linmpi.mpg.de)) has provided hooks for us, so all we need to do is activate them.

```

6753 \def\hyper@natlinkstart#1{%
6754   \Hy@backout{#1}%
6755   \hyper@linkstart{cite}{cite.#1}%
6756   \def\hyper@nat@current{#1}%
6757 }
6758 \def\hyper@natlinkend{%
6759   \hyper@linkend
6760 }
6761 \def\hyper@natlinkbreak#1#2{%
6762   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
6763 }
6764 \def\hyper@natanchorstart#1{%
6765   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
6766 }
6767 \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.

```

6768 \ltx@ifundefined{NAT@parse}{%
6769   \providecommand*\@extra@binfo{}%
6770   \providecommand*\@extra@b@citeb{}%
6771   \def\bibcite#1#2{%
6772     \@newl@bel{b}{#1\@extra@binfo}{%
6773       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
6774     }%
6775   }%
6776   \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.”.

```

6777 \let\Hy@bibcite\bibcite
6778 \begingroup
6779 \ifundefined{bbl@cite@choice}{-}{%
6780   \g@addto@macro\bbl@cite@choice{%
6781     \let\bibcite\Hy@bibcite
6782   }%
6783 }%
6784 \endgroup
\@BIBLABEL is working around a ‘feature’ of RevTeX.
6785 \providecommand*{\@BIBLABEL}{\@biblabel}%
6786 \def\@bibitem[#1]#2{%
6787   \@skiphyperreftrue
6788   \H@item[%
6789     \ifx\Hy@raisedlink\@empty
6790       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
6791       \@BIBLABEL{#1}%
6792       \hyper@anchorend
6793     \else
6794       \Hy@raisedlink{%
6795         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
6796       }%
6797     \@BIBLABEL{#1}%
6798   \fi
6799   \hfill
6800 ]%
6801   \@skiphyperreffalse
6802   \if@filesw
6803     \begingroup
6804       \let\protect\noexpand
6805       \immediate\write\@auxout{%
6806         \string\bibcite{#2}{#1}%
6807       }%
6808     \endgroup
6809   \fi
6810   \ignorespaces
6811 }%
```

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

```

6812 \def\@bibitem#1{%
6813   \@skiphyperreftrue\H@item\@skiphyperreffalse
6814   \Hy@raisedlink{%
6815     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
6816   }%
6817   \if@filesw
6818     \begingroup
6819       \let\protect\noexpand
6820       \immediate\write\@auxout{%
6821         \string\bibcite{#1}{\the\value{\@listctr}}%
6822       }%
6823     \endgroup
6824   \fi
6825   \ignorespaces
6826 }%
6827 }{}
```

```

6828 </package>
6829 <*check>
6830 \checklatex
6831 \checkcommand\def\@bibitem[#1]#2{%
6832   \item[\@biblabel{#1}]{\hfill}%
6833   \if@filesw
6834     {%
6835       \let\protect\noexpand
6836       \immediate\write\@auxout{%
6837         \string\bibcite{#2}{#1}%
6838       }%
6839     }%
6840   \fi
6841   \ignorespaces
6842 }
6843 \checkcommand\def\@bibitem#1{%
6844   \item
6845   \if@filesw
6846     \immediate\write\@auxout{%
6847       \string\bibcite{#1}{\the\value{\@listctr}}%
6848     }%
6849   \fi
6850   \ignorespaces
6851 }
6852 </check>
6853 <*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.

```

6854 \@ifclassloaded{revtex}{%
6855   \Hy@Info{*** compatibility with revtex **** }%
6856   \def\revtex@checking#1#2{%
6857     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
6858     \expandafter\def\csname b@#1\endcsname{#2}%
6859     \@SetMaxRnhefLabel{#1}%
6860     \expandafter\let\csname b@#1\endcsname\T@temp
6861   }%

```

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

```

6862 \@ifundefined{CITE}{\def\@CITE{\@cite}}{}%
6863 \providecommand*{\@extra@b@citeb}{}%
6864 \def\@CITEX[#1]#2{%
6865   \let\@citea\@empty
6866   \leavevmode
6867   \unskip
6868   $^{}%
6869   \scriptstyle
6870   \@CITE{%
6871     \@for\@citeb:=#2\do{%
6872       \@citea
6873       \def\@citea{,\penalty\@m\ }%
6874       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6875       \if@filesw
6876         \immediate\write\@auxout{\string\citation{\@citeb}}%
6877       \fi
6878       \@ifundefined{b@\@citeb\extra@b@citeb}{%

```

```

6879      \mbox{\reset@font\bfseries ?}%
6880      \G@refundefinedtrue
6881      \@latex@warning{%
6882        Citation '\@citeb' on page \thepage \space undefined%
6883      }%
6884    }{%
6885      {\csname b@\@citeb\@extra@b@citeb\endcsname}%
6886    }%
6887  }%
6888 }{#1}%
6889 }$%
6890 }%

```

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.

```

6891 \def\@citex[#1]#2{%
6892   \let\@citea\@empty
6893   \@cite{%
6894     \@for\@citeb:=#2\do{%
6895       \@citea
6896       \def\@citea{,\penalty\@m\ }%
6897       \edef\@citeb{\expandafter\@firstofone\@citeb}%
6898       \if@filesw
6899         \immediate\write\@auxout{\string\citation{\@citeb}}%
6900       \fi
6901       \@ifundefined{b@\@citeb\@extra@b@citeb}{%
6902         \mbox{\reset@font\bfseries ?}%
6903         \G@refundefinedtrue
6904         \@latex@warning{%
6905           Citation '\@citeb' on page \thepage \space undefined%
6906         }%
6907       }{%
6908         \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
6909       }%
6910     }%
6911   }{#1}%
6912 }%
6913 }{}

```

### 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.

```

6914 \ifpackageloaded{harvard}{%
6915   \Hy@AtBeginDocument{%
6916     \Hy@Info{*** compatibility with harvard **** }%
6917     \Hy@raiselinksfalse
6918     \def\harvardcite#1#2#3#4{%
6919       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
6920       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
6921       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
6922       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
6923     }%

```



```

6924 \def\HAR@citetoaux#1{%
6925 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
6926 \ifHy@backref
6927 \ifx\@empty\@currentlabel
6928 \else
6929 \@bsphack
6930 \if@filesw
6931 \protected@write\@auxout{}{%
6932 \string\@writefile{brf}{%
6933 \string\backcite{#1}{%
6934 {\thepage}{\@currentlabel}{\@currentHref}%
6935 }%
6936 }%
6937 }%
6938 \fi
6939 \@esphack
6940 \fi
6941 \fi
6942 }%
6943 \def\harvarditem{%
6944 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
6945 }%
6946 \def\@harvarditem[#1]#2#3#4#5\par{%
6947 \item[]%
6948 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6949 \if@filesw
6950 \begingroup
6951 \def\protect##1{\string ##1\space}%
6952 \ifthenelse{\equal{#1}{\null}}%
6953 {\def\next{{#4}{#2}{#3}}}%
6954 {\def\next{{#4}{#2}{#1}{#3}}}%
6955 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6956 \endgroup
6957 \fi
6958 \protect\hspace*{-\labelwidth}%
6959 \protect\hspace*{-\labelsep}%
6960 \ignorespaces
6961 #5%
6962 \ifHy@backref
6963 \newblock
6964 \backref{\csname br@#4\endcsname}%
6965 \fi
6966 \par
6967 }%

```

\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:

```

6968 \long\def\HAR@checkcitations#1#2#3#4{%
6969 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
6970 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6971 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
6972 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6973 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
6974 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6975 \else
6976 \@tempwattrue

```

```

6977     \fi
6978     \else
6979     \@tempswatrue
6980     \fi
6981     \else
6982     \@tempswatrue
6983     \fi
6984   }%
6985 }%

6986 }{}

```

## 37.2 Package chicago

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

```

6987 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6988 \def\citeN{%
6989   \def\@citesep{-1000}%
6990   \def\@cite##1##2{##1}%
6991   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6992   \@citedata@opt
6993 }%

```

`\shortciteN`

```

6994 \def\shortciteN{%
6995   \def\@citesep{-1000}%
6996   \def\@cite##1##2{##1}%
6997   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6998   \@citedata@opt
6999 }%

```

`\@citedata@opt`

```

7000 \def\@citedata@opt{%
7001   \let\@cite@opt\@empty
7002   \@ifnextchar [{%
7003     \@tempswatrue
7004     \@citedatax@opt
7005   }{%
7006     \@tempswafalse
7007     \@citedatax[]%
7008   }%
7009 }%

```

`\@citedatax@opt`

```

7010 \def\@citedatax@opt[#1]{%
7011   \def\@cite@opt{, #1}%
7012   \@citedatax[{#1}]%
7013 }%

7014 }{}

```

## 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.

```
7015 \def\Hy@EveryPageAnchor{%
7016   \Hy@DistillerDestFix
7017   \ifHy@pageanchor
7018     \ifHy@hypertextnames
7019     \ifHy@plainpages
7020       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7021     \else
7022       \begingroup
7023         \let\@number\@firstofone
7024         \Hy@unicodedefalse
7025         \pdfstringdef\@the\H@page{\thepage}%
7026       \endgroup
7027       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the\H@page}}%
7028     \fi
7029   \else
7030     \Hy@GlobalStepCount\Hy@pagecounter
7031     \def\Hy@TempPageAnchor{%
7032       \hyper@@anchor{page.\the\Hy@pagecounter}%
7033     }%
7034   \fi
7035   \vbox to 0pt{%
7036     \kern\voffset
7037     \kern\topmargin
7038     \kern-1bp\relax
7039     \hbox to 0pt{%
7040       \kern\hoffset
7041       \kern\ifodd\value{page}%
7042         \oddsidemargin
7043       \else
7044         \evensidemargin
7045       \fi
7046       \kern-1bp\relax
7047       \Hy@TempPageAnchor
7048       \hss
7049     }%
7050     \vss
7051   }%
7052 \fi
7053 }
7054 \g@addto@macro\Hy@EveryPageBoxHook{%
7055   \Hy@EveryPageAnchor
7056 }
```

## 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.

```

7057 \def\addcontentsline#1#2#3{% toc extension, type, tag
7058   \begingroup
7059   \let\label\@gobble
7060   \ifx\@currentHref\@empty
7061     \Hy@Warning{%
7062       No destination for bookmark of \string\addcontentsline,%
7063       \MessageBreak destination is added%
7064     }%
7065   \phantomsection
7066   \fi
7067   \expandafter\ifx\csname toplevel@#2\endcsname\relax
7068   \begingroup
7069   \def\Hy@tempa{#1}%
7070   \ifx\Hy@tempa\Hy@bookmarkstype
7071     \Hy@WarningNoLine{%
7072       bookmark level for unknown #2 defaults to 0%
7073     }%
7074   \else
7075     \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7076   \fi
7077   \endgroup
7078   \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7079   \fi
7080   \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
7081   \Hy@writebookmark{\csname the#2\endcsname}%
7082     {#3}%
7083     {\@currentHref}%
7084     {\Hy@toplevel}%
7085     {#1}%
7086   \ifHy@verbose
7087     \begingroup
7088     \def\Hy@tempa{#3}%
7089     \@onelevel@sanitize\Hy@tempa
7090     \let\temp@online\on@line
7091     \let\on@line\@empty
7092     \Hy@Info{%
7093       bookmark\temp@online:\MessageBreak
7094       thecounter {\csname the#2\endcsname}\MessageBreak
7095       text {\Hy@tempa}\MessageBreak
7096       reference {\@currentHref}\MessageBreak
7097       toplevel {\Hy@toplevel}\MessageBreak
7098       type {#1}%
7099     }%
7100   \endgroup
7101   \fi
7102   \addtocontents{#1}{%
7103     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
7104   }%
7105 \endgroup
7106 }
7107 \def\contentsline#1#2#3#4{%
7108   \ifx\\#4\\%
7109     \csname l@#1\endcsname{#2}{#3}%
7110   \else
7111     \ifcase\Hy@linktoc % none
7112       \csname l@#1\endcsname{#2}{#3}%

```

```

7113 \or % section
7114 \csname l@#1\endcsname{%
7115 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7116 }{#3}%
7117 \or % page
7118 \csname l@#1\endcsname{#{#2}}{%
7119 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7120 }%
7121 \else % all
7122 \csname l@#1\endcsname{%
7123 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
7124 }{#3}%
7125 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
7126 }%
7127 \fi
7128 \fi
7129 }

7130 </package>
7131 <*check>
7132 \checklatex
7133 \checkcommand\def\addcontentsline#1#2#3{%
7134 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
7135 }
7136 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
7137 </check>
7138 <*package>

```

## 40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

7139 \let\H@definecounter\@definecounter
7140 \def\@definecounter#1{%
7141 \H@definecounter{#1}%
7142 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
7143 }

```

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.

```

7144 \let\H@newctr\@newctr
7145 \def\@newctr#1[#2]{%
7146 \H@newctr#1[{#2}]%
7147 \expandafter\def\csname theH#1\endcsname{%
7148 \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
7149 }%
7150 }

```

## 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.

```

7151 \ifpackageloaded{amsmath}{%
7152   \def\Hy@make@anchor{%
7153     \Hy@MakeCurrentHrefAuto{AMS}%
7154     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
7155   }%
7156   \def\Hy@make@df@tag@@#1{%
7157     \gdef\df@tag{%
7158       \maketag@@@{\Hy@make@anchor#1}%
7159       \def\@currentlabel{#1}%
7160     }%
7161   }%
7162   \def\Hy@make@df@tag@@@#1{%
7163     \gdef\df@tag{%
7164       \tagform@{\Hy@make@anchor#1}%
7165       \toks@{\xp{\p@equation{#1}}}%
7166       \edef\@currentlabel{the\toks@}%
7167     }%
7168   }%
7169   \let\HyOrg@make@df@tag@@\make@df@tag@@
7170   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
7171   \let\make@df@tag@@\Hy@make@df@tag@@
7172   \let\make@df@tag@@@\Hy@make@df@tag@@@
7173 }{}

```

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

```

7174 \ifpackagewith{hyperref}{pdfTeX}{%
7175   \let\H@seteqlabel\@seteqlabel
7176   \def\@seteqlabel#1{%
7177     \H@seteqlabel{#1}%
7178     \xdef\@currentHref{AMS.the\Hy@linkcounter}%
7179     \Hy@raisedlink{%
7180       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7181     }%
7182   }%
7183 }{}

```

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.

```

7184 \let\HyOrg@addtoreset\@addtoreset
7185 \def\@addtoreset#1#2{%
7186   \HyOrg@addtoreset{#1}{#2}%
7187   \expandafter\xdef\csname theH#1\endcsname{%
7188     \expandafter\noexpand

```

```

7189 \csname the\@ifundefined{theH#2}{H#2\endcsname
7190 .\noexpand\the\noexpand\value{#1}%
7191 }%
7192 }

```

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

```

7193 </package>
7194 <*check>
7195 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
7196 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
7197 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7198 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7199 \@addtoreset{#2}{#3}%
7200 \exp\xdef\csname the#2\endcsname{%
7201 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7202 }%
7203 }%
7204 }%
7205 }%
7206 </check>
7207 <*package>
7208 \@ifpackageloaded{amsmath}{%
7209 \@ifpackagelater{amsmath}{1999/12/14}{%
7210 \renewcommand*{\numberwithin}[3][\arabic]{%
7211 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
7212 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
7213 \HyOrg@addtoreset{#2}{#3}%
7214 \exp\xdef\csname the#2\endcsname{%
7215 \exp\xnx\csname the#3\endcsname .\@nx#1{#2}%
7216 }%
7217 \exp\xdef\csname theH#2\endcsname{%
7218 \exp\xnx
7219 \csname the\@ifundefined{theH#3}{H#3\endcsname
7220 .\@nx#1{#2}%
7221 }%
7222 }%
7223 }%
7224 }%
7225 }{%
7226 \Hy@WarningNoLine{%
7227 \string\numberwithin\space of package 'amsmath' %
7228 only fixed\MessageBreak
7229 for version 2000/06/06 v2.12 or newer%
7230 }%
7231 }%
7232 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

7233 \ifHy@figures
7234 \let\Hy@Gin@setfile\Gin@setfile
7235 \def\Gin@setfile#1#2#3{%
7236 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
7237 }%

```

```

7238 \fi
7239 \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.

```

7240 \ifHy@hyperindex
7241 \def\HyInd@ParenLeft{({}%
7242 \def\HyInd@ParenRight{)}}%
7243 \def\hyperindexformat#1#2{%
7244 \let\HyOrg@hyperpage\hyperpage
7245 \let\hyperpage\@firstofone
7246 #1{\HyOrg@hyperpage{#2}}%
7247 \let\hyperpage\HyOrg@hyperpage
7248 }%
7249 \Hy@nextfalse
7250 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
7251 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
7252 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
7253 \begingroup
7254 \lccode'\|=\expandafter\HyInd@EncapChar\relax
7255 \lccode'\|=\|\\relax
7256 \lowercase{\endgroup
7257 \ifHy@next
7258 \let\HyInd@org@wrindex\@wrindex
7259 \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2}||\\}%
7260 \def\HyInd@@wrindex#1#2|#3|#4\\{%
7261 \ifx\\#3\\%
7262 \HyInd@org@wrindex{#1}{#2|hyperpage}%
7263 \else
7264 \HyInd@@@wrindex{#1}{#2}{#3}\\%
7265 \fi
7266 }%
7267 \def\HyInd@@@wrindex#1#2#3#4\\{%
7268 \def\Hy@temp@A{#3}%
7269 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7270 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7271 \relax
7272 \HyInd@org@wrindex{#1}{%
7273 #2|hyperindexformat{/#3#4}%
7274 }%
7275 \else
7276 \ifx\\#4\\%
7277 \ifx\Hy@temp@A\HyInd@ParenRight
7278 \HyInd@org@wrindex{#1}{#2|#3}%
7279 \else
7280 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```



```

7281         \fi
7282     \else
7283         \HyInd@org@wrindex{#1}{%
7284             #2|#3hyperindexformat{/#4}%
7285         }%
7286     \fi
7287 \fi
7288 }%
7289 \else
7290 \def\@wrindex#1{\@@wrindex#1||\}%
7291 \def\@@wrindex#1|#2|#3\{%
7292     \if@filesw
7293         \ifx\#2\%
7294             \protected@write\@indexfile{}\{%
7295                 \string\indexentry{#1|hyperpage}{\thepage}%
7296             }%
7297         \else
7298             \HyInd@@@wrindex{#1}#2\%
7299         \fi
7300     \fi
7301 \endgroup
7302 \@esphack
7303 }%
7304 \def\HyInd@@@wrindex#1#2#3\{%
7305 \def\Hy@temp@A{#2}%
7306 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
7307     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
7308     \relax
7309     \protected@write\@indexfile{}\{%
7310         \string\indexentry{%
7311             #1|hyperindexformat{/#2#3}%
7312         }{\thepage}%
7313     }%
7314 \else
7315     \ifx\#3\%
7316         \ifx\Hy@temp@A\HyInd@ParenRight
7317             \protected@write\@indexfile{}\{%
7318                 \string\indexentry{#1|#2}{\thepage}%
7319             }%
7320         \else
7321             \protected@write\@indexfile{}\{%
7322                 \string\indexentry{#1|#2hyperpage}{\thepage}%
7323             }%
7324         \fi
7325     \else
7326         \protected@write\@indexfile{}\{%
7327             \string\indexentry{%
7328                 #1|#2hyperindexformat{/#3}%
7329             }{\thepage}%
7330         }%
7331     \fi
7332 \fi
7333 }%
7334 \fi
7335 }%
7336 \fi
7337 \Hy@DisableOption{hyperindex}

```

```
7338 \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.

```
7339 \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.

```
7340 \def\hyperpage#1{%
7341   \HyInd@hyperpage#1\nohyperpage{}\@nil
7342 }
7343 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
7344   \HyInd@@hyperpage{#1}%
7345   #2%
7346   \def\Hy@temp{#3}%
7347   \ifx\Hy@temp\@empty
7348   \else
7349     \Hy@ReturnAfterFi{%
7350       \HyInd@hyperpage#3\@nil
7351     }%
7352   \fi
7353 }
7354 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
7355 \def\@hyperpage#1--#2--#3\{\%
7356   \ifx\#2\%
7357     \@commahyperpage{#1}%
7358   \else
7359     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
7360   \fi
7361 }
7362 \def\@commahyperpage#1{\@commahyperpage#1, \}
7363 \def\@commahyperpage#1, #2,#3\{\%
7364   \ifx\#2\%
7365     \HyInd@pagelink{#1}%
7366   \else
7367     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
7368   \fi
7369 }
```

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

```
7370 \def\HyInd@pagelink#1{%
7371   \begingroup
7372   \toks@={}%
7373   \HyInd@removespaces#1 \@nil
7374   \endgroup
7375 }
7376 \def\HyInd@removespaces#1 #2\@nil{%
7377   \toks@=\expandafter{the\toks@#1}%
7378   \ifx\#2\%
7379     \edef\x{\the\toks@}%
7380     \ifx\x\@empty
7381     \else
7382       \hyperlink{page.\the\toks@}{\the\toks@}%
7383     \fi
7384   \else
7385     \Hy@ReturnAfterFi{%
```

```

7386 \HyInd@removespaces#2\@nil
7387 }%
7388 \fi
7389 }

```

## 44 Compatibility with foiltex

```

7390 \ifclassloaded{foils}{%
7391 \providecommand*\ext@table{lot}%
7392 \providecommand*\ext@figure{lof}%
7393 }{}

```

## 45 Compatibility with seminar slide package

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

```

7394 \ifclassloaded{seminar}{%
7395 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}}%
7396 }{%
7397 \Hy@seminarslidesfalse
7398 }
7399 \ifpackageloaded{slidesec}{%
7400 \newcommand\theHslidesection {\arabic{slidesection}}%
7401 \newcommand\theHslidesubsection{%
7402 \theHslidesection.\arabic{slidesubsection}}%
7403 }%
7404 \def\slide@heading[#1]#2{%
7405 \H@refstepcounter{slidesection}%
7406 \@addtoreset{slidesubsection}{slidesection}%
7407 \addtocontents{los}{%
7408 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}}%
7409 {\@SCTR}{slideheading.\theslidesection}}%
7410 }%
7411 \def\Hy@tempa{#2}%
7412 \ifx\Hy@tempa\@empty
7413 \else
7414 {%
7415 \edef\@currentlabel{%
7416 \csname p@slidesection\endcsname\theslidesection
7417 }%
7418 \makeslideheading{#2}%
7419 }%
7420 \fi
7421 \gdef\theslideheading{#1}%
7422 \gdef\theslidesubheading{}%
7423 \ifHy@bookmarksnumbered
7424 \def\Hy@slidetitle{\theslidesection\space #1}%
7425 \else
7426 \def\Hy@slidetitle{#1}%
7427 \fi
7428 \ifHy@hypertextnames
7429 \ifHy@naturalnames
7430 \hyper@anchor{slideheading.\theslidesection}{\relax}%
7431 \Hy@writebookmark
7432 {\theslidesection}%
7433 {\Hy@slidetitle}%

```

```

7434     {slideheading.\theslidesection}%
7435     {1}%
7436     {toc}%
7437 \else
7438   \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
7439   \Hy@writebookmark
7440     {\theslidesection}%
7441     {\Hy@slidetitle}%
7442     {slideheading.\theHslidesection}%
7443     {1}%
7444     {toc}%
7445 \fi
7446 \else
7447   \Hy@GlobalStepCount\Hy@linkcounter
7448   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7449   \Hy@writebookmark
7450     {\theslidesection}%
7451     {\Hy@slidetitle}%
7452     {slideheading.\the\Hy@linkcounter}%
7453     {1}%
7454     {toc}%
7455 \fi
7456 }%
7457 \def\slide@subheading[#1]#2{%
7458   \H@refstepcounter{slidesubsection}%
7459   \addtocontents{los}{%
7460     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
7461     {\@SCTR}{slideheading.\theslidesubsection}%
7462   }%
7463   \def\Hy@tempa{#2}%
7464   \ifx\Hy@tempa\@empty
7465   \else
7466     {%
7467       \edef\@currentlabel{%
7468         \csname p@slidesubsection\endcsname\theslidesubsection
7469       }%
7470       \makeslidesubheading{#2}%
7471     }%
7472   \fi
7473   \gdef\theslidesubheading{#1}%
7474   \ifHy@bookmarksnumbered
7475     \def\Hy@slidetitle{\theslidesubsection\space #1}%
7476   \else
7477     \def\Hy@slidetitle{#1}%
7478   \fi
7479   \ifHy@hypertextnames
7480     \ifHy@naturalnames
7481       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
7482       \Hy@writebookmark
7483         {\theslidesubsection}%
7484         {\Hy@slidetitle}%
7485         {slideheading.\theslidesubsection}%
7486         {2}%
7487         {toc}%
7488     \else
7489       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
7490       \Hy@writebookmark

```

```

7491     {\theslidesubsection}%
7492     {\Hy@slidetitle}%
7493     {slideheading.\theHslidesubsection}%
7494     {2}%
7495     {toc}%
7496   \fi
7497   \else
7498     \Hy@GlobalStepCount\Hy@linkcounter
7499     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
7500     \Hy@writebookmark
7501     {\theslidesubsection}%
7502     {\Hy@slidetitle}%
7503     {slideheading.\the\Hy@linkcounter}%
7504     {1}%
7505     {toc}%
7506   \fi
7507 }%
7508 \providecommand*{\listslidenam}{List of Slides}%
7509 \def\listofslides{%
7510   \section*{%
7511     \listslidenam
7512     \@mkboth{%
7513       \expandafter\MakeUppercase\listslidenam
7514     }{%
7515       \expandafter\MakeUppercase\listslidenam
7516     }%
7517   }%
7518   \def\l@slide##1##2##3##4{%
7519     \slide@undottedcline{%
7520       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
7521     }{%
7522     }%
7523     \let\l@subslide\l@slide
7524     \@startlos
7525   }%
7526   \def\slide@contents{%
7527     \def\l@slide##1##2##3##4{%
7528       \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
7529     }%
7530     \let\l@subslide\@gobblefour
7531     \@startlos
7532   }%
7533   \def\Slide@contents{%
7534     \def\l@slide##1##2##3##4{%
7535       \ifcase\lslide@flag
7536         \message{##1 ** \the\c@slidesection}%
7537         \ifnum##1>\c@slidesection
7538           \def\lslide@flag{1}%
7539           {%
7540             \large
7541             \slide@ccline{%
7542               \slidenumberline{$\Rightarrow\bullet$}%
7543               {\hyperlink{##4}{##2}}%
7544             }{##3}%
7545           }%
7546         \else
7547           {%

```

```

7548      \large
7549      \slide@cline{%
7550          \slidenumberline{$\surd\;\bullet$}%
7551          {\hyperlink{##4}{##2}}%
7552      }{##3}%
7553  }%
7554  \fi
7555  \or
7556  \def\lslide@flag{2}%
7557  {%
7558      \large
7559      \slide@cline{%
7560          \slidenumberline{$\bullet$}%
7561          {\hyperlink{##4}{##2}}%
7562      }{##3}%
7563  }%
7564  \or
7565  {%
7566      \large
7567      \slide@cline{%
7568          \slidenumberline{$\bullet$}%
7569          {\hyperlink{##4}{##2}}%
7570      }{##3}%
7571  }%
7572  \fi
7573 }%
7574  \def\l@subslide##1##2##3##4{%
7575      \ifnum\lslide@flag=1 %
7576          \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
7577      \fi
7578  }%
7579  \def\lslide@flag{0}%
7580  \@startlos
7581  }%
7582  }{}

```

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.)

```

7583 \ifHy@texht
7584   \expandafter\endinput
7585 \fi
7586 \let\real@setref\@setref
7587 \def\@setref#1#2#3{% csname, extract group, refname
7588   \ifx#1\relax
7589     \protect\G@refundefinedtrue
7590     \nfss@text{\reset@font\bfseries ??}%
7591     \@latex@warning{%
7592       Reference ‘#3’ on page \thepage \space undefined%
7593     }%
7594   \else
7595     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
7596   \fi
7597 }

```

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

```

7598 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%

```

```

7599 \begingroup
7600 \toks0={\hyper@@link{#5}{#4}}%
7601 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
7602 \edef\x{\endgroup
7603   \the\toks0 {\the\toks1 }%
7604 }%
7605 \x
7606 }
7607 \def\@pagesetref#1#2#3{% csname, extract macro, ref
7608   \ifx#1\relax
7609     \protect\G@refundefinedtrue
7610     \nfss@text{\reset@font\bfseries ??}%
7611     \@latex@warning{%
7612       Reference '#3' on page \thepage \space undefined%
7613     }%
7614   \else
7615     \protect\hyper@@link
7616     {\expandafter\@fifthoffive#1}%
7617     {page.\expandafter\@secondoffive#1}%
7618     {\expandafter\@secondoffive#1}%
7619   \fi
7620 }
7621 </package>
7622 <*check>
7623 \checklatex
7624 \checkcommand\def\@setref#1#2#3{%
7625   \ifx#1\relax
7626     \protect\G@refundefinedtrue
7627     \nfss@text{\reset@font\bfseries ??}%
7628     \@latex@warning{%
7629       Reference '#3' on page \thepage\space undefined%
7630     }%
7631   \else
7632     \expandafter#2#1\null
7633   \fi
7634 }
7635 </check>
7636 <*package>

```

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

```

7637 \def\HyRef@StarSetRef#1{%
7638   \begingroup
7639   \Hy@safe@activetrue
7640   \edef\x{#1}%
7641   \@onelevel@sanitize\x
7642   \edef\x{\endgroup
7643     \noexpand\HyRef@@StarSetRef
7644     \expandafter\noexpand\csname r@\x\endcsname{\x}%
7645   }%
7646   \x
7647 }
7648 \def\HyRef@@StarSetRef#1#2#3{%
7649   \ifx#1\@undefined
7650     \let#1\relax
7651   \fi
7652   \real@setref#1#3{#2}%

```

```

7653 }
7654 \def\@refstar#1{%
7655   \HyRef@StarSetRef{#1}\@firstoffive
7656 }
7657 \def\@pagerefstar#1{%
7658   \HyRef@StarSetRef{#1}\@secondoffive
7659 }
7660 \def\@namerefstar#1{%
7661   \HyRef@StarSetRef{#1}\@thirdoffive
7662 }
7663 \Hy@AtBeginDocument{%
7664   \@ifpackageloaded{varioref}{%
7665     \def\@Refstar#1{%
7666       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
7667     }%
7668     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
7669       \MakeUppercase#1%
7670     }%
7671     \DeclareRobustCommand*\@Ref*{%
7672       \@ifstar\@Refstar\HyRef@Ref
7673     }%
7674     \def\HyRef@Ref#1{%
7675       \hyperref[{#1}]{\@Ref*{#1}}%
7676     }%
7677     \def\Vr@f#1{%
7678       \leavevmode\unskip\vref@space
7679       \hyperref[{#1}]{%
7680         \@Ref*{#1}%
7681         \let\vref@space\nobreakspace
7682         \@vpageref[\unskip]{#1}%
7683       }%
7684     }%
7685     \def\vr@f#1{%
7686       \leavevmode\unskip\vref@space
7687       \begingroup
7688       \let\T@pageref\@pagerefstar
7689       \hyperref[{#1}]{%
7690         \@ref*{#1}%
7691         \vpageref[\unskip]{#1}%
7692       }%
7693     \endgroup
7694   }%
7695 }{}%
7696 }
7697 \DeclareRobustCommand*\@autopageref{%
7698   \@ifstar{%
7699     \HyRef@autopagerefname\pageref*%
7700   }\HyRef@autopageref
7701 }
7702 \def\HyRef@autopageref#1{%
7703   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
7704 }
7705 \def\HyRef@autopagerefname{%
7706   \ltx@ifundefined{pageautorefname}{%
7707     \ltx@ifundefined{pagename}{%
7708       \Hy@Warning{No autoref name for ‘page’}%
7709     }{%

```



```

7710 \pagename\nobreakspace
7711 }%
7712 }{%
7713 \pageautorefname\nobreakspace
7714 }%
7715 }
7716 \DeclareRobustCommand*{\autoref}{%
7717 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
7718 }
7719 \def\HyRef@autoref#1#2{%
7720 \begingroup
7721 \Hy@safe@activestru
7722 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
7723 \endgroup
7724 }
7725 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
7726 \HyRef@ShowKeysRef{#2}%
7727 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
7728 \edef\HyRef@thisref{%
7729 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7730 }%
7731 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
7732 \Hy@safe@activesfalse
7733 #3{%
7734 \expandafter\@fifthoffive#1\@empty\@empty\@empty
7735 }{%
7736 \expandafter\@fourthoffive#1\@empty\@empty\@empty
7737 }{%
7738 \HyRef@currentHtag
7739 \expandafter\@firstoffive#1\@empty\@empty\@empty
7740 \null
7741 }%
7742 \else
7743 \protect\G@refundefinedtrue
7744 \nfss@text{\reset@font\bfseries ??}%
7745 \@latex@warning{%
7746 Reference '#2' on page \thepage\space undefined%
7747 }%
7748 \fi
7749 }
7750 \def\HyRef@testreftype#1.#2\{\%
7751 \ltx@ifundefined{#1autorefname}{%
7752 \ltx@ifundefined{#1name}{%
7753 \HyRef@StripStar#1\*\@nil{#1}%
7754 \ltx@ifundefined{\HyRef@name autorefname}{%
7755 \ltx@ifundefined{\HyRef@name name}{%
7756 \def\HyRef@currentHtag{}%
7757 \Hy@Warning{No autoref name for '#1'}%
7758 }{%
7759 \edef\HyRef@currentHtag{%
7760 \expandafter\noexpand\csname\HyRef@name name\endcsname
7761 \noexpand~%
7762 }%
7763 }%
7764 }{%
7765 \edef\HyRef@currentHtag{%
7766 \expandafter\noexpand

