

# Hypertext marks in $\text{\LaTeX}$

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## 1 Documentation overview for `hyperref`

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

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

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

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

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

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

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

Source code documentation:

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

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

**`nameref.dtx`** “Section name references in  $\text{\LaTeX}$ ”

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### 3 File hycheck.tex

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

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

`\checklatex` Optional argument: release date of L<sup>A</sup>T<sub>E</sub>X.

```
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   }\%
```

`\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{hycheck}{%
62       Unknown command '\expandafter\strip@prefix\meaning\HyC@cmd'%
63     }\@ehd
64     \expandafter\endinput
65   \fi
66   \@ifstar{%
67     \def\HyC@star{*}%
68     \HyC@check
69   }{%
70     \let\HyC@star\@empty
71     \HyC@check
72   }%
73 }
```

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

```

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

`\HyC@noValue`

```

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

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



```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

`\HyC@nc@opt` This macro scans the first optional argument of a L<sup>A</sup>T<sub>E</sub>X 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\[%
218 \x\]%
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{keyval}[1997/11/10]
233 \RequirePackage{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \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`.

```

240 \@ifundefined{AfterBeginDocument}{%
241   \def\AfterBeginDocument{\AtBeginDocument}%
242 }{}%

```

## 4.3 Switches

```

243 \newif\ifHy@typexml
244 \newif\ifHy@activeanchor
245 \newif\ifHy@backref
246 \newif\ifHy@bookmarks
247 \newif\ifHy@bookmarksnumbered
248 \newif\ifHy@bookmarksopen
249 \newif\ifHy@breaklinks
250 \newif\ifHy@centerwindow
251 \newif\ifHy@CJKbookmarks
252 \newif\ifHy@colorlinks
253 \newif\ifHy@draft
254 \let\Hy@finaltrue\Hy@draftfalse
255 \let\Hy@finalfalse\Hy@drafttrue

```

```

256 \newif\ifHy@escapeform
257 \newif\ifHy@figures
258 \newif\ifHy@fitwindow
259 \newif\ifHy@frenchlinks
260 \newif\ifHy@hyperfootnotes
261 \newif\ifHy@hyperindex
262 \newif\ifHy@hypertextnames
263 \newif\ifHy@implicit
264 \newif\ifHy@linktocpage
265 \newif\ifHy@menubar
266 \newif\ifHy@naturalnames
267 \newif\ifHy@nesting
268 \newif\ifHy@newwindowset
269 \newif\ifHy@newwindow
270 \newif\ifHy@ocgcolorlinks
271 \newif\ifHy@pageanchor
272 \newif\ifHy@pagelabels
273 \newif\ifHy@pdfpagehidden
274 \newif\ifHy@pdfstring
275 \newif\ifHy@plainpages
276 \newif\ifHy@psize
277 \newif\ifHy@raiselinks
278 \newif\ifHy@seminarslides
279 \newif\ifHy@setpagesize
280 \newif\ifHy@texht
281 \newif\ifHy@toolbar
282 \newif\ifHy@unicode
283 \newif\ifHy@usetitle
284 \newif\ifHy@verbose
285 \newif\ifHy@windowui
286 \newif\ifHy@displaydoctitle
287 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

288 \Hy@backreffalse
289 \Hy@bookmarksnumberedfalse
290 \Hy@bookmarksopenfalse
291 \Hy@bookmarkstrue
292 \Hy@breaklinksfalse
293 \Hy@centerwindowfalse
294 \Hy@CJKbookmarksfalse
295 \Hy@escapeformfalse
296 \Hy@figuresfalse
297 \Hy@fitwindowfalse
298 \Hy@hyperfootnotetrue
299 \Hy@hyperindextrue
300 \Hy@hypertextnametrue
301 \Hy@implicittrue
302 \Hy@linktocpagefalse
303 \Hy@menubartrue
304 \Hy@naturalnamesfalse
305 \Hy@nestingfalse
306 \Hy@newwindowsetfalse
307 \Hy@newwindowfalse
308 \Hy@pageanchortrue
309 \Hy@pagelabelstrue
310 \Hy@pdfpagehiddenfalse
311 \Hy@pdfstringfalse

```

```

312 \Hy@plainpagesfalse
313 \Hy@raiselinksfalse
314 \Hy@setpagesizetrue
315 \Hy@texhtfalse
316 \Hy@toolbartrue
317 \Hy@typexmlfalse
318 \Hy@unicodetrue
319 \Hy@usetitlefalse
320 \Hy@verbosefalse
321 \Hy@windowuitrue
322 \Hy@displaydoctitlefalse
323 \Hy@pdfafalse

```

## 5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

326 \newdimen\@linkdim
327 \let\Hy@driver\@empty
328 \let\MaybeStopEarly\relax
329 \newcount\Hy@linkcounter
330 \newcount\Hy@pagecounter
331 \Hy@linkcounter0
332 \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.

```

333 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
334 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

335 \let\Hy@ReturnEnd\@empty
336 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
337 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

### 5.2 Babel's protection of shorthand characters

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

```

338 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
339 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

### 5.3 Coordinate transformations

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

`\hypercalcbp` The user macro `\hypercalcbp` can be used, for example, inside option values:  
`pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in}}`

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

Example (T<sub>E</sub>X):

```

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

\hypercalcbp

340 \begingroup\expandafter\expandafter\expandafter\endgroup
341 \expandafter\ifx\csname dimexpr\endcsname\relax
342   \def\hypercalcbpdef#1#2{%
343     \begingroup
344       \toks@{}%
345       \HyCal@scan#2\hypercalcbp\@nil
346       \expandafter\endgroup
347       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
348   }%
349   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
350     \toks@\expandafter{\the\toks@ #1}%
351     \ifx\#2\%
352       \else
353         \Hy@ReturnAfterFi{%
354           \HyCal@do#2\@nil
355         }%
356       \fi
357     }%
358     \def\HyCal@do#1#2\@nil{%
359       \@ifpackageloaded{calc}{-}{%
360         \Hy@Warning{%
361           For calculations \string\hypercalcbp\space needs\MessageBreak
362           package calc or e-TeX%
363         }%
364       }%
365       \setlength{\dimen@}{#1}%
366       \setlength{\dimen@}{0.99626401\dimen@}%
367       \edef\x{%
368         \toks@{%
369           \the\toks@
370           \strip@pt\dimen@
371         }%
372       }\x
373       \HyCal@scan#2\@nil

```

```

374 }%
375 \else
376 \def\hypercalcbp#1{%
377 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
378 }%
379 \def\hypercalcbpdef{\def}%
380 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Email: oberdiek@uni-freiburg.de.

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

### 6.1 Description of PDF strings

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

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

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISOLatin1` and is compatible with Unicode with character codes below 256, or in Unicode.

### 6.2 Definition of `\pdfstringdef`

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

Important: In  $\text{\TeX}$ '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 processed by  $\text{\TeX}$ , because the tokens have only catcodes 10 until 12.



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

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

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

```
382 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

```
383 \escapechar'\%
```

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

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

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

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

```
387 \edef\3{\string\3}%
```

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

The encoding is set by `\enc@update` for optimizing reasons.

```
388 \ifHy@unicode
```

```
389 \edef\8{\string\8}%
```

```
390 \edef\9{\string\9}%
```

```
391 \fontencoding{PU}%
```

```
392 \HyPsd@UTFviii
```

```
393 \def\ifpdfstringunicode##1##2{##1}%
```

```
394 \else
```

```
395 \fontencoding{PD1}%
```

```
396 \def\ifpdfstringunicode##1##2{##2}%
```

```
397 \fi
```

```
398 \enc@update
```

**Internal encoding commands.** `\pdfstringdef` interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before `\@inmathwarn` will be disabled (see below).

```
399 \@inmathwarn\pdfstringdef
```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```
400 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
401 \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.

```
402 \let\{\textbraceleft
403 \let\}\textbraceright
404 \let\\textbackslash
405 \let\#\textnumbersign
406 \let\$\textdollar
407 \let\%\textpercent
408 \let\&\textampersand
409 % \let\~\textasciitilde
410 \let\_ \textunderscore
411 \let\textparagraph
412 \let\ldots\textellipsis
413 \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.

```
414 \def\{\pdfstringdefWarn\\}%
415 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
416 \def\TeX{\TeX}%
417 \def\LaTeX{La\TeX}%
418 \def\LaTeXe{LaTeX2e}%
419 \def\eTeX{e-\TeX}%
420 \def\SliTeX{Sli\TeX}%
421 \def\MF{Metafont}%
422 \def\MP{Metapost}%
```

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

```

423 \let\emph\@firstofone
424 \let\textnormal\@firstofone
425 \let\textrm\@firstofone
426 \let\textsf\@firstofone
427 \let\texttt\@firstofone
428 \let\textbf\@firstofone
429 \let\textmd\@firstofone
430 \let\textit\@firstofone
431 \let\textsc\@firstofone
432 \let\textsl\@firstofone
433 \let\textup\@firstofone
434 \let\normalfont\@empty
435 \let\rmfamily\@empty
436 \let\sffamily\@empty
437 \let\ttfamily\@empty
438 \let\bfseries\@empty
439 \let\mdseries\@empty
440 \let\itshape\@empty
441 \let\scshape\@empty
442 \let\slshape\@empty
443 \let\upshape\@empty
444 \let\em\@empty
445 \let\rm\@empty
446 \let\Huge\@empty
447 \let\LARGE\@empty
448 \let\Large\@empty
449 \let\footnotesize\@empty
450 \let\huge\@empty
451 \let\large\@empty
452 \let\normalsize\@empty
453 \let\scriptsize\@empty
454 \let\small\@empty
455 \let\tiny\@empty
456 \let\mathversion\@gobble
457 \let\phantom\@gobble
458 \let\vphantom\@gobble
459 \let\hphantom\@gobble

```

**Package color.**

```

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

```

**Upper- and lowercase.**

```

461 \def\MakeUppercase{\MakeUppercaseIsNotSupportedInPdfStrings}%
462 \def\MakeLowercase{\MakeLowercaseIsNotSupportedInPdfStrings}%

```

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

```

463 \let\textlatin\@firstofone
464 \@ifundefined{language@group}{\}%
465 \csname HyPsd@babel@language@group\endcsname
466 }%
467 \HyPsd@GreekPatch

```

```

468 \let\@safe@activetrue\relax
469 \let\@safe@activesfalse\relax
    Disable \cyr, used in russianb.ldf.
470 \let\cyr\relax
    Redefine \es@roman, used in spanish.ldf.
471 \let\es@roman\@Roman

```

#### Package german.

```

472 \let\glqq\textglqq
473 \let\grqq\textgrqq
474 \let\glq\textglq
475 \let\grq\textgrq
476 \let\flqq\textflqq
477 \let\frqq\textfrqq
478 \let\flq\textflq
479 \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}
480 \let\if@mid@expandable\@firstoftwo

```

#### AMS classes.

```

481 \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.

```

482 \let\hspace\HyPsd@hspace

```

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

```

483 \let\label\@gobble
484 \let\index\@gobble
485 \let\glossary\@gobble
486 \let\href\@secondoftwo
487 \let\@mkboth\@gobbletwo

```

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

```

488 \let\ref\HyPsd@ref
489 \let\pageref\HyPsd@pageref
490 \let\nameref\HyPsd@nameref
491 \let\autoref\HyPsd@autoref

```

#### Miscellaneous commands.

```

492 \let\leavevmode\@empty
493 \let\mbox\@empty

```

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

```

494 \def\halign{\pdfstringdefWarn\halign\@gobble}%
495 \let\ignorespaces\HyPsd@ignorespaces

```

### Patch for cjk bookmarks.

```
496 \ifHy@CJKbookmarks
497 \HyPsd@CJKhook
498 \fi
```

**User hook.** The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typeset within  $\text{\TeX}$ '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`).

```
499 \Hy@pdfstringtrue
500 \pdfstringdefPreHook
```

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

```
501 \HyPsd@LetUnexpandableSpace\space
502 \HyPsd@LetUnexpandableSpace\ %
503 \HyPsd@LetUnexpandableSpace~%
504 \HyPsd@LetUnexpandableSpace\nobreakspace
```

### Package xspace.

```
505 \@ifundefined{@xspace}{%
506 \let\xspace\HyPsd@ITALCORR
507 }{%
508 \let\xspace\HyPsd@XSPACE
509 }%
510 \let\/\HyPsd@ITALCORR
511 \let\bgroup\/%
512 \let\egroup\/%
```

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

```
513 \let\discretionary\@gobbletwo
\@ifstar is defined in  $\text{\LaTeX}$  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:

```
514 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
515 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
516 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
517 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

## 6.2.2 Expansion

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

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

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

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

```
519 \begingroup
520 \let\GenericError\@gobblefour
521 \let\GenericWarning\@gobbletwo
522 \let\GenericInfo\@gobbletwo
```

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

```
523 \ifx\nofrenchguillemets\@undefined
524 \else
525 \nofrenchguillemets
526 \fi
```

**Definition commands and expansion.** Redefining the defining commands (see sec. 6.5.10). The original meaning of `\xdef` is saved in `\Hy@temp`.

```
527 \let\Hy@temp\xdef
528 \let\def\HyPsd@DefCommand
529 \let\gdef\HyPsd@DefCommand
```

```

530     \let\edef\HyPsd@DefCommand
531     \let\xdef\HyPsd@DefCommand
532     \let\futurelet\HyPsd@LetCommand
533     \let\let\HyPsd@LetCommand
534     \Hy@temp#1{#2}%
535 \endgroup

```

### 6.2.3 Postprocessing

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

```

536     \ifx#1\@empty
537     \else

```

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

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

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

```

538     \HyPsd@ProtectSpaces#1%
539     \let\HyPsd@String\@empty
540     \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
541     \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  $\text{\HyPsd@CheckCatcodes}$  the command  $\text{\HyPsd@RemoveMask}$  is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if  $\text{\HyPsd@CheckCatcodes}$  is called.

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

```

542 \let\HyPsd@SPACEOPTI\relax
543 {%
544 \let\HyPsd@String\@empty
545 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
546 \global\let#1\HyPsd@String
547 }%
548 \expandafter\HyPsd@RemoveMask\expandafter
549 |\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.

```

550 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
551 \let\HyPsd@String\@empty
552 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
553 \global\let#1\HyPsd@String

```

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

```
554 \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.1df can produce an additional space before \guillemotright, because \lastskip and \unskip do not work. Therefore it is removed here.

```

555 \ifHy@unicode
556 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
557 \HyPsd@SPACEOPTI#1%
558 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
559 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
560 {\HyPsd@SPACEOPTI\80\273}#1%
561 \else
562 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
563 \expandafter\HyPsd@Subst\expandafter{%
564 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
565 \string\273}\HyPsd@SPACEOPTI\273}#1%
566 \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.



```

567 \ifHy@unicode
568 \HyPsd@StringSubst{\}){\80\051}#1%
569 \HyPsd@Subst){\80\051}#1%
570 \let\HyPsd@empty\relax
571 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
572 {\HyPsd@empty\80\051}#1%
573 \else
574 \HyPsd@StringSubst{\}){\051}#1%
575 \HyPsd@Subst){\051}#1%
576 \let\HyPsd@empty\relax
577 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\})#1%
578 \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`.

```

579 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
580 \@ifundefined{@xspace}{%
581 }{%
582 \let\HyPsd@xspace\relax
583 \expandafter\HyPsd@Subst\expandafter
584 {\HyPsd@XSPACE}\HyPsd@xspace#1%
585 \let\HyPsd@xspace\HyPsd@doxspace
586 }%
587 \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.

```

588 \HyPsd@Subst{---}\textemdash#1%
589 \HyPsd@Subst{--}\textendash#1%
590 % \HyPsd@Subst{fi}\textfi#1%
591 % \HyPsd@Subst{fl}\textfl#1%
592 \HyPsd@Subst{!'}\texttexclamdown#1%
593 \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

594 \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.

```
595     \ifHy@unicode
596     \HyPsd@StringSubst\(\textparenleft#1%
597     \HyPsd@Subst(\textparenleft#1%
598     \else
599     \HyPsd@StringSubst\({\050}#1%
600     \HyPsd@Subst({\050}#1%
601     \HyPsd@StringSubst{\050}{\string\()}#1%
602     \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.

```
603     \ifHy@unicode
604     \edef\HyPsd@SPACEOPTI{\80\040}%
605     \else
606     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
607     \fi
608     \xdef#1{#1\@empty}%
609     \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.

```
610 \endgroup
611 \begingroup
612 \ifHy@unicode
613 \HyPsd@ConvertToUnicode#1%
```

**Try conversion back to PDFDocEncoding.**

```
614 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
615 \ifundefined{StringEncodingConvertTest}{%
616 }{%
617 \EdefUnescapeString\HyPsd@temp#1%
618 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
619 {utf16be}{pdfdoc}{%
620 \EdefEscapeString\HyPsd@temp\HyPsd@temp
621 \global\let#1\HyPsd@temp
622 \Hy@unicodedefalse
623 }{}%
624 }%
625 \fi
626 \fi
```

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

```
627 \pdfstringdefPostHook#1%
628 \endgroup
629 }
```

`\Hy@pdfstringdef`

```
630 \def\Hy@pdfstringdef#1#2{%
631   \pdfstringdef\Hy@gtemp{#2}%
632   \let#1\Hy@gtemp
633 }
```

## 6.3 Encodings

### 6.3.1 Workaround for package linguex

```
634 \@ifpackageloaded{linguex}{%
635   \let\HyLinguex@OrgB\b
636   \let\HyLinguex@OrgC\c
637   \let\HyLinguex@OrgD\d
638   \def\HyLinguex@Restore{%
639     \let\b\HyLinguex@OrgB
640     \let\c\HyLinguex@OrgC
641     \let\d\HyLinguex@OrgD
642   }%
643   \AtEndOfPackage{%
644     \pdfstringdefDisableCommands{%
645       \@ifundefined{oldb}{\let\b\oldb}%
646       \@ifundefined{oldc}{\let\c\oldc}%
647       \@ifundefined{oldd}{\let\d\oldd}%
648     }%
649   }%
650 }{%
651   \let\HyLinguex@Restore\relax
652 }%
```

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

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

```
653 \@ifundefined{T@PD1}{%
654   \input{pd1enc.def}%
655   \HyLinguex@Restore
656 }{}
657 \DeclareFontFamily{PD1}{pdf}{}
658 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
659 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

### 6.3.3 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.

```
660 \def\HyPsd@InitUnicode{%
661   \@ifundefined{T@PU}{%
```

```

662 \input{puenc.def}%
663 \HyLinguex@Restore
664 }{}%
665 \DeclareFontFamily{PU}{pdf}{}%
666 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
667 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
668 \let\HyPsd@InitUnicode\relax
669 }

```

## 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.

```

670 \def\texorpdfstring{%
671   \ifHy@pdfstring
672     \expandafter\@secondoftwo
673   \else
674     \expandafter\@firstoftwo
675   \fi
676 }

```

### 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`.

```

677 \@ifundefined{pdfstringdefPreHook}{%
678   \let\pdfstringdefPreHook\@empty
679 }{}
680 \@ifundefined{pdfstringdefPostHook}{%
681   \let\pdfstringdefPostHook\@gobble
682 }{}

```

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

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

```

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

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

683 \def\pdfstringdefDisableCommands{%
684   \begingroup
685     \makeatletter
686     \HyPsd@DisableCommands
687 }

```

`\HyPsd@DisableCommands`

```
688 \long\def\HyPsd@DisableCommands#1{%
689   \toks0=\expandafter{\pdfstringdefPreHook}%
690   \toks1={#1}%
691   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
692 \endgroup
693 }
```

`\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`.

```
694 \def\pdfstringdefWarn#1{%
695   \expandafter\noexpand\csname\<>-string#1\endcsname
696 }
```