```

```

7767      \csname\HyRef@name autorefname\endcsname
7768      \noexpand~%
7769      }%
7770      }%
7771      }{%
7772      \edef\HyRef@currentHtag{%
7773      \expandafter\noexpand\csname#1name\endcsname
7774      \noexpand~%
7775      }%
7776      }%
7777      }{%
7778      \edef\HyRef@currentHtag{%
7779      \expandafter\noexpand\csname#1autorefname\endcsname
7780      \noexpand~%
7781      }%
7782      }%
7783      }
7784      \def\HyRef@StripStar#1*\#2\@nil#3{%
7785      \def\HyRef@name{#2}%
7786      \ifx\HyRef@name\HyRef@CaseStar
7787      \def\HyRef@name{#1}%
7788      \else
7789      \def\HyRef@name{#3}%
7790      \fi
7791      }
7792      \def\HyRef@CaseStar{*\\}
7793      \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

7794 \let\HyRef@ShowKeysRef\@gobble
7795 \def\HyRef@ShowKeysInit{%
7796 \begingroup\expandafter\expandafter\expandafter\endgroup
7797 \expandafter\ifx\csname SK@@label\endcsname\relax
7798 \else
7799 \ifx\SK@ref\@empty
7800 \else
7801 \def\HyRef@ShowKeysRef{%
7802 \SK@\SK@@ref
7803 }%
7804 \fi
7805 \fi
7806 }
7807 \@ifpackageloaded{showkeys}{%
7808 \HyRef@ShowKeysInit
7809 }{%
7810 \Hy@AtBeginDocument{%
7811 \@ifpackageloaded{showkeys}{%
7812 \HyRef@ShowKeysInit
7813 }{}%
7814 }%
7815 }

```

Defaults for the names that \autoref uses.

```

7816 \providecommand*\AMSautorefname{\equationautorefname}
7817 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
7818 \providecommand*\Itemautorefname{\itemautorefname}

```

```

7819 \providecommand*\itemautorefname{item}
7820 \providecommand*\equationautorefname{Equation}
7821 \providecommand*\footnoteautorefname{footnote}
7822 \providecommand*\itemautorefname{item}
7823 \providecommand*\figureautorefname{Figure}
7824 \providecommand*\tableautorefname{Table}
7825 \providecommand*\partautorefname{Part}
7826 \providecommand*\appendixautorefname{Appendix}
7827 \providecommand*\chapterautorefname{chapter}
7828 \providecommand*\sectionautorefname{section}
7829 \providecommand*\subsectionautorefname{subsection}
7830 \providecommand*\subsubsectionautorefname{subsubsection}
7831 \providecommand*\paragraphautorefname{paragraph}
7832 \providecommand*\subparagraphautorefname{subparagraph}
7833 \providecommand*\FancyVerbLineautorefname{line}
7834 \providecommand*\theoremautorefname{Theorem}
7835 \providecommand*\pageautorefname{page}
7836 \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 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

7837 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
7838 \RequirePackage{pdfTEXcmds}[2009/04/10]
7839 \begingroup\expandafter\expandafter\expandafter\endgroup
7840 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
7841 \begingroup
7842 \catcode'\=0 %
7843 \@makeother\%
7844 |@firstofone{|endgroup
7845 |def|Hy@pstringdef#1#2{%
7846 |begingroup
7847 |edef~{|string~}%
7848 |xdef|Hy@gtemp{#2}%
7849 |endgroup
7850 |let#1|Hy@gtemp
7851 |@onelevel@sanitize#1%
7852 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
7853 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
7854 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
7855 }%
7856 |def|Hy@ExchangeBackslash#1\#2|@nil{%
7857 #1%
7858 |ifx|\#2|\%%
7859 |else
7860 \\\%
7861 |Hy@ReturnAfterFi{%
7862 |Hy@ExchangeBackslash#2|@nil

```

```

7863     }%
7864     |fi
7865     }%
7866 }%
7867 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
7868     #1%
7869     \ifx\#2\%
7870     \else
7871     \@backslashchar(%
7872     \Hy@ReturnAfterFi{%
7873     \Hy@ExchangeLeftParenthesis#2\@nil
7874     }%
7875     \fi
7876 }%
7877 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
7878     #1%
7879     \ifx\#2\%
7880     \else
7881     \@backslashchar)%
7882     \Hy@ReturnAfterFi{%
7883     \Hy@ExchangeRightParenthesis#2\@nil
7884     }%
7885     \fi
7886 }%
7887 \else
7888 \def\Hy@pstringdef#1#2{%
7889     \begingroup
7890     \edef~{\string~}%
7891     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
7892     \endgroup
7893     \let#1\Hy@gtemp
7894 }%
7895 \fi
7896 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

7897 <*pdfTeX>
7898 \providecommand*{\XR@ext}{pdf}
7899 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T<sub>E</sub>X 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<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-081: `\pdfminorversion`

```

7900 \let\Hy@pdfminorversion\relax
7901 \begingroup\expandafter\expandafter\expandafter\endgroup
7902 \expandafter\ifx\csname pdfminorversion\endcsname\relax
7903     \begingroup\expandafter\expandafter\expandafter\endgroup
7904     \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
7905     \else
7906     \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
7907     \fi
7908 \else

```

```

7909 \def\Hy@pdfminorversion{\pdfminorversion}%
7910 \fi
7911 \@ifundefined{Hy@pdfminorversion}{%
7912   \PackageInfo{hyperref}{%
7913     PDF version is not set, because pdfTeX is too old (<1.10a)%
7914   }%
7915 }{%
7916   \ifHy@ocgcolorlinks
7917     \ifnum\Hy@pdfminorversion<5 %
7918       \kvsetkeys{Hyp}{pdfversion=1.5}%
7919     \fi
7920   \fi
7921   \ifHy@setpdfversion
7922     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
7923     \else
7924       \Hy@pdfminorversion=\Hy@pdfversion\relax
7925     \fi
7926     \PackageInfo{hyperref}{%
7927       \expandafter\string\Hy@pdfminorversion
7928       :=\number\Hy@pdfversion\space
7929     }%
7930   \fi
7931   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
7932 }
7933 \Hy@DisableOption{pdfversion}%
7934 \ifHy@ocgcolorlinks
7935   \immediate\pdfobj{%
7936     <<%
7937       /Type/OCG%
7938       /Name(View)%
7939       /Usage<<%
7940         /Print<<%
7941           /PrintState/OFF%
7942         >>%
7943       /View<<%
7944         /ViewState/ON%
7945       >>%
7946     >>%
7947   }%
7948   \edef\OBJ@OCG@view{\the\pdfflastobj\space 0 R}%
7949   \immediate\pdfobj{%
7950     <<%
7951       /Type/OCG%
7952       /Name(Print)%
7953       /Usage<<%
7954         /Print<<%
7955           /PrintState/ON%
7956         >>%
7957       /View<<%
7958         /ViewState/OFF%
7959       >>%
7960     >>%
7961   }%
7962   \edef\OBJ@OCG@print{\the\pdfflastobj\space 0 R}%
7963   \immediate\pdfobj{%

```

```

7966 [%
7967   \OBJ@OCG@view\space\OBJ@OCG@print
7968 ]%
7969 }%
7970 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
7971 \pdfcatalog{%
7972   /OCProperties<<%
7973     /OCGs \OBJ@OCGs
7974     /D<<%
7975       /OFF[\OBJ@OCG@print]%
7976       /AS[%
7977         <<%
7978           /Event/View%
7979           /OCGs \OBJ@OCGs
7980           /Category[/View]%
7981         >>%
7982         <<%
7983           /Event/Print%
7984           /OCGs \OBJ@OCGs
7985           /Category[/Print]%
7986         >>%
7987         <<%
7988           /Event/Export%
7989           /OCGs \OBJ@OCGs
7990           /Category[/Print]%
7991         >>%
7992       ]%
7993     >>%
7994   >>%
7995 }%
7996 \begingroup
7997 \edef\x{\endgroup
7998 \pdfpageresources{%
7999   /Properties<<%
8000     /OCView \OBJ@OCG@view
8001     /OCPrint \OBJ@OCG@print
8002   >>%
8003 }%
8004 }%
8005 \x
8006 \Hy@AtBeginDocument{%
8007   \def\Hy@colorlink#1{%
8008     \begingroup
8009     \ifHy@ocgcolorlinks
8010       \def\Hy@ocgcolor{#1}%
8011       \setbox0=\color@hbox
8012     \else
8013       \HyColor@UseColor#1%
8014     \fi
8015   }%
8016   \def\Hy@endcolorlink{%
8017     \ifHy@ocgcolorlinks
8018       \color@endbox
8019     \mbox{%
8020       \pdfliteral page{/OC/OCPrint BDC}%
8021       \rlap{\copy0}%
8022       \pdfliteral page{EMC/OC/OCView BDC}%

```

```

8023     \begingroup
8024     \expandafter\HyColor@UseColor\Hy@ocgcolor
8025     \box0 %
8026     \endgroup
8027     \pdfliteral page{EMC}%
8028   }%
8029   \fi
8030 \endgroup
8031 }%
8032 }%
8033 \else
8034   \Hy@DisableOption{ocgcolorlinks}%
8035 \fi

```

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

```

8036 \def\setpdfinkmargin#1{\pdfinkmargin#1}
8037 \ifx\pdfstartlink\@undefined% less than version 14
8038   \let\pdfstartlink\pdfannotlink
8039   \let\pdfinkmargin\@tempdima
8040   \let\pdfxform\pdfform
8041   \let\pdfastxform\pdfastform
8042   \let\pdfrefxform\pdfrefform
8043 \else
8044   \pdfinkmargin1pt %
8045 \fi

```

First set up the default linking

```

8046 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8047 \def\new@pdfink#1{%
8048   \Hy@SaveLastskip
8049   \Hy@VerboseAnchor{#1}%
8050   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8051   \Hy@DestName\Hy@pstringDest\@pdfview
8052   \Hy@RestoreLastskip
8053 }
8054 \let\pdf@endanchor\@empty

```

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

```

8055 \def\Hy@DestName#1#2{%
8056   \pdfdest name{#1}#2\relax
8057 }

```

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.

```

8058 \providecommand*\@pdfborder{0 0 1}
8059 \providecommand*\@pdfborderstyle{}
8060 \def\Hy@undefinedname{UNDEFINED}
8061 \def\find@pdfink#1#2{%
8062   \leavevmode
8063   \protected@edef\Hy@testname{#2}%
8064   \ifx\Hy@testname\@empty
8065     \Hy@Warning{%
8066       Empty destination name,\MessageBreak

```

```

8067     using '\Hy@undefinedname'%
8068   }%
8069   \let\Hy@testname\Hy@undefinedname
8070 \else
8071   \Hy@pstringdef\Hy@testname{%
8072     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8073   }%
8074 \fi
8075 \Hy@StartlinkName{%
8076   \ifHy@pdfa /F 4\fi
8077   \Hy@setpdfborder
8078   \ifx\@pdfhighlight\@empty
8079   \else
8080     /H\@pdfhighlight
8081   \fi
8082   \ifx\CurrentBorderColor\relax
8083   \else
8084     /C[\CurrentBorderColor]%
8085   \fi
8086 } \Hy@testname
8087 \expandafter\Hy@colorlink\csname @#1color\endcsname
8088 }
8089 \def\Hy@StartlinkName#1#2{%
8090   \pdfstartlink attr{#1}goto name{#2}\relax
8091 }
8092 \def\close@pdfink{%
8093   \Hy@endcolorlink
8094   \Hy@VerboseLinkStop
8095   \pdfendlink
8096 }
8097 \def\hyper@anchor#1{%
8098   \new@pdfink{#1}\anchor@spot\pdf@endanchor
8099 }
8100 \def\hyper@anchorstart#1{%
8101   \new@pdfink{#1}%
8102   \Hy@activeanchortrue
8103 }
8104 \def\hyper@anchorend{%
8105   \pdf@endanchor
8106   \Hy@activeanchorfalse
8107 }
8108 \def\hyper@linkstart#1#2{%
8109   \Hy@VerboseLinkStart{#1}{#2}%
8110   \ltx@ifundefined{@#1bordercolor}{%
8111     \let\CurrentBorderColor\relax
8112   }{%
8113     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8114   }%
8115   \find@pdfink{#1}{#2}%
8116 }
8117 \def\hyper@linkend{\close@pdfink}
8118 \def\hyper@link#1#2#3{%
8119   \Hy@VerboseLinkStart{#1}{#2}%
8120   \ltx@ifundefined{@#1bordercolor}{%
8121     \let\CurrentBorderColor\relax
8122   }{%
8123     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```



```

8124 }%
8125 \find@pdfink{#1}{#2}#3%
8126 \close@pdfink
8127 }
8128 \let\CurrentBorderColor\@linkbordercolor
8129 \def\hyper@linkurl#1#2{%
8130 \begingroup
8131 \Hy@pstringdef\Hy@pstringURI{#2}%
8132 \hyper@chars
8133 \leavevmode
8134 \pdfstartlink
8135 attr{%
8136 \Hy@setpdfborder
8137 \ifx\@pdfhighlight\@empty
8138 \else
8139 /H\@pdfhighlight
8140 \fi
8141 \ifx\@urlbordercolor\relax
8142 \else
8143 /C[\@urlbordercolor]%
8144 \fi
8145 }%
8146 user{%
8147 /Subtype/Link%
8148 \ifHy@pdfa /F 4\fi
8149 /A<<%
8150 /Type/Action%
8151 /S/URI%
8152 /URI(\Hy@pstringURI)%
8153 >>%
8154 }%
8155 \relax
8156 \Hy@colorlink\@urlcolor#1%
8157 \close@pdfink
8158 \endgroup
8159 }
8160 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
8161 \begingroup
8162 \Hy@pstringdef\Hy@pstringF{#2}%
8163 \Hy@pstringdef\Hy@pstringD{#3}%
8164 \leavevmode
8165 \pdfstartlink
8166 attr{%
8167 \Hy@setpdfborder
8168 \ifx\@pdfhighlight\@empty
8169 \else
8170 /H\@pdfhighlight
8171 \fi
8172 \ifx\@filebordercolor\relax
8173 \else
8174 /C[\@filebordercolor]%
8175 \fi
8176 }%
8177 user {%
8178 /Subtype/Link%
8179 \ifHy@pdfa /F 4\fi
8180 /A<<%

```

```

8181      /F(\Hy@pstringF)%
8182      /S/GoToR%
8183      \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}

```

```

8184      \ifx\#3\%
8185      /D[0 \@pdfstartview]%
8186      \else
8187      /D(\Hy@pstringD)%
8188      \fi
8189      >>%
8190      }%
8191      \relax
8192      \Hy@colorlink\@filecolor#1%
8193      \close@pdfink
8194      \endgroup
8195 }
8196 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
8197   \begingroup
8198     \Hy@pstringdef\Hy@pstringF{#1}%
8199     \Hy@pstringdef\Hy@pstringP{#3}%
8200     \leavevmode
8201     \pdfstartlink
8202     attr{%
8203       \Hy@setpdfborder
8204       \ifx\@pdfhighlight\@empty
8205       \else
8206       /H\@pdfhighlight
8207       \fi
8208       \ifx\@runbordercolor\relax
8209       \else
8210       /C[\@runbordercolor]%
8211       \fi
8212     }%
8213     user {%
8214       /Subtype/Link%
8215       \ifHy@pdfa /F 4\fi
8216       /A<<%
8217       /F(\Hy@pstringF)%
8218       /S/Launch%
8219       \Hy@SetNewWindow
8220       \ifx\#3\%
8221       \else
8222       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
8223       \fi
8224       >>%
8225     }%
8226     \relax

```

```

8227 \Hy@colorlink\@runcolor#2%
8228 \close@pdflink
8229 \endgroup
8230 }

```

\@pdfproducer

```

8231 \ifx\@pdfproducer\relax
8232 \begingroup\expandafter\expandafter\expandafter\endgroup
8233 \expandafter\ifx\csname luatexversion\endcsname\relax
8234 \def\@pdfproducer{pdfTeX}%
8235 \ifx\eTeXversion\@undefined
8236 \else
8237 \ifx\eTeXversion\relax
8238 \else
8239 \ifnum\eTeXversion>0 %
8240 \def\@pdfproducer{pdfTeX}%
8241 \fi
8242 \fi
8243 \fi
8244 \ifx\pdfTeXversion\@undefined
8245 \else
8246 \ifnum\pdfTeXversion<100 %
8247 \edef\@pdfproducer{%
8248 \@pdfproducer
8249 \the\pdfTeXversion.\pdfTeXrevision
8250 }%
8251 \else
8252 \ifnum\pdfTeXversion<130 %
8253 \edef\@pdfproducer{%
8254 \@pdfproducer-%
8255 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8256 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
8257 \pdfTeXrevision
8258 }%
8259 \else
8260 \ifnum\pdfTeXversion<140 %
8261 \else
8262 \def\@pdfproducer{pdfTeX}%
8263 \fi
8264 \edef\@pdfproducer{%
8265 \@pdfproducer-%
8266 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
8267 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
8268 \pdfTeXrevision
8269 }%
8270 \fi
8271 \fi
8272 \fi
8273 \else
8274 \begingroup
8275 \count@=\luatexversion
8276 \divide\count@ by 100 %
8277 \edef\x{\the\count@}%
8278 \count@=-\x\relax
8279 \multiply\count@ by 100 %
8280 \advance\count@ by \luatexversion
8281 \edef\x{\endgroup

```

```

8282     \def\noexpand\@pdfproducer{%
8283         LuaTeX-\x.\the\count@.\luatexrevision
8284     }%
8285 }%
8286 \x
8287 \fi
8288 \fi

```

\PDF@SetupDox

```

8289 \def\PDF@SetupDoc{%
8290     \ifx\@pdfpagescrop\@empty
8291     \else
8292     \edef\process@me{%
8293         \pdfpagesattr={%
8294             /CropBox[\@pdfpagescrop]%
8295             \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
8296             \else
8297                 ^^J\the\pdfpagesattr
8298             \fi
8299         }%
8300     }%
8301     \process@me
8302 \fi
8303 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8304 \pdfcatalog{%
8305     /PageMode/\@pdfpagemode
8306     \ifx\@baseurl\@empty
8307     \else
8308         /URI<</Base(\Hy@pstringB)>>%
8309     \fi
8310 }%
8311 \ifx\@pdfstartpage\@empty
8312 \else
8313     \ifx\@pdfstartview\@empty
8314     \else
8315         openaction goto page\@pdfstartpage{\@pdfstartview}%
8316     \fi
8317 \fi
8318 \edef\Hy@temp{%
8319     \ifHy@toolbar\else /HideToolbar true\fi
8320     \ifHy@menubar\else /HideMenubar true\fi
8321     \ifHy>windowui\else /HideWindowUI true\fi
8322     \ifHy@fitwindow /FitWindow true\fi
8323     \ifHy@centerwindow /CenterWindow true\fi
8324     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8325     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8326     \Hy@UseNameKey{Direction}\@pdfdirection
8327     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8328     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8329     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8330     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8331     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8332     \Hy@UseNameKey{Duplex}\@pdfduplex
8333     \ifx\@pdfpicktraybypdfsize\@empty
8334     \else
8335         /PickTrayByPDFSize \@pdfpicktraybypdfsize
8336     \fi

```

```

8337 \ifx\@pdfprintpagerange\@empty
8338 \else
8339 /PrintPageRange[\@pdfprintpagerange]%
8340 \fi
8341 \ifx\@pdfnumcopies\@empty
8342 \else
8343 /NumCopies \@pdfnumcopies
8344 \fi
8345 }%
8346 \pdfcatalog{%
8347 \ifx\Hy@temp\@empty
8348 \else
8349 /ViewerPreferences<<\Hy@temp>>%
8350 \fi
8351 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8352 \ifx\@pdflang\@empty
8353 \else
8354 /Lang(\@pdflang)%
8355 \fi
8356 }%
8357 }

```

\PDF@FinishDoc

```

8358 \def\PDF@FinishDoc{%
8359 \Hy@UseMaketitleInfos
8360 \HyInfo@GenerateAddons
8361 \pdfinfo{%
8362 /Author(\@pdfauthor)%
8363 /Title(\@pdftitle)%
8364 /Subject(\@pdfsubject)%
8365 /Creator(\@pdfcreator)%
8366 \ifx\@pdfcreationdate\@empty
8367 \else
8368 /CreationDate(\@pdfcreationdate)%
8369 \fi
8370 \ifx\@pdfmoddate\@empty
8371 \else
8372 /ModDate(\@pdfmoddate)%
8373 \fi
8374 \ifx\@pdfproducer\relax
8375 \else
8376 /Producer(\@pdfproducer)%
8377 \fi
8378 /Keywords(\@pdfkeywords)%
8379 \ifx\@pdftrapped\@empty
8380 \else
8381 /Trapped/\@pdftrapped
8382 \fi
8383 \HyInfo@Addons
8384 }%
8385 \Hy@DisableOption{pdfauthor}%
8386 \Hy@DisableOption{pdftitle}%
8387 \Hy@DisableOption{pdfsubject}%
8388 \Hy@DisableOption{pdfcreator}%
8389 \Hy@DisableOption{pdfcreationdate}%
8390 \Hy@DisableOption{pdfmoddate}%
8391 \Hy@DisableOption{pdfproducer}%

```

```

8392 \Hy@DisableOption{pdfkeywords}%
8393 \Hy@DisableOption{pdftrapped}%
8394 \Hy@DisableOption{pdfinfo}%
8395 }

```

`\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`.

```

8396 \def\hyper@pagetransition{%
8397   \ifx\@pdfpagetransition\relax
8398   \else
8399     \expandafter\Hy@RemoveTransPageAttr
8400     \the\pdfpageattr^^J/Trans{>>\END
8401     \ifx\@pdfpagetransition\@empty
8402     \else
8403       \edef\@processme{%
8404         \global\pdfpageattr{%
8405           \the\pdfpageattr
8406           ^^J/Trans << /S /\@pdfpagetransition\space >>%
8407         }%
8408       }%
8409       \@processme
8410     \fi
8411   \fi
8412 }

```

`\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.

```

8413 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
8414   \ifx\\#2\\%
8415     \global\pdfpageattr{#1}%
8416   \else
8417     \Hy@RemoveTransPageAttr#1#4\END
8418   \fi
8419 }

```

`\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`.

```

8420 \def\hyper@pageduration{%
8421   \ifx\@pdfpageduration\relax
8422   \else
8423     \expandafter
8424     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
8425     \ifx\@pdfpageduration\@empty
8426     \else
8427       \edef\@processme{%
8428         \global\pdfpageattr{%
8429           \the\pdfpageattr
8430           ^^J/Dur \@pdfpageduration\space
8431         }%
8432       }%
8433       \@processme
8434     \fi
8435   \fi

```

8436 }

`\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.

```
8437 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
8438   \ifx\#2\%
8439     \global\pdfpageattr{#1}%
8440   \else
8441     \Hy@RemoveDurPageAttr#1#4\END
8442   \fi
8443 }
```

`\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).

```
8444 \def\hyper@pagehidden{%
8445   \ifHy@useHidKey
8446     \expandafter
8447     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
8448   \ifHy@pdfpagehidden
8449     \edef\@processme{%
8450       \global\pdfpageattr{%
8451         \the\pdfpageattr
8452         ^^J/Hid true % SPACE
8453       }%
8454     }%
8455     \@processme
8456   \fi
8457   \fi
8458 }
```

`\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.

```
8459 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
8460   \ifx\#2\%
8461     \global\pdfpageattr{#1}%
8462   \else
8463     \Hy@RemoveHidPageAttr#1#4\END
8464   \fi
8465 }
```

```
8466 \g@addto@macro\Hy@EveryPageHook{%
8467   \hyper@pagetransition
8468   \hyper@pageduration
8469   \hyper@pagehidden
8470 }
```

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

```
8471 \</pdfTeX>
8472 \<*pdfTeX | xetex>
8473 \Hy@AtBeginDocument{%
8474   \ifHy@setpagesize
```

```

8475 \expandafter\@firstofone
8476 \else
8477 \expandafter\@gobble
8478 \fi
8479 {%
8480 \@ifclassloaded{seminar}{%
8481 <*pdftex>
8482 \setlength{\pdfhorigin}{1truein}%
8483 \setlength{\pdfvorigin}{1truein}%
8484 </pdftex>
8485 \ifportrait
8486 \ifdim\paperwidth=\z@
8487 \else
8488 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
8489 \fi
8490 \ifdim\paperheight=\z@
8491 \else
8492 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
8493 \fi
8494 \else
8495 \ifdim\paperheight=\z@
8496 \else
8497 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
8498 \fi
8499 \ifdim\paperwidth=\z@
8500 \else
8501 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
8502 \fi
8503 \fi
8504 }{%
8505 \ltx@ifundefined{stockwidth}{%
8506 \ifdim\paperwidth>\z@
8507 \setlength{\pdfpagewidth}{\paperwidth}%
8508 \fi
8509 \ifdim\paperheight>\z@
8510 \setlength{\pdfpageheight}{\paperheight}%
8511 \fi
8512 }{%
8513 \ifdim\stockwidth>\z@
8514 \setlength{\pdfpagewidth}{\stockwidth}%
8515 \fi
8516 \ifdim\stockheight>\z@
8517 \setlength{\pdfpageheight}{\stockheight}%
8518 \fi
8519 }%
8520 }%
8521 }%
8522 \Hy@DisableOption{setpagesize}%
8523 }
8524 </pdftex | xetex>
8525 <*pdftex>
8526 \def\Acrobatmenu#1#2{%
8527 \Hy@Acrobatmenu{#1}{#2}%
8528 \pdfstartlink
8529 attr{%
8530 \Hy@setpdfborder
8531 \ifx\@pdfhighlight\@empty

```



```

8532     \else
8533       /H\@pdfhighlight
8534     \fi
8535     \ifx\@menubordercolor\relax
8536     \else
8537       /C[\@menubordercolor]%
8538     \fi
8539   }%
8540   user{%
8541     /Subtype/Link%
8542     \ifHy@pdfa /F 4\fi
8543     /A<<%
8544       /S/Named/N/#1%
8545     >>%
8546   }%
8547   \relax
8548   \Hy@colorlink\@menucolor#2%
8549   \close@pdflink
8550 }%
8551 }

```

#### 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`.

```

8552 \def\Hy@FixNotFirstPage{%
8553   \gdef\Hy@FixNotFirstPage{%
8554     \setbox\AtBeginShipoutBox=\hbox{%
8555       \copy\AtBeginShipoutBox
8556     }%
8557   }%
8558 }
8559 \AtBeginShipout{\Hy@FixNotFirstPage}
8560 \pdfTeX

```

### 46.3 hypertext

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:<a href = "href_string">`

**name:** `html:<a name = "name_string">`

**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**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<sub>E</sub>X file — the T<sub>E</sub>X 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.

```

8561 \*hypertex\
8562 \providecommand*\XR@ext\{dvi}
8563 \def\PDF@FinishDoc{}
8564 \def\PDF@SetupDoc{%
8565   \ifx\@baseurl\@empty
8566     \else
8567       \special{html:<base href="\@baseurl">}%
8568     \fi
8569 }
8570 \def\hyper@anchor#1{%
8571   \Hy@SaveLastskip
8572   \Hy@VerboseAnchor{#1}%
8573   \begingroup
8574     \let\protect=\string
8575     \hyper@chars
8576     \special{html:<a name=%
8577       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8578   \endgroup
8579   \Hy@activeanchortrue
8580   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8581   \special{html:</a>}%
8582   \Hy@activeanchorfalse
8583   \Hy@RestoreLastskip
8584 }
8585 \def\hyper@anchorstart#1{%
8586   \Hy@SaveLastskip
8587   \Hy@VerboseAnchor{#1}%
8588   \begingroup
8589     \hyper@chars
8590     \special{html:<a name=%
8591       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8592   \endgroup
8593   \Hy@activeanchortrue
8594 }
8595 \def\hyper@anchorend{%
8596   \special{html:</a>}%
8597   \Hy@activeanchorfalse
8598   \Hy@RestoreLastskip
8599 }
8600 \def\@urltype{url}
8601 \def\hyper@linkstart#1#2{%

```

```

8602 \Hy@VerboseLinkStart{#1}{#2}%
8603 \expandafter\Hy@colorlink\csname @#1color\endcsname
8604 \def\Hy@tempa{#1}%
8605 \ifx\Hy@tempa \@uratype
8606   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8607 \else
8608   \begingroup
8609     \hyper@chars
8610     \special{html:<a href=%
8611       \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
8612   \endgroup
8613 \fi
8614 }
8615 \def\hyper@linkend{%
8616   \special{html:</a>}%
8617   \Hy@endcolorlink
8618 }
8619 \def\hyper@linkfile#1#2#3{%
8620   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi}%
8621 }
8622 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why  $\text{\LaTeX}$  constructs make this totally foul up, and make us revert to basic  $\text{\TeX}$ . I do not know.

```

8623 \leavevmode
8624 \ifHy@raiselinks
8625   \setbox\@tempboxa=\color@hbox #1\color@endbox
8626   \@linkdim\dp\@tempboxa
8627   \lower\@linkdim\hbox{%
8628     \hyper@chars
8629     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8630   }%
8631   \Hy@colorlink\@urcolor#1%
8632   \@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).

```

8633 \advance\@linkdim by -6.5\p@
8634 \raise\@linkdim\hbox{\special{html:</a>}}%
8635 \Hy@endcolorlink
8636 \else
8637   \begingroup
8638     \hyper@chars
8639     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
8640     \Hy@colorlink\@urcolor#1%
8641     \special{html:</a>}%
8642     \Hy@endcolorlink
8643   \endgroup
8644 \fi
8645 }

```

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

```

8646 \def\hyper@link#1#2#3{%
8647   \Hy@VerboseLinkStart{#1}{#2}%
8648   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
8649 }
8650 \def\hyper@image#1#2{%

```

```

8651 \begingroup
8652 \hyper@chars
8653 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
8654 \endgroup
8655 }
8656 </hypertex>
8657 <*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, L<sup>A</sup>T<sub>E</sub>X 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.