## 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.

```
697 \begingroup
698   \catcode0=12 %
699   \def\x{\endgroup
700     \def\HyPsd@ignorespaces{%
701       \romannumeral\expandafter'\expandafter^^@%
702       \romannumeral'^^@%
703     }%
704   }%
705 \x
```

### 6.5.2 Babel languages

```
706 \newif\ifHy@next

Nothing to do for english.
707 \@ifundefined{danish@sh@"@sel}{-}{%
708   \def\HyPsd@babel@danish{%
709     \declare@shorthand{danish}{-}{-}%
710     \declare@shorthand{danish}{-}{-}%
711   }%
712 }
713 \@ifundefined{dutch@sh@"@sel}{-}{%
714   \def\HyPsd@babel@dutch{%
715     \declare@shorthand{dutch}{-}{-}%
716     \declare@shorthand{dutch}{-}{-}%
717   }%
718 }
```

```

719 \@ifundefined{finnish@sh@"@sel}{-}{%
720   \def\HyPsd@babel@finnish{%
721     \declare@shorthand{finnish}{-}{-}%
722   }%
723 }
724 \@ifundefined{french@sh@"@sel}{-}{%
725   \def\HyPsd@babel@frenchb{%
726     \def\guill@spacing{ }%
727   }%
728 }
729 \@ifundefined{german@sh@"@sel}{-}{%
730   \def\HyPsd@babel@german{%
731     \declare@shorthand{german}{f}{f}%
732     \declare@shorthand{german}{-}{-}%
733     \declare@shorthand{german}{~}{-}%
734   }%
735 }
736 \@ifundefined{macedonian@sh@"@sel}{-}{%
737   \def\HyPsd@babel@macedonian{%
738     \declare@shorthand{macedonian}{-}{-}%
739     \declare@shorthand{macedonian}{~}{-}%
740   }%
741 }{-}
742 \@ifundefined{ngerman@sh@"@sel}{-}{%
743   \def\HyPsd@babel@ngerman{%
744     \declare@shorthand{ngerman}{-}{-}%
745     \declare@shorthand{ngerman}{~}{-}%
746   }%
747 }
748 \@ifundefined{portuges@sh@"@sel}{-}{%
749   \def\HyPsd@babel@portuges{%
750     \declare@shorthand{portuges}{-}{-}%
751   }%
752 }
753 \@ifundefined{russian@sh@"@sel}{-}{%
754   \def\HyPsd@babel@russian{%
755     \declare@shorthand{russian}{-}{-}%
756     \declare@shorthand{russian}{~}{-}%
757   }%
758 }
759 \@ifundefined{slovene@sh@"@sel}{-}{%
760   \def\HyPsd@babel@slovene{%
761     \declare@shorthand{slovene}{-}{-}%
762   }%
763 }

```

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

```

764 \@ifundefined{spanish@sh@>@sel}{-}{%
765   \def\HyPsd@babel@spanish{%
766     \declare@shorthand{spanish}{<<}{\guillemotleft}%
767     \declare@shorthand{spanish}{>>}{\guillemotright}%
768     \declare@shorthand{spanish}{=}{-}%
769     \declare@shorthand{spanish}{~}{-}%
770     \declare@shorthand{spanish}{!}{\textexclamdown}%
771     \declare@shorthand{spanish}{?}{\textquestiondown}%
772   }%
773 }
774 \@ifundefined{swedish@sh@"@sel}{-}{%

```

```

775 \def\HyPsd@babel@swedish{%
776   \declare@shorthand{swedish}{"}{|}%
777   \declare@shorthand{swedish}{"}{|}%
778 }%
779 }
780 \@ifundefined{ukrainian@sh@"@sel}{|}%
781 \def\HyPsd@babel@ukrainian{%
782   \declare@shorthand{ukrainian}{"}{|}%
783   \declare@shorthand{ukrainian}{"}{|}%
784 }%
785 }
786 \@ifundefined{usorbian@sh@"@sel}{|}%
787 \def\HyPsd@babel@usorbian{%
788   \declare@shorthand{usorbian}{"}{|}%
789   \declare@shorthand{usorbian}{"}{|}%
790 }%
791 }
792 \@ifundefined{greek@sh@\string~@sel}{|}%
793 \let\HyPsd@GreekPatch\empty
794 }{|}%
795 \def\HyPsd@GreekPatch{%
796   \let\greeknumeral\HyPsd@greeknumeral
797   \let\Greeknumeral\HyPsd@Greeknumeral
798 }%
799 }
800 \def\HyPsd@greeknumeral#1{%
801   \HyPsd@GreekNum\@firstoftwo{#1}%
802 }
803 \def\HyPsd@Greeknumeral#1{%
804   \HyPsd@GreekNum\@secondoftwo{#1}%
805 }
806 \def\HyPsd@GreekNum#1#2{%
807   \ifHy@unicode
808     \ifnum#2<\@one
809       \@arabic{#2}%
810     \else
811       \ifnum#2<1000000 %
812         \HyPsd@@GreekNum#1{#2}%
813       \else
814         \@arabic{#2}%
815       \fi
816     \fi
817   \else
818     \@arabic{#2}%
819   \fi
820 }
821 \def\HyPsd@@GreekNum#1#2{%
822   \ifnum#2<\@m
823     \ifnum#2<10 %
824       \expandafter\HyPsd@GreekNumI
825       \expandafter\@gobble\expandafter#1\number#2%
826     \else
827       \ifnum#2<100 %
828         \expandafter\HyPsd@GreekNumII
829         \expandafter\@gobble\expandafter#1\number#2%
830       \else
831         \expandafter\HyPsd@GreekNumIII

```

```

832         \expandafter\@gobble\expandafter#1\number#2%
833     \fi
834 \fi
835 \ifnum#2>\z@
836     \textnumeralsigngreek
837 \fi
838 \else
839     \ifnum#2<\@M
840         \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
841     \else
842         \ifnum#2<100000 %
843             \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
844         \else
845             \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
846         \fi
847     \fi
848 \fi
849 }
850 \def\HyPsd@GreekNumI#1#2#3{%
851     #1{%
852         \ifnum#3>\z@
853             \textnumeralsignlowergreek
854         \fi
855     }%
856     \expandafter#2%
857     \ifcase#3 %
858         {}{}%
859         \or\textalpha\textAlpha
860         \or\textbeta\textBeta
861         \or\textgamma\textGamma
862         \or\textdelta\textDelta
863         \or\textepsilon\textEpsilon
864         \or\textstigmagreek\textStigmagreek
865         \or\textzeta\textZeta
866         \or\texteta\textEta
867         \or\texttheta\textTheta
868     \else
869         {}{}%
870     \fi
871 }
872 \def\HyPsd@GreekNumII#1#2#3#4{%
873     #1{%
874         \ifnum#3>\z@
875             \textnumeralsignlowergreek
876         \fi
877     }%
878     \expandafter#2%
879     \ifcase#3 %
880         {}{}%
881         \or\textiota\textIota
882         \or\textkappa\textKappa
883         \or\textlambda\textLambda
884         \or\textmu\textMu
885         \or\textnu\textNu
886         \or\textxi\textXi
887         \or\textomicron\textOmicron
888         \or\textpi\textPi

```



```

889 \or\textkoppagreek\textKoppagreek
890 \else
891   {}{}%
892 \fi
893 \HyPsd@GreekNumI#1#2#4%
894 }
895 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
896   #1{%
897     \ifnum#3>\z@
898       \textnumeralsignlowergreek
899     \fi
900   }%
901   \expandafter#2%
902   \ifcase#3 %
903     {}{}%
904   \or\textrho\textRho
905   \or\textsigma\textSigma
906   \or\texttau\textTau
907   \or\textupsilon\textUpsilon
908   \or\textphi\textPhi
909   \or\textchi\textChi
910   \or\textpsi\textPsi
911   \or\textomega\textOmega
912   \or\textsampigreek\textSampigreek
913   \else
914     {}{}%
915   \fi
916   \HyPsd@GreekNumII#1#2#4#5%
917 }
918 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
919   \HyPsd@GreekNumI\@firstofone#1#2%
920   \HyPsd@GreekNum#1{#3#4#5}%
921 }
922 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
923   \HyPsd@GreekNumII\@firstofone#1#2#3%
924   \HyPsd@GreekNum#1{#4#5#6}%
925 }
926 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
927   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
928   \HyPsd@GreekNum#1{#5#6#7}%
929 }

```

### 6.5.3 CJK bookmarks

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

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

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

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

```

930 \begingroup
931   \catcode"7F=\active
932   \toks@{%
933     \let\CJK@ignorespaces\empty

```

```

934 \def\CJK@char#1{\@gobbletwo}%
935 \let\CJK@charx\@gobblefour
936 \let\CJK@punctchar\@gobblefour
937 \def\CJK@punctcharx#1{\@gobblefour}%
938 \catcode"7F=\active
939 \def^^7f#1^^7f#2^^7f{%
940   \string #1\HyPsd@DecimalToOctal{#2}%
941 }%
942 % ... ?
943 \ifHy@unicode
944   \def\Hy@cjkpu{\80}%
945   \else
946     \let\Hy@cjkpu\@empty
947   \fi
948   \HyPsd@CJKActiveChars
949 }%
950 \count@=127 %
951 \@whilenum\count@<255 \do{%
952   \advance\count@ by 1 %
953   \lccode'\~=\count@
954   \lowercase{%
955     \toks@\expandafter{\the\toks@ ~}%
956   }%
957 }%
958 \toks@\expandafter{\the\toks@ !}%
959 \xdef\HyPsd@CJKhook{\the\toks@}%
960 \endgroup

```

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

```

961 \def\HyPsd@CJKActiveChars#1{%
962   \ifx#1!%
963     \let\HyPsd@CJKActiveChars\relax
964   \else
965     \edef#1{\noexpand\Hy@cjkpu\string#1}%
966   \fi
967   \HyPsd@CJKActiveChars
968 }

```

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

```

969 \def\HyPsd@DecimalToOctal#1{%
970   \ifcase #1 %
971     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
972     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
973     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
974     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
975     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
976     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
977     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
978     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
979     \or @\or A\or B\or C\or D\or E\or F\or G%
980     \or H\or I\or J\or K\or L\or M\or N\or O%
981     \or P\or Q\or R\or S\or T\or U\or V\or W%
982     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
983     \or \140\or a\or b\or c\or d\or e\or f\or g%
984     \or h\or i\or j\or k\or l\or m\or n\or o%
985     \or p\or q\or r\or s\or t\or u\or v\or w%

```

```

986 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
987 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
988 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
989 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
990 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
991 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
992 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
993 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
994 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
995 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
996 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
997 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
998 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
999 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1000 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1001 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1002 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1003 \fi
1004 }

```

#### 6.5.4 \@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 L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of \@current@cmd and \@changed@cmd follows (L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> 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}

1005 \def\HyPsd@inmathwarn#1#2{%
1006   \ifx#2\expandafter
1007     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1008       \HyPsd@GLYPHERR
1009       \expandafter\@gobble\string#1%
1010       >%
1011       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1012     \else
1013       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1014     \fi
1015   \else
1016     \expandafter#2%
1017   \fi
1018 }
1019 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1020 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1021 \def\HyPsd@add@accent#1#2{%
1022   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1023   #2%
1024 }%

```

### 6.5.5 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, dimen, and skip assignments.

These properties are used in \HyPsd@CheckCatcodes.

```

1025 \def\HyPsd@LetUnexpandableSpace#1{%
1026   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1027 }

```

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

```

1028 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

### 6.5.6 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.

```

1029 \edef\HyPsd@XSPACE{\string#\string X}
1030 \edef\HyPsd@ITALCORR{\string#\string I}
1031 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.7 \hspace fix

`\HyPsd@hspace` 1032 `\def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}`

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

1033 `\def\HyPsd@@hspace#1*#2\END{%`  
 1034 `\ifx\#2\%`  
 1035 `\HyPsd@hspacetest{#1}%`  
 1036 `\else`  
 1037 `\expandafter\HyPsd@hspacetest`  
 1038 `\fi`  
 1039 `}`

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

1040 `\def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}`

### 6.5.8 Fix for AMS classes

1041 `\@ifundefined{tocsection}{%`  
 1042 `\let\HyPsd@AMSclassfix\relax`  
 1043 `}{%`  
 1044 `\def\HyPsd@AMSclassfix{%`  
 1045 `\let\tocpart\HyPsd@tocsection`  
 1046 `\let\tocchapter\HyPsd@tocsection`  
 1047 `\let\tocappendix\HyPsd@tocsection`  
 1048 `\let\tocsection\HyPsd@tocsection`  
 1049 `\let\tocsubsection\HyPsd@tocsection`  
 1050 `\let\tocsubsubsection\HyPsd@tocsection`  
 1051 `\let\tocparagraph\HyPsd@tocsection`  
 1052 `}%`  
 1053 `\def\HyPsd@tocsection#1#2#3{%`  
 1054 `\if @#2@\else\if @#1@\else#1 \fi#2. \fi`  
 1055 `#3%`  
 1056 `}%`  
 1057 `}`

### 6.5.9 Reference commands

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

1058 `\def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%`

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

1059 `\def\HyPsd@@ref#1*#2\END{%`  
 1060 `\ifx\#2\%`  
 1061 `\HyPsd@@@ref{#1}%`  
 1062 `\else`  
 1063 `\expandafter\HyPsd@@@ref`  
 1064 `\fi`  
 1065 `}%`

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

1066 `\def\HyPsd@@@ref#1{%`  
 1067 `\expandafter\ifx\csname r@#1\endcsname\relax`  
 1068 `??%`

```

1069 \else
1070   \expandafter\expandafter\expandafter
1071   \@car\csname r@#1\endcsname\@nil
1072 \fi
1073 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1074 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1075 \def\HyPsd@@pageref#1*#2END{%
1076   \ifx\#2\%
1077     \HyPsd@@pageref{#1}%
1078   \else
1079     \expandafter\HyPsd@@pageref
1080   \fi
1081 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1082 \def\HyPsd@@@pageref#1{%
1083   \expandafter\ifx\csname r@#1\endcsname\relax
1084     ??%
1085   \else
1086     \expandafter\expandafter\expandafter\expandafter
1087     \expandafter\expandafter\expandafter\@car
1088     \expandafter\expandafter\expandafter\@gobble
1089     \csname r@#1\endcsname{}\@nil
1090   \fi
1091 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1092 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

\HyPsd@@nameref Macro \HyPsd@@nameref checks if a star is present.
1093 \def\HyPsd@@nameref#1*#2END{%
1094   \ifx\#2\%
1095     \HyPsd@@nameref{#1}%
1096   \else
1097     \expandafter\HyPsd@@nameref
1098   \fi
1099 }

\HyPsd@@@nameref \HyPsd@@@nameref does the work and extracts the third argument.
1100 \def\HyPsd@@@nameref#1{%
1101   \expandafter\ifx\csname r@#1\endcsname\relax
1102     ??%
1103   \else
1104     \expandafter\expandafter\expandafter\expandafter
1105     \expandafter\expandafter\expandafter\@car
1106     \expandafter\expandafter\expandafter\@gobbletwo
1107     \csname r@#1\endcsname{}\@nil
1108   \fi
1109 }

```

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

```
1110 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1111 \def\HyPsd@@autoref#1*#2\END{%
1112   \ifx\#2\%
1113     \HyPsd@@@autoref{#1}%
1114   \else
1115     \expandafter\HyPsd@@@autoref
1116   \fi
1117 }
```

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

```
1118 \def\HyPsd@@@autoref#1{%
1119   \expandafter\ifx\csname r@#1\endcsname\relax
1120     ??%
1121   \else
1122     \expandafter\expandafter\expandafter\HyPsd@autorefname
1123       \csname r@#1\endcsname{}{}{}{}\@nil
1124     \expandafter\expandafter\expandafter
1125       \@car\csname r@#1\endcsname\@nil
1126   \fi
1127 }
```

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

```
1128 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1129   \ifx\#4\%
1130   \else
1131     \HyPsd@@autorefname#4.\@nil
1132   \fi
1133 }
```

`\HyPsd@@autorefname`

```
1134 \def\HyPsd@@autorefname#1.#2\@nil{%
1135   \@ifundefined{#1autorefname}{%
1136     \@ifundefined{#1name}{%
1137       }{%
1138         \csname#1name\endcsname\space
1139       }%
1140     }{%
1141       \csname#1autorefname\endcsname\space
1142     }%
1143 }
```

### 6.5.10 Redefining the defining commands

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

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side

effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

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

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

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1144 \begingroup
1145   \def\x#1#2{%
1146     \endgroup
1147     \let#1\def
1148     \def\HyPsd@DefCommand##1##2##{%
1149       #1%
1150       \expandafter\noexpand
1151       \csname\expandafter@gobble\string##1\@empty\endcsname
1152       \@gobble
1153     }%
1154     \let#2\let
1155     \def\HyPsd@@LetCommand##1{%
1156       \expandafter\ifx\csname##1\expandafter\endcsname
1157         \csname iftrue\endcsname
1158         \pdfstringdefWarn\let
1159         \expandafter@gobble
1160       \else
1161         \expandafter\ifx\csname##1\expandafter\endcsname
1162           \csname iffalse\endcsname
1163           \pdfstringdefWarn\let
1164           \expandafter\expandafter\expandafter@gobble
1165         \else
1166           #2%
1167           \expandafter\noexpand
1168           \csname##1\expandafter\expandafter\expandafter\endcsname
1169         \fi
1170       \fi
1171     }%
1172   }%
1173   \expandafter\x\csname <def>-command\expandafter\endcsname
1174     \csname <let>-command\endcsname
1175   \def\HyPsd@LetCommand#1{%
1176     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1177     \expandafter\expandafter\expandafter{%
1178     \expandafter@gobble\string#1\@empty
```



```

1179 }%
1180 }

```

### 6.5.11 \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).

```

1181 \def\HyPsd@ifnextchar#1{%
1182   \pdfstringdefWarn#1%
1183   \expandafter\@gobbletwo\@gobble
1184 }

```

### 6.5.12 \@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`.

```

1185 \def\HyPsd@protected@testopt#1{%
1186   \pdfstringdefWarn#1%
1187   \@gobbletwo
1188 }

```

## 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:

```

1189 \def\HyPsd@Warning#1{%
1190   \begingroup
1191     \def\space{ }%
1192     \Hy@Warning{#1}%
1193   \endgroup
1194 }

```

### 6.6.2 Protecting spaces

```

1195 \RequirePackage{etexcmds}[2007/09/09]
1196 \ifetex@unexpanded
1197   \expandafter\@secondoftwo
1198 \else
1199   \expandafter\@firstoftwo
1200 \fi
1201 {%

```

`\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`.

```

1202 \def\HyPsd@ProtectSpaces#1{%
1203   \iftrue
1204     \expandafter\HyPsd@@ProtectSpacesFi
1205     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1206   \fi
1207 }%

```

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

```

1208 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1209   \fi
1210   \ifx\scrollmode#2\scrollmode
1211     \HyPsd@RemoveMask#1\HyPsd@End#3%
1212   \else
1213     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1214     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1215   \fi
1216 }%

```

### 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.

```

1217 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1218   \toks@{\expandafter{#1}}%
1219   \xdef#2{\the\toks@}%
1220 }%

1221 }{%
1222 \let\HyPsd@fi\fi
1223 \def\HyPsd@ProtectSpaces#1{%
1224   \xdef#1{%
1225     \iftrue
1226       \expandafter\HyPsd@@ProtectSpacesFi
1227       \expandafter|\expandafter\@empty#1| %
1228     \HyPsd@fi
1229   }%
1230   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1231 }%
1232 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1233   \fi
1234   \etex@unexpanded{#1}%
1235   \ifx\scrollmode#2\scrollmode
1236   \else
1237     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1238   \HyPsd@fi
1239 }%
1240 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1241   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1242 }%
1243 }