```

8658 \providecommand*{\XR@ext}{dvi}
8659 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
8660 \def\hyper@anchor#1{%
8661   \Hy@SaveLastskip
8662   \Hy@VerboseAnchor{#1}%
8663   \begingroup
8664     \let\protect=\string
8665     \special{mark: #1}%
8666   \endgroup
8667   \Hy@activeanchortrue
8668   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8669   \Hy@activeanchorfalse
8670   \Hy@RestoreLastskip
8671 }
8672 \def\hyper@anchorstart#1{%
8673   \Hy@SaveLastskip
8674   \Hy@VerboseAnchor{#1}%
8675   \special{mark: #1}%
8676   \Hy@activeanchortrue
8677 }
8678 \def\hyper@anchorend{%
8679   \Hy@activeanchorfalse
8680   \Hy@RestoreLastskip
8681 }
8682 \def\hyper@linkstart#1#2{%
8683   \Hy@VerboseLinkStart{#1}{#2}%
8684   \expandafter\Hy@colorlink\csname @#1color\endcsname
8685   \special{button: %
8686     10000000 %
8687     \number\baselineskip\space
8688     #2%
8689   }%
8690 }
8691 \def\hyper@linkend{%
8692   \Hy@endcolorlink
8693 }

```

```

8694 \def\hyper@link#1#2#3{%
8695   \Hy@VerboseLinkStart{#1}{#2}%
8696   \setbox\@tempboxa=\color@hbox #3\color@endbox
8697   \leavevmode
8698   \ifHy@raiselinks
8699     \@linkdim\dp\@tempboxa
8700     \lower\@linkdim\hbox{%
8701       \special{button: %
8702         \number\wd\@tempboxa\space
8703         \number\ht\@tempboxa\space
8704         #2%
8705       }%
8706       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8707       \Hy@endcolorlink
8708     }%
8709     \@linkdim\ht\@tempboxa
8710     \advance\@linkdim by -6.5\p@
8711     \raise\@linkdim\hbox{}%
8712   \else
8713     \special{button: %
8714       \number\wd\@tempboxa\space
8715       \number\ht\@tempboxa\space
8716       #2%
8717     }%
8718     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
8719     \Hy@endcolorlink
8720   \fi
8721 }
8722 \def\hyper@linkurl#1#2{%
8723   \begingroup
8724   \hyper@chars
8725   \leavevmode
8726   \setbox\@tempboxa=\color@hbox #1\color@endbox
8727   \ifHy@raiselinks
8728     \@linkdim\dp\@tempboxa
8729     \lower\@linkdim\hbox{%
8730       \special{button: %
8731         \number\wd\@tempboxa\space
8732         \number\ht\@tempboxa\space
8733         launch: \wwwbrowser\space
8734         #2%
8735       }%
8736       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8737     }%
8738     \@linkdim\ht\@tempboxa
8739     \advance\@linkdim by -6.5\p@
8740     \raise\@linkdim\hbox{}%
8741   \else
8742     \special{button: %
8743       \number\wd\@tempboxa\space
8744       \number\ht\@tempboxa\space
8745       launch: \wwwbrowser\space
8746       #2%
8747     }%
8748     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8749   \fi
8750   \endgroup

```

```

8751 }
8752 \def\hyper@linkfile#1#2#3{%
8753   \begingroup
8754   \hyper@chars
8755   \leavevmode
8756   \setbox\@tempboxa=\color@hbox #1\color@endbox
8757   \ifHy@raiselinks
8758     \@linkdim\dp\@tempboxa
8759     \lower\@linkdim\hbox{%
8760       \special{button: %
8761         \number\wd\@tempboxa\space
8762         \number\ht\@tempboxa\space
8763         #3,%
8764         file: #2%
8765       }%
8766       \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8767     }%
8768     \@linkdim\ht\@tempboxa
8769     \advance\@linkdim by -6.5\p@
8770     \raise\@linkdim\hbox{%}%
8771   \else
8772     \special{button: %
8773       \number\wd\@tempboxa\space
8774       \number\ht\@tempboxa\space
8775       #3,%
8776       file: #2%
8777     }%
8778     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8779   \fi
8780 \endgroup
8781 }
8782 \ifx\@pdfproducer\relax
8783   \def\@pdfproducer{dviwindo + Distiller}%
8784 \fi
8785 \HyInfo@AddonUnsupportedtrue
8786 \def\PDF@FinishDoc{%
8787   \Hy@UseMaketitleInfos
8788   \HyInfo@TrappedUnsupported
8789   \special{PDF: Keywords \@pdfkeywords}%
8790   \special{PDF: Title \@pdftitle}%
8791   \special{PDF: Creator \@pdfcreator}%
8792   \ifx\@pdfcreationdate\@empty
8793   \else
8794     \special{PDF: CreationDate \@pdfcreationdate}%
8795   \fi
8796   \ifx\@pdfmoddate\@empty
8797   \else
8798     \special{PDF: ModDate \@pdfmoddate}%
8799   \fi
8800   \special{PDF: Author \@pdfauthor}%
8801   \ifx\@pdfproducer\relax
8802   \else
8803     \special{PDF: Producer \@pdfproducer}%
8804   \fi
8805   \special{PDF: Subject \@pdfsubject}%
8806   \Hy@DisableOption{pdfauthor}%
8807   \Hy@DisableOption{pdftitle}%

```

```

8808 \Hy@DisableOption{pdfsubject}%
8809 \Hy@DisableOption{pdfcreator}%
8810 \Hy@DisableOption{pdfcreationdate}%
8811 \Hy@DisableOption{pdfmoddate}%
8812 \Hy@DisableOption{pdfproducer}%
8813 \Hy@DisableOption{pdfkeywords}%
8814 \Hy@DisableOption{pdftrapped}%
8815 \Hy@DisableOption{pdfinfo}%
8816 }
8817 \def\PDF@SetupDoc{%
8818 \ifx\@baseurl\@empty
8819 \else
8820 \special{PDF: Base \@baseurl}%
8821 \fi
8822 \ifx\@pdfpagescrop\@empty\else
8823 \special{PDF: BBox \@pdfpagescrop}%
8824 \fi
8825 \def\Hy@temp{%
8826 \ifx\@pdfstartpage\@empty
8827 \else
8828 \ifx\@pdfstartview\@empty
8829 \else
8830 \edef\Hy@temp{%
8831 ,Page=\@pdfstartpage
8832 ,View=\@pdfstartview
8833 }%
8834 \fi
8835 \fi
8836 \edef\Hy@temp{%
8837 \noexpand\pdfmark{%
8838 pdfmark=/DOCVIEW,%
8839 PageMode=/\@pdfpagemode
8840 \Hy@temp
8841 }%
8842 }%
8843 \Hy@temp
8844 \ifx\@pdfpagescrop\@empty
8845 \else
8846 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8847 \fi
8848 \edef\Hy@temp{%
8849 \ifHy@toolbar\else /HideToolbar true\fi
8850 \ifHy@menubar\else /HideMenubar true\fi
8851 \ifHy>windowui\else /HideWindowUI true\fi
8852 \ifHy@fitwindow /FitWindow true\fi
8853 \ifHy@centerwindow /CenterWindow true\fi
8854 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8855 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8856 \Hy@UseNameKey{Direction}\@pdfdirection
8857 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8858 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8859 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8860 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8861 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8862 \Hy@UseNameKey{Duplex}\@pdfduplex
8863 \ifx\@pdfpicktraybypdfsize\@empty
8864 \else

```

```

8865 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8866 \fi
8867 \ifx\@pdfprintpagerange\@empty
8868 \else
8869 /PrintPageRange[\@pdfprintpagerange]%
8870 \fi
8871 \ifx\@pdfnumcopies\@empty
8872 \else
8873 /NumCopies \@pdfnumcopies
8874 \fi
8875 }%
8876 \pdfmark{pdfmark=/PUT,%
8877 Raw={%
8878 \string{Catalog\string}<<%
8879 \ifx\Hy@temp\@empty
8880 \else
8881 /ViewerPreferences<<\Hy@temp>>%
8882 \fi
8883 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8884 \ifx\@pdflang\@empty
8885 \else
8886 /Lang(\@pdflang)%
8887 \fi
8888 >>%
8889 }%
8890 }%
8891 }
8892 </dviwindo>
8893 <*dvipdfm | xetex>

```

## 46.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

8894 \providecommand*{\XR@ext}{pdf}
8895 \Hy@setbreaklinks{true}
8896 \newsavebox{\pdfm@box}
8897 \def\@pdfm@mark#1{\special{pdf:#1}}
8898 \def\@pdfm@dest#1{%
8899 \Hy@SaveLastskip
8900 \Hy@VerboseAnchor{#1}%
8901 \begingroup
8902 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8903 \def\x{XYZ}%
8904 \ifx\x\@pdfview
8905 \def\x{XYZ @xpos @ypos null}%
8906 \else
8907 \def\x{FitH}%
8908 \ifx\x\@pdfview
8909 \def\x{FitH @ypos}%
8910 \else
8911 \def\x{FitBH}%
8912 \ifx\x\@pdfview
8913 \def\x{FitBH @ypos}%
8914 \else
8915 \def\x{FitV}%
8916 \ifx\x\@pdfview
8917 \def\x{FitV @xpos}%

```



```

8918     \else
8919     \def\x{FitBV}%
8920     \ifx\x\@pdfview
8921     \def\x{FitBV @xpos}%
8922     \else
8923     \def\x{Fit}%
8924     \ifx\x\@pdfview
8925     \let\x\@pdfview
8926     \else
8927     \def\x{FitB}%
8928     \ifx\x\@pdfview
8929     \let\x\@pdfview
8930     \else
8931     \def\x{FitR}%
8932     \ifx\x\@pdfview
8933     \Hy@Warning{'pdfview=FitR' is not supported}%
8934     \def\x{XYZ @xpos @ypos null}%
8935     \else
8936     \@onelevel@sanitize\@pdfview
8937     \Hy@Warning{%
8938       Unknown value '\@pdfview' for pdfview%
8939     }%
8940     \def\x{XYZ @xpos @ypos null}%
8941     \fi
8942     \fi
8943     \fi
8944     \fi
8945     \fi
8946     \fi
8947     \fi
8948     \fi
8949     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
8950 \endgroup
8951 \Hy@RestoreLastskip
8952 }
8953 \providecommand*\@pdfview{XYZ}
8954 \providecommand*\@pdfborder{0 0 1}
8955 \providecommand*\@pdfborderstyle{}
8956 \def\hyper@anchor#1{%
8957   \@pdfm@dest{#1}%
8958 }
8959 \def\hyper@anchorstart#1{%
8960   \Hy@activeanchortrue
8961   \@pdfm@dest{#1}%
8962 }
8963 \def\hyper@anchorend{%
8964   \Hy@activeanchorfalse
8965 }
8966 \newcounter{Hy@AnnotLevel}
8967 \ifHy@ocgcolorlinks
8968   \def\OBJ@OCG@view{@OCG@view}%
8969   \@pdfm@mark{%
8970     obj \OBJ@OCG@view <<%
8971       /Type/OCG%
8972       /Name(View)%
8973       /Usage<<%
8974       /Print<<%

```

```

8975      /PrintState/OFF%
8976      >>%
8977      /View<<%
8978      /ViewState/ON%
8979      >>%
8980      >>%
8981      >>%
8982 }%
8983  \@pdfm@mark{close \OBJ@OCG@view}%
8984  \def\OBJ@OCG@print{@OCG@print}%
8985  \@pdfm@mark{%
8986  obj \OBJ@OCG@print <<%
8987      /Type/OCG%
8988      /Name(Print)%
8989      /Usage<<%
8990      /Print<<%
8991      /PrintState/ON%
8992      >>%
8993      /View<<%
8994      /ViewState/OFF%
8995      >>%
8996      >>%
8997      >>%
8998 }%
8999  \@pdfm@mark{close \OBJ@OCG@print}%
9000  \def\OBJ@OCGs{@OCGs}%
9001  \@pdfm@mark{%
9002  obj \OBJ@OCGs [%
9003      \OBJ@OCG@view\space\OBJ@OCG@print
9004  ]%
9005 }%
9006  \@pdfm@mark{close \OBJ@OCGs}%
9007  \@pdfm@mark{%
9008  put @catalog <<%
9009      /OCProperties<<%
9010      /OCGs \OBJ@OCGs
9011      /D<<%
9012      /OFF[\OBJ@OCG@print]%
9013      /AS[%
9014      <<%
9015          /Event/View%
9016          /OCGs \OBJ@OCGs
9017          /Category[/View]%
9018      >>%
9019      <<%
9020          /Event/Print%
9021          /OCGs \OBJ@OCGs
9022          /Category[/Print]%
9023      >>%
9024      <<%
9025          /Event/Export%
9026          /OCGs \OBJ@OCGs
9027          /Category[/Print]%
9028      >>%
9029  ]%
9030      >>%
9031      >>%

```

```

9032 >>%
9033 }%
9034 \AtBeginShipout{%
9035   \setbox\AtBeginShipoutBox=\hbox{%
9036     \copy\AtBeginShipoutBox
9037     \@pdfm@mark{%
9038       put @resources <<%
9039         /Properties<<%
9040         /OCView \OBJ@OCG@view
9041         /OCPrint \OBJ@OCG@print
9042       >>%
9043     >>%
9044   }%
9045 }%
9046 }%
9047 \Hy@AtBeginDocument{%
9048   \def\Hy@colorlink#1{%
9049     \begingroup
9050     \ifHy@ocgcolorlinks
9051       \def\Hy@ocgcolor{#1}%
9052       \setbox0=\color@hbox
9053     \else
9054       \HyColor@UseColor#1%
9055     \fi
9056   }%
9057   \def\Hy@endcolorlink{%
9058     \ifHy@ocgcolorlinks
9059       \color@endbox
9060       \mbox{%
9061         \@pdfm@mark{content /OC/OCPrint BDC}%
9062         \rlap{\copy0}%
9063         \@pdfm@mark{content EMC/OC/OCView BDC}%
9064         \begingroup
9065           \expandafter\HyColor@UseColor\Hy@ocgcolor
9066           \box0 %
9067         \endgroup
9068         \@pdfm@mark{content EMC}%
9069       }%
9070     \fi
9071   \endgroup
9072 }%
9073 }%
9074 \else
9075   \Hy@DisableOption{ocgcolorlinks}%
9076 \fi
9077 \def\Hy@BeginAnnot#1{%
9078   \stepcounter{Hy@AnnotLevel}%
9079   \ifnum\value{Hy@AnnotLevel}=\@ne
9080     #1%
9081   \fi
9082 }
9083 \def\Hy@endAnnot{%
9084   \ifnum\value{Hy@AnnotLevel}=\@ne
9085     \Hy@endcolorlink
9086     \@pdfm@mark{eann}%
9087   \fi
9088   \addtocounter{Hy@AnnotLevel}\m@ne

```

```

9089 }
9090 \def\Hy@undefinedname{UNDEFINED}
9091 \def\hyper@linkstart#1#2{%
9092   \Hy@VerboseLinkStart{#1}{#2}%
9093   \Hy@BeginAnnot{%
9094     \protected@edef\Hy@testname{#2}%
9095     \ifx\Hy@testname\@empty
9096       \Hy@Warning{%
9097         Empty destination name,\MessageBreak
9098         using '\Hy@undefinedname'%
9099       }%
9100     \let\Hy@testname\Hy@undefinedname
9101   }else
9102     \Hy@pstringdef\Hy@testname{%
9103       \expandafter\HyperDestNameFilter\expandafter{%
9104         \Hy@testname
9105       }%
9106     }%
9107   \fi
9108   \@pdfm@mark{%
9109     bann<<%
9110     /Type/Annot%
9111     /Subtype/Link%
9112     \ifHy@pdfa /F 4\fi
9113     \Hy@setpdfborder
9114     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9115     \else
9116       /C[\csname @#1bordercolor\endcsname]%
9117     \fi
9118     /A<<%
9119     /S/GoTo%
9120     /D(\Hy@testname)%
9121     >>%
9122     >>%
9123   }%
9124   \expandafter\Hy@colorlink\csname @#1color\endcsname
9125 }%
9126 }
9127 \def\hyper@linkend{\Hy@EndAnnot}%
9128 \def\hyper@link#1#2#3{%
9129   \hyper@linkstart{#1}{#2}#3\hyper@linkend
9130 }
9131 \def\hyper@linkfile#1#2#3{%
9132   \leavevmode
9133   \Hy@BeginAnnot{%
9134     \Hy@pstringdef\Hy@pstringF{#2}%
9135     \Hy@pstringdef\Hy@pstringD{#3}%
9136     \@pdfm@mark{%
9137       bann<<%
9138       /Type/Annot%
9139       /Subtype/Link%
9140       \ifHy@pdfa /F 4\fi
9141       \Hy@setpdfborder
9142       \ifx\@filebordercolor\relax
9143       \else
9144         /C[\@filebordercolor]%
9145       \fi

```

```

9146      /A<<%
9147      /S/GoToR%
9148      /F(\Hy@pstringF)%
9149      /D\ifx\|#3\|[0 \@pdfstartview]\else(\Hy@pstringD)\fi
9150      \Hy@SetNewWindow
9151      >>%
9152      >>%
9153      }%
9154      \Hy@colorlink\@filecolor
9155      }%
9156      #1%
9157      \Hy@EndAnnot
9158      }
9159      \def\hyper@linkurl#1#2{%
9160      \leavevmode
9161      \Hy@BeginAnnot{%
9162      \Hy@pstringdef\Hy@pstringURI{#2}%
9163      \@pdfm@mark{%
9164      bann<<%
9165      /Type/Annot%
9166      /Subtype/Link%
9167      \ifHy@pdfa /F 4\fi
9168      \Hy@setpdfborder
9169      \ifx\@urlbordercolor\relax
9170      \else
9171      /C[\@urlbordercolor]%
9172      \fi
9173      /A<<%
9174      /S/URI%
9175      /URI(\Hy@pstringURI)%
9176      >>%
9177      >>%
9178      }%
9179      \Hy@colorlink\@urlcolor
9180      }%
9181      #1%
9182      \Hy@EndAnnot
9183      }
9184      \def\Acrobatmenu#1#2{%
9185      \Hy@Acrobatmenu{#1}{#2}{%
9186      \Hy@BeginAnnot{%
9187      \@pdfm@mark{%
9188      bann<<%
9189      /Type/Annot%
9190      /Subtype/Link%
9191      \ifHy@pdfa /F 4\fi
9192      /A<<%
9193      /S/Named%
9194      /N/#1%
9195      >>%
9196      \Hy@setpdfborder
9197      \ifx\@menubordercolor\relax
9198      \relax
9199      /C[\@menubordercolor]%
9200      \fi
9201      >>%
9202      }%

```

```

9203 \Hy@colorlink\@menucolor
9204 }%
9205 #2%
9206 \Hy@EndAnnot
9207 }%
9208 }
9209 \ifx\@pdfproducer\relax
9210 \def\@pdfproducer{dvipdfm}%

```

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

```

9211 \begingroup\expandafter\expandafter\expandafter\endgroup
9212 \expandafter\ifx\csname XeTeXversion\endcsname\relax
9213 \else
9214 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
9215 \fi
9216 \fi
9217 \def\PDF@FinishDoc{%
9218 \Hy@UseMaketitleInfos
9219 \HyInfo@GenerateAddons
9220 \@pdfm@mark{%
9221 docinfo<<%
9222 /Title(\@pdftitle)%
9223 /Subject(\@pdfsubject)%
9224 /Creator(\@pdfcreator)%
9225 \ifx\@pdfcreationdate\@empty
9226 \else
9227 /CreationDate(\@pdfcreationdate)%
9228 \fi
9229 \ifx\@pdfmoddate\@empty
9230 \else
9231 /ModDate(\@pdfmoddate)%
9232 \fi
9233 /Author(\@pdfauthor)%
9234 \ifx\@pdfproducer\relax
9235 \else
9236 /Producer(\@pdfproducer)%
9237 \fi
9238 /Keywords(\@pdfkeywords)%
9239 \ifx\@pdftrapped\@empty
9240 \else
9241 /Trapped/\@pdftrapped
9242 \fi
9243 \HyInfo@Addons
9244 >>%
9245 }%
9246 \Hy@DisableOption{pdfauthor}%
9247 \Hy@DisableOption{pdftitle}%
9248 \Hy@DisableOption{pdfsubject}%
9249 \Hy@DisableOption{pdfcreator}%
9250 \Hy@DisableOption{pdfcreationdate}%
9251 \Hy@DisableOption{pdfmoddate}%
9252 \Hy@DisableOption{pdfproducer}%
9253 \Hy@DisableOption{pdfkeywords}%
9254 \Hy@DisableOption{pdftrapped}%
9255 \Hy@DisableOption{pdfinfo}%
9256 }
9257 \def\PDF@SetupDoc{%

```

```

9258 \edef\Hy@temp{%
9259 \ifHy@toolbar\else /HideToolbar true\fi
9260 \ifHy@menubar\else /HideMenubar true\fi
9261 \ifHy>windowui\else /HideWindowUI true\fi
9262 \ifHy@fitwindow /FitWindow true\fi
9263 \ifHy@centerwindow /CenterWindow true\fi
9264 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9265 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9266 \Hy@UseNameKey{Direction}\@pdfdirection
9267 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9268 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9269 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9270 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9271 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9272 \Hy@UseNameKey{Duplex}\@pdfduplex
9273 \ifx\@pdfpicktraybypdfsize\@empty
9274 \else
9275 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9276 \fi
9277 \ifx\@pdfprintpagerange\@empty
9278 \else
9279 /PrintPageRange[\@pdfprintpagerange]%
9280 \fi
9281 \ifx\@pdfnumcopies\@empty
9282 \else
9283 /NumCopies \@pdfnumcopies
9284 \fi
9285 }%
9286 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9287 \@pdfm@mark{%
9288 docview<<%
9289 \ifx\@pdfstartpage\@empty
9290 \else
9291 \ifx\@pdfstartview\@empty
9292 \else
9293 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
9294 \fi
9295 \fi
9296 \ifx\@baseurl\@empty
9297 \else
9298 /URI<</Base(\Hy@pstringB)>>%
9299 \fi
9300 /PageMode/\@pdfpagemode
9301 \ifx\Hy@temp\@empty
9302 \else
9303 /ViewerPreferences<<\Hy@temp>>%
9304 \fi
9305 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9306 \ifx\@pdflang\@empty
9307 \else
9308 /Lang(\@pdflang)%
9309 \fi
9310 >>%
9311 }%
9312 \ifx\@pdfpagescrop\@empty
9313 \else
9314 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%

```

```

9315 \fi
9316 }
9317 </dvipdfm | xetex>

```

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

```

9318 <*dvipdfm>
9319 \AtBeginShipoutFirst{%
9320   \ifHy@setpagesize
9321     \begingroup
9322       \@ifundefined{stockwidth}{%
9323         \ifdim\paperwidth>\z@
9324           \ifdim\paperheight>\z@
9325             \special{papersize=\the\paperwidth,\the\paperheight}%
9326           \fi
9327         \fi
9328       }{%
9329         \ifdim\stockwidth>\z@
9330           \ifdim\stockheight>\z@
9331             \special{papersize=\the\stockwidth,\the\stockheight}%
9332           \fi
9333         \fi
9334       }%
9335     \endgroup
9336 \fi
9337 \Hy@DisableOption{setpagesize}%
9338 }
9339 </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.

```

9340 <*vtexhtml>
9341 \providecommand*{\XR@ext}{htm}
9342 \RequirePackage{vtexhtml}
9343 \newif\if@Localurl
9344 \def\PDF@FinishDoc{}
9345 \def\PDF@SetupDoc{%
9346   \ifx\@baseurl\@empty
9347     \else
9348       \special{!direct <base href="\@baseurl">}%
9349     \fi
9350 }
9351 \def\@urltype{url}
9352 \def\hyper@link#1#2#3{%
9353   \Hy@VerboseLinkStart{#1}{#2}%
9354   \leavevmode
9355   \special{!direct <a href=%
9356     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
9357   #3%
9358   \special{!direct </a>}%
9359 }
9360 \def\hyper@linkurl#1#2{%
9361   \begingroup
9362     \hyper@chars
9363   \leavevmode

```



```

9364 \MathBSuppress=1\relax
9365 \special{!direct <a href=%
9366 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
9367 #1%
9368 \MathBSuppress=0\relax
9369 \special{!direct </a>}%
9370 \endgroup
9371 }
9372 \def\hyper@linkfile#1#2#3{%
9373 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9374 }
9375 \def\hyper@linkstart#1#2{%
9376 \Hy@VerboseLinkStart{#1}{#2}%
9377 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
9378 \@Localurltrue
9379 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
9380 \else
9381 \@Localurlfalse
9382 \begingroup
9383 \hyper@chars
9384 \special{!aref \HyperDestNameFilter{#2}}%
9385 \endgroup
9386 \fi
9387 }
9388 \def\hyper@linkend{%
9389 \if@Localurl
9390 \special{!endaref}%
9391 \else
9392 \special{!direct </a>}%
9393 \fi
9394 }
9395 \def\hyper@anchorstart#1{%
9396 \Hy@SaveLastskip
9397 \Hy@VerboseAnchor{#1}%
9398 \begingroup
9399 \hyper@chars
9400 \special{!aname #1}%
9401 \special{!direct <a name=%
9402 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9403 \endgroup
9404 \Hy@activeanchortrue
9405 }
9406 \def\hyper@anchorend{%
9407 \special{!direct </a>}%
9408 \Hy@activeanchorfalse
9409 \Hy@RestoreLastskip
9410 }
9411 \def\hyper@anchor#1{%
9412 \Hy@SaveLastskip
9413 \Hy@VerboseAnchor{#1}%
9414 \begingroup
9415 \let\protect=\string
9416 \hyper@chars
9417 \leavevmode
9418 \special{!aname #1}%
9419 \special{!direct <a name=%
9420 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%

```

```

9421 \endgroup
9422 \Hy@activeanchortrue
9423 \bgroup\anchor@spot\egroup
9424 \special{!direct </a>}%
9425 \Hy@activeanchorfalse
9426 \Hy@RestoreLastskip
9427 }
9428 \def\@Form[#1]{%
9429 \typeout{Sorry, TeXpider does not yet support FORMs}%
9430 }
9431 \def\@endForm{}
9432 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9433 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
9434 }
9435 \def\@TextField[#1]#2{% parameters, label
9436 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
9437 }
9438 \def\@CheckBox[#1]#2{% parameters, label
9439 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
9440 }
9441 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
9442 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
9443 }
9444 \def\@PushButton[#1]#2{% parameters, label
9445 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
9446 }
9447 \def\@Reset[#1]#2{%
9448 \typeout{Sorry, TeXpider does not yet support FORMs}%
9449 }
9450 \def\@Submit[#1]#2{%
9451 \typeout{Sorry, TeXpider does not yet support FORMs}%
9452 }
9453 \</vtexhtml>
9454 \<*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.

```

9455 \ifx\mediaheight\@undefined
9456 \else
9457 \ifx\mediaheight\relax
9458 \else
9459 \ifHy@setpagesize
9460 \providecommand*\VTeXInitMediaSize{%
9461 \ltx@ifundefined{stockwidth}{%
9462 \ifdim\paperheight>0pt %
9463 \setlength\mediaheight\paperheight
9464 \fi
9465 \ifdim\paperheight>0pt %
9466 \setlength\mediawidth\paperwidth
9467 \fi
9468 }{%
9469 \ifdim\stockheight>0pt %
9470 \setlength\mediaheight\stockheight
9471 \fi
9472 \ifdim\stockwidth>0pt %
9473 \setlength\mediawidth\stockwidth

```

```

9474      \fi
9475      }%
9476      }%
9477      \Hy@AtBeginDocument{\VTeXInitMediaSize}%
9478      \fi
9479      \Hy@DisableOption{setpagesize}%
9480      \fi
9481      \fi

```

Older versions of VTeX require xyz in lower case.

```

9482 \providecommand*\@pdfview{xyz}
9483 \providecommand*\@pdfborder{0 0 1}
9484 \providecommand*\@pdfborderstyle{}
9485 \let\CurrentBorderColor\@linkbordercolor
9486 \def\hyper@anchor#1{%
9487   \Hy@SaveLastskip
9488   \Hy@VerboseAnchor{#1}%
9489   \begingroup
9490     \let\protect=\string
9491     \hyper@chars
9492     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9493   \endgroup
9494   \Hy@activeanchortrue
9495   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9496   \Hy@activeanchorfalse
9497   \Hy@RestoreLastskip
9498 }
9499 \def\hyper@anchorstart#1{%
9500   \Hy@SaveLastskip
9501   \Hy@VerboseAnchor{#1}%
9502   \begingroup
9503     \hyper@chars
9504     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
9505   \endgroup
9506   \Hy@activeanchortrue
9507 }
9508 \def\hyper@anchorend{%
9509   \Hy@activeanchorfalse
9510   \Hy@RestoreLastskip
9511 }
9512 \def\@urlltype{url}
9513 \def\Hy@undefinedname{UNDEFINED}
9514 \def\hyper@linkstart#1#2{%
9515   \Hy@VerboseLinkStart{#1}{#2}%
9516   \Hy@pstringdef\Hy@pstringURI{#2}%
9517   \expandafter\Hy@colorlink\csname @#1color\endcsname
9518   \ltx@ifundefined{@#1bordercolor}{%
9519     \let\CurrentBorderColor\relax
9520   }{%
9521     \edef\CurrentBorderColor{%
9522       \csname @#1bordercolor\endcsname
9523     }%
9524   }%
9525   \def\Hy@tempa{#1}%
9526   \ifx\Hy@tempa\@urlltype
9527     \special{!%
9528       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9529       a=<%

```

```

9530 \ifHy@pdfa /F 4\fi
9531 \Hy@setpdfborder
9532 \ifx\CurrentBorderColor\relax
9533 \else
9534 /C [\CurrentBorderColor]%
9535 \fi
9536 >%
9537 }%
9538 \else
9539 \protected@edef\Hy@testname{#2}%
9540 \ifx\Hy@testname\@empty
9541 \Hy@Warning{%
9542 Empty destination name,\MessageBreak
9543 using '\Hy@undefinedname'%
9544 }%
9545 \let\Hy@testname\Hy@undefinedname
9546 \fi
9547 \special{!%
9548 aref \expandafter\HyperDestNameFilter
9549 \expandafter{\Hy@testname};%
9550 a=<%
9551 \ifHy@pdfa /F 4\fi
9552 \Hy@setpdfborder
9553 \ifx\CurrentBorderColor\relax
9554 \else
9555 /C [\CurrentBorderColor]%
9556 \fi
9557 >%
9558 }%
9559 \fi
9560 }
9561 \def\hyper@linkend{%
9562 \special{!endaref}%
9563 \Hy@endcolorlink
9564 }
9565 \def\hyper@linkfile#1#2#3{%
9566 \leavevmode
9567 \special{!%
9568 aref <%
9569 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi
9570 f=#2>#3;%
9571 a=<%
9572 \ifHy@pdfa /F 4\fi
9573 \Hy@setpdfborder
9574 \ifx\@filebordercolor\relax
9575 \else
9576 /C [\@filebordercolor]%
9577 \fi
9578 >%
9579 }%
9580 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
9581 \special{!endaref}%
9582 }
9583 \def\hyper@linkurl#1#2{%
9584 \begingroup
9585 \Hy@pstringdef\Hy@pstringURI{#2}%
9586 \hyper@chars

```

```

9587 \leavevmode
9588 \special{!%
9589   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
9590   a=<%
9591     \ifHy@pdfa /F 4\fi
9592     \Hy@setpdfborder
9593     \ifx\@urlbordercolor\relax
9594     \else
9595       /C [\@urlbordercolor]%
9596     \fi
9597   >%
9598   }%
9599   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9600 \special{!endaref}%
9601 \endgroup
9602 }
9603 \def\hyper@link#1#2#3{%
9604   \Hy@VerboseLinkStart{#1}{#2}%
9605   \ltx@ifundefined{@#1bordercolor}{%
9606     \let\CurrentBorderColor\relax
9607   }{%
9608     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9609   }%
9610   \leavevmode
9611   \protected@edef\Hy@testname{#2}%
9612   \ifx\Hy@testname\@empty
9613     \Hy@Warning{%
9614       Empty destination name,\MessageBreak
9615       using '\Hy@undefinedname'%
9616     }%
9617     \let\Hy@testname\Hy@undefinedname
9618   \fi
9619   \special{!%
9620     aref \expandafter\HyperDestNameFilter
9621       \expandafter{\Hy@testname};%
9622     a=<%
9623       \ifHy@pdfa /F 4\fi
9624       \Hy@setpdfborder
9625       \ifx\CurrentBorderColor\relax
9626       \else
9627         /C [\CurrentBorderColor]%
9628       \fi
9629     >%
9630   }%
9631   \expandafter
9632   \Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
9633   \special{!endaref}%
9634 }
9635 \def\hyper@image#1#2{%
9636   \hyper@linkurl{#2}{#1}%
9637 }
9638 \def\@hyper@launch run:#1\#2#3{%
9639   \Hy@pstringdef\Hy@pstringF{#1}%
9640   \Hy@pstringdef\Hy@pstringP{#3}%
9641   \leavevmode
9642   \special{!aref %
9643     <u=%

```

```

9644 /Type/Action%
9645 /S/Launch%
9646 /F(\Hy@pstringF)%
9647 \Hy@SetNewWindow
9648 \ifx\#3\%
9649 \else
9650 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
9651 \fi%
9652 >%
9653 a=<%
9654 \ifHy@pdfa /F 4\fi
9655 \Hy@setpdfborder
9656 \ifx\@runbordercolor\relax
9657 \else
9658 /C[\@runbordercolor]%
9659 \fi
9660 >%
9661 }%
9662 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
9663 \special{!endaref}%
9664 }
9665 \def\Acrobatmenu#1#2{%
9666 \Hy@Acrobatmenu{#1}{#2}{%
9667 \special{!%
9668   aref <u=/S /Named /N /#1>;%
9669   a=<%
9670     \ifHy@pdfa /F 4\fi
9671     \Hy@setpdfborder
9672     \ifx\@menubordercolor\relax
9673     \else
9674     /C[\@menubordercolor]%
9675     \fi
9676     >%
9677     }%
9678     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
9679     \special{!endaref}%
9680     }%
9681 }

```

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

The code below makes sense for  $\text{\texttt{VTeX}}$  7.02 or later.

Please never use  $\text{\texttt{\@ifundefined{VTeXversion}\{..\}\{..\}}}$  globally.

```

9682 \ifnum\Hy@VTeXversion<702 %
9683 \else
9684 \def\hyper@pagetransition{%
9685 \ifx\@pdfpagetransition\relax
9686 \else
9687 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

9688 \else
9689 \hvtex@parse@trans\@pdfpagetransition
9690 \fi
9691 \fi
9692 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\texttt{VTeX}}$   $\text{\texttt{\special}}$ .  
(AVK)

Syntax of  $\text{\texttt{VTX}} \backslash \text{\texttt{special}}\{\text{\texttt{!trans}} \langle \text{\texttt{transition\_effect}} \rangle\}$ :

```

<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:

```

9693 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
9694 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
9695 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
9696 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
9697 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
9698 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
9699 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

9700 \def\hvtex@param@dimension{/Dm}%
9701 \def\hvtex@param@direction{/Di}%
9702 \def\hvtex@param@duration{/D}%
9703 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

9704 \def\hvtex@gettoken{%
9705   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
9706 }%

```

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

```

9707 \def\hvtex@gettoken@#1 #2\@nil{%
9708   \edef\hvtex@token{#1}%
9709   \edef\hvtex@buffer{#2}%
9710 }%
9711 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

9712 \let\hvtex@trans@code\@empty
9713 \let\hvtex@param@dimension\@empty
9714 \let\hvtex@param@direction\@empty
9715 \let\hvtex@param@duration\@empty
9716 \let\hvtex@param@motion\@empty
9717 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

9718 \hvtex@gettoken
9719 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

9720   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

9721   \else
9722   \hvtex@gettoken
9723   \fi
9724 \fi
9725 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

9726   \hvtex@trans@params
9727 }%

```

Reentrant macro to parse optional parameters.

```

9728 \def\hvtex@trans@params{%
9729   \ifx\hvtex@buffer\@empty
9730   \else
9731     \hvtex@gettoken
9732     \let\hvtex@trans@par\hvtex@token
9733     \ifx\hvtex@buffer\@empty
9734     \else
9735       \hvtex@gettoken
9736       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds.  $\text{\TeX}$  special takes it in milliseconds.

```

9737       \let\hvtex@param@duration\hvtex@token
9738     \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

9739       \expandafter\edef\expandafter\hvtex@param@motion
9740       \expandafter{\expandafter\@gobble\hvtex@token}%
9741     \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

9742       \expandafter\edef\expandafter\hvtex@param@dimension
9743       \expandafter{\expandafter\@gobble\hvtex@token}%
9744     \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).

```

9745       \let\hvtex@param@direction\hvtex@token
9746       \fi\fi\fi
9747   \fi
9748 \fi
9749 \ifx\hvtex@buffer\@empty
9750   \let\next\hvtex@produce@trans
9751 \else
9752   \let\next\hvtex@trans@params
9753 \fi
9754 \next
9755 }%

```

Merge <transition\_\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

9756 \def\hvtex@produce@trans{%
9757   \let\vtex@trans@special\@empty
9758   \if S\hvtex@trans@code
9759     \edef\vtex@trans@special{\hvtex@trans@code
9760       \hvtex@param@dimension\hvtex@param@motion}%
9761   \else\if B\hvtex@trans@code
9762     \edef\vtex@trans@special{%
9763       \hvtex@trans@code\hvtex@param@dimension

```



```

9764 }%
9765 \else\if X\hvtex@trans@code
9766 \edef\vtex@trans@special{%
9767 \hvtex@trans@code\hvtex@param@motion
9768 }%
9769 \else\if W\hvtex@trans@code
9770 \edef\vtex@trans@special{%
9771 \hvtex@trans@code\hvtex@param@direction
9772 }%
9773 \else\if D\hvtex@trans@code
9774 \let\vtex@trans@special\hvtex@trans@code
9775 \else\if R\hvtex@trans@code
9776 \let\vtex@trans@special\hvtex@trans@code
9777 \else\if G\hvtex@trans@code
9778 \edef\vtex@trans@special{%
9779 \hvtex@trans@code\hvtex@param@direction
9780 }%
9781 \fi\fi\fi\fi\fi\fi
9782 \ifx\vtex@trans@special\@empty
9783 \else
9784 \ifx\hvtex@param@duration\@empty
9785 \else
9786 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

9787 \multiply\dimen@\@m
9788 \edef\vtex@trans@special{%
9789 \vtex@trans@special,\strip@pt\dimen@
9790 }%
9791 \fi

```

And all the mess is just for this.

```

9792 \special{!trans \vtex@trans@special}%
9793 \fi
9794 }%
9795 \def\hyper@pageduration{%
9796 \ifx\@pdfpageduration\relax
9797 \else
9798 \ifx\@pdfpageduration\@empty
9799 \special{!duration-}%
9800 \else
9801 \special{!duration \@pdfpageduration}%
9802 \fi
9803 \fi
9804 }%
9805 \def\hyper@pagehidden{%
9806 \ifHy@useHidKey
9807 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
9808 \fi
9809 }%
9810 \g@addto@macro\Hy@EveryPageBoxHook{%
9811 \hyper@pagetransition
9812 \hyper@pageduration
9813 \hyper@pagehidden
9814 }%
9815 \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

```

9816 \ifx\@pdfproducer\relax
9817 \def\@pdfproducer{VTeX}%
9818 \ifnum\Hy@VTeXversion>\z@
9819 \count@\VTeXversion
9820 \divide\count@ 100 %
9821 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
9822 \multiply\count@ -100 %
9823 \advance\count@\VTeXversion
9824 \edef\@pdfproducer{%
9825 \@pdfproducer
9826 .\ifnum\count@<10 0\fi\the\count@
9827 \ifx\VTeXOS\@undefined\else
9828 \ifnum\VTeXOS>0 %
9829 \ifnum\VTeXOS<6 %
9830 \space(%
9831 \ifcase\VTeXOS
9832 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
9833 \fi
9834 )%
9835 \fi
9836 \fi
9837 \fi
9838 ,\space
9839 \ifnum\OpMode=\@one PDF\else PS\fi
9840 \space backend%
9841 \ifx\gexmode\@undefined\else
9842 \ifnum\gexmode>\z@\space with GeX\fi
9843 \fi
9844 }%
9845 \fi
9846 \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).

```

9847 \def\PDF@SetupDoc{%
9848 \ifx\@pdfpagescrop\@empty
9849 \else

```

```

9850 \special{!pdfinfo b=<\@pdfpagescrop>}%
9851 \fi
9852 \ifx\@pdfstartpage\@empty
9853 \else
9854 \ifx\@pdfstartview\@empty
9855 \else
9856 \special{!onopen Page\@pdfstartpage}%
9857 \fi
9858 \fi
9859 \special{!pdfinfo p=</\@pdfpagemode>}%
9860 \ifx\@baseurl\@empty
9861 \else
9862 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
9863 \fi
9864 \special{!pdfinfo v=<<<%
9865 \ifHy@toolbar\else /HideToolbar true\fi
9866 \ifHy@menubar\else /HideMenubar true\fi
9867 \ifHy>windowui\else /HideWindowUI true\fi
9868 \ifHy@fitwindow /FitWindow true\fi
9869 \ifHy@centerwindow /CenterWindow true\fi
9870 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9871 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9872 \Hy@UseNameKey{Direction}\@pdfdirection
9873 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9874 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9875 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9876 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9877 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9878 \Hy@UseNameKey{Duplex}\@pdfduplex
9879 \ifx\@pdfpicktraybypdfsize\@empty
9880 \else
9881 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9882 \fi
9883 \ifx\@pdfprintpagerange\@empty
9884 \else
9885 /PrintPageRange[\@pdfprintpagerange]%
9886 \fi
9887 \ifx\@pdfnumcopies\@empty
9888 \else
9889 /NumCopies \@pdfnumcopies
9890 \fi
9891 >>>}%
9892 \ifx\@pdfpagelayout\@empty
9893 \else
9894 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
9895 \fi
9896 }%
9897 \HyInfo@AddonUnsupportedtrue
9898 \def\PDF@FinishDoc{%
9899 \Hy@UseMaketitleInfos
9900 \HyInfo@TrappedUnsupported
9901 \special{!pdfinfo a=<\@pdfauthor>}%
9902 \special{!pdfinfo t=<\@pdftitle>}%
9903 \special{!pdfinfo s=<\@pdfsubject>}%
9904 \special{!pdfinfo c=<\@pdfcreator>}%
9905 \ifx\@pdfproducer\relax
9906 \else

```

```

9907 \special{!pdfinfo r=<\@pdfproducer>}%
9908 \fi
9909 \special{!pdfinfo k=<\@pdfkeywords>}%
9910 \Hy@DisableOption{pdfauthor}%
9911 \Hy@DisableOption{pdftitle}%
9912 \Hy@DisableOption{pdfsubject}%
9913 \Hy@DisableOption{pdfcreator}%
9914 \Hy@DisableOption{pdfcreationdate}%
9915 \Hy@DisableOption{pdfmoddate}%
9916 \Hy@DisableOption{pdfproducer}%
9917 \Hy@DisableOption{pdfkeywords}%
9918 \Hy@DisableOption{pdftrapped}%
9919 \Hy@DisableOption{pdfinfo}%
9920 }
9921 </vtex>

```

## 46.7 Fix for Adobe bug number 466320

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

```

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

```

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

```

9922 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
9923 <package>\providecommand*{\Hy@DistillerDestFix}{%
9924 <*pdfmark | dviwindo>
9925 \def\Hy@DistillerDestFix{%
9926 \begingroup
9927 \let\x\literalps@out

```

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

```

9928 \ifnum \@ifundefined{OpMode}{0}{%
9929 \ifundefined{gexmode}{0}{%
9930 \ifnum\gexmode>0 \OpMode\else 0\fi
9931 }>1 %
9932 \def\x##1{%
9933 \immediate\special{!##1}%
9934 }%
9935 \fi
9936 \x{%
9937 /product where{%
9938 pop %
9939 product(Distiller)search{%
9940 pop pop pop %
9941 version(.)search{%
9942 exch pop exch pop%
9943 (3011)eq{%
9944 gsave %
9945 newpath 0 0 moveto closepath clip%
9946 /Courier findfont 10 scalefont setfont %
9947 72 72 moveto(.).show %
9948 grestore%

```

```

9949         }if%
9950         }{pop}ifelse%
9951     }{pop}ifelse%
9952     }if%
9953     }%
9954 \endgroup
9955 }
9956 </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

```

```

9957 <*pdfmark>
9958 \Hy@breaklinks@unsupported
9959 \def\hyper@anchor#1{%
9960   \Hy@SaveLastskip
9961   \Hy@VerboseAnchor{#1}%
9962   \begingroup
9963     \pdfmark[\anchor@spot]{%
9964       pdfmark=/DEST,%
9965       linktype=anchor,%
9966       View=/\@pdfview \@pdfviewparams,%
9967       DestAnchor={#1}%
9968     }%
9969   \endgroup
9970   \Hy@RestoreLastskip
9971 }
9972 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
9973 \def\hyper@anchorstart#1{%
9974   \Hy@SaveLastskip
9975   \Hy@VerboseAnchor{#1}%
9976   \literalps@out{H.S}%
9977   \Hy@AllowHyphens
9978   \xdef\hyper@currentanchor{#1}%
9979   \Hy@activeanchortrue
9980 }
9981 \def\hyper@anchorend{%
9982   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
9983   \pdfmark{%
9984     pdfmark=/DEST,%
9985     linktype=anchor,%
9986     View=/\@pdfview \@pdfviewparams,%
9987     DestAnchor=\hyper@currentanchor,%
9988   }%
9989   \Hy@activeanchorfalse

```

```

9990 \Hy@RestoreLastskip
9991 }
9992 \def\hyper@linkstart#1#2{%
9993 \Hy@VerboseLinkStart{#1}{#2}%
9994 \ifHy@breaklinks
9995 \else
9996 \leavevmode\hbox\bgroup
9997 \fi
9998 \expandafter\Hy@colorlink\csname @#1color\endcsname
9999 \literalps@out{H.S}%
10000 \Hy@AllowHyphens
10001 \xdef\hyper@currentanchor{#2}%
10002 \gdef\hyper@currentlinktype{#1}%
10003 }
10004 \def\hyper@linkend{%
10005 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10006 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10007 \let\Hy@tempcolor\relax
10008 }{%
10009 \edef\Hy@tempcolor{%
10010 \csname @\hyper@currentlinktype bordercolor\endcsname
10011 }%
10012 }%
10013 \pdfmark{%
10014 pdfmark=/ANN,%
10015 linktype=link,%
10016 Subtype=/Link,%
10017 PDFAFlags=4,%
10018 Dest=\hyper@currentanchor,%
10019 AcroHighlight=\@pdfhighlight,%
10020 Border=\@pdfborder,%
10021 BorderStyle=\@pdfborderstyle,%
10022 Color=\Hy@tempcolor,%
10023 Raw=H.B%
10024 }%
10025 \Hy@endcolorlink
10026 \ifHy@breaklinks
10027 \else
10028 \egroup
10029 \fi
10030 }

```

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.

```

10031 \begingroup
10032 \catcode'P=12 %
10033 \catcode'T=12 %
10034 \lowercase{\endgroup
10035 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10036 }
10037 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10038 \def\hyper@pagetransition{%
10039 \ifx\@pdfpagetransition\relax
10040 \else

```

```

10041 \ifx\@pdfpagetransition\@empty
10042 % 1. Does an old entry have to be deleted?
10043 % 2. If 1=yes, how to delete?
10044 \else
10045 \pdfmark{%
10046 pdfmark=/PUT,%
10047 Raw={%
10048 \string{ThisPage\string}%
10049 <</Trans << /S /\@pdfpagetransition\space >> >>%
10050 }%
10051 }%
10052 \fi
10053 \fi
10054 }

```

\hyper@pageduration

```

10055 \def\hyper@pageduration{%
10056 \ifx\@pdfpageduration\relax
10057 \else
10058 \ifx\@pdfpageduration\@empty
10059 % 1. Does an old entry have to be deleted?
10060 % 2. If 1=yes, how to delete?
10061 \else
10062 \pdfmark{%
10063 pdfmark=/PUT,%
10064 Raw={%
10065 \string{ThisPage\string}%
10066 <</Dur \@pdfpageduration>>%
10067 }%
10068 }%
10069 \fi
10070 \fi
10071 }

```

\hyper@pagehidden

```

10072 \def\hyper@pagehidden{%
10073 \ifHy@useHidKey
10074 \pdfmark{%
10075 pdfmark=/PUT,%
10076 Raw={%
10077 \string{ThisPage\string}%
10078 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10079 }%
10080 }%
10081 \fi
10082 }

10083 \g@addto@macro\Hy@EveryPageBoxHook{%
10084 \hyper@pagetransition
10085 \hyper@pageduration
10086 \hyper@pagehidden
10087 }

10088 \def\hyper@image#1#2{%
10089 \hyper@linkurl{#2}{#1}%
10090 }
10091 \def\Hy@undefinedname{UNDEFINED}
10092 \def\hyper@link#1#2#3{%

```

```

10093 \Hy@VerboseLinkStart{#1}{#2}%
10094 \ltx@ifundefined{@#1bordercolor}{%
10095   \let\Hy@tempcolor\relax
10096 }{%
10097   \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
10098 }%
10099 \begingroup
10100 \protected@edef\Hy@testname{#2}%
10101 \ifx\Hy@testname\@empty
10102   \Hy@Warning{%
10103     Empty destination name,\MessageBreak
10104     using '\Hy@undefinedname'%
10105   }%
10106   \let\Hy@testname\Hy@undefinedname
10107 \fi
10108 \pdfmark[{#3}]{%
10109   Color=\Hy@tempcolor,%
10110   linktype={#1},%
10111   AcroHighlight=\@pdfhighlight,%
10112   Border=\@pdfborder,%
10113   BorderStyle=\@pdfborderstyle,%
10114   pdfmark=/ANN,%
10115   Subtype=/Link,%
10116   PDFAFlags=4,%
10117   Dest=\Hy@testname
10118 }%
10119 \endgroup
10120 }
10121 \newtoks\pdf@docset
10122 \def\PDF@FinishDoc{%
10123   \Hy@UseMaketitleInfos
10124   \Hy@Info@GenerateAddons
10125   \let\Hy@temp\@empty
10126   \ifx\@pdfcreationdate\@empty
10127   \else
10128     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
10129   \fi
10130   \ifx\@pdfmoddate\@empty
10131   \else
10132     \expandafter\def\expandafter\Hy@temp\expandafter{%
10133       \Hy@temp
10134       ModDate=\@pdfmoddate,%
10135     }%
10136   \fi
10137   \ifx\@pdfproducer\relax
10138   \else
10139     \expandafter\def\expandafter\Hy@temp\expandafter{%
10140       \Hy@temp
10141       Producer=\@pdfproducer,%
10142     }%
10143   \fi
10144   \expandafter
10145   \pdfmark\expandafter{%
10146     \Hy@temp
10147     pdfmark=/DOCINFO,%
10148     Title=\@pdftitle,%
10149     Subject=\@pdfsubject,%

```



```

10150   Creator=\@pdfcreator,%
10151   Author=\@pdfauthor,%
10152   Keywords=\@pdfkeywords,%
10153   Trapped=\@pdftrapped
10154 }%
10155 \ifx\HyInfo@Addons\@empty
10156 \else
10157   \pdfmark{%
10158     pdfmark=/DOCINFO,%
10159     Raw={\HyInfo@Addons}%
10160   }%
10161 \fi
10162 \Hy@DisableOption{pdfauthor}%
10163 \Hy@DisableOption{pdftitle}%
10164 \Hy@DisableOption{pdfsubject}%
10165 \Hy@DisableOption{pdfcreator}%
10166 \Hy@DisableOption{pdfcreationdate}%
10167 \Hy@DisableOption{pdfmoddate}%
10168 \Hy@DisableOption{pdfproducer}%
10169 \Hy@DisableOption{pdfkeywords}%
10170 \Hy@DisableOption{pdftrapped}%
10171 \Hy@DisableOption{pdfinfo}%
10172 }
10173 \def\PDF@SetupDoc{%
10174   \def\Hy@temp{%
10175     \ifx\@pdfstartpage\@empty
10176     \else
10177       \ifx\@pdfstartview\@empty
10178       \else
10179         \edef\Hy@temp{%
10180           ,Page=\@pdfstartpage
10181           ,View=\@pdfstartview
10182         }%
10183       \fi
10184     \fi
10185     \edef\Hy@temp{%
10186       \noexpand\pdfmark{%
10187         pdfmark=/DOCVIEW,%
10188         PageMode=/\@pdfpagemode
10189       }\Hy@temp
10190     }%
10191   }%
10192   \Hy@temp
10193   \ifx\@pdfpagescrop\@empty
10194   \else
10195     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10196   \fi
10197   \edef\Hy@temp{%
10198     \ifHy@toolbar\else /HideToolbar true\fi
10199     \ifHy@menubar\else /HideMenubar true\fi
10200     \ifHy>windowui\else /HideWindowUI true\fi
10201     \ifHy@fitwindow /FitWindow true\fi
10202     \ifHy@centerwindow /CenterWindow true\fi
10203     \ifHy@displaydoctitle /DisplayDocTitle true\fi
10204     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10205     \Hy@UseNameKey{Direction}\@pdfdirection
10206     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10207 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10208 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10209 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10210 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10211 \Hy@UseNameKey{Duplex}\@pdfduplex
10212 \ifx\@pdfpicktraybypdfsize\@empty
10213 \else
10214 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10215 \fi
10216 \ifx\@pdfprintpagerange\@empty
10217 \else
10218 /PrintPageRange\@pdfprintpagerange]%
10219 \fi
10220 \ifx\@pdfnumcopies\@empty
10221 \else
10222 /NumCopies \@pdfnumcopies
10223 \fi
10224 }%
10225 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10226 \pdfmark{%
10227 pdfmark=/PUT,%
10228 Raw={%
10229 \string{Catalog\string}<<%
10230 \ifx\Hy@temp\@empty
10231 \else
10232 /ViewerPreferences<<\Hy@temp>>%
10233 \fi
10234 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10235 \ifx\@pdflang\@empty
10236 \else
10237 /Lang(\@pdflang)%
10238 \fi
10239 \ifx\@baseurl\@empty
10240 \else
10241 /URI<</Base(\Hy@pstringB)>>%
10242 \fi
10243 >>%
10244 }%
10245 }%
10246 }
10247 </pdfmark>
10248 <*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.

```

10249 \newif\ifHy@pdfmarkerror
10250 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
10251 \def\pdfmark@[#1]#2{%
10252 \Hy@pdfmarkerrorfalse
10253 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
10254 \@processme
10255 \let\pdf@type\relax
10256 \kvsetkeys{PDF}{#2}%
10257 \ifHy@pdfmarkerror

```

```

10258 \else
10259 \ifx\pdf@type\relax
10260 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
10261 \ifx\#1\%
10262 \else
10263 \pdf@rect{#1}%
10264 \fi
10265 \else
10266 \ifx\#1\%
10267 \literalps@out{%
10268 [\the\pdf@toks\space\pdf@type\space pdfmark%
10269 ]%
10270 \else
10271 \ltx@ifundefined{@\pdf@linktype color}{%
10272 \Hy@colorlink\@linkcolor
10273 }{%
10274 \expandafter\Hy@colorlink
10275 \csname @\pdf@linktype color\endcsname
10276 }%
10277 \pdf@rect{#1}%
10278 \literalps@out{%
10279 [\the\pdf@toks\space\pdf@type\space pdfmark%
10280 ]%
10281 \Hy@endcolorlink
10282 \fi
10283 \fi
10284 \fi
10285 }

```

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 (toby@netspace.net.au).

For the case `breaklinks` is enabled, I have added two hooks, the first one for package `setouterhbox`, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

10286 \newsavebox{\pdf@box}
10287 \providecommand*{\Hy@setouterhbox}{\sbox}
10288 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
10289 \def\Hy@DEST{/DEST}
10290 \def\pdf@rect#1{%
10291 \begingroup
10292 \chardef\x=1 %
10293 \def\Hy@temp{#1}%
10294 \ifx\Hy@temp\ltx@empty
10295 \chardef\x=0 %
10296 \else
10297 \def\y{\anchor@spot}%
10298 \ifx\Hy@temp\y
10299 \def\y{\relax}%
10300 \ifx\anchor@spot\y
10301 \chardef\x=0 %
10302 \fi
10303 \fi

```

```

10304 \fi
10305 \expandafter\endgroup
10306 \ifcase\x
10307 \literalps@out{H.S}%
10308 \literalps@out{H.R}%
10309 \else
10310 \leavevmode
10311 \ifHy@breaklinks
10312 \Hy@setouterhbox\pdf@box{\Hy@AllowHyphens#1}%
10313 \else
10314 \sbox\pdf@box{#1}%
10315 \fi
10316 \dimen@ \ht\pdf@box
10317 \ifdim\dp\pdf@box=>z@
10318 \literalps@out{H.S}%
10319 \else
10320 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
10321 \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...).

```

10322 \ifHy@breaklinks
10323 \expandafter\Hy@breaklinksunhbox
10324 \else
10325 \expandafter\box
10326 \fi
10327 \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

10328 \ifdim\dimen@=>z@
10329 \literalps@out{H.R}%
10330 \else
10331 \raise\dimen@\hbox{\literalps@out{H.R}}%
10332 \fi
10333 \fi
10334 \ifx\pdf@type\Hy@DEST
10335 \else
10336 \pdf@addtoksx{H.B}%
10337 \fi
10338 }

```

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.

```

10339 \newtoks\pdf@toks
10340 \newtoks\pdf@defaulttoks
10341 \pdf@defaulttoks={}
10342 \def\pdf@addtoks#1#2{%
10343 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
10344 \@processme
10345 }
10346 \def\pdf@addtoksx#1{%
10347 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
10348 \@processme
10349 }

```

```

10350 \def\PDFdefaults#1{%
10351   \pdf@defaulttoks={#1}%
10352 }

```

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

```

10353 % what is the type of pdfmark?
10354 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
10355 % what is the link type?
10356 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
10357 \def\pdf@linktype{link}
10358 % parameter is a stream of PDF
10359 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
10360 % parameter is a name
10361 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
10362 % parameter is a array
10363 \define@key{PDF}{Border}{%
10364   \edef\Hy@temp{#1}%
10365   \ifx\Hy@temp\@empty
10366     \else
10367       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
10368     \fi
10369 }
10370 \let\Hy@BorderArrayPatch\@empty
10371 % parameter is a dictionary
10372 \define@key{PDF}{BorderStyle}{%
10373   \edef\Hy@temp{#1}%
10374   \ifx\Hy@temp\@empty
10375     \else
10376       \pdf@addtoks{<<#1>>}{BS}%
10377     \fi
10378 }
10379 % parameter is a array
10380 \define@key{PDF}{Color}{%
10381   \ifx\relax#1\relax
10382     \else
10383       \pdf@addtoks{[#1]}{Color}% hash-ok
10384     \fi
10385 }
10386 % parameter is a string
10387 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
10388 % parameter is a integer
10389 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
10390 % parameter is a array
10391 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
10392 % parameter is a string
10393 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
10394 % parameter is a string or file
10395 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
10396 % parameter is a destination
10397 \define@key{PDF}{Dest}{%
10398   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10399   \ifx\Hy@pstringDest\@empty
10400     \Hy@pdfmarkerrortrue
10401     \Hy@Warning{Destination with empty name ignored}%
10402   \else
10403     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10404   \fi
10405 }

```

```

10406 \define@key{PDF}{DestAnchor}{%
10407   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10408   \ifx\Hy@pstringDest\@empty
10409     \Hy@pdfmarkerrortrue
10410     \Hy@Warning{Destination with empty name ignored}%
10411   \else
10412     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
10413   \fi
10414 }
10415 % parameter is a string
10416 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
10417 % parameter is a string
10418 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
10419 % parameter is a int
10420 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
10421 \define@key{PDF}{PDFAFlags}{%
10422   \ifHy@pdfa
10423     \pdf@addtoks{#1}{F}%
10424   \fi
10425 }
10426 % parameter is a name
10427 \define@key{PDF}{AcroHighlight}{%
10428   \begingroup
10429     \edef\x{#1}%
10430     \expandafter\endgroup\ifx\x\@empty
10431       \else
10432         \pdf@addtoks{#1}{H}%
10433       \fi
10434 }
10435 % parameter is a string
10436 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
10437 % parameter is a string
10438 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
10439 % parameter is a string
10440 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10441 % parameter is a string
10442 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
10443 % parameter is a Boolean
10444 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
10445 % parameter is a integer or name
10446 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
10447 % parameter is a name
10448 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
10449 % parameter is a string
10450 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
10451 % parameter is a array
10452 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
10453 % parameter is a integer
10454 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
10455 % parameter is a name
10456 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
10457 % parameter is a string
10458 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
10459 % parameter is a string
10460 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
10461 % parameter is a string
10462 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}

```

```

10463 % parameter is an array
10464 \define@key{PDF}{View}{\pdf@addtoks{(#1)}{View}}% hash-ok
10465 % parameter is a string
10466 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

10467 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
10468 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
10469 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
10470 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10471 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
10472 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
10473 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
10474 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
10475 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
10476 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
10477 \define@key{PDF}{Trapped}{%
10478   \edef\Hy@temp{#1}%
10479   \ifx\Hy@temp\@empty
10480     \else
10481       \pdf@addtoks{/#1}{Trapped}%
10482     \fi
10483 }
10484
10485 </pdfmarkbase>
10486 <*pdfmark>
10487 \def\Acrobatmenu#1#2{%
10488   \Hy@Acrobatmenu{#1}{#2}{%
10489     \pdfmark[{#2}]{%
10490       linktype=menu,%
10491       pdfmark=/ANN,%
10492       AcroHighlight=\@pdfhighlight,%
10493       Border=\@pdfborder,%
10494       BorderStyle=\@pdfborderstyle,%
10495       Action={<< /Subtype /Named /N /#1 >>},%
10496       Subtype=/Link,%
10497       PDFAFlags=4%
10498     }%
10499   }%
10500 }

```

And now for some useful examples:

```

10501 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
10502 \def\PDFNextPage@[#1]#2{%
10503   \pdfmark[{#2}]{%
10504     #1,%
10505     Border=\@pdfborder,%
10506     BorderStyle=\@pdfborderstyle,%
10507     Color=.2 .1 .5,%
10508     pdfmark=/ANN,%
10509     Subtype=/Link,%
10510     PDFAFlags=4,%
10511     Page=/Next%
10512   }%
10513 }
10514 \def\PDFPreviousPage{%
10515   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
10516 }

```

```

10517 \def\PDFPreviousPage@{#1}#2{%
10518   \pdfmark[{#2}]{%
10519     #1,%
10520     Border=\@pdfborder,%
10521     BorderStyle=\@pdfborderstyle,%
10522     Color=.4 .4 .1,%
10523     pdfmark=/ANN,%
10524     Subtype=/Link,%
10525     PDFAFlags=4,%
10526     Page=/Prev%
10527   }%
10528 }
10529 \def\PDFOpen#1{%
10530   \pdfmark{#1,pdfmark=/DOCVIEW}%
10531 }

```

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

```

10532 \def\hyper@linkurl#1#2{%
10533   \begingroup
10534     \Hy@pstringdef\Hy@pstringURI{#2}%
10535     \hyper@chars
10536     \leavevmode
10537     \pdfmark[{#1}]{%
10538       pdfmark=/ANN,%
10539       linktype=url,%
10540       AcroHighlight=\@pdfhighlight,%
10541       Border=\@pdfborder,%
10542       BorderStyle=\@pdfborderstyle,%
10543       Color=\@urlbordercolor,%
10544       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
10545       Subtype=/Link,%
10546       PDFAFlags=4%
10547     }%
10548   \endgroup
10549 }
10550 \def\hyper@linkfile#1#2#3{%
10551   \begingroup
10552     \Hy@pstringdef\Hy@pstringF{#2}%
10553     \Hy@pstringdef\Hy@pstringD{#3}%
10554     \leavevmode
10555     \pdfmark[{#1}]{%
10556       pdfmark=/ANN,%
10557       Subtype=/Link,%
10558       PDFAFlags=4,%
10559       AcroHighlight=\@pdfhighlight,%
10560       Border=\@pdfborder,%
10561       BorderStyle=\@pdfborderstyle,%
10562       linktype=file,%
10563       Color=\@filebordercolor,%
10564       Action={%
10565         <<%
10566           /S/GoToR%
10567           \Hy@SetNewWindow
10568           /F(\Hy@pstringF)%
10569           /D\ifx\#3\@0 \@pdfstartview\else(\Hy@pstringD)cvn\fi
10570         >>%
10571       }%
10572     }%

```



```

10573 \endgroup
10574 }
10575 \def\@hyper@launch run:#1\|#2#3{%
10576 \begingroup
10577 \Hy@pstringdef\Hy@pstringF{#1}%
10578 \Hy@pstringdef\Hy@pstringP{#3}%
10579 \leavevmode
10580 \pdfmark[{#2}]{%
10581 pdfmark=/ANN,%
10582 Subtype=/Link,%
10583 PDFAFlags=4,%
10584 AcroHighlight=\@pdfhighlight,%
10585 Border=\@pdfborder,%
10586 BorderStyle=\@pdfborderstyle,%
10587 linktype=run,%
10588 Color=\@runbordercolor,%
10589 Action={%
10590 <<%
10591 /S/Launch%
10592 \Hy@SetNewWindow
10593 /F(\Hy@pstringF)%
10594 \ifx\|#3\| %
10595 \else
10596 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10597 \fi
10598 >>%
10599 }%
10600 }%
10601 \endgroup
10602 }
10603 \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.

```

10604 (*dvips)
10605 \providecommand*\XR@ext}{pdf}
10606 \def\Hy@raisedlink{}
10607 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
10608 \def\headerps@out#1{\special{! #1}}%
10609 \input{pdfmark.def}%
10610 \ifx\@pdfproducer\relax
10611 \def\@pdfproducer{dvips + Distiller}%
10612 \fi
10613 \providecommand*\@pdfborder{0 0 1}
10614 \providecommand*\@pdfborderstyle{}
10615 \providecommand*\@pdfview{XYZ}
10616 \providecommand*\@pdfviewparams{ H.V}
10617 \def\Hy@BorderArrayPatch{BorderArrayPatch}
10618 \g@addto@macro\Hy@FirstPageHook{%
10619 \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.

```
10620 /DvipsToPDF{72.27 mul Resolution div} def%
10621 /PDFToDvips{72.27 div Resolution mul} def%
10622 /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.

```
10623 /BorderArrayPatch{%
10624   [exch{%
10625     dup dup type/integertype eq exch type/realtype eq or%
10626     {BPToDvips}if%
10627   }forall]%
10628 }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.

```
10629 /HyperBorder {1 PDFToDvips} def%
10630 /H.V {pdf@hoff pdf@voff null} def%
10631 /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

```
10632 /H.S {%
10633   currentpoint %
10634   HyperBorder add /pdf@lly exch def %
10635   dup DvipsToPDF 72 add /pdf@hoff exch def %
10636   HyperBorder sub /pdf@llx exch def%
10637 } def%
```

The calculation of upper left *y* is done without raising the point in T<sub>E</sub>X, by simply adding on the current \baselineskip to the current *y*. This is usually too much, so we remove a notional 2 points.

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

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

```
10638 /H.L {%
10639   2 sub dup%
10640   /HyperBasePt exch def %
10641   PDFToDvips /HyperBaseDvips exch def %
10642   currentpoint %
10643   HyperBaseDvips sub /pdf@ury exch def%
10644   /pdf@urx exch def%
10645 } def%
10646 /H.A {%
```

```

10647      H.L %
10648 % | /pdf@voff| = the distance from the top of the page to a point
10649 % | \baselineskip| above the current point in PDF coordinates
10650      currentpoint exch pop %
10651      vsize 72 sub exch DvipsToPDF %
10652      HyperBasePt sub % baseline skip
10653      sub /pdf@voff exch def%
10654    } def%
10655  /H.R {%
10656      currentpoint %
10657      HyperBorder sub /pdf@ury exch def %
10658      HyperBorder add /pdf@urx exch def %
10659 % | /pdf@voff| = the distance from the top of the page to the current point, in
10660 % PDF coordinates
10661      currentpoint exch pop vsize 72 sub %
10662      exch DvipsToPDF sub /pdf@voff exch def%
10663    } def%
10664  }%
10665 }
10666 \AtBeginShipoutFirst{%
10667   \ifHy@setpagesize
10668     \begingroup
10669     \@ifundefined{stockwidth}{%
10670       \ifdim\paperwidth>\z@
10671         \ifdim\paperheight>\z@
10672           \special{papersize=\the\paperwidth,\the\paperheight}%
10673         \fi
10674       \fi
10675     }{%
10676       \ifdim\stockwidth>\z@
10677         \ifdim\stockheight>\z@
10678           \special{papersize=\the\stockwidth,\the\stockheight}%
10679         \fi
10680       \fi
10681     }%
10682   \endgroup
10683 \fi
10684 \Hy@DisableOption{setpagesize}%
10685 }
10686 </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.

```

10687 < *vtexpdfmark>
10688 \providecommand*{\XR@ext}{pdf}
10689 \def\Hy@raisedlink{}
10690 \def\literalps@out#1{\special{pS:#1}}%
10691 \def\headerps@out#1{\immediate\special{pS:#1}}%
10692 \input{pdfmark.def}%
10693 \ifx\@pdfproducer\relax
10694   \ifnum\OpMode=\@ne
10695     \def\@pdfproducer{VTeX}%

```

```

10696 \else
10697 \def\@pdfproducer{VTeX + Distiller}%
10698 \fi
10699 \fi
10700 \providecommand*\@pdfborder{0 0 1}
10701 \providecommand*\@pdfborderstyle{}
10702 \providecommand*\@pdfview{XYZ}
10703 \providecommand*\@pdfviewparams{ H.V}

10704 \g@addto@macro\Hy@FirstPageHook{%
10705 \headerps@out{%
10706 /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.

```

10707 /HyperBorder {1} def%
10708 /H.V {pdf@hoff pdf@voff null} def%
10709 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

10710 /H.S {%
10711 currentpoint %
10712 HyperBorder sub%
10713 /pdf@lly exch def %
10714 dup 72 add /pdf@hoff exch def %
10715 HyperBorder sub%
10716 /pdf@llx exch def%
10717 } def%

```

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

```

10718 /H.L {%
10719 2 sub%
10720 /HyperBasePt exch def %
10721 currentpoint %
10722 HyperBasePt add HyperBorder add%
10723 /pdf@ury exch def %
10724 HyperBorder add%
10725 /pdf@urx exch def%
10726 } def%
10727 /H.A {%
10728 H.L %
10729 currentpoint exch pop %
10730 vsize 72 sub exch %
10731 HyperBasePt add add%
10732 /pdf@voff exch def%
10733 } def%

```

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

```

10734 /H.R {%
10735 currentpoint %
10736 HyperBorder add%
10737 /pdf@ury exch def %
10738 HyperBorder add%
10739 /pdf@urx exch def %
10740 currentpoint exch pop vsize 72 sub add%
10741 /pdf@voff exch def%

```

```

10742   } def%
10743   }%
10744 }
10745 </vtxpdfmark>

```

## 46.11 Textures

```

10746 <*textures>
10747 \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.

```

10748 \begingroup
10749   \obeylines %
10750   \gdef\Hy@ps@CR{\noexpand
10751     }%
10752 \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`.

```

10753 \def\literalps@out#1{%
10754   \special{postscript 0 0 transform}%
10755   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
10756 }%
10757 %

```

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.

```

10758 \def\headerps@out#1{%
10759   \special{%
10760     prepostscript TeXdict begin\Hy@ps@CR
10761       #1\Hy@ps@CR
10762     end%
10763   }%
10764 }%
10765 %

```

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.

```

10766 \g@addto@macro\Hy@FirstPageHook{%
10767   \headerps@out{%
10768     /betterpdfmark {%

```

```

10769    systemdict begin %
10770      dup /BP eq%
10771      {cleartomark gsave nulldevice []}%
10772      {dup /EP eq%
10773        {cleartomark cleartomark grestore}%
10774        {cleartomark}%
10775        ifelse%
10776      }ifelse %
10777    end%
10778  }def\Hy@ps@CR
10779  ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
10780  }% end of \headerps@out
10781  }% end of \AtBeginShipoutFirst
10782  %
10783  \input{pdfmark.def}%
10784  %
10785  \ifx\@pdfproducer\relax
10786    \def\@pdfproducer{Textures + Distiller}%
10787  \fi
10788  \providecommand*\@pdfborder{0 0 1}
10789  \providecommand*\@pdfborderstyle{}
10790  \providecommand*\@pdfview{XYZ}
10791  \providecommand*\@pdfviewparams{ H.V}
10792  %

```

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  $\TeX$ .