```

### 6.6.3 Remove grouping braces

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

```

1244 \def\HyPsd@RemoveBraces#1{%
1245   \ifx\scrollmode#1\scrollmode
1246   \else
1247     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1248   \fi
1249 }

```

`\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`.

```

1250 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1251   \fi
1252   \def\Hy@temp@A{#1#2}%
1253   \def\Hy@temp@B{#3}%
1254   \ifx\Hy@temp@A\Hy@temp@B
1255     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1256       \HyPsd@String#1%
1257     }%
1258     \ifx\scrollmode#2\scrollmode
1259     \else
1260       \Hy@ReturnAfterFiFiEnd{%
1261         \HyPsd@RemoveBraces{#2}%
1262       }%
1263     \fi
1264   \else
1265     \def\Hy@temp@A{#1}%
1266     \HyPsd@AppendItalcorr\HyPsd@String
1267     \ifx\Hy@temp@A\@empty
1268       \Hy@ReturnAfterElseFiFiEnd{%
1269         \HyPsd@RemoveBraces{#2}%
1270       }%
1271     \else
1272       \HyPsd@ProtectSpaces\Hy@temp@A
1273       \HyPsd@AppendItalcorr\Hy@temp@A
1274       \Hy@ReturnAfterFiFiEnd{%
1275         \expandafter\HyPsd@RemoveBraces\expandafter
1276           {\Hy@temp@A#2}%
1277       }%
1278     \fi
1279   \fi
1280   \Hy@ReturnEnd
1281 }

```

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

```

1282 \def\HyPsd@AppendItalcorr#1{%
1283   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
1284 }
1285 \def\HyPsd@@AppendItalcorr#1#2{%
1286   \expandafter\def\expandafter#2\expandafter{#2#1}%
1287 }

```

## 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`).

```
1288 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1289   \global\let\HyPsd@Rest\relax
1290   \ifcat\relax\noexpand#1\relax
1291     \ifx#1\protect
1292     \else
1293       \ifx#1\penalty
1294         \setbox\z@=\hbox{%
1295           \afterassignment\HyPsd@AfterCountRemove
1296           \count@=#2\HyPsd@End
1297         }%
1298       \else
1299         \ifx#1\kern
1300         \setbox\z@=\hbox{%
1301           \afterassignment\HyPsd@AfterDimenRemove
1302           \dimen@=#2\HyPsd@End
1303         }%
1304       \else
1305         \ifx#1\hskip
1306         \setbox\z@=\hbox{%
1307           \afterassignment\HyPsd@AfterSkipRemove
1308           \skip@=#2\HyPsd@End
1309         }%
1310       \else
1311         \HyPsd@CatcodeWarning{#1}%
1312       \fi
1313     \fi
1314   \fi
1315 \fi
1316 \else
1317   \ifcat#1A% letter
1318   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1319     \HyPsd@String#1%
1320   }%
1321 \else
1322   \ifcat#1 % SPACE
1323   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1324     \HyPsd@String\HyPsd@SPACEOPTI
1325   }%
1326 \else
1327   \ifcat$#1%
1328   \HyPsd@CatcodeWarning{math shift}%
1329 \else
1330   \ifcat&#1%
1331   \HyPsd@CatcodeWarning{alignment tab}%
```

```

1332         \else
1333         \ifcat^#1%
1334         \HyPsd@CatcodeWarning{superscript}%
1335         \else
1336         \ifcat_#1%
1337         \HyPsd@CatcodeWarning{subscript}%
1338         \else
1339         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1340         \HyPsd@String#1%
1341         }%
1342         \fi
1343     \fi
1344 \fi
1345 \fi
1346 \fi
1347 \fi
1348 \fi
1349 \ifx\HyPsd@Rest\relax
1350 \ifx\scrollmode#2\scrollmode
1351 \else
1352 \Hy@ReturnAfterFiFiEnd{%
1353 \HyPsd@CheckCatcodes#2\HyPsd@End
1354 }%
1355 \fi
1356 \else
1357 \ifx\HyPsd@Rest\@empty
1358 \else
1359 \Hy@ReturnAfterFiFiEnd{%
1360 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1361 }%
1362 \fi
1363 \fi
1364 \Hy@ReturnEnd
1365 }

```

### Remove counts, dimens, skips.

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

```

1366 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1367 \gdef\HyPsd@Rest{#1}%
1368 }

```

`\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.

```

1369 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1370 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi>1ex %
1371 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1372 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1373 \else
1374 \ifdim\dimen@=\z@
1375 \else
1376 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1377 \fi
1378 \gdef\HyPsd@Rest{#1}%
1379 \fi

```

1380 }

`\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).

```
1381 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1382   \ifdim\ifx\HyPsd@String\@empty\z@else\skip@fi>1ex %
1383     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1384     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1385   \else
1386     \ifdim\skip@=\z@
1387     \else
1388       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1389     \fi
1390     \gdef\HyPsd@Rest{#1}%
1391   \fi
1392 }
```

### Catcode warnings.

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

```
1393 \def\HyPsd@CatcodeWarning#1{%
1394   \HyPsd@Warning{%
1395     Token not allowed in a PDF string (%
1396     \ifHy@unicode
1397       Unicode%
1398     \else
1399       PDFDocEncoding%
1400     \fi
1401     ):%
1402     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1403   }%
1404 }
1405 \begingroup
1406   \catcode'\|=0 %
1407   \catcode'\|=12 %
1408   \gdef\HyPsd@RemoveCmdPrefix#1{%
1409     \expandafter\HyPsd@@RemoveCmdPrefix
1410     \string#1\@empty\<-|\@empty|\@empty
1411   }%
1412   \gdef\HyPsd@@RemoveCmdPrefix#1\<-#2|\@empty#3|\@empty{#1#2}%
1413 \endgroup
```

`\HyPsd@RemoveSpaceWarning`

```
1414 \def\HyPsd@RemoveSpaceWarning#1{%
1415   \HyPsd@Warning{%
1416     Token not allowed in a PDF string (%
1417     \ifHy@unicode
1418       Unicode%
1419     \else
1420       PDFDocEncoding%
1421     \fi
1422     ):%
1423     \MessageBreak #1\MessageBreak
1424     removed%
1425   }%
1426 }
```

\HyPsd@ReplaceSpaceWarning

```
1427 \def\HyPsd@ReplaceSpaceWarning#1{%
1428   \HyPsd@Warning{%
1429     Token not allowed in a PDF string (%)
1430     \ifHy@unicode
1431       Unicode%
1432     \else
1433       PDFDocEncoding%
1434     \fi
1435   }:%
1436   \MessageBreak #1\MessageBreak
1437   replaced by space%
1438 }%
1439 }
```

### 6.6.5 Check for wrong glyphs

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

```
1440 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1441   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1442     \HyPsd@String#1%
1443   }%
1444   \ifx\#2\%
1445   \else
1446     \Hy@ReturnAfterFi{%
1447       \HyPsd@GlyphProcessWarning#2\@empty
1448     }%
1449   \fi
1450 }
1451 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1452   \HyPsd@@GlyphProcessWarning#1++>%
1453   \HyPsd@GlyphProcess#2\@empty
1454 }
1455 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1456   \ifx\#2\%
1457     \HyPsd@Warning{%
1458       Glyph not defined in %
1459       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1460       removing ‘\@backslashchar#1’%
1461     }%
1462   \else
1463     \HyPsd@Warning{%
1464       Composite letter ‘\@backslashchar#1+#2’\MessageBreak
1465       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1466       \MessageBreak
1467       removing ‘\@backslashchar#1’%
1468     }%
1469   \fi
1470 }
```

### 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.

```

1471 \def\HyPsd@spaceopti#1{ % first space
1472   \ifx\HyPsd@spaceopti#1%
1473     \040%
1474   \else
1475     #1%
1476   \fi
1477 }%

```

### 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.

```

1478 \def\HyPsd@Subst#1#2#3{%
1479   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1480     \fi
1481     ##1%
1482     \ifx\scrollmode##2\scrollmode
1483     \else
1484       #2%
1485       \HyPsd@@ReplaceFi##2\END
1486     \fi
1487   }%
1488   \xdef#3{%
1489     \iftrue
1490       \expandafter\HyPsd@@ReplaceFi#3#1\END
1491     \fi
1492   }%
1493 }

```

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

```

1494 \def\HyPsd@StringSubst#1{%
1495   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1496 }

```

### 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.

```

1497 \def\HyPsd@doxspace#1{%
1498   \ifx#1\relax\else
1499   \ifx#1.\else
1500   \ifx#1:\else
1501   \ifx#1,\else
1502   \ifx#1;\else
1503   \ifx#1!\else
1504   \ifx#1?\else
1505   \ifx#1/\else
1506   \ifx#1-\else
1507   \ifx#1'\else
1508     \HyPsd@SPACEOPTI
1509   \fi

```



```

1510         \fi
1511         \fi
1512         \fi
1513         \fi
1514         \fi
1515         \fi
1516         \fi
1517         \fi
1518         \fi
1519         #1%
1520 }%

```

## 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.

```

1521 \begingroup
1522   \catcode'\|=0 %
1523   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1524 |gdef|HyPsd@ConvertToUnicode#1{%
1525   |xdef#1{%
1526     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1527   }%
1528   |ifx#1|@empty
1529   |else
1530     |xdef#1{%
1531       \376\377%
1532       #1%
1533     }%
1534   |fi
1535 }%

```

\HyPsd@DoConvert

```

1536 |gdef|HyPsd@DoConvert#1{%
1537   |ifx#1|@empty
1538   |else
1539     |Hy@ReturnAfterFi{%
1540       |ifx#1\%%
1541       \%%
1542       |expandafter|HyPsd@DoEscape
1543     |else
1544       \000#1%
1545       |expandafter|HyPsd@DoConvert
1546     |fi
1547   }%
1548   |fi
1549 }%

```

\HyPsd@DoEscape

```

1550 |gdef|HyPsd@DoEscape#1{%
1551   |ifx#19%
1552   |expandafter|HyPsd@GetTwoBytes
1553   |else

```

```

1554 |Hy@ReturnAfterFi{%
1555 |ifx#18%
1556 00%
1557 |expandafter|HyPsd@GetTwoBytes
1558 |else
1559 #1%
1560 |expandafter|HyPsd@GetOneByte
1561 |fi
1562 }%
1563 |fi
1564 }%

```

`\HyPsd@GetTwoBytes`

```

1565 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1566 #1\#2#3#4%
1567 |HyPsd@DoConvert
1568 }%

```

`\HyPsd@GetOneByte`

```

1569 |gdef|HyPsd@GetOneByte#1#2{%
1570 #1#2%
1571 |HyPsd@DoConvert
1572 }%
1573 |endgroup

```

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

```

1574 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1575 \xdef#4{#4#1#2}%
1576 \HyPsd@@ConvertToUnicode#3\END#4%
1577 }

```

## 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 `e $\TeX$ 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`

```

1578 \begingroup\expandafter\expandafter\expandafter\endgroup
1579 \expandafter\ifx\cename numexpr\endcename\relax
1580 \let\HyPsd@UTFviii\relax
1581 \else
1582 \begingroup
1583 \lccode'\~='^^f4\relax
1584 \lowercase{\endgroup
1585 \def\HyPsd@UTFviii{%
1586 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1587 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1588 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1589 \ifx~\HyPsd@UTFviii@ccxliv@undef
1590 \let~\HyPsd@UTFviii@ccxliv@def

```

```

1591 \fi
1592 \let\unichar\HyPsd@unichar
1593 }%
1594 }%
1595 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1596 \edef\HyPsd@UTFviii@ccxliv@def{%
1597 \noexpand\UTFviii@four@octets\string ^^f4%
1598 }%

```

The two octet form of UTF-8 110aaabb (A) and 10cccd (B) must be converted into octal numbers 00a and bcd. The result is \8a\bcd (with a, b, c, d as octal numbers). The conversion equations.

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

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

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

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

$$(5)$$

```

1599 \def\HyPsd@UTFviii@two#1#2{%
1600 \expandafter\HyPsd@UTFviii@@two
1601 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1602 \number'#1\expandafter|
1603 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1604 \number'#2 \@nil
1605 }%
1606 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1607 \expandafter\8%
1608 \number\numexpr #1-48\expandafter\relax
1609 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1610 \number\numexpr #3-8*%
1611 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1612 \number\numexpr #4-8*#3\relax
1613 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1614 \def\HyPsd@UTFviii@three#1#2#3{%
1615 \expandafter\HyPsd@UTFviii@@three
1616 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1617 \number'#1\expandafter|
1618 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1619 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1620 \number'#2\expandafter|
1621 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1622 \number'#3 \@nil

```

```

1623 }%
1624 \def\HyPsd@UTFviii@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1625   \expandafter\9%
1626   \number\numexpr #1-56\expandafter\relax
1627   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1628   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1629   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1630   \number\numexpr #6-16\expandafter\relax
1631   \number\numexpr #7-8*#6\relax
1632 }%

```

Surrogates: 4 octets in UTF-8, a surrogate pair in UTF-16. High surrogate range: U+D800–U+DBFF, low surrogate range: U+DC00–U+DFFF.

```

UTF-8: 11110uuu    10uuzzzz    10yyyyyy    10xxxxxx
www = uuuu - 1
UTF-16: 110110ww    wwzzzzyy    110111yy    yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

1633 \def\HyPsd@UTFviii@four#1#2{%
1634   \expandafter\HyPsd@UTFviii@four\number
1635   \numexpr-1+(' #1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1636   \expandafter|\number
1637   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|%
1638 }%
1639 \def\HyPsd@UTFviii@four#1|#2|#3{%
1640   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1641   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1642   \ifodd#2 %
1643     \number\numexpr(#2-1)/2\relax
1644   \else
1645     \number\numexpr#2/2\relax
1646   \fi
1647   \number\numexpr\ifodd#2 4+\fi
1648   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1649   \933%
1650   \expandafter\HyPsd@UTFviii@four\number
1651   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1652 }%
1653 \def\HyPsd@UTFviii@four#1|#2{%
1654   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1655   \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1656   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1657   \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1658 }%

```

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

```

1659 \def\HyPsd@unichar#1{%
1660   \ifHy@unicode
1661     \ifnum#1>"10FFFF %
1662       \HyPsd@UnicodeReplacementCharacter % illegal
1663     \else
1664       \ifnum#1>"FFFF %

```

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

```

1665   \expandafter\HyPsd@unichar\expandafter{%
1666     \number\numexpr 55296+%
1667     \dimexpr.0009765625\dimexpr\number#1sp-\p@

```

```

1668             \relax\relax\relax
1669         }%
Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)
1670         \expandafter\HyPsd@unichar\expandafter{%
1671             \number\numexpr#1-9216%
1672             -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1673             \relax\relax\relax
1674         }%
1675         \else
1676             \ifnum#1>"7FF %
1677                 \9%
1678                 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1679                     \number
1680                     \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1681                 }%
1682             \else
1683                 \8%
1684                 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1685             \fi
1686             \expandafter\HyPsd@unichar@second@byte\expandafter{%
1687                 \number
1688                 \numexpr#1-256*\number
1689                 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1690             }%
1691         \fi
1692     \fi
1693 \else
1694     .% unsupported (Unicode -> PDF Doc Encoding)
1695 \fi
1696 }%
1697 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1698 \def\HyPsd@unichar@first@byte#1{%
1699     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1700     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1701         \number
1702         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1703         \relax\relax\relax
1704     }%
1705 }%
1706 \def\HyPsd@unichar@second@byte#1{%
1707     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1708     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1709         \number
1710         \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1711         \relax\relax\relax
1712     }%
1713 }%
1714 \def\HyPsd@unichar@octtwo#1{%
1715     \number\dimexpr.125\dimexpr#1sp\relax\relax
1716     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1717     \relax\relax\relax
1718 }%
1719 \fi

```

## 7 Support of other packages

### 7.1 Class memoir

```
1720 \@ifclassloaded{memoir}{%
1721   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1722 }{}
```

### 7.2 Package subfigure

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

```
1723 \@ifpackageloaded{subfigure}{%
1724   \@ifundefined{sub@label}{%
1725     \Hy@hypertextnamesfalse
1726   }{%
1727     \renewcommand*{\sub@label}[1]{%
1728       \@bsphack
1729       \subfig@oldlabel{#1}%
1730       \if@filesw
1731         \begin{group}
1732           \edef\@currentlabstr{%
1733             \expandafter\strip@prefix\meaning\@currentlabelname
1734           }%
1735           \protected@write\@auxout{}{%
1736             \string\newlabel{sub@#1}{%
1737               {\@nameuse{@@thesub}\@capttype}}%
1738             {\thepage}%
1739             {%
1740               \expandafter\strip@period\@currentlabstr
1741               \relax.\relax\@@%
1742             }%
1743             {\@currentHref}%
1744             {}%
1745           }%
1746         }%
1747       \end{group}
1748       \fi
1749       \@esphack
1750     }%
1751     \@ifpackagelater{subfigure}{2002/03/26}{%
1752       \providecommand*{\toclevel@subfigure}{1}%
1753       \providecommand*{\toclevel@subtable}{1}%
1754     }%
1755   }%
1756 }{}
```

### 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:

```
1757 \@ifundefined{XR@addURL}{%
1758 }{}
```

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.

```
1759 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%
1760 \def\xr@dURL#1#2#3#4#5\\{%
1761   {#1}{#2}%
```

```

1762 \if!#4!%
1763 \else
1764   {#3}{#4}{\XR@URL}%
1765 \fi
1766 }%
1767 }

1768 \def\Hy@true{true}
1769 \def\Hy@false{false}

    Providing dummy definitions.

1770 \let\literalps@out\@gobble
1771 \newcommand\pdfbookmark[3][]{ }
1772 \def\Acrobatmenu#1#2{\leavevmode#2}
1773 \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

```

1774 \let\HyperRaiseLinkHook\@empty
1775 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

1776 \def\Hy@raisedlink#1{%
1777   \ifvmode
1778     #1%
1779   \else
1780     \penalty\@M
1781     \smash{%
1782       \begingroup
1783         \let\HyperRaiseLinkLength\@tempdima
1784         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1785         \HyperRaiseLinkHook
1786       \expandafter\endgroup
1787       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1788     }%
1789   \fi
1790 }

```

```

\Hy@SaveLastskip Inserting a \special command to set a destination destroys the \lastskip value.
\Hy@RestoreLastskip
1791 \def\Hy@SaveLastskip{%
1792   \let\Hy@RestoreLastskip\relax
1793   \ifvmode
1794     \ifdim\lastskip=\z@
1795       \let\Hy@RestoreLastskip\nobreak
1796     \else

```

```

1797     \begingroup
1798     \skip@=-\lastskip
1799     \edef\x{%
1800     \endgroup
1801     \def\noexpand\Hy@RestoreLastskip{%
1802     \noexpand\ifvmode
1803     \noexpand\nobreak
1804     \vskip\the\skip@
1805     \vskip\the\lastskip\relax
1806     \noexpand\fi
1807     }%
1808     }%
1809     \x
1810     \fi
1811 \else
1812     \ifhmode
1813     \ifdim\lastskip=\z@
1814     \let\Hy@RestoreLastskip\nobreak
1815     \else
1816     \begingroup
1817     \skip@=-\lastskip
1818     \edef\x{%
1819     \endgroup
1820     \def\noexpand\Hy@RestoreLastskip{%
1821     \noexpand\ifhmode
1822     \noexpand\nobreak
1823     \hskip\the\skip@
1824     \hskip\the\lastskip\relax
1825     \noexpand\fi
1826     }%
1827     }%
1828     \x
1829     \fi
1830     \fi
1831 \fi
1832 }%

```

## 9 Options

### 9.1 Help macros

\Hy@boolkey

```

1833 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1834 \def\Hy@@boolkey[#1]#2#3{%
1835     \edef\Hy@tempa{#3}%
1836     \lowercase\expandafter{%
1837     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
1838     }%
1839     \ifx\Hy@tempa\@empty
1840     \let\Hy@tempa\Hy@true
1841     \fi
1842     \ifx\Hy@tempa\Hy@true
1843     \else
1844     \ifx\Hy@tempa\Hy@false
1845     \else
1846     \let\Hy@tempa\relax

```



```

1847   \fi
1848 \fi
1849 \ifx\Hy@tempa\relax
1850   \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1851 \else
1852   \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1853   \csname Hy@#2\Hy@tempa\endcsname
1854 \fi
1855 }

```

\Hy@WarnOptionValue

```

1856 \def\Hy@WarnOptionValue#1#2#3{%
1857   \Hy@Warning{%
1858     Unexpected value ‘#1’\MessageBreak
1859     of option ‘#2’ instead of\MessageBreak
1860     #3%
1861   }%
1862 }

```

\Hy@DisableOption

```

1863 \def\Hy@DisableOption#1{%
1864   \@ifundefined{KV@Hyp@#1@default}{%
1865     \define@key{Hyp}{#1}%
1866   }{%
1867     \define@key{Hyp}{#1}[]%
1868   }%
1869   {\Hy@WarnOptionDisabled{#1}}%
1870 }

```

\Hy@WarnOptionDisabled

```

1871 \def\Hy@WarnOptionDisabled#1{%
1872   \Hy@Warning{%
1873     Option ‘#1’ has already been used,\MessageBreak
1874     setting the option has no effect%
1875   }%
1876 }

```

\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.