```

10793 \Hy@AtBeginDocument{%
10794   \headerps@out{%

```

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

```

10795   /vsize {\Hy@pageheight} def%
10796   /DvipsToPDF {} def%
10797   /PDFToDvips {} def%
10798   /BPTToDvips {} def%
10799   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
10800   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
10801   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
10802   /H.S {%
10803     currentpoint %
10804     HyperBorder add /pdf@lly exch def %
10805     dup DvipsToPDF 72 add /pdf@hoff exch def %
10806     HyperBorder sub /pdf@llx exch def%
10807   } def\Hy@ps@CR
10808   /H.L {%
10809     2 sub %
10810     PDFToDvips /HyperBase exch def %
10811     currentpoint %
10812     HyperBase sub /pdf@ury exch def%
10813     /pdf@urx exch def%
10814   } def\Hy@ps@CR
10815   /H.A {%
10816     H.L %
10817     currentpoint exch pop %
10818     vsize 72 sub exch DvipsToPDF %

```

```

10819   HyperBase sub % baseline skip
10820   sub /pdf@voff exch def%
10821 } def\Hy@ps@CR
10822 /H.R {%
10823   currentpoint %
10824   HyperBorder sub /pdf@ury exch def %
10825   HyperBorder add /pdf@urx exch def %
10826   currentpoint exch pop vsize 72 sub %
10827   exch DvipsToPDF sub /pdf@voff exch def%
10828 } def\Hy@ps@CR
10829 }%
10830 }

10831 \Hy@AtBeginDocument{%
10832   \ifHy@colorlinks
10833     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
10834   \fi
10835 }

```

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.

```

10836 \expandafter\let\expandafter\keepPDF@SetupDoc
10837   \csname PDF@SetupDoc\endcsname
10838 \def\PDF@SetupDoc{%
10839   \ifx\@baseurl\@empty
10840     \else
10841       \special{html:<base href="\@baseurl">}%
10842     \fi
10843   \keepPDF@SetupDoc
10844 }

10845 \def\hyper@anchor#1{%
10846   \Hy@SaveLastskip
10847   \Hy@VerboseAnchor{#1}%
10848   \begingroup
10849     \let\protect=\string
10850     \special{html:<a name=%
10851       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10852   \endgroup
10853   \Hy@activeanchortrue
10854   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10855   \special{html:</a>}%
10856   \Hy@activeanchorfalse
10857   \Hy@RestoreLastskip
10858 }

10859 \def\hyper@anchorstart#1{%
10860   \Hy@SaveLastskip
10861   \Hy@VerboseAnchor{#1}%
10862   \begingroup
10863     \hyper@chars
10864     \special{html:<a name=%
10865       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10866   \endgroup
10867   \Hy@activeanchortrue
10868 }

10869 \def\hyper@anchorend{%
10870   \special{html:</a>}%
10871   \Hy@activeanchorfalse
10872   \Hy@RestoreLastskip

```

```

10873 }
10874 \def\@urltype{url}
10875 \def\hyper@linkstart#1#2{%
10876   \Hy@VerboseLinkStart{#1}{#2}%
10877   \expandafter\Hy@colorlink\csname @#1color\endcsname
10878   \def\Hy@tempa{#1}%
10879   \ifx\Hy@tempa\@urltype
10880     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10881   \else
10882     \begingroup
10883       \hyper@chars
10884       \special{%
10885         html:<a href=
10886           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
10887       }%
10888     \endgroup
10889   \fi
10890 }
10891 \def\hyper@linkend{%
10892   \special{html:</a>}%
10893   \Hy@endcolorlink
10894 }
10895 \def\hyper@linkfile#1#2#3{%
10896   \hyper@linkurl{#1}{%
10897     \Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi
10898   }%
10899 }
10900 \def\hyper@linkurl#1#2{%
10901   \leavevmode
10902   \ifHy@raiselinks
10903     \setbox\@tempboxa=\color@hbox #1\color@endbox
10904     \@linkdim\dp\@tempboxa
10905     \lower\@linkdim\hbox{%
10906       \hyper@chars
10907       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10908     }%
10909     \Hy@colorlink\@urlcolor#1%
10910     \@linkdim\ht\@tempboxa
10911     \advance\@linkdim by -6.5\p@
10912     \raise\@linkdim\hbox{\special{html:</a>}}%
10913     \Hy@endcolorlink
10914   \else
10915     \begingroup
10916       \hyper@chars
10917       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10918       \Hy@colorlink\@urlcolor#1%
10919       \special{html:</a>}%
10920       \Hy@endcolorlink
10921     \endgroup
10922   \fi
10923 }

```

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

```

10924 \def\hyper@link#1#2#3{%
10925   \Hy@VerboseLinkStart{#1}{#2}%
10926   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
10927 }
10928 \def\hyper@image#1#2{%

```



```

10929 \begingroup
10930 \hyper@chars
10931 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10932 \endgroup
10933 }
10934 </textures>

```

## 46.12 dvipsone

```

10935 % \subsection{dvipsone driver}
10936 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
10937 % |\special| commands.
10938 <*dvipsone>
10939 \providecommand*{\XR@ext}{pdf}
10940 \def\Hy@raisedlink{}
10941 \providecommand*\@pdfborder{0 0 1}
10942 \providecommand*\@pdfborderstyle{}
10943 \def\literalps@out#1{\special{ps:#1}}%
10944 \def\headerps@out#1{\special{headertext=#1}}%
10945 \input{pdfmark.def}%
10946 \ifx\@pdfproducer\relax
10947 \def\@pdfproducer{dvipsone + Distiller}%
10948 \fi
10949 \HyInfo@AddonUnsupportedtrue
10950 \def\PDF@FinishDoc{%
10951 \Hy@UseMaketitleInfos
10952 \HyInfo@TrappedUnsupported
10953 \special{PDF: Keywords \@pdfkeywords}%
10954 \special{PDF: Title \@pdftitle}%
10955 \special{PDF: Creator \@pdfcreator}%
10956 \ifx\@pdfcreationdate\@empty
10957 \else
10958 \special{PDF: CreationDate \@pdfcreationdate}%
10959 \fi
10960 \ifx\@pdfmoddate\@empty
10961 \else
10962 \special{PDF: ModDate \@pdfmoddate}%
10963 \fi
10964 \special{PDF: Author \@pdfauthor}%
10965 \ifx\@pdfproducer\relax
10966 \else
10967 \special{PDF: Producer \@pdfproducer}%
10968 \fi
10969 \special{PDF: Subject \@pdfsubject}%
10970 \Hy@DisableOption{pdfauthor}%
10971 \Hy@DisableOption{pdftitle}%
10972 \Hy@DisableOption{pdfsubject}%
10973 \Hy@DisableOption{pdfcreator}%
10974 \Hy@DisableOption{pdfcreationdate}%
10975 \Hy@DisableOption{pdfmoddate}%
10976 \Hy@DisableOption{pdfproducer}%
10977 \Hy@DisableOption{pdfkeywords}%
10978 \Hy@DisableOption{pdftrapped}%
10979 \Hy@DisableOption{pdfinfo}%
10980 }
10981 \def\PDF@SetupDoc{%
10982 \def\Hy@temp{}%

```

```

10983 \ifx\@pdfstartpage\@empty
10984 \else
10985 \ifx\@pdfstartview\@empty
10986 \else
10987 \edef\Hy@temp{%
10988   ,Page=\@pdfstartpage
10989   ,View=\@pdfstartview
10990 }%
10991 \fi
10992 \fi
10993 \edef\Hy@temp{%
10994   \noexpand\pdfmark{%
10995     pdfmark=/DOCVIEW,%
10996     PageMode=/\@pdfpagemode
10997     \Hy@temp
10998   }%
10999 }%
11000 \Hy@temp
11001 \ifx\@pdfpagescrop\@empty
11002 \else
11003   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11004 \fi
11005 \edef\Hy@temp{%
11006   \ifHy@toolbar\else /HideToolbar true\fi
11007   \ifHy@menubar\else /HideMenubar true\fi
11008   \ifHy@windowui\else /HideWindowUI true\fi
11009   \ifHy@fitwindow /FitWindow true\fi
11010   \ifHy@centerwindow /CenterWindow true\fi
11011   \ifHy@displaydoctitle /DisplayDocTitle true\fi
11012   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11013   \Hy@UseNameKey{Direction}\@pdfdirection
11014   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11015   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11016   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11017   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11018   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11019   \Hy@UseNameKey{Duplex}\@pdfduplex
11020   \ifx\@pdfpicktraybypdfsize\@empty
11021   \else
11022     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11023   \fi
11024   \ifx\@pdfprintpagerange\@empty
11025   \else
11026     /PrintPageRange[\@pdfprintpagerange]%
11027   \fi
11028   \ifx\@pdfnumcopies\@empty
11029   \else
11030     /NumCopies \@pdfnumcopies
11031   \fi
11032 }%
11033 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11034 \pdfmark{%
11035   pdfmark=/PUT,%
11036   Raw={%
11037     \string{Catalog\string}<<%
11038     \ifx\Hy@temp\@empty
11039     \else

```

```

11040      /ViewerPreferences<<\Hy@temp>>%
11041      \fi
11042      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11043      \ifx\@pdflang\@empty
11044      \else
11045      /Lang(\@pdflang)%
11046      \fi
11047      \ifx\@baseurl\@empty
11048      \else
11049      /URI<</Base(\Hy@pstringB)>>%
11050      \fi
11051      >>%
11052    }%
11053  }%
11054 }
11055 \providecommand*\@pdfview{XYZ}
11056 \providecommand*\@pdfviewparams{ %
11057   gsave revscl currentpoint grestore %
11058   72 add exch pop null exch null%
11059 }
11060 \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 T<sub>E</sub>X.

```

11061 \g@addto@macro\Hy@FirstPageHook{%
11062   \headerps@out{%

```

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

```

11063   /DvipsToPDF { 65781 div } def%
11064   /PDFToDvips { 65781 mul } def%
11065   /BPToDvips{65781 mul}def%
11066   /HyperBorder { 1 PDFToDvips } def%
11067   /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.

```

11068   /BorderArrayPatch{%
11069     [exch{%
11070       dup dup type/integertype eq exch type/realtype eq or%
11071       {BPToDvips}if%
11072     }forall]%
11073   }def%
11074   /H.S {%
11075     currentpoint %
11076     HyperBorder add /pdf@lly exch def %
11077     dup DvipsToPDF 72 add /pdf@hoff exch def %
11078     HyperBorder sub /pdf@llx exch def%
11079   } def%
11080   /H.L {%
11081     2 sub %
11082     PDFToDvips /HyperBase exch def %
11083     currentpoint %
11084     HyperBase sub /pdf@ury exch def%
11085     /pdf@urx exch def%
11086   } def%

```

```

11087 /H.A {%
11088   H.L %
11089   currentpoint exch pop %
11090   HyperBase sub % baseline skip
11091   DvipsToPDF /pdf@voff exch def%
11092 } def%
11093 /H.R {%
11094   currentpoint %
11095   HyperBorder sub /pdf@ury exch def %
11096   HyperBorder add /pdf@urx exch def %
11097   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
11098 } def%
11099 }%
11100 }
11101 </dvipsone>

```

## 46.13 TeX4ht

```

11102 <*tex4ht>
11103 \providecommand*{\XR@ext}{html}
11104 \def\Hy@raisedlink{}
11105 \ifpackageloaded{tex4ht}{%
11106   \typeout{hyperref tex4ht: tex4ht already loaded}%
11107 }{%
11108   \RequirePackage[hx4ht]{tex4ht}%
11109 }
11110 \hyperlinkfileprefix{}
11111 \def\PDF@FinishDoc{}
11112 \def\PDF@SetupDoc{%
11113   \ifx\@baseurl\@empty
11114     \else
11115       \special{t4ht=<base href="\@baseurl">}%
11116     \fi
11117 }
11118 \def\hyper@anchor#1{%
11119   \Hy@SaveLastskip
11120   \Hy@VerboseAnchor{#1}%
11121   \begingroup
11122     \let\protect=\string
11123     \special{t4ht=<a name=%
11124       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11125   \endgroup
11126   \Hy@activeanchortrue
11127   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11128   \special{t4ht=</a>}%
11129   \Hy@activeanchorfalse
11130   \Hy@RestoreLastskip
11131 }
11132 \def\hyper@anchorstart#1{%
11133   \Hy@SaveLastskip
11134   \Hy@VerboseAnchor{#1}%
11135   \begingroup
11136     \hyper@chars\special{t4ht=<a name=%
11137       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11138   \endgroup
11139   \Hy@activeanchortrue
11140 }
11141 \def\hyper@anchorend{%

```

```

11142 \special{t4ht=</a>}%
11143 \Hy@activeanchorfalse
11144 \Hy@RestoreLastskip
11145 }
11146 \def\@urltype{url}
11147 \def\hyper@linkstart#1#2{%
11148 \Hy@VerboseLinkStart{#1}{#2}%
11149 \expandafter\Hy@colorlink\csname @#1color\endcsname
11150 \def\Hy@tempa{#1}%
11151 \ifx\Hy@tempa\@urltype
11152 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11153 \else
11154 \begingroup
11155 \hyper@chars
11156 \special{t4ht=<a href=%
11157 \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
11158 \endgroup
11159 \fi
11160 }
11161 \def\hyper@linkend{%
11162 \special{t4ht=</a>}%
11163 \Hy@endcolorlink
11164 }
11165 \def\hyper@linkfile#1#2#3{%
11166 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
11167 }
11168 \def\hyper@linkurl#1#2{%
11169 \leavevmode
11170 \ifHy@raiselinks
11171 \setbox\@tempboxa=\color@hbox #1\color@endbox
11172 \@linkdim\dp\@tempboxa
11173 \lower\@linkdim\hbox{%
11174 \begingroup
11175 \hyper@chars
11176 \special{%
11177 t4ht=<a href=\hyper@quote#2\hyper@quote>%
11178 }%
11179 \endgroup
11180 }%
11181 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11182 \@linkdim\ht\@tempboxa
11183 \advance\@linkdim by -6.5\p@
11184 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
11185 \else
11186 \begingroup
11187 \hyper@chars
11188 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
11189 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
11190 \special{t4ht=</a>}%
11191 \endgroup
11192 \fi
11193 }

```

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

```

11194 \def\hyper@link#1#2#3{%
11195 \Hy@VerboseLinkStart{#1}{#2}%
11196 \hyper@linkurl{#3}{\#\Hy@DestNameFilter{#2}}%
11197 }

```

```

11198 \def\hyper@image#1#2{%
11199   \begingroup
11200   \hyper@chars
11201   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
11202   \endgroup
11203 }
11204 \let\autoref\ref
11205 \ifx \rEfLiNK \UnDef
11206   \def\rEfLiNK #1#2{#2}%
11207 \fi
11208 \def\backref#1{}
11209 </tex4ht>
11210 <*tex4htcfg>
11211 \IfFileExists{\jobname.cfg}{\endinput}{}
11212 \Preamble{html}
11213   \begin{document}%
11214 \EndPreamble
11215 \def\TeX{\TeX}
11216 \def\OMEGA{\Omega}
11217 \def\LaTeX{\LaTeX}
11218 \def\LaTeXe{\LaTeX2e}
11219 \def\eTeX{e-TeX}
11220 \def\MF{Metafont}
11221 \def\MP{MetaPost}
11222 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

11223 <*pdfmark>
11224 \long\def\@Form[#1]{%
11225   \g@addto@macro\Hy@FirstPageHook{%
11226     \headerps@out{%
11227 [%
11228   /__objdef{pdfDocEncoding}%
11229   /type/dict%
11230 /OBJ pdfmark%
11231 [%
11232   {pdfDocEncoding}%
11233   <<%
11234   /Type/Encoding%
11235   /Differences[%
11236     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
11237     /tilde %
11238     39/quotesingle %
11239     96/grave %
11240     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11241     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11242     /quotedblbase/quotedblleft/quotedblright/quoteleft%
11243     /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
11244     /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11245     164/currency %
11246     166/brokenbar %
11247     168/dieresis/copyright/ordfeminine %
11248     172/logicalnot/.notdef/registered/macron/degree/plusminus%
11249     /twosuperior/threesuperior/acute/mu %
11250     183/periodcentered/cedilla/onesuperior/ordmasculine %

```

```

11251 188/onequarter/onehalf/threequarters %
11252 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11253 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11254 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11255 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11256 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11257 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11258 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11259 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11260 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
11261 /ucircumflex/udieresis/yacute/thorn/ydieresis%
11262 ]%
11263 >>%
11264 /PUT pdfmark%
11265 [%
11266 /__objdef{ZaDb}%
11267 /type/dict%
11268 /OBJ pdfmark%
11269 [%
11270 {ZaDb}%
11271 <<%
11272 /Type/Font%
11273 /Subtype/Type1%
11274 /Name/ZaDb%
11275 /BaseFont/ZapfDingbats%
11276 >>%
11277 /PUT pdfmark%
11278 [%
11279 /__objdef{Helv}%
11280 /type/dict%
11281 /OBJ pdfmark%
11282 [%
11283 {Helv}%
11284 <<%
11285 /Type/Font%
11286 /Subtype/Type1%
11287 /Name/Helv%
11288 /BaseFont/Helvetica%
11289 /Encoding{pdfDocEncoding}%
11290 >>%
11291 /PUT pdfmark%
11292 [%
11293 /__objdef{aform}%
11294 /type/dict%
11295 /OBJ pdfmark%
11296 [%
11297 /__objdef{afields}%
11298 /type/array%
11299 /OBJ pdfmark%
11300 {%
11301 [%
11302 /BBox[0 0 100 100]%
11303 /__objdef{Check}%
11304 /BP pdfmark %
11305 1 0 0 setrgbcolor%
11306 /ZapfDingbats 80 selectfont %
11307 20 20 moveto%

```

```

11308 (4)show%
11309 [/EP pdfmark%
11310 [%
11311 /BBox[0 0 100 100]%
11312 /_objdef{Cross}%
11313 /BP pdfmark %
11314 1 0 0 setrgbcolor%
11315 /ZapfDingbats 80 selectfont %
11316 20 20 moveto%
11317 (8)show%
11318 [/EP pdfmark%
11319 [%
11320 /BBox[0 0 250 100]%
11321 /_objdef{Submit}%
11322 /BP pdfmark %
11323 0.6 setgray %
11324 0 0 250 100 rectfill %
11325 1 setgray %
11326 2 2 moveto %
11327 2 98 lineto %
11328 248 98 lineto %
11329 246 96 lineto %
11330 4 96 lineto %
11331 4 4 lineto %
11332 fill %
11333 0.34 setgray %
11334 248 98 moveto %
11335 248 2 lineto %
11336 2 2 lineto %
11337 4 4 lineto %
11338 246 4 lineto %
11339 246 96 lineto %
11340 fill%
11341 /Helvetica 76 selectfont %
11342 0 setgray %
11343 8 22.5 moveto%
11344 (Submit)show%
11345 [/EP pdfmark%
11346 [%
11347 /BBox[0 0 250 100]%
11348 /_objdef{SubmitP}%
11349 /BP pdfmark %
11350 0.6 setgray %
11351 0 0 250 100 rectfill %
11352 0.34 setgray %
11353 2 2 moveto %
11354 2 98 lineto %
11355 248 98 lineto %
11356 246 96 lineto %
11357 4 96 lineto %
11358 4 4 lineto %
11359 fill %
11360 1 setgray %
11361 248 98 moveto %
11362 248 2 lineto %
11363 2 2 lineto %
11364 4 4 lineto %

```



```

11365 246 4 lineto %
11366 246 96 lineto %
11367 fill%
11368 /Helvetica 76 selectfont %
11369 0 setgray %
11370 10 20.5 moveto%
11371 (Submit)show%
11372 [/EP pdfmark%
11373 } ?pdfmark%
11374 [%
11375 {aform}%
11376 <<%
11377 /Fields{afields}%
11378 /DR<<%
11379 /Font<<%
11380 /ZaDb{ZaDb}%
11381 /Helv{Helv}%
11382 >>%
11383 >>%
11384 /DA(/Helv 10 Tf 0 g)%
11385 /CO{corder}%
11386 \ifHy@pdfa
11387 \else
11388 /NeedAppearances true%
11389 \fi
11390 >>%
11391 /PUT pdfmark%
11392 [%
11393 {Catalog}%
11394 <<%
11395 /AcroForm{aform}%
11396 >>%
11397 /PUT pdfmark%
11398 [%
11399 /__objdef{corder}%
11400 /type/array%
11401 /OBJ pdfmark% dps
11402 }}%
11403 \kvsetkeys{Form}{#1}%
11404 }
11405 \def\@endForm{}
11406 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11407 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
11408 }
11409 \def\@TextField[#1]#2{% parameters, label
11410 \def\Fld@name{#2}%
11411 \def\Fld@default{}%
11412 \let\Fld@value\@empty
11413 \def\Fld@width{\DefaultWidthofText}%
11414 \def\Fld@height{%
11415 \ifFld@multiline
11416 \DefaultHeightofTextMultiline
11417 \else
11418 \DefaultHeightofText
11419 \fi
11420 }%
11421 \begingroup

```

```

11422 \Field@toks={ }%
11423 \expandafter\HyField@SetKeys\expandafter{%
11424 \DefaultOptionsofText,#1%
11425 }%
11426 \HyField@FlagsText
11427 \ifFld@hidden\def\Fld@width{1sp}\fi
11428 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
11429 \LayoutTextField{#2}{%
11430 \Hy@escapeform\PDFForm@Text
11431 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
11432 pdfmark=/ANN,Raw={\PDFForm@Text}%
11433 }%
11434 }%
11435 \endgroup
11436 }
11437 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11438 \def\Fld@name{#2}%
11439 \let\Fld@default\relax
11440 \let\Fld@value\relax
11441 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11442 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11443 \begingroup
11444 \Fld@menulength=0 %
11445 \@tempdima\z@
11446 \@for\@curropt=#3\do{%
11447 \expandafter\Fld@checkequals\@curropt==\%
11448 \Hy@StepCount\Fld@menulength
11449 \settowidth{\@tempdimb}{\@currDisplay}%
11450 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11451 }%
11452 \advance\@tempdima by 15\p@
11453 \Field@toks={ }%
11454 \begingroup
11455 \HyField@SetKeys{#1}%
11456 \edef\x{\endgroup
11457 \noexpand\expandafter
11458 \noexpand\HyField@SetKeys
11459 \noexpand\expandafter{%
11460 \expandafter\noexpand\csname DefaultOptionsof%
11461 \ifFld@radio
11462 Radio%
11463 \else
11464 \ifFld@combo
11465 \ifFld@popdown
11466 PopdownBox%
11467 \else
11468 ComboBox%
11469 \fi
11470 \else
11471 ListBox%
11472 \fi
11473 \fi
11474 \endcsname
11475 }%
11476 }\x
11477 \HyField@SetKeys{#1}%
11478 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

11479 \ifx\Fld@value\relax
11480 \let\Fld@value\Fld@default
11481 \fi
11482 \LayoutChoiceField{#2}{%
11483 \ifFld@radio
11484 \HyField@FlagsRadioButton
11485 \@@Radio{#3}%
11486 \else
11487 \begingroup
11488 \HyField@FlagsChoice
11489 \ifdim\Fld@width<\@tempdima
11490 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11491 \edef\Fld@width{\the\@tempdima}%
11492 \fi
11493 \ifFld@combo
11494 \else
11495 \@tempdima=\the\Fld@menulength\Fld@charsize
11496 \advance\@tempdima by \Fld@borderwidth bp %
11497 \advance\@tempdima by \Fld@borderwidth bp %
11498 \edef\Fld@height{\the\@tempdima}%
11499 \fi
11500 \@@ListBox{#3}%
11501 \endgroup
11502 \fi
11503 }%
11504 \endgroup
11505 }
11506 \def\@@Radio#1{%
11507 \Fld@listcount=0 %
11508 \@for\@curropt:=#1\do{%
11509 \expandafter\Fld@checkequals\@curropt==\%
11510 \Hy@StepCount\Fld@listcount
11511 \@currDisplay\space
11512 \Hy@escapeform\PDFForm@Radio
11513 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
11514 pdfmark=/ANN,%
11515 Raw={%
11516 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
11517 }%
11518 } % deliberate space between radio buttons
11519 }%
11520 }
11521 \newcount\Fld@listcount
11522 \def\@@ListBox#1{%
11523 \HyField@PDFChoices{#1}%
11524 \Hy@escapeform\PDFForm@List
11525 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
11526 pdfmark=/ANN,Raw={\PDFForm@List}%
11527 }%
11528 }
11529 \def\@PushButton[#1]#2{% parameters, label
11530 \def\Fld@name{#2}%
11531 \begingroup
11532 \Field@toks={}%
11533 \expandafter\HyField@SetKeys\expandafter{%
11534 \DefaultOptionsofPushButton,#1%
11535 }%

```

```

11536 \ifHy@pdfa
11537 \PackageError{hyperref}{%
11538 PDF/A: Push button with JavaScript is prohibited%
11539 }\@ehc
11540 \LayoutPushButtonField{%
11541 \leavevmode
11542 \MakeButtonField{#2}%
11543 }%
11544 \else
11545 \HyField@FlagsPushButton
11546 \ifFld@hidden\def\Fld@width{1sp}\fi
11547 \LayoutPushButtonField{%
11548 \leavevmode
11549 \Hy@escapeform\PDFForm@Push
11550 \pdfmark[\MakeButtonField{#2}]{%
11551 pdfmark=/ANN,Raw={\PDFForm@Push}%
11552 }%
11553 }%
11554 \fi
11555 \endgroup
11556 }
11557 \def\@Submit[#1]#2{%
11558 \Field@toks={ }%
11559 \def\Fld@width{\DefaultWidthofSubmit}%
11560 \def\Fld@height{\DefaultHeightofSubmit}%
11561 \begingroup
11562 \expandafter\HyField@SetKeys\expandafter{%
11563 \DefaultOptionsofSubmit,#1%
11564 }%
11565 \HyField@FlagsPushButton
11566 \HyField@FlagsSubmit
11567 \ifFld@hidden\def\Fld@width{1sp}\fi
11568 \Hy@escapeform\PDFForm@Submit
11569 \pdfmark[\MakeButtonField{#2}]{%
11570 pdfmark=/ANN,%
11571 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
11572 }%
11573 \endgroup
11574 }
11575 \def\@Reset[#1]#2{%
11576 \Field@toks={ }%
11577 \def\Fld@width{\DefaultWidthofReset}%
11578 \def\Fld@height{\DefaultHeightofReset}%
11579 \begingroup
11580 \expandafter\HyField@SetKeys\expandafter{%
11581 \DefaultOptionsofReset,#1%
11582 }%
11583 \leavevmode
11584 \ifHy@pdfa
11585 \PackageError{hyperref}{%
11586 PDF/A: Reset action is prohibited%
11587 }\@ehc
11588 \MakeButtonField{#2}%
11589 \else
11590 \HyField@FlagsPushButton
11591 \ifFld@hidden\def\Fld@width{1sp}\fi
11592 \Hy@escapeform\PDFForm@Reset

```

```

11593 \pdfmark[\MakeButtonField{#2}]{%
11594 pdfmark=/ANN,Raw={\PDFForm@Reset}}%
11595 }%
11596 \fi
11597 \endgroup
11598 }%
11599 \def\@CheckBox[#1]#2{% parameters, label
11600 \def\Fld@name{#2}%
11601 \def\Fld@default{0}%
11602 \begingroup
11603 \def\Fld@width{\DefaultWidthofCheckBox}%
11604 \def\Fld@height{\DefaultHeightofCheckBox}%
11605 \Field@toks={ }%
11606 \expandafter\HyField@SetKeys\expandafter{%
11607 \DefaultOptionsofCheckBox,#1%
11608 }%
11609 \HyField@FlagsCheckBox
11610 \ifFld@hidden\def\Fld@width{1sp}\fi
11611 \LayoutCheckField{#2}{%
11612 \Hy@escapeform\PDFForm@Check
11613 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
11614 pdfmark=/ANN,Raw={\PDFForm@Check}}%
11615 }%
11616 }%
11617 \endgroup
11618 }
11619 \pdfmark

```

## 47.2 HyperTeX

```

11620 \hypertex
11621 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
11622 \def\@endForm{}
11623 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11624 \typeout{Sorry, HyperTeX does not support FORM gauges}}%
11625 }
11626 \def\@TextField[#1]#2{% parameters, label
11627 \typeout{Sorry, HyperTeX does not support FORM text fields}}%
11628 }
11629 \def\@CheckBox[#1]#2{% parameters, label
11630 \typeout{Sorry, HyperTeX does not support FORM checkboxes}}%
11631 }
11632 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11633 \typeout{Sorry, HyperTeX does not support FORM choice menus}}%
11634 }
11635 \def\@PushButton[#1]#2{% parameters, label
11636 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}}%
11637 }
11638 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11639 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
11640 \hypertex

```

## 47.3 TeX4ht

```

11641 \tex4ht
11642 \def\@Form[#1]{%
11643 \kvsetkeys{Form}{#1}%
11644 \HCode{<form action="\Form@action" method="\Form@method">}}%
11645 }

```

```

11646 \def\@endForm{\HCode{</form>}}
11647 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11648   \typeout{Sorry, TeX4ht does not support gauges}%
11649 }
11650 \def\@TextField[#1]#2{% parameters, label
11651   \let\Hy@reserved@a\@empty
11652   \def\Fld@name{#2}%
11653   \def\Fld@default{}%
11654   \bgroup
11655     \Field@toks={ }%
11656     \kvsetkeys{Field}{#1}%
11657     \HCode{<label for="\Fld@name">#2</label>}%
11658     \ifFld@password
11659       \@@PasswordField
11660     \else
11661       \@@TextField
11662     \fi
11663   \egroup
11664 }
11665 \def\@@PasswordField{%
11666   \HCode{%
11667     <input type="password" %
11668       id="\Fld@name" %
11669       name="\Fld@name" %
11670       \ifFld@hidden type="hidden" \fi
11671       value="\Fld@default" %
11672       \the\Field@toks
11673     >%
11674   }%
11675 }
11676 \def\@@TextField{%
11677   \ifFld@multiline
11678     \HCode{<textarea %
11679       \ifFld@readonly readonly \fi
11680       id="\Fld@name" %
11681       name="\Fld@name" %
11682       \ifFld@hidden type="hidden" \fi
11683       \the\Field@toks>%
11684     }%
11685     \Fld@default
11686     \HCode{</textarea>}%
11687   \else
11688     \HCode{<input type="text" %
11689       \ifFld@readonly readonly \fi
11690       id="\Fld@name" %
11691       name="\Fld@name" %
11692       \ifFld@hidden type="hidden" \fi
11693       value="\Fld@default" %
11694       \the\Field@toks>%
11695     }%
11696   \fi
11697 }
11698 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11699   \def\Fld@name{#2}%
11700   \def\Fld@default{}%
11701   \let\Hy@reserved@a\relax
11702   \begingroup

```

```

11703 \expandafter\Fld@findlength#3\\%
11704 \Field@toks={ }%
11705 \kvsetkeys{Field}{#1}%
11706 #2%
11707 \ifFld@radio
11708 \expandafter\@@Radio#3\\%
11709 \else
11710 \expandafter\@@Menu#3\\%
11711 \fi
11712 \endgroup
11713 }
11714 \def\Fld@findlength#1\\{%
11715 \Fld@menulength=0 %
11716 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
11717 }
11718 \def\@@Menu#1\\{%
11719 \HCode{<select size="\the\Fld@menulength" %
11720 name="\Fld@name" %
11721 \the\Field@toks>%
11722 }%
11723 \@for\@curropt:=#1\do{%
11724 \expandafter\Fld@checkequals\@curropt==\\%
11725 \HCode{<option %
11726 \ifx\@curropt\Fld@default selected \fi
11727 value="\@currValue">\@currDisplay</option>%
11728 }%
11729 }%
11730 \HCode{</select>}}%
11731 }
11732 \def\@@Radio#1\\{%
11733 \@for\@curropt:=#1\do{%
11734 \expandafter\Fld@checkequals\@curropt==\\%
11735 \HCode{<input type="radio" %
11736 \ifx\@curropt\Fld@default checked \fi
11737 name="\Fld@name" %
11738 value="\@currValue" %
11739 \the\Field@toks>%
11740 }%
11741 \@currDisplay
11742 }%
11743 }
11744 \def\@PushButton[#1]#2{% parameters, label
11745 \def\Fld@name{#2}%
11746 \bgroup
11747 \Field@toks={ }%
11748 \kvsetkeys{Field}{#1}%
11749 \HCode{<input type="button" %
11750 name="\Fld@name" %
11751 value="#2" %
11752 \the\Field@toks>%
11753 }%
11754 \HCode{</button>}}%
11755 \egroup
11756 }
11757 \def\@Submit[#1]#2{%
11758 \HCode{<button type="submit">#2</button>}}%
11759 }

```

```

11760 \def\@Reset[#1]#2{%
11761   \HCode{<button type="reset">#2</button>}%
11762 }
11763 \def\@CheckBox[#1]#2{% parameters, label
11764   \let\Hy@reserved@a\@empty
11765   \def\Fld@name{#2}%
11766   \def\Fld@default{0}%
11767   \bgroup
11768     \Field@toks={ }%
11769     \kvsetkeys{Field}{#1}%
11770     \HCode{<input type="checkbox" %
11771       \ifFld@checked checked \fi
11772       \ifFld@disabled disabled \fi
11773       \ifFld@readonly readonly \fi
11774       name="\Fld@name" %
11775       \ifFld@hidden type="hidden" \fi
11776       value="\Fld@default" %
11777       \the\Field@toks>%
11778     #2%
11779   }%
11780   \egroup
11781 }
11782 </tex4ht>

```

## 47.4 pdfTeX

```

11783 <*pdfTeX>
11784 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11785   \typeout{Sorry, pdfTeX does not support FORM gauges}%
11786 }
11787 \def\MakeFieldObject#1#2{\sbox0{#1}%
11788   \immediate\pdfxform0 %
11789   \expandafter\edef\csname #2Object\endcsname{%
11790     \the\pdflastxform\space 0 R%
11791   }%
11792 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
11793 }%
11794 \def\HyField@afields{}
11795 \begingroup\expandafter\expandafter\expandafter\endgroup
11796 \expandafter\ifx\csname pdfastlink\endcsname\relax
11797   \let\HyField@AddToFields\relax
11798   \PackageInfo{hyperref}{%
11799     You need pdfTeX 1.40.0 for setting the /Fields entry.%
11800     \MessageBreak
11801     Adobe Reader/Acrobat accepts an empty /Field array,%
11802     \MessageBreak
11803     but other PDF viewers might complain%
11804   }%
11805 \else
11806   \def\HyField@AuxAddToFields#1{%
11807     \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
11808     \Hy@AtBeginDocument{%
11809       \if@filesw
11810         \immediate\write\@mainaux{%
11811           \string\providecommand\string\HyField@AuxAddToFields[1]{}%
11812         }%
11813       \fi
11814       \let\HyField@AfterAuxOpen\@firstofone

```