```

1877 \def\Hy@CheckOptionValue#1#2#3{%
1878   \begingroup
1879   \edef\x{#1}%
1880   \@onelevel@sanitize\x
1881   \let\y=y%
1882   \def\do##1##2{%
1883     \def\z{##1}%
1884     \@onelevel@sanitize\z
1885     \ifx\x\z
1886       \let\y=n%
1887       \let\do\@gobbletwo
1888     \fi
1889   }%
1890   #3%
1891   \ifx\y y%
1892     \def\do##1##2{%
1893       * ‘##1’%
1894       \ifx\\##2\\\else\space(##2)\fi

```

```

1895         \MessageBreak
1896     }%
1897     \Hy@Warning{%
1898         Values of option '#2':\MessageBreak
1899         #3%
1900         * An empty value disables the option.\MessageBreak
1901         Unknown value '\x'%
1902     }%
1903     \fi
1904 \endgroup
1905 }

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument is a
comment.
1906 \def\Hy@DefNameKey#1{%
1907     \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1908 }

\Hy@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
1909 \def\Hy@@DefNameKey#1#2#3{%
1910     \define@key{Hyp}{#2}{%
1911         \edef#1{##1}%
1912         \ifx#1\@empty
1913             \else
1914                 \Hy@CheckOptionValue{##1}{#2}{#3}%
1915             \fi
1916     }%
1917     \let#1\@empty
1918 }

\Hy@UseNameKey
1919 \def\Hy@UseNameKey#1#2{%
1920     \ifx#2\@empty
1921     \else
1922         /#1/#2%
1923     \fi
1924 }

```

## 9.2 Defining the options

```

1925 \define@key{Hyp}{implicit}[true]{%
1926     \Hy@boolkey{implicit}{#1}%
1927 }
1928 \define@key{Hyp}{draft}[true]{%
1929     \Hy@boolkey{draft}{#1}%
1930 }
1931 \define@key{Hyp}{final}[true]{%
1932     \Hy@boolkey{final}{#1}%
1933 }
1934 \let\KV@Hyp@nolinks\KV@Hyp@draft
1935 \define@key{Hyp}{a4paper}[true]{%
1936     \def\special@paper{210mm,297mm}%
1937     \def\Hy@pageheight{842}%

```

```

1938 }
1939 \define@key{Hyp}{a5paper}[true]{%
1940   \def\special@paper{148mm,210mm}%
1941   \def\Hy@pageheight{595}%
1942 }
1943 \define@key{Hyp}{b5paper}[true]{%
1944   \def\special@paper{176mm,250mm}%
1945   \def\Hy@pageheight{709}%
1946 }
1947 \define@key{Hyp}{letterpaper}[true]{%
1948   \def\special@paper{8.5in,11in}%
1949   \def\Hy@pageheight{792}%
1950 }
1951 \define@key{Hyp}{legalpaper}[true]{%
1952   \def\special@paper{8.5in,14in}%
1953   \def\Hy@pageheight{1008}%
1954 }
1955 \define@key{Hyp}{executivepaper}[true]{%
1956   \def\special@paper{7.25in,10.5in}%
1957   \def\Hy@pageheight{720}%
1958 }
1959 \define@key{Hyp}{setpagesize}[true]{%
1960   \Hy@boolkey{setpagesize}{#1}%
1961 }
1962 \define@key{Hyp}{debug}[true]{%
1963   \Hy@boolkey[debug]{verbose}{#1}%
1964 }
1965 \define@key{Hyp}{linktocpage}[true]{%
1966   \Hy@boolkey{linktocpage}{#1}%
1967   \ifHy@linktocpage
1968     \let\Hy@linktoc\Hy@linktoc@page
1969   \else
1970     \let\Hy@linktoc\Hy@linktoc@section
1971   \fi
1972 }
1973 \chardef\Hy@linktoc@none=0 %
1974 \chardef\Hy@linktoc@section=1 %
1975 \chardef\Hy@linktoc@page=2 %
1976 \chardef\Hy@linktoc@all=3 %
1977 \ifHy@linktocpage
1978   \let\Hy@linktoc\Hy@linktoc@page
1979 \else
1980   \let\Hy@linktoc\Hy@linktoc@section
1981 \fi
1982 \define@key{Hyp}{linktoc}{%
1983   \@ifundefined{Hy@linktoc@#1}{%
1984     \Hy@Warning{%
1985       Unexpected value ‘#1’ of\MessageBreak
1986       option ‘linktoc’ instead of ‘none’,\MessageBreak
1987       ‘section’, ‘page’ or ‘all’%
1988     }%
1989   }{%
1990     \expandafter\let\expandafter\Hy@linktoc
1991     \csname Hy@linktoc@#1\endcsname
1992   }%
1993 }
1994 \define@key{Hyp}{extension}{\def\XR@ext{#1}}

```

```

1995 \let\XR@ext\relax
1996 \define@key{Hyp}{verbose}[true]{%
1997   \Hy@boolkey{verbose}{#1}%
1998 }
1999 \define@key{Hyp}{typexml}[true]{%
2000   \Hy@boolkey{typexml}{#1}%
2001 }

```

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.

```

2002 \define@key{Hyp}{raiselinks}[true]{%
2003   \Hy@boolkey{raiselinks}{#1}%
2004 }

```

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

```

2005 \def\Hy@setbreaklinks#1{%
2006   \csname breaklinks#1\endcsname
2007 }

2008 \def\Hy@breaklinks@unsupported{%
2009   \ifx\Hy@setbreaklinks\@gobble
2010     \ifHy@breaklinks
2011       \Hy@WarningNoLine{%
2012         You have enabled option 'breaklinks'.\MessageBreak
2013         But driver '\Hy@driver.def' does not support this.\MessageBreak
2014         Expect trouble with the link areas of broken links%
2015       }%
2016     \fi
2017   \fi
2018 }

2019 \define@key{Hyp}{breaklinks}[true]{%
2020   \Hy@boolkey{breaklinks}{#1}%
2021   \let\Hy@setbreaklinks\@gobble
2022 }

```

Determines whether an automatic anchor is put on each page

```

2023 \define@key{Hyp}{pageanchor}[true]{%
2024   \Hy@boolkey{pageanchor}{#1}%
2025 }

```

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.

```

2026 \define@key{Hyp}{plainpages}[true]{%
2027   \Hy@boolkey{plainpages}{#1}%
2028 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L<sup>A</sup>T<sub>E</sub>X provides?

```

2029 \define@key{Hyp}{naturalnames}[true]{%
2030   \Hy@boolkey{naturalnames}{#1}%
2031 }

```

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

```

2032 \define@key{Hyp}{hypertextnames}[true]{%
2033   \Hy@boolkey{hypertextnames}{#1}%
2034 }

```

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

```

2035 \define@key{Hyp}{nesting}[true]{%
2036   \Hy@boolkey{nesting}{#1}%
2037 }

2038 \define@key{Hyp}{unicode}[true]{%
2039   \Hy@boolkey{unicode}{#1}%
2040   \ifHy@unicode
2041     \def\HyPsd@pdfencoding{unicode}%
2042   \else
2043     \def\HyPsd@pdfencoding{pdfdoc}%
2044   \fi
2045   \HyPsd@LoadUnicode
2046 }

2047 \def\HyPsd@LoadUnicode{%
2048   \@ifundefined{T@PU}{%
2049     \input{puenc.def}%
2050     \HyLinguex@Restore
2051   }{}%
2052   \DeclareFontFamily{PU}{pdf}{}%
2053   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
2054   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
2055   \global\let\HyPsd@LoadUnicode\relax
2056 }

2057 \AtBeginDocument{%
2058   \ifx\HyPsd@LoadUnicode\relax
2059   \else
2060     \def\HyPsd@LoadUnicode{%
2061       \PackageError{hyperref}{%
2062         Unicode support for bookmarks is not available.\MessageBreak
2063         Activate unicode support by using one of the options\MessageBreak
2064         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2065         in the preamble%
2066       }{\@ehc
2067         \global\let\HyPsd@LoadUnicode\relax
2068         \global\Hy@unicodetrue
2069         \global\let\Hy@unicodetrue\Hy@unicodetrue
2070       }%
2071     \fi
2072 }

2073 \define@key{Hyp}{pdfencoding}{%
2074   \edef\HyPsd@temp{#1}%
2075   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2076     \let\HyPsd@pdfencoding\HyPsd@temp
2077     \Hy@unicodetrue
2078   \else
2079     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2080       \z@
2081     \else
2082       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2083         \z@
2084       \else
2085         \@ne
2086       \fi
2087     \fi
2088     \let\HyPsd@pdfencoding\HyPsd@temp
2089     \hypersetup{unicode}%
2090     \ifHy@unicode
2091       \def\HyPsd@pdfencoding{#1}%

```

```

2092         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2093         \HyPsd@LoadStringEnc
2094     \fi
2095     \else
2096         \Hy@Warning{Cannot switch to unicode bookmarks}%
2097         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2098     \fi
2099     \else
2100         \@onelevel@sanitize\HyPsd@temp
2101         \Hy@Warning{%
2102             Values of option 'pdfencoding':\MessageBreak
2103             'pdfdoc', 'unicode', 'auto'.\MessageBreak
2104             Ignoring unknown value '\HyPsd@temp'%
2105         }%
2106     \fi
2107 \fi
2108 }
2109 \def\HyPsd@pdfencoding@auto{auto}
2110 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2111 \def\HyPsd@pdfencoding@unicode{unicode}
2112 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2113 \def\HyPsd@LoadStringEnc{%
2114     \RequirePackage{stringenc}[2007/06/14]%
2115     \let\HyPsd@LoadStringEnc\relax
2116 }
2117 \AtBeginDocument{%
2118     \@ifpackageloaded{stringenc}{%
2119         \let\HyPsd@LoadStringEnc\relax
2120     }{%
2121         \def\HyPsd@LoadStringEnc{%
2122             \Hy@WarningNoLine{%
2123                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2124                 in the preamble or load the package there%
2125             }%
2126         }%
2127     }%
2128 }
2129 \newif\ifHy@setpdfversion
2130 \define@key{Hyp}{pdfversion}{%
2131     \@ifundefined{Hy@pdfversion@#1}{%
2132         \PackageWarning{hyperref}{%
2133             Unsupported PDF version '#1'.\MessageBreak
2134             Valid values: 1.2 until 1.9%
2135         }%
2136     }{%
2137         \Hy@setpdfversiontrue
2138         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2139     }%
2140 }
2141 \@namedef{Hy@pdfversion@1.2}{2}%
2142 \@namedef{Hy@pdfversion@1.3}{3}%
2143 \@namedef{Hy@pdfversion@1.4}{4}%
2144 \@namedef{Hy@pdfversion@1.5}{5}%
2145 \@namedef{Hy@pdfversion@1.6}{6}%
2146 \@namedef{Hy@pdfversion@1.7}{7}%
2147 \@namedef{Hy@pdfversion@1.8}{8}%
2148 \@namedef{Hy@pdfversion@1.9}{9}%

```

```
2149 \def\Hy@pdfversion{2}
```

## 10 Options for different drivers

```
2150 \define@key{Hyp}{hyperref}[true]{}
2151 \define@key{Hyp}{tex4ht}[true]{%
2152   \Hy@texhttrue
2153   \setkeys{Hyp}{colorlinks=true}%
2154   \def\BeforeTeXIVht{\usepackage{color}}%
2155   \def\Hy@driver{htex4ht}%
2156   \def\MaybeStopEarly{%
2157     \typeout{Hyperref stopped early}%
2158     \AfterBeginDocument{%
2159       \PDF@FinishDoc
2160       \gdef\PDF@FinishDoc{}%
2161     }%
2162   \endinput
2163 }%
2164 }
2165 \define@key{Hyp}{pdftex}[true]{%
2166   \def\Hy@driver{hpdftex}%
2167 }
2168 \define@key{Hyp}{nativepdf}[true]{%
2169   \def\Hy@driver{hdvips}%
2170 }
2171 \define@key{Hyp}{dvipdfm}[true]{%
2172   \def\Hy@driver{hdvipdfm}%
2173 }
2174 \define@key{Hyp}{dvipdfmx}[true]{%
2175   \def\Hy@driver{hdvipdfm}%
2176 }
2177 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2178   \expandafter\ifx\csname if#1\expandafter\endcsname
2179     \csname iftrue\endcsname
2180     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2181   \else
2182     \chardef\SpecialDvipdfmxOutlineOpen\z@
2183   \fi
2184 }
2185 \define@key{Hyp}{xetex}[true]{%
2186   \def\Hy@driver{hdvipdfm}%
2187 }
2188 \define@key{Hyp}{pdfmark}[true]{%
2189   \def\Hy@driver{hdvips}%
2190 }
2191 \define@key{Hyp}{dvips}[true]{%
2192   \def\Hy@driver{hdvips}%
2193 }
2194 \define@key{Hyp}{hypertex}[true]{%
2195   \def\Hy@driver{hypertex}%
2196 }
2197 \let\Hy@MaybeStopNow\relax
2198 \define@key{Hyp}{vtex}[true]{%
2199   \begingroup\expandafter\expandafter\expandafter\endgroup
2200   \expandafter\ifx\csname OpMode\endcsname\relax
2201     \@latex@error{Non-VTeX processor}{}%
2202     \global\let\Hy@MaybeStopNow\endinput
```

```

2203 \endinput
2204 \else
2205 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2206 \def\Hy@driver{hvtex}%
2207 \else
2208 \ifnum\OpMode=10\relax
2209 \def\Hy@driver{hvtexhtm}%
2210 \def\MaybeStopEarly{%
2211 \typeout{Hyperref stopped early}%
2212 \AfterBeginDocument{%
2213 \PDF@FinishDoc
2214 \gdef\PDF@FinishDoc{}}%
2215 }%
2216 \endinput
2217 }%
2218 \else
2219 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2220 \global\let\Hy@MaybeStopNow\endinput
2221 \endinput
2222 \fi
2223 \fi
2224 \fi
2225 }
2226 \define@key{Hyp}{vtexpdfmark}[true]{%
2227 \begingroup\expandafter\expandafter\expandafter\endgroup
2228 \expandafter\ifx\cscname OpMode\endcsname\relax
2229 \@latex@error{Non-VTeX processor}{}%
2230 \let\Hy@MaybeStopNow\endinput
2231 \endinput
2232 \else
2233 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2234 \def\Hy@driver{hvtexmrk}%
2235 \else
2236 \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2237 \let\Hy@MaybeStopNow\endinput
2238 \endinput
2239 \fi
2240 \fi
2241 }
2242 \define@key{Hyp}{dviwindo}[true]{%
2243 \def\Hy@driver{hdviwind}%
2244 \setkeys{Hyp}{colorlinks}%
2245 \PassOptionsToPackage{dviwindo}{color}%
2246 }
2247 \define@key{Hyp}{dvipsone}[true]{%
2248 \def\Hy@driver{hdvipson}%
2249 }
2250 \define@key{Hyp}{textures}[true]{%
2251 \def\Hy@driver{htexture}%
2252 }
2253 \define@key{Hyp}{latex2html}[true]{%
2254 \AtBeginDocument{\@@latextohtmlX}%
2255 }

```

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

```

2256 \define@key{Hyp}{ps2pdf}[true]{%
2257 \def\Hy@driver{hdvips}%
2258 \providecommand*\@pdfborder{0 0 1}%

```



2259 }

## 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.

```
2260 \define@key{Hyp}{hyperfigures}[true]{%
2261   \Hy@boolkey[hyperfigures]{figures}{#1}%
2262 }
```

The automatic footnote linking can be disabled by option hyperfootnotes.

```
2263 \define@key{Hyp}{hyperfootnotes}[true]{%
2264   \Hy@boolkey{hyperfootnotes}{#1}%
2265 }
```

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

```
2266 \def\back@none{none}
2267 \def\back@section{section}
2268 \def\back@page{page}
2269 \def\back@slide{slide}
2270 \define@key{Hyp}{backref}[section]{%
2271   \lowercase{\def\Hy@tempa{#1}}%
2272   \ifx\Hy@tempa\@empty
2273     \let\Hy@tempa\back@section
2274   \fi
2275   \ifx\Hy@tempa\Hy@false
2276     \let\Hy@tempa\back@none
2277   \fi
2278   \ifx\Hy@tempa\back@slide
2279     \let\Hy@tempa\back@section
2280   \fi
2281   \ifx\Hy@tempa\back@page
2282     \PassOptionsToPackage{hyperpageref}{backref}%
2283     \Hy@backreftrue
2284   \else
2285     \ifx\Hy@tempa\back@section
2286       \PassOptionsToPackage{hyperref}{backref}%
2287       \Hy@backreftrue
2288     \else
2289       \ifx\Hy@tempa\back@none
2290         \Hy@backreffalse
2291       \else
2292         \Hy@WarnOptionValue{#1}{backref}{%
2293           'section', 'slide', 'page', 'none', \MessageBreak
2294           or 'false'}%
2295       \fi
2296     \fi
2297   \fi
2298 }
2299 \define@key{Hyp}{pagebackref}[true]{%
2300   \edef\Hy@tempa{#1}%
2301   \lowercase\expandafter{%
2302     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2303   }%
2304   \ifx\Hy@tempa\@empty
2305     \let\Hy@tempa\Hy@true
2306   \fi
2307   \ifx\Hy@tempa\Hy@true
```

```

2308 \PassOptionsToPackage{hyperpageref}{backref}%
2309 \Hy@backreftrue
2310 \else
2311 \ifx\Hy@tempa\Hy@false
2312 \Hy@backreffalse
2313 \else
2314 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
2315 \fi
2316 \fi
2317 }

```

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

```

2318 \define@key{Hyp}{hyperindex}[true]{%
2319 \Hy@boolkey{hyperindex}{#1}%
2320 }

```

Configuration of encap char.

```

2321 \define@key{Hyp}{encap}[\l]{%
2322 \def\HyInd@EncapChar{#1}%
2323 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

2324 \def\HyLang@afrikaans{%
2325 \def\equationautorefname{Vergelyking}%
2326 \def\footnoteautorefname{Voetnota}%
2327 \def\itemautorefname{Item}%
2328 \def\figureautorefname{Figuur}%
2329 \def\tableautorefname{Tabel}%
2330 \def\partautorefname{Deel}%
2331 \def\appendixautorefname{Bylae}%
2332 \def\chapterautorefname{Hoofstuk}%
2333 \def\sectionautorefname{Afdeling}%
2334 \def\subsectionautorefname{Subafdeling}%
2335 \def\subsubsectionautorefname{Subsubafdeling}%
2336 \def\paragraphautorefname{Paragraaf}%
2337 \def\subparagraphautorefname{Subparagraaf}%
2338 \def\FancyVerbLineautorefname{Lyn}%
2339 \def\theoremautorefname{Teorema}%
2340 \def\pageautorefname{Bladsy}%
2341 }
2342 \def\HyLang@english{%
2343 \def\equationautorefname{Equation}%
2344 \def\footnoteautorefname{footnote}%
2345 \def\itemautorefname{item}%
2346 \def\figureautorefname{Figure}%
2347 \def\tableautorefname{Table}%
2348 \def\partautorefname{Part}%
2349 \def\appendixautorefname{Appendix}%
2350 \def\chapterautorefname{chapter}%
2351 \def\sectionautorefname{section}%
2352 \def\subsectionautorefname{subsection}%
2353 \def\subsubsectionautorefname{subsubsection}%
2354 \def\paragraphautorefname{paragraph}%
2355 \def\subparagraphautorefname{subparagraph}%

```

```

2356 \def\FancyVerbLineautorefname{line}%
2357 \def\theoremautorefname{Theorem}%
2358 \def\pageautorefname{page}%
2359 }
2360 \def\HyLang@french{%
2361 \def\equationautorefname{'Equation}%
2362 \def\footnoteautorefname{note}%
2363 \def\itemautorefname{item}%
2364 \def\figureautorefname{Figure}%
2365 \def\tableautorefname{Tableau}%
2366 \def\partautorefname{Partie}%
2367 \def\appendixautorefname{Appendice}%
2368 \def\chapterautorefname{chapitre}%
2369 \def\sectionautorefname{section}%
2370 \def\subsectionautorefname{sous-section}%
2371 \def\subsubsectionautorefname{sous-sous-section}%
2372 \def\paragraphautorefname{paragraphe}%
2373 \def\subparagraphautorefname{sous-paragraphe}%
2374 \def\FancyVerbLineautorefname{ligne}%
2375 \def\theoremautorefname{Th\'eor\'eme}%
2376 \def\pageautorefname{page}%
2377 }
2378 \def\HyLang@german{%
2379 \def\equationautorefname{Gleichung}%
2380 \def\footnoteautorefname{Fu\ss note}%
2381 \def\itemautorefname{Punkt}%
2382 \def\figureautorefname{Abbildung}%
2383 \def\tableautorefname{Tabelle}%
2384 \def\partautorefname{Teil}%
2385 \def\appendixautorefname{Anhang}%
2386 \def\chapterautorefname{Kapitel}%
2387 \def\sectionautorefname{Abschnitt}%
2388 \def\subsectionautorefname{Unterabschnitt}%
2389 \def\subsubsectionautorefname{Unterunterabschnitt}%
2390 \def\paragraphautorefname{Absatz}%
2391 \def\subparagraphautorefname{Unterabsatz}%
2392 \def\FancyVerbLineautorefname{Zeile}%
2393 \def\theoremautorefname{Theorem}%
2394 \def\pageautorefname{Seite}%
2395 }
2396 \def\HyLang@italian{%
2397 \def\equationautorefname{Equazione}%
2398 \def\footnoteautorefname{nota}%
2399 \def\itemautorefname{punto}%
2400 \def\figureautorefname{Figura}%
2401 \def\tableautorefname{Tabella}%
2402 \def\partautorefname{Parte}%
2403 \def\appendixautorefname{Appendice}%
2404 \def\chapterautorefname{Capitolo}%
2405 \def\sectionautorefname{sezione}%
2406 \def\subsectionautorefname{sottosezione}%
2407 \def\subsubsectionautorefname{sottosottosezione}%
2408 \def\paragraphautorefname{paragrafo}%
2409 \def\subparagraphautorefname{sottoparagrafo}%
2410 \def\FancyVerbLineautorefname{linea}%
2411 \def\theoremautorefname{Teorema}%
2412 \def\pageautorefname{Pag.\@}%

```

```

2413 }
2414 \def\HyLang@magyar{%
2415   \def\equationautorefname{Egyenlet}%
2416   \def\footnoteautorefname{l\'abjegyzet}%
2417   \def\itemautorefname{Elem}%
2418   \def\figureautorefname{\'Abra}%
2419   \def\tableautorefname{T\'abl\'azat}%
2420   \def\partautorefname{R\'esz}%
2421   \def\appendixautorefname{F\'uggel\'ek}%
2422   \def\chapterautorefname{fejezet}%
2423   \def\sectionautorefname{szakasz}%
2424   \def\subsectionautorefname{alszakasz}%
2425   \def\subsubsectionautorefname{alalszakasz}%
2426   \def\paragraphautorefname{bekezd\'es}%
2427   \def\subparagraphautorefname{albekezd\'es}%
2428   \def\FancyVerbLineautorefname{sor}%
2429   \def\theoremautorefname{T\'etel}%
2430   \def\pageautorefname{oldal}%
2431 }
2432 \def\HyLang@portuges{%
2433   \def\equationautorefname{Equa\c c\~ao}%
2434   \def\footnoteautorefname{Nota de rodap\'e}%
2435   \def\itemautorefname{Item}%
2436   \def\figureautorefname{Figura}%
2437   \def\tableautorefname{Tabela}%
2438   \def\partautorefname{Parte}%
2439   \def\appendixautorefname{Ap\~endice}%
2440   \def\chapterautorefname{Cap\'itulo}%
2441   \def\sectionautorefname{Se\c c\~ao}%
2442   \def\subsectionautorefname{Subse\c c\~ao}%
2443   \def\subsubsectionautorefname{Subsubse\c c\~ao}%
2444   \def\paragraphautorefname{par\'agrafo}%
2445   \def\subparagraphautorefname{subpar\'agrafo}%
2446   \def\FancyVerbLineautorefname{linha}%
2447   \def\theoremautorefname{Teorema}%
2448   \def\pageautorefname{P\'agina}%
2449 }

```

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`.

```

2450 \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`?

```

2451   \def\equationautorefname{\cyr\cyrv\cyrery\cyr.}%

```

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

```

2452 %   \def\equationautorefname{%
2453 %     \cyr\cyrv\cyrery\cyr\cyrzh\cyre\cyrn\cyri\cyre
2454 %   }%

```

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

```
2455 \def\footnoteautorefname{%
2456 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
2457 }%
```

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}”

```
2458 % \def\footnoteautorefname{%
2459 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
2460 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
2461 % }%
```

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

```
2462 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
2463 % \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.

```
2464 \def\itemautorefname{\cyr\cyrp.}%
2465 % \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.

```
2466 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2467 \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.

```
2468 \def\partautorefname{\cyr\cyrch.}%
2469 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
2470 \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.

```
2471 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
2472 % \def\appendixautorefname{%
2473 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2474 % }%
```

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.

```
2475 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2476 \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.

```
2477 \def\paragraphautorefname{\cyr\cyrp.}%
2478 \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.

```
2479 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2480 % \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.

```
2481 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
2482 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
2483 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
2484 % \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 ...

```
2485 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
2486 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
2487 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2488 \def\pageautorefname{\cyr\cyrs.}%
```

```
2489 }
```

```
2490 \def\HyLang@spanish{%
```

```
2491 \def\equationautorefname{Ecuaci\'on}%
```

```
2492 \def\footnoteautorefname{Nota a pie de p\'agina}%
```

```
2493 \def\itemautorefname{Elemento}%
```

```
2494 \def\figureautorefname{Figura}%
```

```
2495 \def\tableautorefname{Tabla}%
```

```
2496 \def\partautorefname{Parte}%
```

```
2497 \def\appendixautorefname{Ap\'endice}%
```

```
2498 \def\chapterautorefname{Cap\'itulo}%
```

```
2499 \def\sectionautorefname{Secci\'on}%
```

```
2500 \def\subsectionautorefname{Subsecci\'on}%
```

```
2501 \def\subsubsectionautorefname{Subsubsecci\'on}%
```

```
2502 \def\paragraphautorefname{P\'arrafo}%
```

```
2503 \def\subparagraphautorefname{Subp\'arrafo}%
```

```
2504 \def\FancyVerbLineautorefname{L\'inea}%
```

```
2505 \def\theoremautorefname{Teorema}%
```

```
2506 \def\pageautorefname{P\'agina}%
```

```
2507 }
```

```
2508 \def\HyLang@vietnamese{%
```

```
2509 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\`inh}%
```

```
2510 \def\footnoteautorefname{Ch\`u th\`ich}%
```

```
2511 \def\itemautorefname{m\`d\`u\`c}%
```

```
2512 \def\figureautorefname{H\`inh}%
```

```
2513 \def\tableautorefname{B\`h\`a\`ng}%
```

```
2514 \def\partautorefname{Ph\`acircumflex{}n}%
```

```
2515 \def\appendixautorefname{Ph\`d\`u\` l\`d\`u\`c}%
```

```
2516 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
```

```
2517 \def\sectionautorefname{m\`d\`u\`c}%
```

```
2518 \def\subsectionautorefname{m\`d\`u\`c}%
```

```
2519 \def\subsubsectionautorefname{m\`d\`u\`c}%
```

```
2520 \def\paragraphautorefname{\dj{}o\`d\`a\`n}%
```

```

2521 \def\subparagraphautorefname{\dj{ }o{d}{a}{n}}%
2522 \def\FancyVerbLineautorefname{d\'ong}%
2523 \def\theoremautorefname{\DJ{ }\d{i}{nh} 1\'y}%
2524 \def\pageautorefname{Trang}%
2525 }

```

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

```

2526 \def\HyLang@addto#1#2{%
2527   #2%
2528   \@temptokena{#2}%
2529   \ifx#1\relax
2530     \let#1\@empty
2531   \fi
2532   \ifx#1\undefined
2533     \edef#1{\the\@temptokena}%
2534   \else
2535     \toks@\expandafter{#1}%
2536     \edef#1{\the\toks@\the\@temptokena}%
2537   \fi
2538   \@temptokena{}\toks@\@temptokena
2539 }

2540 \def\HyLang@DeclareLang#1#2#3{%
2541   \begingroup
2542     \edef\x##1##2{%
2543       \noexpand\ifx##2\relax
2544         \errmessage{No definitions for language #2' found!}%
2545       \noexpand\fi
2546     \endgroup
2547     \noexpand\define@key{Hyp}{#1}[]{%
2548       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2549       #3%
2550     }%
2551   }%
2552   \expandafter\x\csname extras#1\expandafter\endcsname
2553     \csname HyLang@#2\endcsname
2554 }

2555 \HyLang@DeclareLang{english}{english}{}
2556 \HyLang@DeclareLang{UKenglish}{english}{}
2557 \HyLang@DeclareLang{british}{english}{}
2558 \HyLang@DeclareLang{USenglish}{english}{}
2559 \HyLang@DeclareLang{american}{english}{}
2560 \HyLang@DeclareLang{german}{german}{}
2561 \HyLang@DeclareLang{austrian}{german}{}
2562 \HyLang@DeclareLang{ngerman}{german}{}
2563 \HyLang@DeclareLang{naustrian}{german}{}
2564 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2565 \HyLang@DeclareLang{brazil}{portuges}{}
2566 \HyLang@DeclareLang{brazilian}{portuges}{}
2567 \HyLang@DeclareLang{portuguese}{portuges}{}
2568 \HyLang@DeclareLang{spanish}{spanish}{}
2569 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2570 \HyLang@DeclareLang{french}{french}{}
2571 \HyLang@DeclareLang{frenchb}{french}{}
2572 \HyLang@DeclareLang{francais}{french}{}
2573 \HyLang@DeclareLang{acadian}{french}{}
2574 \HyLang@DeclareLang{canadien}{french}{}

```

```

2575 \HyLang@DeclareLang{italian}{italian}{%
2576 \HyLang@DeclareLang{magyar}{magyar}{%
2577 \HyLang@DeclareLang{hungarian}{magyar}{%

```

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

```

2578 \define@key{Hyp}{vietnamese}[]{%
2579 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2580 \AtEndOfPackage{%
2581 \ifundefined{T@PU}{%
2582 \input{puvnenc.def}%
2583 }%
2584 }%
2585 }
2586 \define@key{Hyp}{vietnam}[]{%
2587 \HyLang@addto\extrasvietnam\HyLang@vietnamese
2588 \AtEndOfPackage{%
2589 \ifundefined{T@PU}{%
2590 \input{puvnenc.def}%
2591 }%
2592 }%
2593 }

```

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

```

2594 \define@key{Hyp}{arabic}[]{%
2595 \AtEndOfPackage{%
2596 \ifundefined{T@PU}{%
2597 \input{puarenc.def}%
2598 }%
2599 }%
2600 }

```

## 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.

```

2601 \define@key{Hyp}{colorlinks}[true]{%
2602 \Hy@boolkey{colorlinks}{#1}%
2603 }
2604 \define@key{Hyp}{ocgcolorlinks}[true]{%
2605 \Hy@boolkey{ocgcolorlinks}{#1}%
2606 }
2607 \AtBeginDocument{%
2608 \begingroup
2609 \ifundefined{OBJ@OCG@view}{%
2610 \ifHy@ocgcolorlinks
2611 \Hy@Warning{%
2612 Driver does not support ‘ocgcolorlinks’,\MessageBreak
2613 using ‘colorlinks’ instead%
2614 }%
2615 \fi
2616 }{}%
2617 \endgroup
2618 }
2619 \define@key{Hyp}{frenchlinks}[true]{%
2620 \Hy@boolkey{frenchlinks}{#1}%
2621 }

```



## 14 Bookmarking

```

2622 \begingroup\expandafter\expandafter\expandafter\endgroup
2623 \expandafter\ifx\csname chapter\endcsname\relax
2624   \def\toclevel@part{0}%
2625 \else
2626   \def\toclevel@part{-1}%
2627 \fi
2628 \def\toclevel@chapter{0}
2629 \def\toclevel@section{1}
2630 \def\toclevel@subsection{2}
2631 \def\toclevel@subsubsection{3}
2632 \def\toclevel@paragraph{4}
2633 \def\toclevel@subparagraph{5}
2634 \def\toclevel@figure{0}
2635 \def\toclevel@table{0}
2636 \@ifpackageloaded{listings}{%
2637   \providecommand*\theHlstlisting{\thelstlisting}%
2638   \providecommand*\toclevel@lstlisting{0}%
2639 }{}
2640 \@ifpackageloaded{listing}{%
2641   \providecommand*\theHlisting{\thelisting}%
2642   \providecommand*\toclevel@listing{0}%
2643 }{}

2644 \define@key{Hyp}{bookmarks}[true]{%
2645   \Hy@boolkey{bookmarks}{#1}%
2646 }

2647 \define@key{Hyp}{bookmarksopen}[true]{%
2648   \Hy@boolkey{bookmarksopen}{#1}%
2649 }

```

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.

```

2650 \let\Hy@bookmarksdepth\c@tocdepth
2651 \define@key{Hyp}{bookmarksdepth}[]{%
2652   \begingroup
2653     \edef\x{#1}%
2654     \ifx\x\empty
2655       \global\let\Hy@bookmarksdepth\c@tocdepth
2656     \else
2657       \@ifundefined{toclevel@\x}{%
2658         \@onelevel@sanitize\x
2659         \edef\y{\expandafter\@car\x\@nil}%
2660         \ifcase 0\expandafter\ifx\y-1\fi
2661           \expandafter\ifnum\expandafter\y>47 %
2662             \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
2663           \Hy@Warning{Unknown document division name (\x)}%
2664         \else
2665           \setbox\z@=\hbox{%

```

```

2666         \count@=\x
2667         \xdef\Hy@bookmarksdepth{\the\count@}%
2668     }%
2669     \fi
2670 }{%
2671     \setbox\z@=\hbox{%
2672         \count@=\csname toclevel@\x\endcsname
2673         \xdef\Hy@bookmarksdepth{\the\count@}%
2674     }%
2675 }%
2676 \fi
2677 \endgroup
2678 }

```

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

```

2679 \define@key{Hyp}{bookmarksopenlevel}{%
2680   \def\@bookmarksopenlevel{#1}%
2681 }
2682 \def\@bookmarksopenlevel{\maxdimen}
2683 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2684 \define@key{Hyp}{bookmarkstype}{%
2685   \def\Hy@bookmarkstype{#1}%
2686 }
2687 \def\Hy@bookmarkstype{toc}

```

Richard Curnow [richard@curnow.demon.co.uk](mailto:richard@curnow.demon.co.uk) suggested this functionality. It adds section numbers etc to bookmarks.

```

2688 \define@key{Hyp}{bookmarksnumbered}[true]{%
2689   \Hy@boolkey{bookmarksnumbered}{#1}%
2690 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2691 \define@key{Hyp}{CJKbookmarks}[true]{%
2692   \Hy@boolkey{CJKbookmarks}{#1}%
2693 }

2694 \def\Hy@temp#1{%
2695   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2696 }
2697 \def\Hy@@temp#1#2#3{%
2698   \define@key{Hyp}{#2color}{%
2699     \HyColor@HyperrefColor{##1}{#1}%
2700   }%
2701   \def#1{#3}%
2702 }

2703 \Hy@temp{link}{red}
2704 \Hy@temp{anchor}{black}
2705 \Hy@temp{cite}{green}
2706 \Hy@temp{file}{cyan}
2707 \Hy@temp{url}{magenta}
2708 \Hy@temp{menu}{red}
2709 \Hy@temp{run}{\@filecolor}
2710 \define@key{Hyp}{pagecolor}{%
2711   \Hy@WarningPageColor
2712 }
2713 \def\Hy@WarningPageColor{%
2714   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
2715   \global\let\Hy@WarningPageColor\relax
2716 }

```

```

2717 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2718 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2719 \let\@baseurl\@empty
2720 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2721 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2722 \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.

```

2723 \let\@pdfpagetransition\relax
2724 \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.