```

11815 \def\HyField@AuxAddToFields#1{%
11816 \xdef\HyField@afields{%
11817 \ifx\HyField@afields\@empty
11818 \else
11819 \HyField@afields
11820 \space
11821 \fi
11822 #1 0 R%
11823 }%
11824 }%
11825 }%
11826 \def\HyField@AddToFields{%
11827 \expandafter\HyField@@AddToFields\expandafter{%
11828 \the\pdfastlink
11829 }%
11830 }%
11831 \def\HyField@@AddToFields#1{%
11832 \HyField@AfterAuxOpen{%
11833 \if@filesw
11834 \write\@mainaux{%
11835 \string\HyField@AuxAddToFields{#1}%
11836 }%
11837 \fi
11838 }%
11839 }%
11840 \fi
11841 \def\@Form[#1]{%
11842 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11843 \kvsetkeys{Form}{#1}%
11844 \Hy@FormObjects
11845 \ifnum\pdfTeXversion>13 %
11846 \pdfrefobj\OBJ@pdfdocencoding
11847 \pdfrefobj\OBJ@ZaDb
11848 \pdfrefobj\OBJ@Helv
11849 \fi
11850 \AtVeryEndDocument{%
11851 \immediate\pdfobj{%
11852 <<%
11853 /Fields[\HyField@afields]%
11854 /DR<<%
11855 /Font<<%
11856 /ZaDb \OBJ@ZaDb\space 0 R%
11857 /Helv \OBJ@Helv\space 0 R%
11858 >>%
11859 >>%
11860 /DA(/Helv 10 Tf 0 g)%
11861 \ifHy@pdfa
11862 \else
11863 /NeedAppearances true%
11864 \fi
11865 >>%
11866 }%
11867 \edef\OBJ@acroform{\the\pdfastobj}%
11868 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
11869 }%
11870 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

11871 \begingroup
11872 \fontfamily{pzd}%
11873 \fontencoding{U}%
11874 \fontseries{m}%
11875 \fontshape{n}%
11876 \selectfont
11877 \char123 %
11878 \endgroup
11879 }{Ding}%
11880 \MakeFieldObject{%
11881 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
11882 }{Submit}%
11883 \MakeFieldObject{%
11884 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
11885 }{SubmitP}%
11886 }
11887 \def\@endForm{}
11888 \def\@TextField[#1]#2{% parameters, label
11889 \def\Fld@name{#2}%
11890 \def\Fld@default{}%
11891 \let\Fld@value\@empty
11892 \def\Fld@width{\DefaultWidthofText}%
11893 \def\Fld@height{%
11894 \ifFld@multiline
11895 \DefaultHeightofTextMultiline
11896 \else
11897 \DefaultHeightofText
11898 \fi
11899 }%
11900 \begingroup
11901 \Field@toks={}%
11902 \expandafter\HyField@SetKeys\expandafter{%
11903 \DefaultOptionsofText,#1%
11904 }%
11905 \PDFForm@Name
11906 \HyField@FlagsText
11907 \ifFld@hidden\def\Fld@width{1sp}\fi
11908 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11909 \LayoutTextField{#2}{%
11910 \Hy@escapeform\PDFForm@Text
11911 \pdfstartlink user {\PDFForm@Text}\relax
11912 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
11913 \HyField@AddToFields
11914 }%
11915 \endgroup
11916 }
11917 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11918 \def\Fld@name{#2}%
11919 \let\Fld@default\relax
11920 \let\Fld@value\relax
11921 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11922 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11923 \begingroup
11924 \Fld@menulength=0 %
11925 \@tempdima\z@
11926 \@for\@curropt:=#3\do{%
11927 \expandafter\Fld@checkequals\@curropt==\%

```

```

11928 \Hy@StepCount\Fld@menulength
11929 \settowidth{\@tempdimb}{\@currDisplay}%
11930 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11931 }%
11932 \advance\@tempdima by 15\p@
11933 \Field@toks={ }%
11934 \begingroup
11935 \HyField@SetKeys{#1}%
11936 \edef\x{\endgroup
11937 \noexpand\expandafter
11938 \noexpand\HyField@SetKeys
11939 \noexpand\expandafter{%
11940 \expandafter\noexpand\csname DefaultOptionsof%
11941 \ifFld@radio
11942 Radio%
11943 \else
11944 \ifFld@combo
11945 \ifFld@popdown
11946 PopdownBox%
11947 \else
11948 ComboBox%
11949 \fi
11950 \else
11951 ListBox%
11952 \fi
11953 \fi
11954 \endcsname
11955 }%
11956 }\x
11957 \HyField@SetKeys{#1}%
11958 \PDFForm@Name
11959 \ifFld@hidden\def\Fld@width{1sp}\fi
11960 \ifx\Fld@value\relax
11961 \let\Fld@value\Fld@default
11962 \fi
11963 \LayoutChoiceField{#2}{%
11964 \ifFld@radio
11965 \HyField@FlagsRadioButton
11966 \@@Radio{#3}%
11967 \else
11968 \begingroup
11969 \HyField@FlagsChoice
11970 \ifdim\Fld@width<\@tempdima
11971 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11972 \edef\Fld@width{\the\@tempdima}%
11973 \fi
11974 \ifFld@combo
11975 \else
11976 \@tempdima=\the\Fld@menulength\Fld@charsize
11977 \advance\@tempdima by \Fld@borderwidth bp %
11978 \advance\@tempdima by \Fld@borderwidth bp %
11979 \edef\Fld@height{\the\@tempdima}%
11980 \fi
11981 \@@ListBox{#3}%
11982 \endgroup
11983 \fi
11984 }%

```

```

11985 \endgroup
11986 }
11987 \def\@@Radio#1{%
11988 \Fld@listcount=0 %
11989 \@for\@curropt:=#1\do{%
11990 \expandafter\Fld@checkequals\@curropt==\%
11991 \Hy@StepCount\Fld@listcount
11992 \@currDisplay\space
11993 \leavevmode
11994 \Hy@escapeform\PDFForm@Radio
11995 \pdfstartlink user {%
11996 \PDFForm@Radio
11997 /AP<<%
11998 /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.

```

11999 /\@currValue\space \DingObject
12000 >>%
12001 >>%
12002 }%
12003 \relax
12004 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
12005 \ifnum\Fld@listcount=1 %
12006 \HyField@AddToFields
12007 \fi
12008 \space % deliberate space between radio buttons
12009 }%
12010 }
12011 \newcount\Fld@listcount
12012 \def\@@ListBox#1{%
12013 \HyField@PDFChoices{#1}%
12014 \leavevmode
12015 \Hy@escapeform\PDFForm@List
12016 \pdfstartlink user {\PDFForm@List}\relax
12017 \MakeChoiceField{\Fld@width}{\Fld@height}%
12018 \pdfendlink
12019 \HyField@AddToFields
12020 }
12021 \def\@PushButton[#1]#2{% parameters, label
12022 \def\Fld@name{#2}%
12023 \begingroup
12024 \Field@toks={ }%
12025 \expandafter\HyField@SetKeys\expandafter{%
12026 \DefaultOptionsofPushButton,#1%
12027 }%
12028 \PDFForm@Name
12029 \ifHy@pdfa
12030 \PackageError{hyperref}{%
12031 PDF/A: Push button with JavaScript is prohibited%
12032 }\@ehc
12033 \LayoutPushButtonField{%
12034 \leavevmode
12035 \MakeButtonField{#2}%
12036 }%
12037 \else
12038 \HyField@FlagsPushButton

```

```

12039 \ifFld@hidden\def\Fld@width{1sp}\fi
12040 \LayoutPushButtonField{%
12041 \leavevmode
12042 \Hy@escapeform\PDFForm@Push
12043 \pdfstartlink user {\PDFForm@Push}\relax
12044 \MakeButtonField{#2}%
12045 \pdfendlink
12046 \HyField@AddToFields
12047 }%
12048 \fi
12049 \endgroup
12050 }
12051 \def\@Submit[#1]#2{%
12052 \Field@toks={ }%
12053 \def\Fld@width{\DefaultWidthofSubmit}%
12054 \def\Fld@height{\DefaultHeightofSubmit}%
12055 \begingroup
12056 \expandafter\HyField@SetKeys\expandafter{%
12057 \DefaultOptionsofSubmit,#1%
12058 }%
12059 \HyField@FlagsPushButton
12060 \HyField@FlagsSubmit
12061 \ifFld@hidden\def\Fld@width{1sp}\fi
12062 \leavevmode
12063 \Hy@escapeform\PDFForm@Submit
12064 \pdfstartlink user {%
12065 \PDFForm@Submit
12066 /AP<</N \SubmitObject/D \SubmitPObject>>%
12067 }%
12068 \relax
12069 \MakeButtonField{#2}%
12070 \pdfendlink
12071 \HyField@AddToFields
12072 \endgroup
12073 }
12074 \def\@Reset[#1]#2{%
12075 \Field@toks={ }%
12076 \def\Fld@width{\DefaultWidthofReset}%
12077 \def\Fld@height{\DefaultHeightofReset}%
12078 \begingroup
12079 \expandafter\HyField@SetKeys\expandafter{%
12080 \DefaultOptionsofReset,#1%
12081 }%
12082 \leavevmode
12083 \ifHy@pdfa
12084 \PackageError{hyperref}{%
12085 PDF/A: Reset action is prohibited%
12086 }{\@ehc
12087 \MakeButtonField{#2}%
12088 \else
12089 \HyField@FlagsPushButton
12090 \ifFld@hidden\def\Fld@width{1sp}\fi
12091 \Hy@escapeform\PDFForm@Reset
12092 \pdfstartlink user {\PDFForm@Reset}\relax
12093 \MakeButtonField{#2}%
12094 \pdfendlink
12095 \HyField@AddToFields

```

```

12096 \fi
12097 \endgroup
12098 }
12099 \def\@CheckBox[#1]#2{% parameters, label
12100 \def\Fld@name{#2}%
12101 \def\Fld@default{0}%
12102 \begingroup
12103 \def\Fld@width{\DefaultWidthofCheckBox}%
12104 \def\Fld@height{\DefaultHeightofCheckBox}%
12105 \Field@toks={ }%
12106 \expandafter\HyField@SetKeys\expandafter{%
12107 \DefaultOptionsofCheckBox,#1%
12108 }%
12109 \PDFForm@Name
12110 \HyField@FlagsCheckBox
12111 \ifFld@hidden\def\Fld@width{1sp}\fi
12112 \LayoutCheckField{#2}{%
12113 \Hy@escapeform\PDFForm@Check
12114 \pdfstartlink user {\PDFForm@Check}\relax
12115 \MakeCheckField{\Fld@width}{\Fld@height}%
12116 \pdfendlink
12117 \HyField@AddToFields
12118 }%
12119 \endgroup
12120 }
12121 \def\Hy@FormObjects{%
12122 \pdfobj {%
12123 <<%
12124 /Type/Encoding%
12125 /Differences%
12126 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
12127 /ring/tilde %
12128 39/quotesingle %
12129 96/grave %
12130 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12131 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12132 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12133 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
12134 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12135 164/currency %
12136 166/brokenbar %
12137 168/dieresis/copyright/ordfeminine %
12138 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12139 /twosuperior/threesuperior/acute/mu %
12140 183/periodcentered/cedilla/onesuperior/ordmasculine %
12141 188/onequarter/onehalf/threequarters %
12142 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12143 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12144 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12145 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12146 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12147 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12148 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12149 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
12150 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
12151 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
12152 }%

```

```

12153 >>%
12154 }%
12155 \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
12156 \pdfobj{%
12157 <<%
12158 /Type/Font%
12159 /Subtype/Type1%
12160 /Name/ZaDb%
12161 /BaseFont/ZapfDingbats%
12162 >>%
12163 }%
12164 \xdef\OBJ@ZaDb{\the\pdflastobj}%
12165 \pdfobj{%
12166 <<%
12167 /Type/Font%
12168 /Subtype/Type1%
12169 /Name/Helv%
12170 /BaseFont/Helvetica%
12171 /Encoding \OBJ@pdfdocencoding\space 0 R%
12172 >>%
12173 }%
12174 \xdef\OBJ@Helv{\the\pdflastobj}%
12175 \global\let\Hy@FormObjects\relax
12176 }
12177 </pdfTeX>

```

## 47.5 dvipdfm, xetex

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

```

12178 <*dvipdfm | xetex>

```

\@Gauge

```

12179 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12180 \typeout{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
12181 }

```

\@Form

```

12182 \def\@Form[#1]{%
12183 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
12184 \kvsetkeys{Form}{#1}%
12185 \Hy@FormObjects
12186 \@pdfm@mark{obj @afields []}%
12187 \@pdfm@mark{obj @corder []}%
12188 \@pdfm@mark{%
12189 obj @aform <<%
12190 /Fields @afields%
12191 /DR<<%
12192 /Font<<%
12193 /ZaDb @OBJZaDb%
12194 /Helv @OBJHelv%
12195 >>%
12196 >>%
12197 /DA(/Helv 10 Tf 0 g)%
12198 /CO @corder%
12199 \ifHy@pdfa
12200 \else

```

```

12201      /NeedAppearances true%
12202      \fi
12203    >>%
12204  }%
12205  \@pdfm@mark{put @catalog <</AcroForm @aform>>}}%
12206 }

\@endForm

12207 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
12208 \def\dvipdfm@setdim{%
12209   height \the\ht\pdfm@box\space
12210   width \the\wd\pdfm@box\space
12211   depth \the\dp\pdfm@box\space
12212 }

\HyField@AnnotCount
12213 \newcount\HyField@AnnotCount
12214 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
12215 \def\HyField@AdvanceAnnotCount{%
12216   \global\advance\HyField@AnnotCount\@ne
12217 }

\HyField@TheAnnotCount
12218 \def\HyField@TheAnnotCount{%
12219   \the\HyField@AnnotCount
12220 }

\@TextField
12221 \def\@TextField[#1]#2{% parameters, label
12222   \def\Fld@name{#2}%
12223   \def\Fld@default{}%
12224   \let\Fld@value\@empty
12225   \def\Fld@width{\DefaultWidthofText}%
12226   \def\Fld@height{%
12227     \ifFld@multiline
12228       \DefaultHeightofTextMultiline
12229     \else
12230       \DefaultHeightofText
12231     \fi
12232   }%
12233   \begingroup
12234     \Field@toks={ }%
12235     \expandafter\HyField@SetKeys\expandafter{%
12236       \DefaultOptionsofText,#1%
12237     }%
12238     \PDFForm@Name
12239     \HyField@FlagsText
12240     \ifFld@hidden\def\Fld@width{1sp}\fi
12241     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12242     \setbox\pdfm@box=\hbox{%
12243       \MakeTextField{\Fld@width}{\Fld@height}%
12244     }%

```



```

12245 \HyField@AdvanceAnnotCount
12246 \LayoutTextField{#2}{%
12247 \Hy@escapeform\PDFForm@Text
12248 \@pdfm@mark{%
12249 ann @text\HyField@TheAnnotCount\space
12250 \dvipdfm@setdim << \PDFForm@Text >>%
12251 }%
12252 }%
12253 \unhbox\pdfm@box
12254 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
12255 % record in @afields array
12256 \endgroup
12257 }

```

#### \@ChoiceMenu

```

12258 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12259 \def\Fld@name{#2}%
12260 \let\Fld@default\relax
12261 \let\Fld@value\relax
12262 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12263 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12264 \begingroup
12265 \Fld@menulength=0 %
12266 \@tempdima\z@
12267 \@for\@curropt:=#3\do{%
12268 \expandafter\Fld@checkequals\@curropt==\%
12269 \Hy@StepCount\Fld@menulength
12270 \settowidth{\@tempdimb}{\@currDisplay}%
12271 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12272 }%
12273 \advance\@tempdima by 15\p@
12274 \Field@toks={ }%
12275 \begingroup
12276 \HyField@SetKeys{#1}%
12277 \edef\x{\endgroup
12278 \noexpand\expandafter
12279 \noexpand\HyField@SetKeys
12280 \noexpand\expandafter{%
12281 \expandafter\noexpand\csname DefaultOptionsof%
12282 \ifFld@radio
12283 Radio%
12284 \else
12285 \ifFld@combo
12286 \ifFld@popdown
12287 PopdownBox%
12288 \else
12289 ComboBox%
12290 \fi
12291 \else
12292 ListBox%
12293 \fi
12294 \fi
12295 \endcsname
12296 }%
12297 }\x
12298 \HyField@SetKeys{#1}%
12299 \PDFForm@Name

```

```

12300 \ifFld@hidden\def\Fld@width{1sp}\fi
12301 \ifx\Fld@value\relax
12302   \let\Fld@value\Fld@default
12303 \fi
12304 \LayoutChoiceField{#2}{%
12305   \ifFld@radio
12306     \HyField@FlagsRadioButton
12307     \@@Radio{#3}%
12308   \else
12309     \beginngroup
12310     \HyField@FlagsChoice
12311     \ifdim\Fld@width<\@tempdima
12312       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12313       \edef\Fld@width{\the\@tempdima}%
12314     \fi
12315     \ifFld@combo
12316     \else
12317       \@tempdima=\the\Fld@menulength\Fld@charsize
12318       \advance\@tempdima by \Fld@borderwidth bp %
12319       \advance\@tempdima by \Fld@borderwidth bp %
12320       \edef\Fld@height{\the\@tempdima}%
12321     \fi
12322     \@@ListBox{#3}%
12323   \endgroup
12324 \fi
12325 }%
12326 \endgroup
12327 }

```

\@@Radio

```

12328 \def\@@Radio#1{%
12329   \Fld@listcount=0 %
12330   \setbox\pdfm@box=\hbox{%
12331     \MakeRadioField{\Fld@width}{\Fld@height}%
12332   }%
12333   \@for\@curropt:=#1\do{%
12334     \expandafter\Fld@checkequals\@curropt==\%
12335     \Hy@StepCount\Fld@listcount
12336     \@currDisplay\space
12337     \leavevmode
12338     \Hy@escapeform\PDFForm@Radio
12339     \ifnum\Fld@listcount=1 %
12340       \HyField@AdvanceAnnotCount
12341     \fi
12342     \@pdfm@mark{%
12343       ann %
12344       \ifnum\Fld@listcount=1 %
12345         @radio\HyField@TheAnnotCount%
12346       \space
12347     \fi
12348     \dvi pdfm@setdim
12349     <<%
12350     \PDFForm@Radio
12351     /AP<</N<</\@currValue /null>>>>%
12352     >>%
12353   }%
12354   \unhcopy\pdfm@box\space% deliberate space between radio buttons

```

```

12355 \ifnum\Fld@listcount=1 %
12356 \@pdfm@mark{%
12357 put @afields @radio\HyField@TheAnnotCount
12358 }%
12359 \fi
12360 }%
12361 }

```

\Fld@listcount

```

12362 \newcount\Fld@listcount

```

\@@ListBox

```

12363 \def\@@ListBox#1{%
12364 \HyField@PDFChoices{#1}%
12365 \setbox\pdfm@box=\hbox{%
12366 \MakeChoiceField{\Fld@width}{\Fld@height}%
12367 }%
12368 \leavevmode
12369 \Hy@escapeform\PDFForm@List
12370 \HyField@AdvanceAnnotCount
12371 \@pdfm@mark{%
12372 ann @list\HyField@TheAnnotCount\space
12373 \dvi pdfm@setdim
12374 <<\PDFForm@List>>%
12375 }%
12376 \unhbox\pdfm@box
12377 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
12378 }

```

\@PushButton

```

12379 \def\@PushButton[#1]#2{% parameters, label
12380 \def\Fld@name{#2}%
12381 \begingroup
12382 \Field@toks={ }%
12383 \expandafter\HyField@SetKeys\expandafter{%
12384 \DefaultOptionsofPushButton,#1%
12385 }%
12386 \PDFForm@Name
12387 \ifHy@pdfa
12388 \PackageError{hyperref}{%
12389 PDF/A: Push button with JavaScript is prohibited%
12390 }\@ehc
12391 \LayoutPushButtonField{%
12392 \leavevmode
12393 \MakeButtonField{#2}%
12394 }%
12395 \else
12396 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12397 \HyField@FlagsPushButton
12398 \ifFld@hidden\def\Fld@width{1sp}\fi
12399 \HyField@AdvanceAnnotCount
12400 \LayoutPushButtonField{%
12401 \leavevmode
12402 \Hy@escapeform\PDFForm@Push
12403 \@pdfm@mark{%
12404 ann @push\HyField@TheAnnotCount\space
12405 \dvi pdfm@setdim

```

```

12406      <<\PDFForm@Push>>%
12407      }%
12408      }%
12409      \unhbox\pdfm@box
12410      \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
12411      \fi
12412      \endgroup
12413      }

\@Submit

12414      \def\@Submit[#1]#2{%
12415      \Field@toks={ }%
12416      \def\Fld@width{\DefaultWidthofSubmit}%
12417      \def\Fld@height{\DefaultHeightofSubmit}%
12418      \begingroup
12419      \expandafter\HyField@SetKeys\expandafter{%
12420      \DefaultOptionsofSubmit,#1%
12421      }%
12422      \HyField@FlagsPushButton
12423      \HyField@FlagsSubmit
12424      \ifFld@hidden\def\Fld@width{1sp}\fi
12425      \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12426      \leavevmode
12427      \Hy@escapeform\PDFForm@Submit
12428      \HyField@AdvanceAnnotCount
12429      \@pdfm@mark{%
12430      ann @submit\HyField@TheAnnotCount\space
12431      \dvipdfm@setdim
12432      <<\PDFForm@Submit>>%
12433      }%
12434      \unhbox\pdfm@box%
12435      \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
12436      \endgroup
12437      }

\@Reset

12438      \def\@Reset[#1]#2{%
12439      \Field@toks={ }%
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      \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
12456      \Hy@escapeform\PDFForm@Reset
12457      \HyField@AdvanceAnnotCount
12458      \@pdfm@mark{%

```

```

12459      ann @reset\HyField@TheAnnotCount\space
12460      \dvipdfm@setdim
12461      <<\PDFForm@Reset>>%
12462    }%
12463    \unhbox\pdfm@box
12464    \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
12465    \fi
12466  \endgroup
12467 }

```

#### \@CheckBox

```

12468 \def\@CheckBox[#1]#2{% parameters, label
12469   \def\Fld@name{#2}%
12470   \def\Fld@default{0}%
12471   \begingroup
12472     \def\Fld@width{\DefaultWidthofCheckBox}%
12473     \def\Fld@height{\DefaultHeightofCheckBox}%
12474     \Field@toks={ }%
12475     \expandafter\HyField@SetKeys\expandafter{%
12476       \DefaultOptionsofCheckBox,#1%
12477     }%
12478     \PDFForm@Name
12479     \HyField@FlagsCheckBox
12480     \ifFld@hidden\def\Fld@width{1sp}\fi
12481     \setbox\pdfm@box=\hbox{%
12482       \MakeCheckField{\Fld@width}{\Fld@height}%
12483     }%
12484     \HyField@AdvanceAnnotCount
12485     \LayoutCheckField{#2}{%
12486       \Hy@escapeform\PDFForm@Check
12487       \@pdfm@mark{%
12488         ann @check\HyField@TheAnnotCount\space
12489         \dvipdfm@setdim
12490         <<\PDFForm@Check>>%
12491       }%
12492       \unhbox\pdfm@box
12493       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
12494     }%
12495   \endgroup
12496 }

12497 \def\Hy@FormObjects{%
12498   \@pdfm@mark{obj @OBJpdfdocencoding%
12499     <<%
12500       /Type/Encoding%
12501       /Differences%
12502         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
12503         39/quotesingle %
12504         96/grave %
12505         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12506         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12507         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
12508         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
12509         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12510         164/currency %
12511         166/brokenbar %
12512         168/dieresis/copyright/ordfeminine %
12513         172/logicalnot/.notdef/registered/macron/degree/plusminus%

```

```

12514      /twosuperior/threesuperior/acute/mu %
12515      183/periodcentered/cedilla/onesuperior/ordmasculine %
12516      188/onequarter/onehalf/threequarters %
12517      192/Agrave/Aacute/ Acircumflex/ Atilde/ Adieresis/ Aring/ AE%
12518      /Ccedilla/Egrave/Eacute/ Ecircumflex/ Edieresis/ Igrave/ Iacute%
12519      /Icircumflex/ Idieresis/ Eth/ Ntilde/ Ograve/ Oacute/ Ocircumflex%
12520      /Otilde/ Odieresis/ multiply/ Oslash/ Ugrave/ Uacute/ Ucircumflex%
12521      /Udieresis/ Yacute/ Thorn/ germandbls/ agrave/ aacute/ acircumflex%
12522      /atilde/ adieresis/ aring/ ae/ ccedilla/ egrave/ eacute%
12523      /ecircumflex/ edieresis/ igrave/ iacute/ icircumflex/ idieresis%
12524      /eth/ ntilde/ ograve/ oacute/ ocircumflex/ otilde/ odieresis%
12525      /divide/ oslash/ ugrave/ uacute/ ucircumflex/ udieresis/ yacute%
12526      /thorn/ ydieresis%
12527      ]%
12528      >>%
12529      }%
12530      \@pdfm@mark{obj @OBJZaDb%
12531      <<%
12532      /Type/Font%
12533      /Subtype/Type1%
12534      /Name/ZaDb%
12535      /BaseFont/ZapfDingbats%
12536      >>%
12537      }%
12538      \@pdfm@mark{obj @OBJHelv%
12539      <<%
12540      /Type/Font%
12541      /Subtype/Type1%
12542      /Name/Helv%
12543      /BaseFont/Helvetica%
12544      /Encoding @OBJpdfdocencoding%
12545      >>%
12546      }%
12547      \global\let\Hy@FormObjects\relax
12548      }
12549      </dvipdfm | xetex>

```

## 47.6 Common forms part

```
12550 <*pdfform>
```

\Hy@escapestring

```

12551 \begingroup\expandafter\expandafter\expandafter\endgroup
12552 \expandafter\ifx\cname pdfescapestring\endcsname\relax
12553 \let\Hy@escapestring\@firstofone
12554 \def\Hy@escapeform#1{%
12555   \ifHy@escapeform
12556     \def\Hy@escapestring##1{%
12557       \noexpand\Hy@escapestring{\noexpand##1}%
12558     }%
12559     \edef\Hy@temp{#1}%
12560     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{\}\@nil
12561     \def\Hy@escapestring##1{%
12562       \@ifundefined{Hy@esc@\string##1}{%
12563         ##1%
12564         \ThisShouldNotHappen
12565       }{%

```

```

12566     \csname Hy@esc@\string##1\endcsname
12567   }%
12568 }%
12569 \else
12570   \let\Hy@escapestring\@firstofone
12571 \fi
12572 }%
12573 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
12574   \ifx\#3\%
12575   \else
12576     \expandafter
12577     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
12578     \Hy@ReturnAfterFi{%
12579       \Hy@@escapeform#3\@nil
12580     }%
12581   \fi
12582 }%
12583 \else
12584   \def\Hy@escapeform#1{%
12585     \ifHy@escapeform
12586       \let\Hy@escapestring\pdfescapestring
12587     \else
12588       \let\Hy@escapestring\@firstofone
12589     \fi
12590   }%
12591   \Hy@escapeform{}}%
12592 \fi

```

#### \PDFForm@Name

```

12593 \def\PDFForm@Name{%
12594   \begingroup
12595   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
12596     \ifHy@unicode
12597       \Hy@unicodedefalse
12598     \fi
12599   \fi
12600   \HyPsd@XeTeXBigCharstrue
12601   \pdfstringdef\Hy@gtemp\Fld@name
12602 \endgroup
12603 \let\Fld@name\Hy@gtemp
12604 }

```

#### \PDFForm@Check

```

12605 \def\PDFForm@Check{%
12606   /Subtype/Widget%
12607   \Fld@annotflags
12608   /T(\Fld@name)%
12609   /FT/Btn%
12610   \Fld@flags
12611   /Q \Fld@align
12612   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
12613   /MK<<%
12614     \ifnum\Fld@rotation=\z@
12615     \else
12616       /R \Fld@rotation
12617     \fi
12618   \ifx\Fld@bordercolor\relax

```

```

12619 \else
12620 /BC[\Fld@bordercolor]%
12621 \fi
12622 \ifx\Fld@bcolor\relax
12623 \else
12624 /BG[\Fld@bcolor]%
12625 \fi
12626 /CA(\Hy@escapestring{\Fld@cbsymbol})%
12627 >>%
12628 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12629 \ifx\Fld@color@empty\else\space\Fld@color\fi)%
12630 /H/P%
12631 \ifFld@checked /V/Yes\else /V/Off\fi
12632 }

```

\PDFForm@Push

```

12633 \ifHy@pdfa
12634 \else
12635 \def\PDFForm@Push{%
12636 /Subtype/Widget%
12637 \Fld@annotflags
12638 /T(\Fld@name)%
12639 /FT/Btn%
12640 \Fld@flags
12641 /H/P%
12642 /BS<</W \Fld@borderwidth/S\Fld@borderstyle>>%
12643 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12644 \ifx\Fld@bordercolor\relax\else 1\fi
12645 \space
12646 \else
12647 /MK<<%
12648 \ifnum\Fld@rotation=\z@
12649 \else
12650 /R \Fld@rotation
12651 \fi
12652 \ifx\Fld@bordercolor\relax
12653 \else
12654 /BC[\Fld@bordercolor]%
12655 \fi
12656 >>%
12657 \fi
12658 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
12659 }%
12660 \fi

```

\Fld@additionalactions

```

12661 \def\Fld@@additionalactions{%
K input (keystroke) format
12662 \ifx\Fld@keystroke@code@empty
12663 \else
12664 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
12665 \fi
F display format
12666 \ifx\Fld@format@code@empty
12667 \else
12668 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%

```



```

12669 \fi
V validation
12670 \ifx\Fld@validate@code\@empty
12671 \else
12672 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
12673 \fi
C calculation
12674 \ifx\Fld@calculate@code\@empty
12675 \else
12676 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
12677 \fi
Fo receiving the input focus
12678 \ifx\Fld@onfocus@code\@empty
12679 \else
12680 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
12681 \fi
Bl loosing the input focus (blurred)
12682 \ifx\Fld@onblur@code\@empty
12683 \else
12684 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
12685 \fi
D pressing the mouse button (down)
12686 \ifx\Fld@onmousedown@code\@empty
12687 \else
12688 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
12689 \fi
U releasing the mouse button (up)
12690 \ifx\Fld@onmouseup@code\@empty
12691 \else
12692 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
12693 \fi
E cursor enters the annotation's active area.
12694 \ifx\Fld@onenter@code\@empty
12695 \else
12696 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
12697 \fi
X cursor exits the annotation's active area.
12698 \ifx\Fld@onexit@code\@empty
12699 \else
12700 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
12701 \fi
12702 }
12703 \def\Fld@additionalactions{%
12704 \if\Fld@@additionalactions-%
12705 \else
12706 \ifHy@pdfa
12707 \else
12708 /AA<<\Fld@@additionalactions>>%
12709 \fi
12710 \fi
12711 }

```

## \PDFForm@List

```
12712 \def\PDFForm@List{%
12713   /Subtype/Widget%
12714   \Fld@annotflags
12715   /T(\Fld@name)%
12716   /FT/Ch%
12717   \Fld@flags
12718   /Q \Fld@align
12719   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12720   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12721     \ifx\Fld@bordercolor\relax\else 1\fi
12722     \ifx\Fld@bcolor\relax \else 1\fi
12723     \space
12724   \else
12725     /MK<<%
12726     \ifnum\Fld@rotation=\z@
12727       \else
12728         /R \Fld@rotation
12729       \fi
12730       \ifx\Fld@bordercolor\relax
12731         \else
12732           /BC[\Fld@bordercolor]%
12733         \fi
12734         \ifx\Fld@bcolor\relax
12735         \else
12736           /BG[\Fld@bcolor]%
12737         \fi
12738       >>%
12739     \fi
12740   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12741     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12742   \Fld@choices
12743   \Fld@additionalactions
12744 }
```

## \PDFForm@Radio

```
12745 \def\PDFForm@Radio{%
12746   /Subtype/Widget%
12747   \Fld@annotflags
12748   /T(\Fld@name)%
12749   /FT/Btn%
12750   \Fld@flags
12751   /H/P%
12752   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12753   /MK<<%
12754     \ifnum\Fld@rotation=\z@
12755     \else
12756       /R \Fld@rotation
12757     \fi
12758     \ifx\Fld@bordercolor\relax
12759     \else
12760       /BC[\Fld@bordercolor]%
12761     \fi
12762     \ifx\Fld@bcolor\relax
12763     \else
12764       /BG[\Fld@bcolor]%
12765     \fi
```

```

12766 /CA(\Fld@radiosymbol)%
12767 >>%
12768 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
12769 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12770 \ifx\@currValue\Fld@default
12771 /V/\Fld@default
12772 \else
12773 /V/Off%
12774 \fi
12775 \Fld@additionalactions
12776 }

```

#### \PDFForm@Text

```

12777 \def\PDFForm@Text{%
12778 /Subtype/Widget%
12779 \Fld@annotflags
12780 /T(\Fld@name)%
12781 /FT/Tx%
12782 \Fld@flags
12783 /Q \Fld@align
12784 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
12785 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12786 \ifx\Fld@bordercolor\relax\else 1\fi
12787 \ifx\Fld@bcolor\relax \else 1\fi
12788 \space
12789 \else
12790 /MK<<%
12791 \ifnum\Fld@rotation=\z@
12792 \else
12793 /R \Fld@rotation
12794 \fi
12795 \ifx\Fld@bordercolor\relax
12796 \else
12797 /BC[\Fld@bordercolor]%
12798 \fi
12799 \ifx\Fld@bcolor\relax
12800 \else
12801 /BG[\Fld@bcolor]%
12802 \fi
12803 >>%
12804 \fi
12805 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
12806 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
12807 /DV(\Hy@escapestring{\Fld@default})%
12808 /V(\Hy@escapestring{\Fld@value})%
12809 \Fld@additionalactions
12810 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
12811 }

```

#### \PDFForm@Submit

```

12812 \def\PDFForm@Submit{%
12813 /Subtype/Widget%
12814 \Fld@annotflags
12815 /T(\Fld@name)%
12816 /FT/Btn%
12817 \Fld@flags
12818 /H/P%

```

```

12819 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12820 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12821 \ifx\Fld@bordercolor\relax\else 1\fi
12822 \space
12823 \else
12824 /MK<<%
12825 \ifnum\Fld@rotation=\z@
12826 \else
12827 /R \Fld@rotation
12828 \fi
12829 \ifx\Fld@bordercolor\relax
12830 \else
12831 /BC[\Fld@bordercolor]%
12832 \fi
12833 >>%
12834 \fi
12835 /A<<%
12836 /S/SubmitForm%
12837 /F<<%
12838 /FS/URL%
12839 /F(\Hy@escapestring{\Form@action})%
12840 >>%
12841 \Fld@submitflags
12842 >>%
12843 }