```

2725 \let\@pdfpageduration\relax
2726 \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.

```

2727 \newif\ifHy@useHidKey
2728 \Hy@useHidKeyfalse
2729 \define@key{Hyp}{pdfpagehidden}[true]{%
2730   \Hy@boolkey{pdfpagehidden}{#1}%
2731   \ifHy@pdfpagehidden
2732     \global\Hy@useHidKeytrue
2733   \fi
2734 }

```

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).

```

2735 \def\Hy@ColorList{cite,file,link,menu,run,url}
2736 \@for\Hy@temp:=\Hy@ColorList\do{%
2737   \edef\Hy@temp{%
2738     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2739       \noexpand\HyColor@HyperrefBorderColor
2740       {##1}%
2741       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2742       {hyperref}%
2743       {\Hy@temp bordercolor}%
2744     }%
2745   }%
2746   \Hy@temp
2747 }
2748 \define@key{Hyp}{pagebordercolor}{%
2749   \Hy@WarningPageBorderColor

```

```

2750 }
2751 \def\Hy@WarningPageBorderColor{%
2752   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2753   \global\let\Hy@WarningPageBorderColor\relax
2754 }

2755 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2756 \Hy@DefNameKey{pdfhighlight}{%
2757   \do{/I}{Invert}%
2758   \do{/N}{None}%
2759   \do{/O}{Outline}%
2760   \do{/P}{Push}%
2761 }
2762 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2763 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2764 \def\Hy@setpdfborder{%
2765   \ifx\@pdfborder\@empty
2766   \else
2767     /Border[\@pdfborder]%
2768   \fi
2769   \ifx\@pdfborderstyle\@empty
2770   \else
2771     /BS<<\@pdfborderstyle>>%
2772   \fi
2773 }
2774 \Hy@DefNameKey{pdfpagemode}{%
2775   \do{UseNone}{}%
2776   \do{UseOutlines}{}%
2777   \do{UseThumbs}{}%
2778   \do{FullScreen}{}%
2779   \do{UseOC}{PDF 1.5}%
2780   \do{UseAttachments}{PDF 1.6}%
2781 }
2782 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2783   \do{UseNone}{}%
2784   \do{UseOutlines}{}%
2785   \do{UseThumbs}{}%
2786   \do{FullScreen}{}%
2787   \do{UseOC}{PDF 1.5}%
2788   \do{UseAttachments}{PDF 1.6}%
2789 }
2790 \Hy@DefNameKey{pdfdirection}{%
2791   \do{L2R}{Left to right}%
2792   \do{R2L}{Right to left}%
2793 }
2794 \Hy@DefNameKey{pdfviewarea}{%
2795   \do{MediaBox}{}%
2796   \do{CropBox}{}%
2797   \do{BleedBox}{}%
2798   \do{TrimBox}{}%
2799   \do{ArtBox}{}%
2800 }
2801 \Hy@DefNameKey{pdfviewclip}{%
2802   \do{MediaBox}{}%
2803   \do{CropBox}{}%
2804   \do{BleedBox}{}%
2805   \do{TrimBox}{}%
2806   \do{ArtBox}{}%

```

```

2807 }
2808 \Hy@DefNameKey{pdfprintarea}{%
2809   \do{MediaBox}{}%
2810   \do{CropBox}{}%
2811   \do{BleedBox}{}%
2812   \do{TrimBox}{}%
2813   \do{ArtBox}{}%
2814 }
2815 \Hy@DefNameKey{pdfprintclip}{%
2816   \do{MediaBox}{}%
2817   \do{CropBox}{}%
2818   \do{BleedBox}{}%
2819   \do{TrimBox}{}%
2820   \do{ArtBox}{}%
2821 }
2822 \Hy@DefNameKey{pdfprintscaling}{%
2823   \do{AppDefault}{}%
2824   \do{None}{}%
2825 }
2826 \Hy@DefNameKey{pdfduplex}{%
2827   \do{Simplex}{}%
2828   \do{DuplexFlipShortEdge}{}%
2829   \do{DuplexFlipLongEdge}{}%
2830 }
2831 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2832   \do{true}{}%
2833   \do{false}{}%
2834 }
2835 \define@key{Hyp}{pdfprintpagerange}{%
2836   \def\@pdfprintpagerange{#1}%
2837 }
2838 \Hy@DefNameKey{pdfnumcopies}{%
2839   \do{2}{two copies}%
2840   \do{3}{three copies}%
2841   \do{4}{four copies}%
2842   \do{5}{five copies}%
2843 }
2844 \define@key{Hyp}{pdfusetitle}[true]{%
2845   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2846 }
2847 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2848 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2849 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2850 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2851 \define@key{Hyp}{pdfcreationdate}{%
2852   \begingroup
2853     \Hy@unicodetofalse
2854     \pdfstringdef\@pdfcreationdate{#1}%
2855   \endgroup
2856 }
2857 \define@key{Hyp}{pdfmoddate}{%
2858   \begingroup
2859     \Hy@unicodetofalse
2860     \pdfstringdef\@pdfmoddate{#1}%
2861   \endgroup
2862 }
2863 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}

```

```

2864 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2865 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2866 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2867 \let\setpdflinkmargin\@gobble
2868 \def\calculate@pdfview#1 #2\{%
2869   \def\@pdfview{#1}%
2870   \ifx\#2\%
2871     \def\@pdfviewparams{ -32768}%
2872   \else
2873     \def\@pdfviewparams{ #2}%
2874   \fi
2875 }
2876 \begingroup\expandafter\expandafter\expandafter\endgroup
2877 \expandafter\ifx\csname numexpr\endcsname\relax
2878   \def\Hy@number#1{%
2879     \expandafter\@firstofone\expandafter{\number#1}%
2880   }%
2881 \else
2882   \def\Hy@number#1{%
2883     \the\numexpr#1\relax
2884   }%
2885 \fi
2886 \define@key{Hyp}{pdfstartpage}{%
2887   \ifx\#1\%
2888     \def\@pdfstartpage{%
2889       \edef\@pdfstartpage{\Hy@number{#1}}%
2890     }%
2891   \fi
2892 }%
2893 \define@key{Hyp}{pdfstartview}{%
2894   \ifx\#1\%
2895     \def\@pdfstartview{%
2896       \hypercalcbpdef\@pdfstartview{ /#1 }%
2897     }%
2898   \fi
2899 }
2900 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2901 \define@key{Hyp}{pdftoolbar}[true]{%
2902   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2903 }
2904 \define@key{Hyp}{pdfmenubar}[true]{%
2905   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2906 }
2907 \define@key{Hyp}{pdfwindowui}[true]{%
2908   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2909 }
2910 \define@key{Hyp}{pdffitwindow}[true]{%
2911   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2912 }
2913 \define@key{Hyp}{pdfcenterwindow}[true]{%
2914   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2915 }
2916 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2917   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2918 }
2919 \define@key{Hyp}{pdfa}[true]{%
2920   \Hy@boolkey[pdfa]{#1}%

```

```

2921 }
2922 \define@key{Hyp}{pdfnewwindow}[true]{%
2923   \def\Hy@temp{#1}%
2924   \ifx\Hy@temp\@empty
2925     \Hy@newwindowsetfalse
2926   \else
2927     \Hy@newwindowsettrue
2928     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2929   \fi
2930 }
2931 \def\Hy@SetNewWindow{%
2932   \ifHy@newwindowset
2933     /NewWindow %
2934     \ifHy@newwindow true\else false\fi
2935   \fi
2936 }
2937 \Hy@DefNameKey{pdfpagelayout}{%
2938   \do{SinglePage}{}%
2939   \do{OneColumn}{}%
2940   \do{TwoColumnLeft}{}%
2941   \do{TwoColumnRight}{}%
2942   \do{TwoPageLeft}{PDF 1.5}%
2943   \do{TwoPageRight}{PDF 1.5}%
2944 }
2945 \define@key{Hyp}{pdflang}{%
2946   \def\@pdflang{#1}%
2947 }
2948 \define@key{Hyp}{pdfpagelabels}[true]{%
2949   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2950 }
2951 \define@key{Hyp}{pdfescapeform}[true]{%
2952   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2953 }

```

Default values:

```

2954 \def\@linkbordercolor{1 0 0}
2955 \def\@urlbordercolor{0 1 1}
2956 \def\@menubordercolor{1 0 0}
2957 \def\@filebordercolor{0 .5 .5}
2958 \def\@runbordercolor{0 .7 .7}
2959 \def\@citebordercolor{0 1 0}
2960 \def\@pdfhighlight{/I}
2961 \def\@pdftitle{}
2962 \def\@pdfauthor{}
2963 \let\@pdfproducer\relax
2964 \def\@pdfcreator{LaTeX with hyperref package}
2965 \def\@pdfcreationdate{}
2966 \def\@pdfmoddate{}
2967 \def\@pdfsubject{}
2968 \def\@pdfkeywords{}
2969 \def\@pdfpagescrop{}
2970 \def\@pdfstartview{ /Fit }
2971 \def\@pdfstartpage{1}
2972 \def\@pdfprintpagerange{}
2973 \def\@pdflang{}
2974 \let\PDF@SetupDoc\@empty
2975 \let\PDF@FinishDoc\@empty
2976 \let\phantomsection\@empty

```

```

2977 \let\special@paper\@empty
2978 \def\HyperDestNameFilter#1{#1}
2979 \@ifundefined{stockwidth}{%
2980   \ifdim\paperwidth>\z@
2981     \ifdim\paperheight>\z@
2982       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2983     \fi
2984   \fi
2985 }{%
2986   \ifdim\stockwidth>\z@
2987     \ifdim\stockheight>\z@
2988       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2989     \fi
2990   \fi
2991 }
2992 \begingroup
2993   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2994   \dimen@=\x\relax
2995   \ifdim\dimen@>\z@
2996   \else
2997     \dimen@=11in\relax
2998     \Hy@WarningNoLine{%
2999       Height of page (\expandafter\string\x) %
3000       is invalid (\the\x),\MessageBreak
3001       using 11in%
3002     }%
3003   \fi
3004   \dimen@=0.99626401\dimen@
3005   \xdef\Hy@pageheight{\strip@pt\dimen@}%
3006 \endgroup
3007 \def\HyInd@EncapChar{||}
3008 \def\hypersetup{\setkeys{Hyp}}

```

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.

```

3009 \let\hyper@normalise\ExecuteOptions
3010 \let\ExecuteOptions\hypersetup
3011 \Hy@RestoreCatcodes
3012 \InputIfFileExists{hyperref.cfg}{-}{-}
3013 \Hy@SetCatcodes
3014 \let\ExecuteOptions\hyper@normalise
3015 \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`.

```

3016 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

3017 \@ifpackageloaded{tex4ht}{%
3018   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
3019   \PassOptionsToPackage{tex4ht}{hyperref}%
3020 }%
3021 }{-}
3022 \let\ReadBookmarks\relax
3023 \ProcessKeyvalOptions{Hyp}

```



After processing options.

```
3024 \AtBeginDocument{%
3025   \ifHy@draft
3026     \let\hyper@@anchor\@gobble
3027     \gdef\hyper@link#1#2#3{#3}%
3028     \let\hyper@anchorstart\@gobble
3029     \let\hyper@anchorend\@empty
3030     \let\hyper@linkstart\@gobbletwo
3031     \let\hyper@linkend\@empty
3032     \def\hyper@linkurl#1#2{#1}%
3033     \def\hyper@linkfile#1#2#3{#1}%
3034     \def\hyper@link@[#1]#2#3{#1}%
3035     \def\Acrobatmenu#1#2{\leavevmode#2}%
3036     \let\PDF@SetupDoc\@empty
3037     \let\PDF@FinishDoc\@empty
3038     \let\@fifthoffive\@secondoftwo
3039     \let\@secondoffive\@secondoftwo
3040     \let\ReadBookmarks\relax
3041     \let\WriteBookmarks\relax
3042     \Hy@WarningNoLine{ draft mode on}%
3043   \fi
3044   \Hy@DisableOption{draft}%
3045   \Hy@DisableOption{nolinks}%
3046   \Hy@DisableOption{final}%
3047 }
```

## 15.1 PDF/A

```
3048 \Hy@DisableOption{pdfa}
3049 \ifHy@pdfa
3050   \setkeys{Hyp}{pdfversion=1.4}%
3051   \def\Hy@Acrobatmenu#1#2{%
3052     \leavevmode
3053     \begingroup
3054       \edef\x{#1}%
3055       \@onelevel@sanitize\x
3056       \ifx\x\Hy@NextPage
3057         \let\y=Y%
3058       \else
3059         \ifx\x\Hy@PrevPage
3060           \let\y=Y%
3061         \else
3062           \ifx\x\Hy@FirstPage
3063             \let\y=Y%
3064           \else
3065             \ifx\x\Hy@LastPage
3066               \let\y=Y%
3067             \else
3068               \let\y=N%
3069             \fi
3070           \fi
3071         \fi
3072       \fi
3073     \expandafter\endgroup
3074     \ifx\y Y%
3075     \else
```

```

3076     \PackageError{hyperref}{%
3077         PDF/A: Named action ‘#1’ is not permitted%
3078     }\@ehc
3079     {#2}%
3080     \expandafter\@gobble
3081 \fi
3082 }%
3083 \def\Hy@temp#1{%
3084     \expandafter\def\csname Hy@#1\endcsname{#1}%
3085     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3086 }%
3087 \Hy@temp{NextPage}%
3088 \Hy@temp{PrevPage}%
3089 \Hy@temp{FirstPage}%
3090 \Hy@temp{LastPage}%
3091 \else
3092     \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3093 \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.

```

3094 \Hy@nextfalse
3095 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3096 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3097 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3098 \ifHy@next
3099     \let\texttilde\~%
3100 \fi

```

## 15.3 Patch for babel 3.8j

Babel 2008/03/16 v3.8j adds a patch to disable shorthands for bookmarks. That reduces warnings, but the bookmarks are ugly. Therefore the following patch tries to undo this.

```

3101 \@ifpackageloaded{babel}{%
3102     \ifpackagelater{babel}{2008/03/16}{%
3103         \def\Hy@PatchLanguageShorthands#1{%
3104             \begingroup
3105                 \edef\x{#1}%
3106                 \@onelevel@sanitize\x
3107                 \def\y{system}%
3108                 \@onelevel@sanitize\y
3109             \expandafter\endgroup
3110             \ifx\x\y
3111             \else
3112                 \HyOrg@languageshorthands{#1}%
3113             \fi
3114         }%
3115         \AtBeginDocument{%
3116             \begingroup
3117                 \toks0=\expandafter{\pdfstringdefPreHook}%
3118                 \xdef\pdfstringdefPreHook{%
3119                     \let\noexpand\HyOrg@languageshorthands
3120                     \noexpand\languageshorthands
3121                     \let\noexpand\languageshorthands
3122                     \noexpand\Hy@PatchLanguageShorthands

```

```

3123         \the\toks0 %
3124         \let\noexpand\languageshorthands
3125         \noexpand\HyOrg@languageshorthands
3126     }%
3127 \endgroup
3128 }%
3129 }{}%
3130 }{}

3131 \ifHy@figures
3132   \Hy@Info{Hyper figures ON}%
3133 \else
3134   \Hy@Info{Hyper figures OFF}%
3135 \fi
3136 \ifHy@nesting
3137   \Hy@Info{Link nesting ON}%
3138 \else
3139   \Hy@Info{Link nesting OFF}%
3140 \fi
3141 \ifHy@hyperindex
3142   \Hy@Info{Hyper index ON}%
3143 \else
3144   \Hy@Info{Hyper index OFF}%
3145 \fi
3146 \ifHy@plainpages
3147   \Hy@Info{Plain pages ON}%
3148 \else
3149   \Hy@Info{Plain pages OFF}%
3150 \fi
3151 \ifHy@backref
3152   \Hy@Info{Backreferencing ON}%
3153 \else
3154   \Hy@Info{Backreferencing OFF}%
3155 \fi
3156 \ifHy@typexml
3157   \AtEndOfPackage{%
3158     \RequirePackage{color}%
3159     \RequirePackage{nameref}%
3160   }%
3161 \fi
3162 \Hy@DisableOption{typexml}
3163 \ifHy@implicit
3164   \typeout{Implicit mode ON; LaTeX internals redefined}%
3165 \else
3166   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3167   \def\MaybeStopEarly{%
3168     \typeout{Hyperref stopped early}%
3169     \AfterBeginDocument{%
3170       \PDF@FinishDoc
3171       \gdef\PDF@FinishDoc{}}%
3172   }%
3173   \endinput
3174 }%
3175 \AtBeginDocument{%
3176   \let\autoref\ref
3177   \let\autopageref\pageref
3178   \ifx\@pdfpagemode\@empty
3179     \gdef\@pdfpagemode{UseNone}%

```

```

3180 \fi
3181 \global\Hy@backreffalse
3182 }%
3183 \AtEndOfPackage{%
3184 \global\let\ReadBookmarks\relax
3185 \global\let\WriteBookmarks\relax
3186 }%
3187 \fi
3188 \Hy@DisableOption{implicit}

```

### 15.3.1 Driver loading

```

3189 \AtEndOfPackage{%
3190 \ifpackageloaded{tex4ht}{%
3191 \def\Hy@driver{htex4ht}%
3192 \Hy@texhttrue
3193 }{}%

```

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.

```

3194 \ifx\Hy@driver\@empty
3195 \else
3196 \def\Hy@temp{hpdftex}%
3197 \ifpdf
3198 \ifx\Hy@driver\Hy@temp
3199 \else
3200 \Hy@WarningNoLine{%
3201 Wrong driver '\Hy@driver.def';\MessageBreak
3202 pdfTeX is running in PDF mode.\MessageBreak
3203 Forcing driver '\Hy@temp.def'%
3204 }%
3205 \let\Hy@driver\Hy@temp
3206 \fi
3207 \else
3208 \ifx\Hy@driver\Hy@temp
3209 \Hy@WarningNoLine{%
3210 Wrong driver '\Hy@driver.def';\MessageBreak
3211 pdfTeX is not running in PDF mode.\MessageBreak
3212 Using default driver%
3213 }%
3214 \let\Hy@driver\@empty
3215 \fi
3216 \fi
3217 \fi
3218 \ifx\Hy@driver\@empty
3219 \else
3220 \def\Hy@temp{hdvipdfm}%
3221 \ifxetex
3222 \ifx\Hy@driver\Hy@temp
3223 \else
3224 \Hy@WarningNoLine{%
3225 Wrong driver '\Hy@driver.def';\MessageBreak
3226 XeTeX is running.\MessageBreak
3227 Forcing driver '\Hy@temp.def' for XeTeX%
3228 }%
3229 \let\Hy@driver\Hy@temp
3230 \fi
3231 \fi

```

```

3232 \fi
3233 \ifx\Hy@driver\@empty
3234 \else
3235   \def\Hy@temp{hvtexhtm}%
3236   \ifvtexhtml
3237     \ifx\Hy@driver\Hy@temp
3238     \else
3239       \Hy@WarningNoLine{%
3240         Wrong driver '\Hy@driver.def';\MessageBreak
3241         VTeX is running in HTML mode.\MessageBreak
3242         Forcing driver '\Hy@temp.def'%
3243       }%
3244       \let\Hy@driver\Hy@temp
3245     \fi
3246   \else
3247     \ifx\Hy@driver\Hy@temp
3248     \Hy@WarningNoLine{%
3249       Wrong driver '\Hy@driver.def';\MessageBreak
3250       VTeX is not running in HTML mode.\MessageBreak
3251       Using default driver%
3252     }%
3253     \let\Hy@driver\@empty
3254   \fi
3255 \fi
3256 \fi

```

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

```

3257 \ifx\Hy@driver\@empty
3258   \providecommand*{\Hy@defaultdriver}{hypertex}%
3259   \ifpdf
3260     \def\Hy@driver{hpdfTeX}%
3261   \else
3262     \ifxetex
3263       \def\Hy@driver{hdvipdfm}%
3264     \else
3265       \ifvtexhtml
3266         \def\Hy@driver{hvtexhtm}%
3267         \def\MaybeStopEarly{%
3268           \typeout{Hyperref stopped early}%
3269           \AfterBeginDocument{%
3270             \PDF@FinishDoc
3271             \gdef\PDF@FinishDoc{}}%
3272         }%
3273         \endinput
3274       }%
3275     \else
3276       \ifvtexpdf
3277         \def\Hy@driver{hvtex}%
3278       \else
3279         \ifvtexps
3280           \def\Hy@driver{hvtex}%
3281         \else
3282           \let\Hy@driver\Hy@defaultdriver
3283         \fi
3284       \fi
3285     \fi
3286   \fi
3287 \fi

```

```

3288 \ifx\Hy@driver\Hy@defaultdriver
3289 \def\Hy@temp{hdvwind}%
3290 \ifx\Hy@temp\Hy@driver
3291 \setkeys{Hyp}{colorlinks}%
3292 \PassOptionsToPackage{dviwindo}{color}%
3293 \fi
3294 \fi
3295 \typeout{*hyperref using default driver \Hy@driver*}%
3296 \else
3297 \typeout{*hyperref using driver \Hy@driver*}%
3298 \fi
3299 \input{\Hy@driver.def}%
3300 \let\@unprocessedoptions\relax
3301 \Hy@RestoreCatcodes
3302 }