```

\PDFForm@Reset

```

12844 \ifHy@pdfa
12845 \else
12846 \def\PDFForm@Reset{%
12847 /Subtype/Widget%
12848 \Fld@annotflags
12849 /T(\Fld@name)%
12850 /FT/Btn%
12851 \Fld@flags
12852 /H/P%
12853 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
12854 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
12855 \ifx\Fld@bordercolor\relax\else 1\fi
12856 \space
12857 \else
12858 /MK<<%
12859 \ifnum\Fld@rotation=\z@
12860 \else
12861 /R \Fld@rotation
12862 \fi
12863 \ifx\Fld@bordercolor\relax
12864 \else
12865 /BC[\Fld@bordercolor]%
12866 \fi
12867 % /CA (Clear)
12868 % /AC (Done)
12869 >>%
12870 \fi
12871 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
12872 /A<</S/ResetForm>>%
12873 }%

```

```

12874 \fi
12875 </pdfform>
12876 <*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 L<sup>A</sup>T<sub>E</sub>X 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`

```

12877 \def\phantomsection{%
12878   \Hy@MakeCurrentHrefAuto{section*}%
12879   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
12880 }
12881 </package>

```

### 48.1 Bookmarks

```

12882 <*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  $\varepsilon$ -T<sub>E</sub>X, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -T<sub>E</sub>X'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.

```

12883 \def\Hy@writebookmark#1#2#3#4#5{%
12884   % section number, text, label, level, file
12885   \ifx\WriteBookmarks\relax%
12886     \else
12887       \ifnum#4>\Hy@bookmarksdepth\relax
12888       \else
12889         \@@writetorep{#1}{#2}{#3}{#4}{#5}%
12890       \fi
12891     \fi
12892 }
12893 \def\Hy@currentbookmarklevel{0}
12894 \def\Hy@numberline#1{#1 }
12895 \def\@@writetorep#1#2#3#4#5{%
12896   \begingroup
12897     \edef\Hy@tempa{#5}%
12898     \ifx\Hy@tempa\Hy@bookmarkstype
12899       \edef\Hy@level{#4}%

```

```

12900 \ifx\Hy@levelcheck Y%
12901 \@tempcnta\Hy@level\relax
12902 \advance\@tempcnta by -1 %
12903 \ifnum\Hy@currentbookmarklevel<\@tempcnta
12904 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
12905 \advance\@tempcnta by 1 %
12906 \Hy@Warning{%
12907     Difference (\the\@tempcnta) between bookmark levels is %
12908     greater \MessageBreak than one, level fixed%
12909 }%
12910 \@tempcnta\Hy@currentbookmarklevel
12911 \advance\@tempcnta by 1 %
12912 \edef\Hy@level{\the\@tempcnta}%
12913 \fi
12914 \else
12915 \global\let\Hy@levelcheck Y%
12916 \fi
12917 \global\let\Hy@currentbookmarklevel\Hy@level
12918 \@tempcnta\Hy@level\relax
12919 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
12920 \advance\@tempcnta by -1 %
12921 \edef\Hy@tempa{#3}%
12922 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
12923 \ifx\Hy@tempa\Hy@tempb
12924 \Hy@Warning{%
12925     The anchor of a bookmark and its parent's must not%
12926     \MessageBreak be the same. Added a new anchor%
12927 }%
12928 \phantomsection
12929 \fi
12930 \ifHy@bookmarksnumbered
12931 \let\numberline\Hy@numberline
12932 \let\booknumberline\Hy@numberline
12933 \let\partnumberline\Hy@numberline
12934 \let\chapternumberline\Hy@numberline
12935 \else
12936 \let\numberline\@gobble
12937 \let\booknumberline\@gobble
12938 \let\partnumberline\@gobble
12939 \let\chapternumberline\@gobble
12940 \fi
12941 \HyPsd@XeTeXBigCharstrue
12942 \pdfstringdef\Hy@tempa{#2}%
12943 \HyPsd@SanitizeForOutFile\Hy@tempa
12944 \if@fileswo
12945 \stepcounter{bookmark@seq@number}%
12946 \@ifundefined{@outlinefile}{%
12947 }{%
12948     \protected@write\@outlinefile{}{%
12949         \protect\BOOKMARK
12950         [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
12951         {\Hy@tempa}{\Hy@tempb}%
12952         \@percentchar\space\thebookmark@seq@number
12953     }%
12954 }%
12955 \fi
12956 \fi

```

```

12957 \endgroup
12958 }
12959 \newcounter{bookmark@seq@number}

12960 \begingroup
12961 \lccode'('= '{%
12962 \lccode')='}%
12963 \lccode'1=\z@
12964 \lccode'2=\z@
12965 \lccode'3=\z@
12966 \lccode'5=\z@
12967 \lccode'7=\z@
12968 \lccode'\#=\z@
12969 \lccode'\'=\z@
12970 \lccode'\{=\z@
12971 \lccode'\}=\z@
12972 \lowercase{%
12973 \endgroup
12974 \def\HyPsd@SanitizeForOutFile#1{%
12975   \@onelevel@sanitize\Hy@tempa
12976   \escapechar'\%
12977   \edef\Hy@tempa{%
12978     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
12979   }%
12980   \edef\Hy@tempa{%
12981     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
12982   }%
12983 }%
12984 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
12985   #1%
12986   \ifx\#2\%
12987     \expandafter\ltx@gobble
12988   \else
12989     \expandafter\ltx@firstofone
12990   \fi
12991   {%
12992     \string\173%
12993     \HyPsd@SanitizeOut@BraceLeft#2\@nil
12994   }%
12995 }%
12996 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
12997   #1%
12998   \ifx\#2\%
12999     \expandafter\ltx@gobble
13000   \else
13001     \expandafter\ltx@firstofone
13002   \fi
13003   {%
13004     \string\175%
13005     \HyPsd@SanitizeOut@BraceRight#2\@nil
13006   }%
13007 }%
13008 }

```

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

```

13009 \newcommand{\currentpdfbookmark}{%
13010   \pdfbookmark[\Hy@currentbookmarklevel]%
13011 }

```

```

13012 \newcommand{\subpdfbookmark}{%
13013   \@tempcnta\Hy@currentbookmarklevel
13014   \Hy@StepCount\@tempcnta
13015   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
13016 }
13017 \newcommand{\belowpdfbookmark}[2]{%
13018   \@tempcnta\Hy@currentbookmarklevel
13019   \Hy@StepCount\@tempcnta
13020   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
13021   \advance\@tempcnta by -1 %
13022   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
13023 }

```

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.

```

13024 \renewcommand\pdfbookmark[3][0]{%
13025   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
13026   \hyper@anchorstart{#3.#1}\hyper@anchorend
13027 }
13028 \def\BOOKMARK{%
13029   \@ifnextchar[\@BOOKMARK]{\@@BOOKMARK[1][-]}%
13030 }
13031 \def\@BOOKMARK[#1]{%
13032   \@ifnextchar[\@BOOKMARK[{#1}]{\@@BOOKMARK[{#1}][-]}%
13033 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

#### 48.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

13034 \RequirePackage{rerunfilecheck}[2009/12/10]
13035 \def\Hy@OutlineRerunCheck{%
13036   \RerunFileCheck{\jobname.out}{%
13037     \immediate\closeout\@outlinefile
13038   }{%
13039     Rerun to get outlines right\MessageBreak
13040     or use package ‘bookmark’%
13041   }%
13042 }

```

#### 48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto: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.

```

13043 <*vtex>
13044 \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.

```

13045 \begingroup
13046   \catcode'\'=12 %
13047   \ifnum\Hy@VTeXversion<650 %

```



```

13048 \catcode'\="=12 %
13049 \gdef\hv@pdf@char#1#2#3{%
13050 \char
13051 \ifcase'#1#2#3 %
13052 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
13053 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
13054 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
13055 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
13056 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
13057 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
13058 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
13059 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
13060 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
13061 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
13062 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
13063 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
13064 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
13065 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
13066 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
13067 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
13068 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
13069 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
13070 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
13071 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
13072 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
13073 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
13074 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
13075 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
13076 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
13077 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
13078 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
13079 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
13080 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
13081 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
13082 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
13083 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
13084 \fi
13085 }%
13086 \else
13087 \gdef\hv@pdf@char{\char'}%
13088 \fi
13089 \endgroup

```

\@@BOOKMARK

```

13090 \def\@@BOOKMARK[#1][#2]#3#4#5{%
13091 \expandafter\edef\csname @count@#3\endcsname{%
13092 \the\@serial@counter
13093 }%
13094 \edef\@mycount{\the\@serial@counter}%
13095 \Hy@StepCount\@serial@counter
13096 \edef\@parcount{%
13097 \expandafter\ifx\csname @count@#5\endcsname\relax
13098 0%
13099 \else
13100 \csname @count@#5\endcsname
13101 \fi
13102 }%

```

```

13103 \immediate\special{%
13104 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
13105 s=\ifx#2-c\else o\fi,t=#4%
13106 }%
13107 }%

```

# \ReadBookmarks

```

13108 \def\ReadBookmarks{%
13109 \begingroup
13110 \def\0{\hv@pdf@char 0}%
13111 \def\1{\hv@pdf@char 1}%
13112 \def\2{\hv@pdf@char 2}%
13113 \def\3{\hv@pdf@char 3}%
13114 \def\{({}%
13115 \def\)}{)%
13116 \def\do##1{%
13117 \ifnum\catcode'##1=\active
13118 \@makeother##1%
13119 \else
13120 \ifnum\catcode'##1=6 %
13121 \@makeother##1%
13122 \fi
13123 \fi
13124 }%
13125 \dospecials
13126 \Hy@safe@activetrue
13127 \InputIfFileExists{\jobname.out}{\}{}%
13128 \endgroup
13129 \ifx\WriteBookmarks\relax
13130 \else
13131 \if@filesw
13132 \newwrite\@outlinefile
13133 \Hy@OutlineRerunCheck
13134 \immediate\openout\@outlinefile=\jobname.out\relax
13135 \ifHy@typexml
13136 \immediate\write\@outlinefile{<relaxxml>\relax}%
13137 \fi
13138 \fi
13139 \fi
13140 }

```

```

13141 </vtex>

```

```

13142 <!*vtex>

```

```

13143 \def\ReadBookmarks{%
13144 \begingroup
13145 \def\do##1{%
13146 \ifnum\catcode'##1=\active
13147 \@makeother##1%
13148 \else
13149 \ifnum\catcode'##1=6 %
13150 \@makeother##1%
13151 \fi
13152 \fi
13153 }%
13154 \dospecials
13155 \Hy@safe@activetrue
13156 \escapechar='\%

```

```

13157 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13158 \calc@bm@number{##5}%
13159 }%
13160 \InputIfFileExists{\jobname.out}{-}{-}%
13161 \ifx\WriteBookmarks\relax
13162 \global\let\WriteBookmarks\relax
13163 \fi
13164 \def\@@BOOKMARK[##1][##2]##3##4##5{%
13165 \def\Hy@temp{##4}%
13166 \*pdfTeX
13167 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13168 \Hy@OutlineName{\Hy@pstringName}%
13169 ##2\check@bm@number{##3}%
13170 }{%
13171 \expandafter\strip@prefix\meaning\Hy@temp
13172 }%
13173 \*pdfTeX
13174 \*pdfmark
13175 \pdfmark{%
13176 pdfmark=/OUT,%
13177 Count={##2\check@bm@number{##3}},%
13178 Dest={##3},%
13179 Title=\expandafter\strip@prefix\meaning\Hy@temp
13180 }%
13181 \*pdfmark
13182 \*dvipdfm | xetex
13183 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
13184 \@pdfm@mark{%
13185 outline \ifHy@DvipdfmxOutlineOpen
13186 [%
13187 \ifnum##21>\z@
13188 \else
13189 -%
13190 \fi
13191 ] %
13192 \fi
13193 ##1<<%
13194 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
13195 /A<<%
13196 /S/GoTo%
13197 /D(\Hy@pstringName)%
13198 >>%
13199 >>%
13200 }%
13201 \*dvipdfm | xetex
13202 }%
13203 {%
13204 \def\WriteBookmarks{0}%
13205 \InputIfFileExists{\jobname.out}{-}{-}%
13206 }%
13207 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
13208 \ifx\WriteBookmarks\relax
13209 \else
13210 \if@files
13211 \newwrite\@outlinefile
13212 \Hy@OutlineRerunCheck
13213 \immediate\openout\@outlinefile=\jobname.out\relax

```

```

13214 \ifHy@typexml
13215 \immediate\write\@outlinefile{<relaxxml>\relax}%
13216 \fi
13217 \fi
13218 \fi
13219 \endgroup
13220 }
13221 <*pdfTeX>
13222 \def\Hy@OutlineName#1#2#3#4{%
13223 \pdfoutline goto name{#2}count#3{#4}%
13224 }
13225 </pdfTeX>
13226 \def\check@bm@number#1{%
13227 \expandafter\ifx\csname B_#1\endcsname\relax
13228 0%
13229 \else
13230 \csname B_#1\endcsname
13231 \fi
13232 }
13233 \def\calc@bm@number#1{%
13234 \@tempcnta=\check@bm@number{#1}\relax
13235 \advance\@tempcnta by 1 %
13236 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
13237 }
13238 <!/vtex>
13239 \ifHy@implicit
13240 \else
13241 \expandafter\endinput
13242 \fi
13243 </outlines>
13244 <*outlines | hypertex>
13245 \newlength\Hy@SectionHShift
13246 \def\Hy@SectionAnchorHref#1{%
13247 \ifx\protect\@typeset@protect
13248 \Hy@@@SectionAnchor{#1}%
13249 \fi
13250 }
13251 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
13252 \leavevmode
13253 \hbox to 0pt{%
13254 \kern-\Hy@SectionHShift
13255 \Hy@raisedlink{%
13256 \hyper@anchorstart{#1}\hyper@anchorend
13257 }%
13258 \hss
13259 }%
13260 }
13261 \let\H@old@ssect\@ssect
13262 \def\@ssect#1#2#3#4#5{%
13263 \Hy@MakeCurrentHrefAuto{section*}%
13264 \setlength{\Hy@SectionHShift}{#1}%
13265 \beginngroup
13266 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
13267 \toks\tw@\expandafter{%
13268 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13269 #5%

```

```

13270 }%
13271 \edef\x{\endgroup
13272 \the\toks@{\the\toks\tw@}}%
13273 }\x
13274 }
13275 \let\H@old@schapter\@schapter
13276 \def\@schapter#1{%
13277 \begingroup
13278 \let\@mkboth\@gobbletwo
13279 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13280 \Hy@raisedlink{%
13281 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13282 }%
13283 \endgroup
13284 \H@old@schapter{#1}%
13285 }

```

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:

```

13286 \ltx@ifundefined{@chapter}{-}{%
13287 \let\Hy@org@chapter\@chapter
13288 \def\@chapter{%
13289 \def\Hy@next{%
13290 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13291 \Hy@raisedlink{%
13292 \hyper@anchorstart{\@currentHref}\hyper@anchorend
13293 }%
13294 }%
13295 \ifnum\c@secnumdepth>\m@ne
13296 \ltx@ifundefined{if@mainmatter}%
13297 \iftrue{\csname if@mainmatter\endcsname}%
13298 \let\Hy@next\relax
13299 \fi
13300 \fi
13301 \Hy@next
13302 \Hy@org@chapter
13303 }%
13304 }
13305 \let\H@old@part\@part
13306 \begingroup\expandafter\expandafter\expandafter\endgroup
13307 \expandafter\ifx\csname chapter\endcsname\relax
13308 \let\Hy@secnum@part\z@
13309 \else
13310 \let\Hy@secnum@part\m@ne
13311 \fi
13312 \def\@part{%
13313 \ifnum\Hy@secnum@part>\c@secnumdepth
13314 \phantomsection
13315 \fi
13316 \H@old@part
13317 }
13318 \let\H@old@spart\@spart
13319 \def\@spart#1{%
13320 \Hy@MakeCurrentHrefAuto{part*}%
13321 \Hy@raisedlink{%
13322 \hyper@anchorstart{\@currentHref}\hyper@anchorend

```

```

13323 }%
13324 \H@old@spart{#1}%
13325 }
13326 \let\H@old@sect\@sect
13327 \def\@sect#1#2#3#4#5#6[#7]#8{%
13328 \ifnum #2>\c@secnumdepth
13329 \expandafter\@firstoftwo
13330 \else
13331 \expandafter\@secondoftwo
13332 \fi
13333 {%
13334 \Hy@MakeCurrentHrefAuto{section*}%
13335 \setlength{\Hy@SectionHShift}{#3}%
13336 \begingroup
13337 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
13338 \toks\tw@\expandafter{%
13339 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
13340 #8%
13341 }%
13342 \edef\x{\endgroup
13343 \the\toks@{\the\toks\tw@}}%
13344 }\x
13345 }{%
13346 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
13347 }%
13348 }

13349 </outlines | hypertex>
13350 <*outlines>

13351 \expandafter\def\csname Parent-4\endcsname{}
13352 \expandafter\def\csname Parent-3\endcsname{}
13353 \expandafter\def\csname Parent-2\endcsname{}
13354 \expandafter\def\csname Parent-1\endcsname{}
13355 \expandafter\def\csname Parent0\endcsname{}
13356 \expandafter\def\csname Parent1\endcsname{}
13357 \expandafter\def\csname Parent2\endcsname{}
13358 \expandafter\def\csname Parent3\endcsname{}
13359 \expandafter\def\csname Parent4\endcsname{}

13360 </outlines>

```

## 49 Compatibility with koma-script classes

```
13361 <*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.

```

13362 \def\Hy@tempa{%
13363 \def\@addchap[##1]##2{%
13364 \typeout{##2}%
13365 \if@twoside
13366 \mkboth{##1}{}%
13367 \else
13368 \mkboth{}{##1}%
13369 \fi

```

```

13370 \addtocontents{lof}{\protect\addvspace{10\p@}}%
13371 \addtocontents{lot}{\protect\addvspace{10\p@}}%
13372 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
13373 \Hy@raisedlink{%
13374   \hyper@anchorstart{\@currentHref}\hyper@anchorend
13375 }%
13376 \if@twocolumn
13377   \@topnewpage[\@makeschapterhead{##2}]%
13378 \else
13379   \@makeschapterhead{##2}%
13380   \@afterheading
13381 \fi
13382 \addcontentsline{toc}{chapter}{##1}%
13383 }%
13384 }
13385 \ifclassloaded{scrbook}{%
13386   \@ifclasslater{scrbook}{2001/01/01}{%
13387     \let\Hy@tempa\@empty
13388   }{}%
13389 }{%
13390   \@ifclassloaded{scrreprt}{%
13391     \@ifclasslater{scrreprt}{2001/01/01}{%
13392       \let\Hy@tempa\@empty
13393     }{}%
13394   }{%
13395     \let\Hy@tempa\@empty
13396   }%
13397 }%
13398 \Hy@tempa
13399 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 50.1 PD1 encoding

```

13400 <*pd1enc>
13401 \DeclareFontEncoding{PD1}{}{}

Accents
13402 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
13403 \DeclareTextAccent{\'}{PD1}{\textacute}
13404 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
13405 \DeclareTextAccent{\~}{PD1}{\texttilde}
13406 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
13407 \DeclareTextAccent{\r}{PD1}{\textring}
13408 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
13409 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
13410 \DeclareTextAccent{\c}{PD1}{\textcedilla}
13411 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
13412 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
13413 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
13414 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
13415 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
13416 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
13417 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}

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```

13418 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
13419 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
13420 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
13421 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
13422 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
13423 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
13424 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
13425 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
13426 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
13427 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
13428 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
13429 \DeclareTextCompositeCommand{\-}{PD1}{\ }{\texttilde}
13430 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
13431 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
13432 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
13433 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
13434 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
13435 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
13436 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
13437 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
13438 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
13439 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
13440 \DeclareTextCommand{\newtie}{PD1}[1]{%
13441   \TextSymbolUnavailable{\newtie{#1}}#1%
13442 }

```

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

```

13443 % U+0009 (CHARACTER TABULATION)
13444 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
13445 % U+000A (LINE FEED)
13446 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
13447 % U+000D (CARRIAGE RETURN)
13448 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

13449 % U+02D8 BREVE; breve
13450 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
13451 % U+02C7 CARON; caron
13452 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
13453 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
13454 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
13455 % U+02D9 DOT ABOVE; dotaccent
13456 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
13457 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
13458 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
13459 % U+02DB OGONEK; ogonek
13460 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
13461 % U+02DA RING ABOVE; ring
13462 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
13463 % U+02DC SMALL TILDE; ilde, *tilde
13464 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

13465 % U+0022 QUOTATION MARK; quotedbl

13466 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022

13467 % U+0023 NUMBER SIGN; numbersign

13468 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

13469 % U+0024 DOLLAR SIGN; dollar



13470 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 13471 % U+0025 PERCENT SIGN; percent  
 13472 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 13473 % U+0026 AMPERSAND; ampersand  
 13474 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 13475 % U+0028 LEFT PARENTHESIS; parenleft  
 13476 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028  
 13477 % U+0029 RIGHT PARENTHESIS; parenright  
 13478 \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  
 13479 % U+002E FULL STOP; period  
 13480 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E  
 \057: U+002F SOLIDUS; slash  
 \060: U+0030 DIGIT ZERO; zero  
 ...  
 \071: U+0039 DIGIT NINE; nine  
 \072: U+003A COLON; colon  
 \073: U+003B SEMICOLON; semicolon  
 13481 % U+003C LESS-THAN SIGN; less  
 13482 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 13483 % U+003E GREATER-THAN SIGN; greater  
 13484 \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  
 13485 % U+005C REVERSE SOLIDUS; backslash  
 13486 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13487 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13488 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 13489 % U+005F LOW LINE; underscore  
 13490 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 13491 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 13492 % U+0060 GRAVE ACCENT; grave  
 13493 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 13494 % U+0069 LATIN SMALL LETTER I; i  
 13495 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z

13496 % U+007B LEFT CURLY BRACKET; braceleft  
 13497 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 13498 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13499 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 13500 % U+007D RIGHT CURLY BRACKET; braceright  
 13501 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 13502 % U+007E TILDE; asciitilde  
 13503 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 13504 % U+2022 BULLET; bullet  
 13505 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 13506 % U+2020 DAGGER; dagger  
 13507 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 13508 % U+2021 DOUBLE DAGGER; daggerdbl  
 13509 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 13510 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 13511 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 13512 % U+2014 EM DASH; emdash  
 13513 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 13514 % U+2013 EN DASH; endash  
 13515 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 13516 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13517 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 13518 % U+2044 FRACTION SLASH; fraction  
 13519 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
 13520 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 ingleft  
 13521 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
 13522 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 ingright  
 13523 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
 13524 % U+2212 MINUS SIGN; minus  
 13525 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 13526 % U+2030 PER MILLE SIGN; perthousand  
 13527 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
 13528 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 13529 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
 13530 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 13531 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
 13532 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 13533 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
 13534 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 13535 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
 13536 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 13537 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
 13538 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 13539 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
 13540 % U+2122 TRADE MARK SIGN; trademark  
 13541 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
 13542 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 13543 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
 13544 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 13545 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
 13546 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 13547 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
 13548 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 13549 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152

13550 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 13551 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
 13552 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13553 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178  
 13554 \DeclareTextCommand{\IJ}{PD1}{\230}  
 13555 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13556 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
 13557 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 13558 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
 13559 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 13560 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
 13561 % U+0153 LATIN SMALL LIGATURE OE; oe  
 13562 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
 13563 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 13564 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
 13565 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13566 \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.  
 13567 % U+20AC EURO SIGN; \*Euro, euro  
 13568 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
 13569 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13570 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
 13571 % U+00A2 CENT SIGN; cent  
 13572 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
 13573 % U+00A3 POUND SIGN; sterling  
 13574 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
 13575 % U+00A4 CURRENCY SIGN; currency  
 13576 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
 13577 % U+00A5 YEN SIGN; yen  
 13578 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
 13579 % U+00A6 BROKEN BAR; brokenbar  
 13580 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
 13581 % U+00A7 SECTION SIGN; section  
 13582 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
 13583 % U+00A8 DIAERESIS; dieresis  
 13584 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 13585 % U+00A9 COPYRIGHT SIGN; copyright  
 13586 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 13587 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13588 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 13589 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motleft  
 13590 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 13591 % U+00AC NOT SIGN; logicalnot  
 13592 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 13593 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 13594 % U+00AE REGISTERED SIGN; registered  
 13595 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 13596 % U+00AF MACRON; \*macron, overscore  
 13597 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 13598 % U+00B0 DEGREE SIGN; degree  
 13599 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 13600 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13601 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 13602 % U+00B2 SUPERScript TWO; twosuperior

13603 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
13604 % U+00B3 SUPERScript THREE; threesuperior  
13605 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
13606 % U+00B4 ACUTE ACCENT; acute  
13607 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
13608 % U+00B5 MICRO SIGN; mu, mul  
13609 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
13610 % U+00B6 PILCROW SIGN; paragraph  
13611 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
13612 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
13613 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
13614 % U+00B8 CEDILLA; cedilla  
13615 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
13616 % U+00B9 SUPERScript ONE; onesuperior  
13617 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
13618 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
13619 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
13620 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
13621 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
13622 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
13623 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
13624 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
13625 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
13626 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
13627 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
13628 % U+00BF INVERTED QUESTION MARK; questiondown  
13629 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
13630 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
13631 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
13632 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
13633 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
13634 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
13635 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
13636 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
13637 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
13638 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
13639 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
13640 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
13641 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
13642 % U+00C6 LATIN CAPITAL LETTER AE; AE  
13643 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
13644 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
13645 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
13646 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
13647 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
13648 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
13649 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
13650 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
13651 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
13652 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
13653 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
13654 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
13655 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
13656 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
13657 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
13658 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex

13659 \DeclareTextCompositeCommand{\~}{PD1}{I}{\316}% U+00CE  
13660 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
13661 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
13662 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
13663 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
13664 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
13665 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
13666 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
13667 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
13668 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
13669 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
13670 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
13671 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
13672 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
13673 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
13674 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
13675 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
13676 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
13677 % U+00D7 MULTIPLICATION SIGN; multiply  
13678 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
13679 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
13680 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
13681 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
13682 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
13683 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
13684 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
13685 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
13686 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
13687 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
13688 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
13689 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
13690 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
13691 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
13692 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
13693 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
13694 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
13695 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
13696 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
13697 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
13698 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
13699 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
13700 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
13701 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
13702 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
13703 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
13704 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
13705 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
13706 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
13707 % U+00E6 LATIN SMALL LETTER AE; ae  
13708 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
13709 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
13710 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
13711 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
13712 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
13713 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
13714 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
13715 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex

13716 \DeclareTextCompositeCommand{\~}{PD1}{e}{\352}% U+00EA  
13717 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
13718 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
13719 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
13720 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
13721 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
13722 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
13723 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
13724 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
13725 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
13726 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE  
13727 \DeclareTextCompositeCommand{\~}{PD1}{i}{\356}% U+00EE  
13728 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
13729 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
13730 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
13731 % U+00F0 LATIN SMALL LETTER ETH; eth  
13732 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
13733 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
13734 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
13735 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
13736 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2  
13737 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
13738 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
13739 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
13740 \DeclareTextCompositeCommand{\~}{PD1}{o}{\364}% U+00F4  
13741 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
13742 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
13743 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
13744 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
13745 % U+00F7 DIVISION SIGN; divide  
13746 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
13747 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
13748 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
13749 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
13750 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9  
13751 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
13752 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
13753 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
13754 \DeclareTextCompositeCommand{\~}{PD1}{u}{\373}% U+00FB  
13755 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
13756 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
13757 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
13758 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
13759 % U+00FE LATIN SMALL LETTER THORN; thorn  
13760 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
13761 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
13762 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
13763 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

13764 \DeclareTextCommand{\SS}{PD1}{SS}  
13765 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

Aliases (german.sty)

13766 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}  
13767 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}  
13768 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}  
13769 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}  
13770 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}

```

13771 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
13772 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
13773 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

Aliases (math names)
13774 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
13775 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
13776 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
13777 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
13778 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
13779 \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).

```

13780 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
13781 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
13782 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
13783 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
13784 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
13785 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
13786 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
13787 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
13788 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
13789 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
13790 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
13791 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
13792 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
13793 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
13794 </pdlenc>

```

## 50.2 PU encoding

```

13795 <*puenc>
13796 \DeclareFontEncoding{PU}{-}{}

```

### 50.2.1 NFSS2 accents

```

13797 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecmb
13798 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
13799 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
13800 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
13801 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
13802 \DeclareTextCommand{\`}{PU}[1]{#1\83\002}% U+0302
13803 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
13804 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
13805 % U+0304 COMBINING MACRON; macroncmb
13806 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
13807 % U+0306 COMBINING BREVE; brevecmb
13808 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
13809 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
13810 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
13811 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
13812 % U+0308 COMBINING DIAERESIS; dieresiscmb
13813 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
13814 % U+030A COMBINING RING ABOVE; ringcmb
13815 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
13816 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
13817 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
13818 % U+030C COMBINING CARON; caroncmb

```

```

13819 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
13820 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
13821 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
13822 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
13823 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
13824 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
13825 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
13826 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
13827 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
13828 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
13829 % U+0327 COMBINING CEDILLA; cedillacmb
13830 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
13831 % U+0328 COMBINING OGONEK; ogonekcmb
13832 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
13833 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
13834 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
13835 % U+20DD COMBINING ENCLOSING CIRCLE
13836 \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.

```

13837 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
13838 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
13839 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
13840 \DeclareTextCompositeCommand{\-}{PU}{\@empty}{\texttilde}
13841 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
13842 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
13843 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
13844 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
13845 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
13846 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
13847 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
13848 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
13849 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
13850 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
13851 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
13852 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
13853 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
13854 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
13855 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}

13856 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
13857 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
13858 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
13859 \DeclareTextCompositeCommand{\-}{PU}{\ }{\texttilde}
13860 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
13861 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
13862 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
13863 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
13864 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
13865 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
13866 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
13867 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
13868 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
13869 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
13870 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
13871 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
13872 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
13873 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}

```



13874 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

Accents for capitals (see encoding TS1)

13875 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}  
13876 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}  
13877 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}  
13878 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}  
13879 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}  
13880 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}  
13881 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}  
13882 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}  
13883 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}  
13884 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}  
13885 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}  
13886 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}  
13887 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}  
13888 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}  
13889 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

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

Special white space escape characters.

13890 % U+0009 (CHARACTER TABULATION)  
13891 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009  
13892 % U+000A (LINE FEED)  
13893 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A  
13894 % U+000D (CARRIAGE RETURN)  
13895 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D  
  
\80\040: U+0020 SPACE; space, spacehackarabic  
\80\041: U+0021 EXCLAMATION MARK; exclam  
  
13896 % U+0022 QUOTATION MARK; quotedbl  
13897 \DeclareTextCommand{\textquotedbl}{PU}{\string"% } \80\042 U+0022  
13898 % U+0023 NUMBER SIGN; numbersign  
13899 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023  
13900 % U+0024 DOLLAR SIGN; dollar  
13901 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024  
13902 % U+0025 PERCENT SIGN; percent  
13903 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025  
13904 % U+0026 AMPERSAND; ampersand  
13905 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
13906 % U+0027 APOSTROPHE; quotesingle  
13907 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
13908 % U+0028 LEFT PARENTHESIS; parenleft  
13909 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
13910 % U+0029 RIGHT PARENTHESIS; parenright  
13911 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
13912 % U+002A ASTERISK; asterisk  
13913 \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  
 13914 % U+003C LESS-THAN SIGN; less  
 13915 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 13916 % U+003E GREATER-THAN SIGN; greater  
 13917 \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  
 13918 % U+005C REVERSE SOLIDUS; backslash  
 13919 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 13920 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 13921 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 13922 % U+005F LOW LINE; underscore  
 13923 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 13924 % U+0060 GRAVE ACCENT; grave  
 13925 \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  
 13926 % U+0069 LATIN SMALL LETTER I; i  
 13927 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % \80\151 U+0069  
 13928 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 13929 % U+007B LEFT CURLY BRACKET; braceleft  
 13930 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 13931 % U+007C VERTICAL LINE; \*bar, verticalbar  
 13932 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 13933 % U+007D RIGHT CURLY BRACKET; braceright  
 13934 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 13935 % U+007E TILDE; asciitilde  
 13936 \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  
 13937 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 13938 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 13939 % U+00A2 CENT SIGN; cent  
 13940 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 13941 % U+00A3 POUND SIGN; sterling  
 13942 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 13943 % U+00A4 CURRENCY SIGN; currency  
 13944 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 13945 % U+00A5 YEN SIGN; yen  
 13946 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5

13947 % U+00A6 BROKEN BAR; brokenbar  
 13948 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 13949 % U+00A7 SECTION SIGN; section  
 13950 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 13951 % U+00A8 DIAERESIS; dieresis  
 13952 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 13953 % U+00A9 COPYRIGHT SIGN; copyright  
 13954 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 13955 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 13956 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 13957 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 13958 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 13959 % U+00AC NOT SIGN; logicalnot  
 13960 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 13961 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 13962 % U+00AE REGISTERED SIGN; registered  
 13963 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 13964 % U+00AF MACRON; \*macron, overscore  
 13965 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 13966 % U+00B0 DEGREE SIGN; degree  
 13967 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 13968 % U+00B1 PLUS-MINUS SIGN; plusminus  
 13969 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 13970 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 13971 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 13972 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 13973 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 13974 % U+00B4 ACUTE ACCENT; acute  
 13975 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 13976 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 13977 % U+00B5 MICRO SIGN; mu, mul  
 13978 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 13979 % U+00B6 PILCROW SIGN; paragraph  
 13980 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 13981 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 13982 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 13983 % U+00B8 CEDILLA; cedilla  
 13984 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 13985 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 13986 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
 13987 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 13988 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 13989 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 13990 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 13991 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 13992 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 13993 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 13994 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 13995 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 13996 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
 13997 % U+00BF INVERTED QUESTION MARK; questiondown  
 13998 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
 13999 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 14000 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0

14001 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
14002 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
14003 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
14004 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
14005 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
14006 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
14007 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
14008 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
14009 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
14010 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
14011 % U+00C6 LATIN CAPITAL LETTER AE; AE  
14012 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
14013 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
14014 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
14015 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
14016 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
14017 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
14018 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
14019 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
14020 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
14021 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
14022 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
14023 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
14024 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
14025 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
14026 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
14027 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
14028 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
14029 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
14030 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
14031 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
14032 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
14033 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
14034 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
14035 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
14036 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
14037 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
14038 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
14039 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
14040 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
14041 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
14042 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
14043 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
14044 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
14045 % U+00D7 MULTIPLICATION SIGN; multiply  
14046 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
14047 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
14048 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
14049 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
14050 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
14051 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
14052 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
14053 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
14054 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
14055 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
14056 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
14057 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute

14058 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
14059 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
14060 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
14061 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
14062 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
14063 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
14064 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
14065 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; acute  
14066 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
14067 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
14068 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
14069 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
14070 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
14071 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
14072 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
14073 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
14074 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
14075 % U+00E6 LATIN SMALL LETTER AE; ae  
14076 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
14077 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
14078 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
14079 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
14080 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
14081 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
14082 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
14083 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
14084 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
14085 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
14086 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
14087 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
14088 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
14089 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
14090 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
14091 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
14092 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED  
14093 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
14094 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
14095 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
14096 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
14097 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
14098 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
14099 % U+00F0 LATIN SMALL LETTER ETH; eth  
14100 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
14101 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
14102 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
14103 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
14104 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
14105 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
14106 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
14107 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
14108 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
14109 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
14110 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
14111 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
14112 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
14113 % U+00F7 DIVISION SIGN; divide  
14114 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7

14115 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 14116 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 14117 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 14118 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
 14119 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 14120 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 14121 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 14122 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 14123 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 14124 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 14125 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 14126 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 14127 % U+00FE LATIN SMALL LETTER THORN; thorn  
 14128 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 14129 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 14130 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

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

14131 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 14132 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 14133 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 14134 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 14135 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 14136 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 14137 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 14138 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 14139 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 14140 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 14141 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 14142 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 14143 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 14144 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 14145 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 14146 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 14147 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 14148 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 14149 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 14150 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 14151 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 14152 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 14153 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 14154 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 14155 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 14156 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 14157 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 14158 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 14159 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 14160 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 14161 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 14162 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 14163 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
 14164 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
 14165 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
 14166 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
 14167 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
 14168 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112

14169 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
14170 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
14171 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
14172 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
14173 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
14174 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
14175 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
14176 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
14177 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
14178 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
14179 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
14180 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
14181 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
14182 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
14183 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
14184 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
14185 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
14186 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
14187 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
14188 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
14189 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
14190 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
14191 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
14192 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
14193 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
14194 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
14195 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
14196 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
14197 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
14198 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
14199 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaac-  
cent  
14200 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
14201 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
14202 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
14203 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
14204 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
14205 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
14206 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
14207 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
14208 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
14209 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
14210 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
14211 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
14212 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
14213 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
14214 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
14215 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
14216 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
14217 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
14218 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
14219 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14220 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
14221 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
14222 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
14223 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
14224 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D

14225 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
14226 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
14227 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
14228 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
14229 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14230 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
14231 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
14232 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
14233 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
14234 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
14235 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
14236 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
14237 % U+0133 LATIN SMALL LIGATURE IJ; ij  
14238 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
14239 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
14240 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
14241 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
14242 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
14243 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
14244 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
14245 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
14246 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
14247 \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.  
14248 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
14249 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
14250 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
14251 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
14252 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
14253 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
14254 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
14255 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
14256 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
14257 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
14258 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
14259 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
14260 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
14261 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E  
  
There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.  
14262 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
14263 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
14264 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
14265 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
14266 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
14267 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
14268 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
14269 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
14270 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
14271 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
14272 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
14273 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144



14274 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
 14275 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 14276 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 14277 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 14278 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 14279 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 14280 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 14281 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 14282 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
 14283 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 14284 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 14285 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 14286 % U+014B LATIN SMALL LETTER ENG; eng  
 14287 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 14288 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 14289 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 14290 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 14291 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 14292 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 14293 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
 14294 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 14295 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
 14296 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacut, Ohungarumlaut  
 14297 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
 14298 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacut, ohungarumlaut  
 14299 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 14300 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 14301 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 14302 % U+0153 LATIN SMALL LIGATURE OE; oe  
 14303 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 14304 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 14305 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 14306 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 14307 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 14308 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
 14309 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 14310 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 14311 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 14312 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 14313 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 14314 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 14315 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 14316 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 14317 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 14318 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 14319 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 14320 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 14321 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 14322 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 14323 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 14324 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 14325 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E

14326 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
14327 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
14328 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
14329 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
14330 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
14331 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
14332 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
14333 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
14334 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
14335 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
14336 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
14337 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
14338 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
14339 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
14340 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
14341 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
14342 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
14343 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
14344 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
14345 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
14346 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
14347 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
14348 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
14349 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
14350 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
14351 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
14352 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
14353 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
14354 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
14355 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
14356 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
14357 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
14358 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
14359 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
14360 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
14361 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
14362 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
14363 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
14364 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
14365 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
14366 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
14367 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
14368 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
14369 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
14370 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
14371 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
14372 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
14373 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
14374 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
14375 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
14376 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
14377 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
14378 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
14379 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179

14380 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 14381 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 14382 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 14383 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 14384 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 14385 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 14386 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 14387 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 14388 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 14389 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 14390 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 14391 \DeclareTextCommand{\textlong}{PU}{\81\177}% U+017F

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

14392 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 14393 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 14394 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 14395 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 14396 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 14397 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 14398 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 14399 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 14400 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 14401 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14402 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 14403 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 14404 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 14405 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 14406 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 14407 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 14408 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 14409 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 14410 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 14411 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 14412 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 14413 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 14414 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 14415 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 14416 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 14417 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 14418 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 14419 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 14420 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 14421 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 14422 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 14423 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 14424 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 14425 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 14426 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 14427 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 14428 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 14429 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 14430 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
 14431 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
 14432 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
 14433 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
 14434 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE

14435 \DeclareTextCompositeCommand{'}{PU}{N}{\81\370}% U+01F8  
14436 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
14437 \DeclareTextCompositeCommand{'}{PU}{n}{\81\371}% U+01F9  
14438 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
14439 \DeclareTextCompositeCommand{'}{PU}{\AE}{\81\374}% U+01FC  
14440 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
14441 \DeclareTextCompositeCommand{'}{PU}{\ae}{\81\375}% U+01FD  
14442 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacute  
14443 \DeclareTextCompositeCommand{'}{PU}{\O}{\81\376}% U+01FE  
14444 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
14445 \DeclareTextCompositeCommand{'}{PU}{\o}{\81\377}% U+01FF  
14446 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
14447 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
14448 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
14449 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
14450 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
14451 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
14452 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
14453 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
14454 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
14455 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
14456 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
14457 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
14458 \DeclareTextCompositeCommand{\G}{PU}{\i}{\82\011}% U+0209  
14459 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
14460 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
14461 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
14462 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
14463 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
14464 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
14465 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
14466 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
14467 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
14468 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
14469 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
14470 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
14471 % U+021E LATIN CAPITAL LETTER H WITH CARON  
14472 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
14473 % U+021F LATIN SMALL LETTER H WITH CARON  
14474 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
14475 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
14476 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
14477 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
14478 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
14479 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
14480 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
14481 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
14482 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
14483 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
14484 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
14485 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
14486 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
14487 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
14488 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
14489 % U+0233 LATIN SMALL LETTER Y WITH MACRON

14490 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 14491 % U+0237 LATIN SMALL LETTER DOTLESS J  
 14492 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

14493 % U+02C7 CARON; caron  
 14494 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 14495 % U+02D8 BREVE; breve  
 14496 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 14497 % U+02D9 DOT ABOVE; dotaccent  
 14498 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 14499 % U+02DA RING ABOVE; ring  
 14500 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 14501 % U+02DB OGONEK; ogonek  
 14502 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 14503 % U+02DC SMALL TILDE; ilde, \*tilde  
 14504 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 14505 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 14506 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 14507 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 14508 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 14509 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 14510 % U+02F7 MODIFIER LETTER LOW TILDE  
 14511 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

14512 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 14513 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 14514 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 14515 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 14516 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 14517 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 14518 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 14519 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 14520 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 14521 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

14522 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 14523 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 14524 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 14525 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 14526 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 14527 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 14528 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 14529 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 14530 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 14531 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 14532 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 14533 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 14534 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-  
     crintonos  
 14535 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 14536 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos  
 14537 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 14538 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 14539 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F

14540 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis  
 14541 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 14542 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 14543 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 14544 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 14545 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 14546 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 14547 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 14548 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
 14549 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
 14550 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
 14551 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
 14552 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
 14553 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
 14554 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
 14555 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
 14556 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
 14557 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
 14558 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
 14559 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
 14560 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
 14561 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
 14562 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
 14563 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
 14564 % U+039C GREEK CAPITAL LETTER MU; Mu  
 14565 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
 14566 % U+039D GREEK CAPITAL LETTER NU; Nu  
 14567 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
 14568 % U+039E GREEK CAPITAL LETTER XI; Xi  
 14569 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
 14570 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
 14571 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
 14572 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
 14573 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
 14574 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
 14575 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
 14576 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
 14577 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
 14578 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
 14579 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
 14580 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
 14581 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
 14582 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
 14583 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
 14584 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
 14585 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
 14586 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
 14587 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
 14588 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
 14589 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
 14590 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
 14591 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
 14592 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
 14593 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis  
 14594 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB

14595 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
14596 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}% U+03AC  
14597 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
14598 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD  
14599 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
14600 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE  
14601 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
14602 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF  
14603 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; up-  
silondieresisto  
14604 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
14605 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
14606 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
14607 % U+03B2 GREEK SMALL LETTER BETA; beta  
14608 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
14609 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
14610 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
14611 % U+03B4 GREEK SMALL LETTER DELTA; delta  
14612 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
14613 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
14614 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
14615 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
14616 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
14617 % U+03B7 GREEK SMALL LETTER ETA; eta  
14618 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
14619 % U+03B8 GREEK SMALL LETTER THETA; theta  
14620 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
14621 % U+03B9 GREEK SMALL LETTER IOTA; iota  
14622 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
14623 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
14624 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
14625 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
14626 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
14627 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
14628 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
14629 % U+03BD GREEK SMALL LETTER NU; nu  
14630 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
14631 % U+03BE GREEK SMALL LETTER XI; xi  
14632 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
14633 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
14634 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
14635 % U+03C0 GREEK SMALL LETTER PI; pi  
14636 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
14637 % U+03C1 GREEK SMALL LETTER RHO; rho  
14638 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
14639 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
14640 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
14641 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
14642 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
14643 % U+03C4 GREEK SMALL LETTER TAU; tau  
14644 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
14645 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
14646 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
14647 % U+03C6 GREEK SMALL LETTER PHI; phi  
14648 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
14649 % U+03C7 GREEK SMALL LETTER CHI; chi  
14650 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7

14651 % U+03C8 GREEK SMALL LETTER PSI; psi  
 14652 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
 14653 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
 14654 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
 14655 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
 14656 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
 14657 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
 silondieresis  
 14658 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
 14659 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 14660 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
 14661 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 14662 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 14663 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD  
 14664 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 14665 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE  
 14666 % U+03DA GREEK LETTER STIGMA; Stigmagreek  
 14667 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA  
 14668 % U+03DB GREEK SMALL LETTER STIGMA  
 14669 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB  
 14670 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 14671 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 14672 % U+03DD GREEK SMALL LETTER DIGAMMA  
 14673 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 14674 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 14675 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 14676 % U+03DF GREEK SMALL LETTER KOPPA  
 14677 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 14678 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 14679 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 14680 % U+03E1 GREEK SMALL LETTER SAMPI  
 14681 \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.

14682 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 14683 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400  
 14684 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, \*afii10023  
 14685 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 14686 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???  
 14687 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
 14688 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 14689 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
 14690 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403  
 14691 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
 14692 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 14693 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
 14694 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 14695 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyril-  
 lic, \*afii10055  
 14696 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 14697 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
 14698 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 14699 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
 14700 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
 14701 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408



14702 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
14703 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
14704 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
14705 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
14706 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
14707 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
14708 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
14709 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
14710 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
14711 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
14712 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
14713 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
14714 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
14715 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
14716 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
14717 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
14718 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
14719 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
14720 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
14721 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
14722 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
14723 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
14724 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
14725 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
14726 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
14727 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
14728 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
14729 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
14730 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
14731 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
14732 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
14733 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
14734 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
14735 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
14736 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
14737 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
14738 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
14739 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
14740 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
14741 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
14742 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
14743 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
14744 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
14745 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
14746 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
14747 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
14748 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
14749 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
14750 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
14751 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
14752 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
14753 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
14754 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
14755 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
14756 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
14757 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
14758 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038

14759 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
14760 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
14761 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
14762 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrlilic, \*afii10040  
14763 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
14764 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrlilic, \*afii10041  
14765 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
14766 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrlilic, \*afii10042  
14767 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
14768 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrlilic, \*afii10043  
14769 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
14770 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrlilic, \*afii10044  
14771 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
14772 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrlilic, \*afii10045  
14773 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
14774 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrlilic, \*afii10046  
14775 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
14776 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrlilic, \*afii10047  
14777 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
14778 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrlilic, \*afii10048  
14779 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
14780 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrlilic, \*afii10049  
14781 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
14782 % U+0430 CYRILLIC SMALL LETTER A; acyrlilic, \*afii10065  
14783 \DeclareTextCommand{\cya}{PU}{\84\060}% U+0430  
14784 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
14785 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
14786 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
14787 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
14788 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
14789 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
14790 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
14791 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
14792 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
14793 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
14794 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
14795 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
14796 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
14797 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
14798 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
14799 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
14800 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
14801 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
14802 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
14803 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
14804 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
14805 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
14806 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B  
14807 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
14808 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
14809 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
14810 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
14811 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
14812 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
14813 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
14814 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
14815 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic

14816 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
14817 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
14818 \DeclareTextCommand{\cysr}{PU}{\84\101}% U+0441  
14819 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
14820 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
14821 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
14822 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
14823 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
14824 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
14825 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
14826 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
14827 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
14828 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
14829 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
14830 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
14831 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
14832 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
14833 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
14834 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
14835 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
14836 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A  
14837 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
14838 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
14839 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
14840 \DeclareTextCommand{\cysftsn}{PU}{\84\114}% U+044C  
14841 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
14842 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
14843 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
14844 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
14845 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
14846 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
14847 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
14848 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
14849 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
14850 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
14851 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
14852 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
14853 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
14854 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
14855 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
14856 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
14857 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
14858 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
14859 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
14860 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyril-  
lic  
14861 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
14862 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
14863 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
14864 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
14865 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
14866 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
14867 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
14868 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
14869 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
14870 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
14871 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic

14872 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
14873 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
14874 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
14875 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
14876 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
14877 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
14878 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
14879 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
14880 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
14881 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
14882 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
14883 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
14884 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
14885 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
14886 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
14887 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
14888 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
14889 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
14890 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
14891 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
14892 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
14893 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
14894 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
14895 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
14896 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
14897 \DeclareTextCommand{\cyrljus}{PU}{\84\147}% U+0467  
14898 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleio-  
tifiedcyrillic  
14899 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
14900 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-  
fiedcyrillic  
14901 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
14902 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
14903 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
14904 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
14905 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
14906 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
14907 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
14908 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyril-  
lic  
14909 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
14910 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
14911 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
14912 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
14913 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
14914 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
14915 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
14916 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
14917 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
14918 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
14919 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
14920 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
14921 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
14922 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
14923 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
14924 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic

14925 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 14926 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; Izhitsadblgravecyrillic  
 14927 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 14928 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE AC-  
 CENT; izhitsadblgravecyrillic  
 14929 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 14930 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 14931 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 14932 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 14933 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 14934 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 14935 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 14936 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 14937 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 14938 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-  
 cyrillic  
 14939 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 14940 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 14941 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 14942 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 14943 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 14944 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 14945 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 14946 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 14947 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 14948 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 14949 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 14950 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 14951 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyril-  
 liccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumata-  
 cyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyril-  
 liccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 14952 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 14953 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 14954 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 14955 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 14956 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 14957 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 14958 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 14959 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 14960 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 14961 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 14962 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 14963 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 14964 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050

14965 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
14966 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afi10098, ghe-  
upturncyrillic  
14967 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
14968 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
14969 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
14970 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
14971 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
14972 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemid-  
dlehookcyrillic  
14973 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
14974 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemid-  
dlehookcyrillic  
14975 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
14976 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescen-  
dercyrillic  
14977 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
14978 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescen-  
dercyrillic  
14979 \DeclareTextCommand{\cyrzhds}{PU}{\84\227}% U+0497  
14980 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
14981 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
14982 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
14983 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
14984 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
14985 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
14986 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
14987 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
14988 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescenter-  
cyrillic  
14989 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% U+049B  
14990 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaver-  
ticalstrokecyrillic  
14991 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
14992 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaver-  
ticalstrokecyrillic  
14993 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
14994 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
14995 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
14996 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
14997 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
14998 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
14999 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
15000 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
15001 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
15002 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
dercyrillic  
15003 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
15004 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
cyrillic  
15005 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
15006 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
15007 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4

15008 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 15009 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 15010 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 15011 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 15012 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 15013 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 15014 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 15015 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 15016 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 15017 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 15018 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 15019 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 15020 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 15021 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 15022 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 15023 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
 15024 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 15025 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 15026 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 15027 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 15028 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 15029 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 15030 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 15031 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
 15032 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 15033 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 15034 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
 15035 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
 15036 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
 15037 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 15038 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
 15039 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 15040 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 15041 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 15042 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 15043 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
 15044 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
 15045 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
 15046 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
 15047 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7  
 15048 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Chev-  
 erticalstrokecyrillic  
 15049 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8

15050 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; chev-  
 erticalstrokecyrillic  
 15051 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 15052 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 15053 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 15054 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 15055 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 15056 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
 cyrillic  
 15057 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 15058 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
 lic  
 15059 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 15060 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; Chedescenderabkhasiancyrillic  
 15061 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 15062 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 15063 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
 DER; chedescenderabkhasiancyrillic  
 15064 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 15065 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 15066 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 15067 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 15068 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 15069 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 15070 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 15071 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 15072 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 15073 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 15074 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 15075 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 15076 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 15077 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 15078 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 15079 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 15080 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 15081 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 15082 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 15083 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 15084 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassian-  
 cyrillic  
 15085 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 15086 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 15087 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 15088 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 15089 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 15090 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 15091 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 15092 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 15093 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 15094 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 15095 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 15096 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
 lic  
 15097 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2



15098 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 15099 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
 15100 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 15101 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 15102 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 15103 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 15104 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevescyrillic  
 15105 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 15106 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevescyrillic  
 15107 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 15108 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 15109 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 15110 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 15111 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 15112 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiere-  
 siscyrillic  
 15113 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 15114 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiere-  
 siscyrillic  
 15115 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
 15116 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
 siscyrillic  
 15117 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
 15118 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
 15119 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
 15120 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
 15121 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
 15122 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
 15123 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
 15124 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
 cyrillic  
 15125 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 15126 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
 15127 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
 15128 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
 15129 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
 15130 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
 15131 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
 15132 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
 15133 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
 15134 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
 15135 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
 15136 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
 15137 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
 15138 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
 15139 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
 15140 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
 15141 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
 15142 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
 15143 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
 15144 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
 15145 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA

15146 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarred-  
 dieresiscyrillic  
 15147 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
 15148 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 15149 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 15150 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 15151 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 15152 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 15153 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
 15154 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 15155 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
 15156 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 15157 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 15158 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 15159 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 15160 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 15161 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 15162 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 15163 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 15164 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 15165 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 15166 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chediere-  
 siscyrillic  
 15167 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 15168 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 15169 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 15170 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 15171 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 15172 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 15173 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 15174 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 15175 \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  
 15176 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 15177 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 15178 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 15179 \DeclareTextCommand{\cyrhk}{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

15180 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 15181 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

15182 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 15183 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 15184 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 15185 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03

15186 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
15187 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
15188 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
15189 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
15190 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
15191 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
15192 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
15193 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
15194 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
15195 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
15196 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
15197 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
15198 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
15199 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
15200 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
15201 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
15202 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
15203 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
15204 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
15205 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
15206 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
15207 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
15208 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
15209 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
15210 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
15211 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
15212 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
15213 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
15214 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
15215 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
15216 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
15217 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
15218 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
15219 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
15220 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
15221 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
15222 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
15223 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
15224 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
15225 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
15226 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
15227 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
15228 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
15229 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
15230 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
15231 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
15232 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
15233 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
15234 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
15235 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
15236 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
15237 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
15238 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
15239 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
15240 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
15241 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
15242 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent

15243 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
15244 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
15245 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
15246 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
15247 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
15248 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
15249 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
15250 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
15251 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
15252 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
15253 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
15254 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
15255 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
15256 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
15257 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
15258 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
15259 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
15260 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
15261 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
15262 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
15263 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
15264 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
15265 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
15266 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
15267 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
15268 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
15269 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
15270 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
15271 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
15272 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
15273 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
15274 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
15275 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
15276 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
15277 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
15278 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
15279 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
15280 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
15281 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
15282 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
15283 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
15284 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
15285 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
15286 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
15287 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
15288 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
15289 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
15290 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
15291 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
15292 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
15293 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
15294 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
15295 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
15296 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
15297 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
15298 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
15299 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C

15300 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
 15301 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
 15302 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
 15303 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
 15304 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
 15305 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
 15306 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
 15307 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
 15308 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
 15309 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
 15310 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 15311 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 15312 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 15313 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 15314 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 15315 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 15316 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 15317 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 15318 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 15319 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 15320 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 15321 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 15322 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotac-  
 cent  
 15323 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 15324 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 15325 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 15326 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 15327 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 15328 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 15329 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 15330 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 15331 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 15332 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 15333 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 15334 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 15335 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

15336 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 15337 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 15338 % U+2013 EN DASH; endash  
 15339 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 15340 % U+2014 EM DASH; emdash  
 15341 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 15342 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 15343 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 15344 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 15345 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 15346 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 15347 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 15348 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 15349 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 15350 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 15351 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 15352 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 15353 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D

15354 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 15355 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 15356 % U+2020 DAGGER; dagger  
 15357 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 15358 % U+2021 DOUBLE DAGGER; daggerdbl  
 15359 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 15360 % U+2022 BULLET; bullet  
 15361 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 15362 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 15363 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 15364 % U+2030 PER MILLE SIGN; perthousand  
 15365 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 15366 % U+2031 PER TEN THOUSAND SIGN  
 15367 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 15368 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 15369 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 15370 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 lingright  
 15371 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 15372 % U+203B REFERENCE MARK; referencemark  
 15373 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 15374 % U+203D INTERROBANG  
 15375 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 15376 % U+2044 FRACTION SLASH; fraction  
 15377 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 15378 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 15379 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 15380 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 15381 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 15382 % U+2052 COMMERCIAL MINUS SIGN  
 15383 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

15384 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 15385 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 15386 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 15387 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 15388 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 15389 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 15390 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 15391 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 15392 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 15393 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 15394 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 15395 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 15396 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 15397 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 15398 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 15399 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 15400 % U+207B SUPERSCRIPT MINUS  
 15401 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 15402 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 15403 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 15404 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 15405 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 15406 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior

15407 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 15408 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 15409 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 15410 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 15411 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 15412 % U+2081 SUBSCRIPT ONE; oneinferior  
 15413 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 15414 % U+2082 SUBSCRIPT TWO; twoinferior  
 15415 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 15416 % U+2083 SUBSCRIPT THREE; threeinferior  
 15417 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}% U+2083  
 15418 % U+2084 SUBSCRIPT FOUR; fourinferior  
 15419 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 15420 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 15421 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 15422 % U+2086 SUBSCRIPT SIX; sixinferior  
 15423 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 15424 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 15425 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 15426 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 15427 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 15428 % U+2089 SUBSCRIPT NINE; nineinferior  
 15429 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 15430 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 15431 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 15432 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 15433 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

15434 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 15435 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 15436 % U+20A4 LIRA SIGN; afii08941, \*lira  
 15437 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 15438 % U+20A6 NAIRA SIGN  
 15439 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 15440 % U+20A7 PESETA SIGN; peseta  
 15441 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 15442 % U+20A9 WON SIGN; won  
 15443 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 15444 % U+20AB DONG SIGN; dong  
 15445 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 15446 % U+20AC EURO SIGN; \*Euro, euro  
 15447 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 15448 % U+20B1 PESO SIGN  
 15449 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 15450 % U+20B2 GUARANI SIGN  
 15451 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

15452 % U+2103 DEGREE CELSIUS; centigrade  
 15453 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 15454 % U+2116 NUMERO SIGN; \*afii61352, numero  
 15455 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 15456 % U+2117 SOUND RECORDING COPYRIGHT  
 15457 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 15458 % U+211E PRESCRIPTION TAKE; prescription  
 15459 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E

15460 % U+2120 SERVICE MARK  
15461 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
15462 % U+2122 TRADE MARK SIGN; trademark  
15463 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
15464 % U+2126 OHM SIGN; Ohm, Omega  
15465 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
15466 % U+2127 INVERTED OHM SIGN  
15467 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
15468 % U+212B ANGSTROM SIGN; angstrom  
15469 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
15470 % U+212E ESTIMATED SYMBOL; estimated  
15471 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
15472 % U+2135 ALEF SYMBOL; aleph  
15473 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

15474 % U+2190 LEFTWARDS ARROW; arrowleft  
15475 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
15476 % U+2191 UPWARDS ARROW; arrowup  
15477 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
15478 % U+2192 RIGHTWARDS ARROW; arrowright  
15479 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
15480 % U+2193 DOWNWARDS ARROW; arrowdown  
15481 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

15482 % U+2212 MINUS SIGN; minus  
15483 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
15484 % U+221A SQUARE ROOT; radical  
15485 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

15486 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
15487 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
15488 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
15489 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

15490 % U+2422 BLANK SYMBOL  
15491 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
15492 % U+2423 OPEN BOX; blank  
15493 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

15494 % U+2460 CIRCLED DIGIT ONE; onecircle  
15495 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
15496 % U+2461 CIRCLED DIGIT TWO; twocircle  
15497 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
15498 % U+2462 CIRCLED DIGIT THREE; threecircle  
15499 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
15500 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
15501 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
15502 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
15503 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
15504 % U+2465 CIRCLED DIGIT SIX; sixcircle  
15505 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
15506 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle



15507 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
15508 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
15509 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
15510 % U+2468 CIRCLED DIGIT NINE; ninecircle  
15511 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
15512 % U+2469 CIRCLED NUMBER TEN; tencircle  
15513 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
15514 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
15515 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
15516 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
15517 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
15518 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
15519 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
15520 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
15521 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
15522 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
15523 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
15524 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
15525 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
15526 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
15527 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
15528 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
15529 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
15530 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
15531 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
15532 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
15533 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
15534 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
15535 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
15536 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
15537 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
15538 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
15539 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
15540 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
15541 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
15542 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
15543 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
15544 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
15545 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
15546 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
15547 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
15548 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
15549 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
15550 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
15551 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
15552 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
15553 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
15554 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
15555 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
15556 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
15557 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
15558 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
15559 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
15560 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
15561 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
15562 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
15563 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4

15564 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 15565 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 15566 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 15567 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 15568 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 15569 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 15570 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 15571 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 15572 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 15573 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 15574 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 15575 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 15576 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 15577 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 15578 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 15579 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 15580 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 15581 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 15582 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 15583 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 15584 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 15585 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 15586 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 15587 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 15588 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 15589 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 15590 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 15591 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 15592 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 15593 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 15594 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 15595 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 15596 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 15597 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 15598 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 15599 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 15600 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 15601 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 15602 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 15603 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 15604 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 15605 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 15606 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 15607 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 15608 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 15609 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 15610 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 15611 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 15612 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 15613 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 15614 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 15615 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 15616 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 15617 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 15618 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 15619 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 15620 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle

15621 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 15622 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 15623 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 15624 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 15625 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 15626 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 15627 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 15628 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 15629 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 15630 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 15631 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 15632 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 15633 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 15634 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 15635 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 15636 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 15637 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 15638 % U+24EA CIRCLED DIGIT ZERO  
 15639 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

15640 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 15641 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 15642 % U+25EF LARGE CIRCLE; largecircle  
 15643 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

15644 % U+266A EIGHTH NOTE; musicalnote  
 15645 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 15646 % U+26AD MARRIAGE SYMBOL  
 15647 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 15648 % U+26AE DIVORCE SYMBOL  
 15649 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

15650 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 15651 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 15652 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 15653 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

15654 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 15655 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 15656 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 15657 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

15658 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

15659 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 15660 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 15661 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 15662 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 15663 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}

```

15664 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
15665 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
15666 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

15667 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
15668 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
15669 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
15670 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
15671 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

15672 </puenc>

```

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

15673 <*puvnenc>

15674 \DeclareTextCommand{\abreve}{PU}{\81\003}
15675 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
15676 \DeclareTextCommand{\dj}{PU}{\81\021}
15677 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
15678 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
15679 \DeclareTextCommand{\ohorn}{PU}{\81\241}
15680 \DeclareTextCommand{\uhorn}{PU}{\81\260}
15681 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
15682 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
15683 \DeclareTextCommand{\DJ}{PU}{\81\020}
15684 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
15685 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
15686 \DeclareTextCommand{\OHORN}{PU}{\81\240}
15687 \DeclareTextCommand{\UHORN}{PU}{\81\257}

15688 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
15689 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
15690 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
15691 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
15692 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
15693 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
15694 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
15695 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
15696 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
15697 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
15698 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
15699 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
15700 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
15701 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
15702 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
15703 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
15704 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
15705 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
15706 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
15707 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
15708 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
15709 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
15710 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
15711 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
15712 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
15713 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}

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15714 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}  
15715 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}  
15716 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}  
15717 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
15718 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
15719 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
15720 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
15721 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
15722 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
15723 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
15724 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
15725 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
15726 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
15727 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
15728 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
15729 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
15730 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
15731 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
15732 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
15733 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
15734 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
15735 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
15736 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
15737 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
15738 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
15739 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
15740 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
15741 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
15742 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
15743 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
15744 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
15745 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
15746 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
15747 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
15748 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
15749 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
15750 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
15751 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
15752 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
15753 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
15754 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
15755 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
15756 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
15757 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
15758 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
15759 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
15760 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
15761 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
15762 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
15763 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
15764 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
15765 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
15766 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
15767 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
15768 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
15769 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
15770 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}

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15771 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
15772 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
15773 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
15774 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
15775 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
15776 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
15777 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
15778 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
15779 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
15780 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
15781 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
15782 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
15783 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
15784 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
15785 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
15786 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
15787 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
15788 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
15789 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
15790 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
15791 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
15792 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
15793 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
15794 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
15795 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
15796 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
15797 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
15798 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
15799 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
15800 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
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15803 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
15804 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
15805 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
15806 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
15807 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
15808 </p>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

15809 <*puarenc>
15810 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afi57409;ARABIC LET-
TER HAMZA
15811 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afi57410;ARABIC LET-
TER ALEF WITH MADDA ABOVE
15812 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afi57411;ARABIC LET-
TER ALEF WITH HAMZA ABOVE
15813 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afi57412;ARABIC LET-
TER WAW WITH HAMZA ABOVE
15814 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afi57413;ARABIC LET-
TER ALEF WITH HAMZA BELOW
15815 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afi57414;ARABIC LET-
TER YEH WITH HAMZA ABOVE
15816 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afi57415;ARABIC LETTER ALEF

```

15817 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afi57416;ARABIC LETTER BEH  
15818 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afi57417;ARABIC LETTER TEH MARBUTA  
15819 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afi57418;ARABIC LETTER TEH  
15820 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afi57419;ARABIC LET-  
TER THEH  
15821 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afi57420;ARABIC LET-  
TER JEEM  
15822 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afi57421;ARABIC LETTER HAH  
15823 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afi57422;ARABIC LETTER KHAH  
15824 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afi57423;ARABIC LETTER DAL  
15825 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afi57424;ARABIC LETTER THAL  
15826 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afi57425;ARABIC LETTER REH  
15827 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afi57426;ARABIC LETTER ZAIN  
15828 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afi57427;ARABIC LETTER SEEN  
15829 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afi57428;ARABIC LET-  
TER SHEEN  
15830 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afi57429;ARABIC LETTER SAD  
15831 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afi57430;ARABIC LETTER DAD  
15832 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afi57431;ARABIC LETTER TAH  
15833 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afi57432;ARABIC LETTER ZAH  
15834 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afi57433;ARABIC LETTER AIN  
15835 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afi57434;ARABIC LET-  
TER GHAIN  
15836 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afi57440;ARABIC TATWEEL  
15837 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afi57441;ARABIC LETTER FEH  
15838 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afi57442;ARABIC LETTER QAF  
15839 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afi57443;ARABIC LETTER KAF  
15840 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afi57444;ARABIC LETTER LAM  
15841 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afi57445;ARABIC LET-  
TER MEEM  
15842 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afi57446;ARABIC LETTER NOON  
15843 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afi57470;ARABIC LETTER HEH  
15844 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afi57448;ARABIC LETTER WAW  
15845 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afi57449;ARABIC LET-  
TER ALEF MAKSURA  
15846 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afi57450;ARABIC LETTER YEH  
15847 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afi57451;ARABIC FATHATAN  
15848 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afi57452;ARABIC DAMMATAN  
15849 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afi57453;ARABIC KASRATAN  
15850 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afi57454;ARABIC FATHA  
15851 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afi57455;ARABIC DAMMA  
15852 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afi57456;ARABIC KASRA  
15853 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afi57457;ARABIC SHADDA  
15854 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afi57458;ARABIC SUKUN  
  
Farsi  
15855 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afi57506;ARABIC LETTER PEH  
15856 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afi57507;ARABIC LET-  
TER TCHEH  
15857 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afi57508;ARABIC LETTER JEH  
15858 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afi????;FARSI LET-  
TER KAF  
15859 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afi57509;ARABIC LETTER GAF  
15860 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afi????;FARSI LET-  
TER YEH  
  
15861 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%  
15862 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

15863  $\langle /puarenc \rangle$

## **51 End of file hyccheck.tex**

15864  $\langle *check \rangle$

15865  $\backslash typeout{\}$

15866  $\backslash begin{document}$

15867  $\backslash end{document}$

15868  $\langle /check \rangle$



## 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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