```

Support for open outlines is enabled for XeTeX  $\zeta = 0.9995$ . 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.

```

3303 \newif\ifHy@DvipdfmxOutlineOpen
3304 \ifxetex
3305 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
3306 \else
3307 \Hy@DvipdfmxOutlineOpentru
3308 \fi
3309 \fi
3310 \begingroup\expandafter\expandafter\expandafter\endgroup
3311 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3312 \else
3313 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3314 \Hy@DvipdfmxOutlineOpentru
3315 \fi
3316 \fi
3317 \Hy@DisableOption{tex4ht}
3318 \Hy@DisableOption{pdftex}
3319 \Hy@DisableOption{nativepdf}
3320 \Hy@DisableOption{dvipdfm}
3321 \Hy@DisableOption{dvipdfmx}
3322 \Hy@DisableOption{dvipdfmx-outline-open}
3323 \Hy@DisableOption{pdfmark}
3324 \Hy@DisableOption{dvips}
3325 \Hy@DisableOption{hypertex}
3326 \Hy@DisableOption{vtex}
3327 \Hy@DisableOption{vtexpdfmark}
3328 \Hy@DisableOption{dviwindo}
3329 \Hy@DisableOption{dvipsone}
3330 \Hy@DisableOption{textures}
3331 \Hy@DisableOption{latex2html}
3332 \Hy@DisableOption{ps2pdf}
3333 \Hy@DisableOption{xetex}
3334 \AtEndOfPackage{%
3335 \Hy@DisableOption{pdfversion}%
3336 }

```

### 15.3.2 Bookmarks

```

3337 \def\WriteBookmarks{0}
3338 \def\@bookmarkopenstatus#1{%
3339 \ifHy@bookmarksopen

```

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

```

3340 \ifnum#1<\expandafter\@firstofone\expandafter
3341      {\number\@bookmarkopenlevel} % explicit space
3342 \else
3343     -%
3344 \fi
3345 \else
3346     -%
3347 \fi
3348 }
3349 \ifHy@bookmarks
3350 \Hy@Info{Bookmarks ON}%
3351 \ifx\@pdfpagemode\@empty
3352 \def\@pdfpagemode{UseOutlines}%
3353 \fi
3354 \else
3355 \def\@bookmarkopenstatus#1{%
3356 \Hy@Info{Bookmarks OFF}%
3357 \AtEndOfPackage{%
3358 \global\let\ReadBookmarks\relax
3359 \global\let\WriteBookmarks\relax
3360 }%
3361 \ifx\@pdfpagemode\@empty
3362 \def\@pdfpagemode{UseNone}%
3363 \fi
3364 \fi
3365 \Hy@DisableOption{bookmarks}

```

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

```

3366 \def\Hy@CatcodeWrapper#1{%
3367 \def\Hy@EndWrap{}%
3368 \def\TMP@EnsureCode##1##2{%
3369 \edef\Hy@EndWrap{%
3370 \Hy@EndWrap
3371 \catcode##1 \the\catcode##1\relax
3372 }%
3373 \catcode##1 ##2\relax
3374 }%
3375 \TMP@EnsureCode{10}{12}% ^^J
3376 \TMP@EnsureCode{33}{12}% !
3377 \TMP@EnsureCode{34}{12}% "
3378 \TMP@EnsureCode{36}{3}% $ (math)
3379 \TMP@EnsureCode{38}{4}% & (alignment)
3380 \TMP@EnsureCode{39}{12}% '
3381 \TMP@EnsureCode{40}{12}% (
3382 \TMP@EnsureCode{41}{12}% )
3383 \TMP@EnsureCode{42}{12}% *
3384 \TMP@EnsureCode{43}{12}% +
3385 \TMP@EnsureCode{44}{12}% ,
3386 \TMP@EnsureCode{45}{12}% -
3387 \TMP@EnsureCode{46}{12}% .
3388 \TMP@EnsureCode{47}{12}% /
3389 \TMP@EnsureCode{58}{12}% :
3390 \TMP@EnsureCode{59}{12}% ;
3391 \TMP@EnsureCode{60}{12}% <
3392 \TMP@EnsureCode{61}{12}% =
3393 \TMP@EnsureCode{62}{12}% >

```

```

3394 \TMP@EnsureCode{63}{12}% ?
3395 \TMP@EnsureCode{91}{12}% [
3396 \TMP@EnsureCode{93}{12}% ]
3397 \TMP@EnsureCode{94}{7}% ^ (superscript)
3398 \TMP@EnsureCode{95}{8}% _ (subscript)
3399 \TMP@EnsureCode{96}{12}% '
3400 \TMP@EnsureCode{124}{12}% |
3401 \TMP@EnsureCode{126}{13}% ~ (active)
3402 #1\relax
3403 \Hy@endWrap
3404 }

```

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

```

3405 \AtBeginDocument{%
3406   \ifHy@ocgcolorlinks
3407     \setkeys{Hyp}{colorlinks}%
3408     \ifHy@pdfa
3409       \Hy@Warning{%
3410         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3411         using 'colorlinks' instead of 'ocgcolorlinks'%
3412       }%
3413       \Hy@ocgcolorlinksfalse
3414     \fi
3415   \fi
3416   \ifHy@ocgcolorlinks
3417   \else
3418     \Hy@DisableOption{ocgcolorlinks}%
3419   \fi
3420   \ifHy@colorlinks
3421     \def\@pdfborder{0 0 0}%
3422     \let\@pdfborderstyle\@empty
3423     \ifHy@typexml
3424     \else
3425       \Hy@CatcodeWrapper{%
3426         \RequirePackage{color}%
3427       }%
3428     \fi
3429     \def\Hy@colorlink#1{%
3430       \begingroup
3431       \HyColor@UseColor#1%
3432     }%
3433     \def\Hy@endcolorlink{\endgroup}%
3434     \Hy@Info{Link coloring ON}%
3435   \else
3436     \ifHy@frenchlinks
3437       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3438       \def\Hy@endcolorlink{\endgroup}%
3439       \Hy@Info{French linking ON}%
3440     \else

```

for grouping consistency:

```

3441     \def\Hy@colorlink#1{\begingroup}%
3442     \def\Hy@endcolorlink{\endgroup}%
3443     \Hy@Info{Link coloring OFF}%
3444   \fi
3445 \fi
3446 \Hy@DisableOption{colorlinks}%
3447 \Hy@DisableOption{frenchlinks}%

```



```

3448 \ifHy@texht
3449   \long\def\@firstoffive#1#2#3#4#5{#1}%
3450   \long\def\@secondoffive#1#2#3#4#5{#2}%
3451   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3452   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3453   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3454   \providecommand*\@safe@activestruet{}%
3455   \providecommand*\@safe@activesfalse{}%
3456   \def\T@ref#1{%
3457     \Hy@safe@activestruet
3458     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3459     \Hy@safe@activesfalse
3460   }%
3461   \def\T@pageref#1{%
3462     \Hy@safe@activestruet
3463     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3464     \Hy@safe@activesfalse
3465   }%
3466 \else
3467   \ifHy@typexml
3468   \else
3469     \Hy@CatcodeWrapper{%
3470       \RequirePackage{nameref}%
3471     }%
3472   \fi
3473 \fi
3474 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3475 \DeclareRobustCommand\pageref{%
3476   \@ifstar\@pagerefstar\T@pageref
3477 }%
3478 }
3479 \AfterBeginDocument{%
3480   \ifHy@texht
3481   \else
3482     \Hy@CatcodeWrapper{%
3483       \ReadBookmarks
3484     }%
3485   \fi
3486 }
3487 \ifHy@backref
3488   \RequirePackage{backref}%
3489 \else
3490   \let\Hy@backout\@gobble
3491 \fi
3492 \Hy@DisableOption{backref}
3493 \Hy@DisableOption{pagebackref}
3494 \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`.

```

3495 \begingroup
3496 \endlinechar=-1 %
3497 \catcode'\^^A=14 %
3498 \catcode'\^^M\active
3499 \catcode'\%\active
3500 \catcode'\#\active
3501 \catcode'\_\active
3502 \catcode'\$\active
3503 \catcode'\&\active
3504 \gdef\hyper@normalise{^^A
3505   \begingroup
3506   \catcode'\^^M\active
3507   \def^^M{ }^^A
3508   \catcode'\%\active
3509   \let%\@percentchar
3510   \let%\@percentchar
3511   \catcode'\#\active
3512   \def#{\hyper@hash}^^A
3513   \def\#{\hyper@hash}^^A
3514   \@makeother\&^^A
3515   \edef&{\string&}^^A
3516   \edef\&{\string&}^^A
3517   \edef\textunderscore{\string_}^^A
3518   \let_\textunderscore
3519   \catcode'\_\active
3520   \let_\textunderscore
3521   \let~\hyper@tilde
3522   \let~\hyper@tilde
3523   \let\textasciitilde\hyper@tilde
3524   \let\\\@backslashchar
3525   \edef$\string$}^^A
3526   \Hy@safe@activestrue
3527   \hyper@n@rmalise
3528 }^^A
3529 \catcode'\#=6 ^^A
3530 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3531 \gdef\hyper@n@rmalise#1#2{^^A
3532   \def\Hy@tempa{#2}^^A
3533   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3534     \Hy@ReturnAfterElseFi{^^A
3535       \hyper@@normalise{#1}^^A
3536     }^^A
3537   \else
3538     \Hy@ReturnAfterFi{^^A
3539       \hyper@@normalise{#1}{#2}^^A
3540     }^^A
3541   \fi
3542 }^^A
3543 \gdef\hyper@@normalise#1#2{^^A
3544   \edef\Hy@tempa{^^A
3545     \endgroup
3546     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3547   }^^A
3548   \Hy@tempa
3549 }^^A
3550 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3551   #1^^A

```

```

3552 \ifx\limits#2\limits
3553 \else
3554 \Hy@ReturnAfterFi{^^A
3555 \Hy@RemovePercentCr #2\@nil
3556 }^^A
3557 \fi
3558 }^^A
3559 \endgroup
3560 \providecommand*\hyper@chars{%
3561 \let#\hyper@hash
3562 \let%\@percentchar
3563 \Hy@safe@activetrue
3564 }

3565 \def\hyperlink#1#2{%
3566 \hyper@@link{#1}{#2}%
3567 }

3568 \DeclareRobustCommand*\href{%
3569 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3570 }
3571 \def\Hy@href#{%
3572 \hyper@normalise\href@
3573 }
3574 \begingroup
3575 \catcode'\$=6 %
3576 \catcode'\#=12 %
3577 \gdef\href@#1{\expandafter\href@split$1##\}%
3578 \gdef\href@split$1#$2#$3\{%
3579 \hyper@@link{$1}{$2}%
3580 }%
3581 \endgroup

```

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

```

3582 \RequirePackage{url}
3583 \let\HyOrg@url\url
3584 \def\Hurl{\begingroup \Url}
3585 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3586 \def\nolinkurl@#1{\Hurl{#1}}
3587 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3588 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3589 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3590 \providecommand\hyper@image[2]{#2}

3591 \def\hypertarget#1#2{%
3592 \ifHy@nesting
3593 \hyper@@anchor{#1}{#2}%
3594 \else
3595 \hyper@@anchor{#1}{\relax}#2%
3596 \fi
3597 }

```

`\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  $\text{\LaTeX}$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3598 \DeclareRobustCommand*\hyperref{%

```

```

3599 \@@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3600 }
3601 \def\Hy@babelnormalise#1[#2]{%
3602   \begingroup
3603     \Hy@safe@activestrue
3604     \edef\Hy@tempa{%
3605       \endgroup
3606       \noexpand#1[#2]}%
3607   }%
3608   \Hy@tempa
3609 }
3610 \def\@hyperref{\hyper@normalise\@@hyperref}
3611 \def\@@hyperref#1#2#3{%
3612   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3613   \expandafter\tryhyper@link\ref@one\\{#1}%
3614 }
3615 \def\tryhyper@link#1\\#2{%
3616   \hyper@@link{#2}{#1}%
3617 }
3618 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef]}
3619 \def\@hyperdef#1#2#3{%, category, name, text
3620   \ifHy@nesting
3621     \hyper@@anchor{#1.#2}{#3}%
3622   \else
3623     \hyper@@anchor{#1.#2}{\relax}#3%
3624   \fi
3625 }

```

```

3626 \def\label@hyperref[#1]{%
3627   \expandafter\label@@hyperref\curname r@#1\endcsname{#1}%
3628 }%
3629 \def\label@@hyperref#1#2#3{%
3630   \ifx#1\relax
3631     \protect\G@refundefinedtrue
3632     \@latex@warning{%
3633       Hyper reference ‘#2’ on page \thepage \space undefined%
3634     }%
3635     \hyper@@link{}{??}{#3}%
3636   \else
3637     \hyper@@link{\expandafter\@fifthoffive#1}%
3638       {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3639   \fi
3640 }
3641 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3642                                     % anchor text
3643   \@bsphack
3644   \if@filesw
3645     \protected@write\@auxout{%
3646       {\string\newlabel{#1}{\{ }\{ }\@##2.#3}}%
3647   \fi
3648   \@esphack
3649   \ifHy@nesting
3650     \hyper@@anchor{#2.#3}{#4}%
3651   \else
3652     \hyper@@anchor{#2.#3}{\relax}#4%

```

```

3653 \fi
3654 }

```

## 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.

```

3655 \def\hyper@@link{\let\Hy@reserved@a\relax
3656 \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3657 }
3658 \def\hyper@link@[#1]#2#3#4{%
3659 \begingroup
3660 \protected@edef\Hy@tempa{#2}%
3661 \Hy@safe@activestruer
3662 \edef\x{#3}%
3663 \ifx\Hy@tempa\@empty
3664 \toks0{\hyper@link{#1}}%
3665 \else
3666 \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3667 \fi
3668 \toks2{%
3669 \Hy@safe@activesfalse
3670 #4%
3671 }%
3672 \edef\Hy@tempa{\the\toks2}%
3673 \edef\x{\endgroup
3674 \ifx\Hy@tempa\@empty
3675 \noexpand\Hy@Warning{Suppressing empty link}%
3676 \else
3677 \the\toks0 {\x}{\the\toks2}}%
3678 \fi
3679 }%
3680 \x
3681 }

```

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.

```

3682 \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.

```

3683 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3684 }

```

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

```
3685 \def\@pdftempwordfile{file}%
3686 \def\@pdftempwordrun{run}%
3687 \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 :

```
3688 \ifx\\#6\\%
3689 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3690 \else
3691 \ifx\\#4\\%
3692 \expandafter\@hyper@linkfile file:#7\\{#3}{#2}%
3693 \else
```

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

```
3694 \def\@pdftempa{#4}%
3695 \ifx\@pdftempa\@pdftempwordfile
3696 \expandafter\@hyper@linkfile#7\\{#3}{#2}%
3697 \else
```

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

```
3698 \ifx\@pdftempa\@pdftempwordrun
3699 \ifHy@pdfa
3700 \PackageError{hyperref}{%
3701 PDF/A: Launch action is prohibited%
3702 }\@ehc
3703 \begingroup
3704 \leavevmode
3705 #2%
3706 \endgroup
3707 \else
3708 \expandafter\@hyper@launch#7\\{#3}{#2}%
3709 \fi
3710 \else
```

otherwise its a URL

```
3711 \hyper@linkurl{#3}{#7\ifx\\#2\\#3\\#4\\#5\\#6\\#7\\#8\\#9\\#10\\#11\\#12\\#13\\#14\\#15\\#16\\#17\\#18\\#19\\#20\\#21\\#22\\#23\\#24\\#25\\#26\\#27\\#28\\#29\\#30\\#31\\#32\\#33\\#34\\#35\\#36\\#37\\#38\\#39\\#40\\#41\\#42\\#43\\#44\\#45\\#46\\#47\\#48\\#49\\#50\\#51\\#52\\#53\\#54\\#55\\#56\\#57\\#58\\#59\\#60\\#61\\#62\\#63\\#64\\#65\\#66\\#67\\#68\\#69\\#70\\#71\\#72\\#73\\#74\\#75\\#76\\#77\\#78\\#79\\#80\\#81\\#82\\#83\\#84\\#85\\#86\\#87\\#88\\#89\\#90\\#91\\#92\\#93\\#94\\#95\\#96\\#97\\#98\\#99\\#100\\#101\\#102\\#103\\#104\\#105\\#106\\#107\\#108\\#109\\#110\\#111\\#112\\#113\\#114\\#115\\#116\\#117\\#118\\#119\\#120\\#121\\#122\\#123\\#124\\#125\\#126\\#127\\#128\\#129\\#130\\#131\\#132\\#133\\#134\\#135\\#136\\#137\\#138\\#139\\#140\\#141\\#142\\#143\\#144\\#145\\#146\\#147\\#148\\#149\\#150\\#151\\#152\\#153\\#154\\#155\\#156\\#157\\#158\\#159\\#160\\#161\\#162\\#163\\#164\\#165\\#166\\#167\\#168\\#169\\#170\\#171\\#172\\#173\\#174\\#175\\#176\\#177\\#178\\#179\\#180\\#181\\#182\\#183\\#184\\#185\\#186\\#187\\#188\\#189\\#190\\#191\\#192\\#193\\#194\\#195\\#196\\#197\\#198\\#199\\#200\\#201\\#202\\#203\\#204\\#205\\#206\\#207\\#208\\#209\\#210\\#211\\#212\\#213\\#214\\#215\\#216\\#217\\#218\\#219\\#220\\#221\\#222\\#223\\#224\\#225\\#226\\#227\\#228\\#229\\#230\\#231\\#232\\#233\\#234\\#235\\#236\\#237\\#238\\#239\\#240\\#241\\#242\\#243\\#244\\#245\\#246\\#247\\#248\\#249\\#250\\#251\\#252\\#253\\#254\\#255\\#256\\#257\\#258\\#259\\#260\\#261\\#262\\#263\\#264\\#265\\#266\\#267\\#268\\#269\\#270\\#271\\#272\\#273\\#274\\#275\\#276\\#277\\#278\\#279\\#280\\#281\\#282\\#283\\#284\\#285\\#286\\#287\\#288\\#289\\#290\\#291\\#292\\#293\\#294\\#295\\#296\\#297\\#298\\#299\\#300\\#301\\#302\\#303\\#304\\#305\\#306\\#307\\#308\\#309\\#310\\#311\\#312\\#313\\#314\\#315\\#316\\#317\\#318\\#319\\#320\\#321\\#322\\#323\\#324\\#325\\#326\\#327\\#328\\#329\\#330\\#331\\#332\\#333\\#334\\#335\\#336\\#337\\#338\\#339\\#340\\#341\\#342\\#343\\#344\\#345\\#346\\#347\\#348\\#349\\#350\\#351\\#352\\#353\\#354\\#355\\#356\\#357\\#358\\#359\\#360\\#361\\#362\\#363\\#364\\#365\\#366\\#367\\#368\\#369\\#370\\#371\\#372\\#373\\#374\\#375\\#376\\#377\\#378\\#379\\#380\\#381\\#382\\#383\\#384\\#385\\#386\\#387\\#388\\#389\\#390\\#391\\#392\\#393\\#394\\#395\\#396\\#397\\#398\\#399\\#400\\#401\\#402\\#403\\#404\\#405\\#406\\#407\\#408\\#409\\#410\\#411\\#412\\#413\\#414\\#415\\#416\\#417\\#418\\#419\\#420\\#421\\#422\\#423\\#424\\#425\\#426\\#427\\#428\\#429\\#430\\#431\\#432\\#433\\#434\\#435\\#436\\#437\\#438\\#439\\#440\\#441\\#442\\#443\\#444\\#445\\#446\\#447\\#448\\#449\\#450\\#451\\#452\\#453\\#454\\#455\\#456\\#457\\#458\\#459\\#460\\#461\\#462\\#463\\#464\\#465\\#466\\#467\\#468\\#469\\#470\\#471\\#472\\#473\\#474\\#475\\#476\\#477\\#478\\#479\\#480\\#481\\#482\\#483\\#484\\#485\\#486\\#487\\#488\\#489\\#490\\#491\\#492\\#493\\#494\\#495\\#496\\#497\\#498\\#499\\#500\\#501\\#502\\#503\\#504\\#505\\#506\\#507\\#508\\#509\\#510\\#511\\#512\\#513\\#514\\#515\\#516\\#517\\#518\\#519\\#520\\#521\\#522\\#523\\#524\\#525\\#526\\#527\\#528\\#529\\#530\\#531\\#532\\#533\\#534\\#535\\#536\\#537\\#538\\#539\\#540\\#541\\#542\\#543\\#544\\#545\\#546\\#547\\#548\\#549\\#550\\#551\\#552\\#553\\#554\\#555\\#556\\#557\\#558\\#559\\#560\\#561\\#562\\#563\\#564\\#565\\#566\\#567\\#568\\#569\\#570\\#571\\#572\\#573\\#574\\#575\\#576\\#577\\#578\\#579\\#580\\#581\\#582\\#583\\#584\\#585\\#586\\#587\\#588\\#589\\#590\\#591\\#592\\#593\\#594\\#595\\#596\\#597\\#598\\#599\\#600\\#601\\#602\\#603\\#604\\#605\\#606\\#607\\#608\\#609\\#610\\#611\\#612\\#613\\#614\\#615\\#616\\#617\\#618\\#619\\#620\\#621\\#622\\#623\\#624\\#625\\#626\\#627\\#628\\#629\\#630\\#631\\#632\\#633\\#634\\#635\\#636\\#637\\#638\\#639\\#640\\#641\\#642\\#643\\#644\\#645\\#646\\#647\\#648\\#649\\#650\\#651\\#652\\#653\\#654\\#655\\#656\\#657\\#658\\#659\\#660\\#661\\#662\\#663\\#664\\#665\\#666\\#667\\#668\\#669\\#670\\#671\\#672\\#673\\#674\\#675\\#676\\#677\\#678\\#679\\#680\\#681\\#682\\#683\\#684\\#685\\#686\\#687\\#688\\#689\\#690\\#691\\#692\\#693\\#694\\#695\\#696\\#697\\#698\\#699\\#700\\#701\\#702\\#703\\#704\\#705\\#706\\#707\\#708\\#709\\#710\\#711\\#712\\#713\\#714\\#715\\#716\\#717\\#718\\#719\\#720\\#721\\#722\\#723\\#724\\#725\\#726\\#727\\#728\\#729\\#730\\#731\\#732\\#733\\#734\\#735\\#736\\#737\\#738\\#739\\#740\\#741\\#742\\#743\\#744\\#745\\#746\\#747\\#748\\#749\\#750\\#751\\#752\\#753\\#754\\#755\\#756\\#757\\#758\\#759\\#760\\#761\\#762\\#763\\#764\\#765\\#766\\#767\\#768\\#769\\#770\\#771\\#772\\#773\\#774\\#775\\#776\\#777\\#778\\#779\\#780\\#781\\#782\\#783\\#784\\#785\\#786\\#787\\#788\\#789\\#790\\#791\\#792\\#793\\#794\\#795\\#796\\#797\\#798\\#799\\#800\\#801\\#802\\#803\\#804\\#805\\#806\\#807\\#808\\#809\\#810\\#811\\#812\\#813\\#814\\#815\\#816\\#817\\#818\\#819\\#820\\#821\\#822\\#823\\#824\\#825\\#826\\#827\\#828\\#829\\#830\\#831\\#832\\#833\\#834\\#835\\#836\\#837\\#838\\#839\\#840\\#841\\#842\\#843\\#844\\#845\\#846\\#847\\#848\\#849\\#850\\#851\\#852\\#853\\#854\\#855\\#856\\#857\\#858\\#859\\#860\\#861\\#862\\#863\\#864\\#865\\#866\\#867\\#868\\#869\\#870\\#871\\#872\\#873\\#874\\#875\\#876\\#877\\#878\\#879\\#880\\#881\\#882\\#883\\#884\\#885\\#886\\#887\\#888\\#889\\#890\\#891\\#892\\#893\\#894\\#895\\#896\\#897\\#898\\#899\\#900\\#901\\#902\\#903\\#904\\#905\\#906\\#907\\#908\\#909\\#910\\#911\\#912\\#913\\#914\\#915\\#916\\#917\\#918\\#919\\#920\\#921\\#922\\#923\\#924\\#925\\#926\\#927\\#928\\#929\\#930\\#931\\#932\\#933\\#934\\#935\\#936\\#937\\#938\\#939\\#940\\#941\\#942\\#943\\#944\\#945\\#946\\#947\\#948\\#949\\#950\\#951\\#952\\#953\\#954\\#955\\#956\\#957\\#958\\#959\\#960\\#961\\#962\\#963\\#964\\#965\\#966\\#967\\#968\\#969\\#970\\#971\\#972\\#973\\#974\\#975\\#976\\#977\\#978\\#979\\#980\\#981\\#982\\#983\\#984\\#985\\#986\\#987\\#988\\#989\\#990\\#991\\#992\\#993\\#994\\#995\\#996\\#997\\#998\\#999\\#1000\\#1001\\#1002\\#1003\\#1004\\#1005\\#1006\\#1007\\#1008\\#1009\\#1010\\#1011\\#1012\\#1013\\#1014\\#1015\\#1016\\#1017\\#1018\\#1019\\#1020\\#1021\\#1022\\#1023\\#1024\\#1025\\#1026\\#1027\\#1028\\#1029\\#1030\\#1031\\#1032\\#1033\\#1034\\#1035\\#1036\\#1037\\#1038\\#1039\\#1040\\#1041\\#1042\\#1043\\#1044\\#1045\\#1046\\#1047\\#1048\\#1049\\#1050\\#1051\\#1052\\#1053\\#1054\\#1055\\#1056\\#1057\\#1058\\#1059\\#1060\\#1061\\#1062\\#1063\\#1064\\#1065\\#1066\\#1067\\#1068\\#1069\\#1070\\#1071\\#1072\\#1073\\#1074\\#1075\\#1076\\#1077\\#1078\\#1079\\#1080\\#1081\\#1082\\#1083\\#1084\\#1085\\#1086\\#1087\\#1088\\#1089\\#1090\\#1091\\#1092\\#1093\\#1094\\#1095\\#1096\\#1097\\#1098\\#1099\\#1100\\#1101\\#1102\\#1103\\#1104\\#1105\\#1106\\#1107\\#1108\\#1109\\#1110\\#1111\\#1112\\#1113\\#1114\\#1115\\#1116\\#1117\\#1118\\#1119\\#1120\\#1121\\#1122\\#1123\\#1124\\#1125\\#1126\\#1127\\#1128\\#1129\\#1130\\#1131\\#1132\\#1133\\#1134\\#1135\\#1136\\#1137\\#1138\\#1139\\#1140\\#1141\\#1142\\#1143\\#1144\\#1145\\#1146\\#1147\\#1148\\#1149\\#1150\\#1151\\#1152\\#1153\\#1154\\#1155\\#1156\\#1157\\#1158\\#1159\\#1160\\#1161\\#1162\\#1163\\#1164\\#1165\\#1166\\#1167\\#1168\\#1169\\#1170\\#1171\\#1172\\#1173\\#1174\\#1175\\#1176\\#1177\\#1178\\#1179\\#1180\\#1181\\#1182\\#1183\\#1184\\#1185\\#1186\\#1187\\#1188\\#1189\\#1190\\#1191\\#1192\\#1193\\#1194\\#1195\\#1196\\#1197\\#1198\\#1199\\#1200\\#1201\\#1202\\#1203\\#1204\\#1205\\#1206\\#1207\\#1208\\#1209\\#1210\\#1211\\#1212\\#1213\\#1214\\#1215\\#1216\\#1217\\#1218\\#1219\\#1220\\#1221\\#1222\\#1223\\#1224\\#1225\\#1226\\#1227\\#1228\\#1229\\#1230\\#1231\\#1232\\#1233\\#1234\\#1235\\#1236\\#1237\\#1238\\#1239\\#1240\\#1241\\#1242\\#1243\\#1244\\#1245\\#1246\\#1247\\#1248\\#1249\\#1250\\#1251\\#1252\\#1253\\#1254\\#1255\\#1256\\#1257\\#1258\\#1259\\#1260\\#1261\\#1262\\#1263\\#1264\\#1265\\#1266\\#1267\\#1268\\#1269\\#1270\\#1271\\#1272\\#1273\\#1274\\#1275\\#1276\\#1277\\#1278\\#1279\\#1280\\#1281\\#1282\\#1283\\#1284\\#1285\\#1286\\#1287\\#1288\\#1289\\#1290\\#1291\\#1292\\#1293\\#1294\\#1295\\#1296\\#1297\\#1298\\#1299\\#1300\\#1301\\#1302\\#1303\\#1304\\#1305\\#1306\\#1307\\#1308\\#1309\\#1310\\#1311\\#1312\\#1313\\#1314\\#1315\\#1316\\#1317\\#1318\\#1319\\#1320\\#1321\\#1322\\#1323\\#1324\\#1325\\#1326\\#1327\\#1328\\#1329\\#1330\\#1331\\#1332\\#1333\\#1334\\#1335\\#1336\\#1337\\#1338\\#1339\\#1340\\#1341\\#1342\\#1343\\#1344\\#1345\\#1346\\#1347\\#1348\\#1349\\#1350\\#1351\\#1352\\#1353\\#1354\\#1355\\#1356\\#1357\\#1358\\#1359\\#1360\\#1361\\#1362\\#1363\\#1364\\#1365\\#1366\\#1367\\#1368\\#1369\\#1370\\#1371\\#1372\\#1373\\#1374\\#1375\\#1376\\#1377\\#1378\\#1379\\#1380\\#1381\\#1382\\#1383\\#1384\\#1385\\#1386\\#1387\\#1388\\#1389\\#1390\\#1391\\#1392\\#1393\\#1394\\#1395\\#1396\\#1397\\#1398\\#1399\\#1400\\#1401\\#1402\\#1403\\#1404\\#1405\\#1406\\#1407\\#1408\\#1409\\#1410\\#1411\\#1412\\#1413\\#1414\\#1415\\#1416\\#1417\\#1418\\#1419\\#1420\\#1421\\#1422\\#1423\\#1424\\#1425\\#1426\\#1427\\#1428\\#1429\\#1430\\#1431\\#1432\\#1433\\#1434\\#1435\\#1436\\#1437\\#1438\\#1439\\#1440\\#1441\\#1442\\#1443\\#1444\\#1445\\#1446\\#1447\\#1448\\#1449\\#1450\\#1451\\#1452\\#1453\\#1454\\#1455\\#1456\\#1457\\#1458\\#1459\\#1460\\#1461\\#1462\\#1463\\#1464\\#1465\\#1466\\#1467\\#1468\\#1469\\#1470\\#1471\\#1472\\#1473\\#1474\\#1475\\#1476\\#1477\\#1478\\#1479\\#1480\\#1481\\#1482\\#1483\\#1484\\#1485\\#1486\\#1487\\#1488\\#1489\\#1490\\#1491\\#1492\\#1493\\#1494\\#1495\\#1496\\#1497\\#1498\\#1499\\#1500\\#1501\\#1502\\#1503\\#1504\\#1505\\#1506\\#1507\\#1508\\#1509\\#1510\\#1511\\#1512\\#1513\\#1514\\#1515\\#1516\\#1517\\#1518\\#1519\\#1520\\#1521\\#1522\\#1523\\#1524\\#1525\\#1526\\#1527\\#1528\\#1529\\#1530\\#1531\\#1532\\#1533\\#1534\\#1535\\#1536\\#1537\\#1538\\#1539\\#1540\\#1541\\#1542\\#1543\\#1544\\#1545\\#1546\\#1547\\#1548\\#1549\\#1550\\#1551\\#1552\\#1553\\#1554\\#1555\\#1556\\#1557\\#1558\\#1559\\#1560\\#1561\\#1562\\#1563\\#1564\\#1565\\#1566\\#1567\\#1568\\#1569\\#1570\\#1571\\#1572\\#1573\\#1574\\#1575\\#1576\\#1577\\#1578\\#1579\\#1580\\#1581\\#1582\\#1583\\#1584\\#1585\\#1586\\#1587\\#1588\\#1589\\#1590\\#1591\\#1592\\#1593\\#1594\\#1595\\#1596\\#1597\\#1598\\#1599\\#1600\\#1601\\#1602\\#1603\\#1604\\#1605\\#1606\\#1607\\#1608\\#1609\\#1610\\#1611\\#1612\\#1613\\#1614\\#1615\\#1616\\#1617\\#1618\\#1619\\#1620\\#1621\\#1622\\#1623\\#1624\\#1625\\#1626\\#1627\\#1628\\#1629\\#1630\\#1631\\#1632\\#1633\\#1634\\#1635\\#1636\\#1637\\#1638\\#1639\\#1640\\#1641\\#1642\\#1643\\#1644\\#1645\\#1646\\#1647\\#1648\\#1649\\#1650\\#1651\\#1652\\#1653\\#1654\\#1655\\#1656\\#1657\\#1658\\#1659\\#1660\\#1661\\#1662\\#1663\\#1664\\#1665\\#1666\\#1667\\#1668\\#1669\\#1670\\#1671\\#1672\\#1673\\#1674\\#1675\\#1676\\#1677\\#1678\\#1679\\#1680\\#1681\\#1682\\#1683\\#1684\\#1685\\#1686\\#1687\\#1688\\#1689\\#1690\\#1691\\#1692\\#1693\\#1694\\#1695\\#1696\\#1697\\#1698\\#1699\\#1700\\#1701\\#1702\\#1703\\#1704\\#1705\\#1706\\#1707\\#1708\\#1709\\#1710\\#1711\\#1712\\#1713\\#1714\\#1715\\#1716\\#1717\\#1718\\#1719\\#1720\\#1721\\#1722\\#1723\\#1724\\#1725\\#1726\\#1727\\#1728\\#1729\\#1730\\#1731\\#1732\\#1733\\#1734\\#1735\\#1736\\#1737\\#1738\\#1739\\#1740\\#1741\\#1742\\#1743\\#1744\\#1745\\#1746\\#1747\\#1748\\#1749\\#1750\\#1751\\#1752\\#1753\\#1754\\#1755\\#1756\\#1757\\#1758\\#1759\\#1760\\#1761\\#1762\\#1763\\#1764\\#1765\\#1766\\#1767\\#1768\\#1769\\#1770\\#1771\\#1772\\#1773\\#1774\\#1775\\#1776\\#1777\\#1778\\#1779\\#1780\\#1781\\#1782\\#1783\\#1784\\#1785\\#1786\\#1787\\#1788\\#1789\\#1790\\#1791\\#1792\\#1793\\#1794\\#1795\\#1796\\#1797\\#1798\\#1799\\#1800\\#1801\\#1802\\#1803\\#1804\\#1805\\#1806\\#1807\\#1808\\#1809\\#1810\\#1811\\#1812\\#1813\\#1814\\#1815\\#1816\\#1817\\#1818\\#1819\\#1820\\#1821\\#1822\\#1823\\#1824\\#1825\\#1826\\#1827\\#1828\\#1829\\#1830\\#1831\\#1832\\#1833\\#1834\\#1835\\#1836\\#1837\\#1838\\#1839\\#1840\\#1841\\#1842\\#1843\\#1844\\#1845\\#1846\\#1847\\#1848\\#1849\\#1850\\#1851\\#1852\\#1853\\#1854\\#1855\\#1856\\#1857\\#1858\\#1859\\#1860\\#1861\\#1862\\#1863\\#1864\\#1865\\#1866\\#1867\\#1868\\#1869\\#1870\\#1871\\#1872\\#1873\\#1874\\#1875\\#1876\\#1877\\#1878\\#1879\\#1880\\#1881\\#1882\\#1883\\#1884\\#1885\\#1886\\#1887\\#1888\\#1889\\#1890\\#1891\\#1892\\#1893\\#1894\\#1895\\#1896\\#1897\\#1898\\#1899\\#1900\\#1901\\#1902\\#1903\\#1904\\#1905\\#1906\\#1907\\#1908\\#1909\\#1910\\#1911\\#1912\\#1913\\#1914\\#1915\\#1916\\#1917\\#1918\\#1919\\#1920\\#1921\\#1922\\#1923\\#1924\\#1925\\#1926\\#1927\\#1928\\#1929\\#1930\\#1931\\#1932\\#1933\\#1934\\#1935\\#1936\\#1937\\#1938\\#1939\\#1940\\#1941\\#1942\\#1943\\#1944\\#1945\\#1946\\#1947\\#1948\\#1949\\#1950\\#1951\\#1952\\#1953\\#1954\\#1955\\#1956\\#1957\\#1958\\#1959\\#1960\\#1961\\#1962\\#1963\\#1964\\#1965\\#1966\\#1967\\#1968\\#1969\\#1970\\#1971\\#1972\\#1973\\#1974\\#1975\\#1976\\#1977\\#1978\\#1979\\#1980\\#1981\\#1982\\#1983\\#1984\\#1985\\#1986\\#1987\\#1988\\#1989\\#1990\\#1991\\#1992\\#1993\\#1994\\#1995\\#1996\\#1997\\#1998\\#1999\\#2000\\#2001\\#2002\\#2003\\#2004\\#2005\\#2006\\#2007\\#2008\\#2009\\#2010\\#2011\\#2012\\#2013\\#2014\\#2015\\#2016\\#2017\\#2018\\#2019\\#2020\\#2021\\#2022\\#2023\\#2024\\#2025\\#2026\\#2027\\#2028\\#2029\\#2030\\#2031\\#2032\\#2033\\#2034\\#2035\\#2036\\#2037\\#2038\\#2039\\#2040\\#2041\\#2042\\#2043\\#2044\\#2045\\#2046\\#2047\\#2048\\#2049\\#2050\\#2051\\#2052\\#2053\\#2054\\#2055\\#2056\\#2057\\#2058\\#2059\\#2060\\#2061\\#2062\\#2063\\#2064\\#2065\\#2066\\#2067\\#2068\\#2069\\#2070\\#2071\\#2072\\#2073\\#2074\\#2075\\#2076\\#2077\\#2078\\#2079\\#2080\\#2081\\#2082\\#2083\\#2084\\#2085\\#2086\\#2087\\#2088\\#2089\\#2090\\#2091\\#2092\\#2093\\#2094\\#2095\\#2096\\#2097\\#2
```

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

```

3728 \def\@hyper@linkfile file:#1\#2#3{%
3729     %file url,link string, name
3730     \filename@parse{#1}%
3731     \ifx\filename@ext\relax
3732         \edef\filename@ext{\XR@ext}%
3733     \fi
3734     \def\use@file{\filename@area\filename@base.\filename@ext}%
3735     \ifx\filename@ext\XR@ext
3736         \hyper@linkfile{#2}{\use@file}{#3}%
3737     \else
3738         \ifx\@baseurl\@empty
3739             \hyper@linkurl{#2}{%
3740                 \Hy@linkfileprefix\use@file\ifx\\#3\\#3\\else\hyper@hash#3\fi}%
3741             }%
3742         \else
3743             \hyper@linkurl{#2}{\use@file\ifx\\#3\\#3\\else\hyper@hash#3\fi}%
3744         \fi
3745     \fi
3746 }

```

Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a \special around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that #2 comes here a multiple letters, and the noexpand just looks at the first one, putting the rest in the output. Yuck.

```

3747 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3748 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3749     \ifx\\#1\\%
3750         #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3751     \else
3752         \def\anchor@spot{#2#3}%
3753         \let\put@me@back\@empty
3754         \ifx\relax#2\relax
3755             \else
3756                 \ifHy@nesting
3757                 \else
3758                     \ifcat a\noexpand#2\relax
3759                     \else
3760                         \ifcat 0\noexpand#2 \relax
3761                         \else
3762 %                 \typeout{Anchor start is not alphanumeric %
3763 %                     on input line\the\inputlineno%
3764 %                 }%
3765                 \let\anchor@spot\@empty
3766                 \def\put@me@back{#2#3}%
3767             \fi
3768         \fi
3769     \fi
3770 \fi
3771 \ifHy@activeanchor
3772     \anchor@spot
3773 \else
3774     \hyper@anchor{#1}%

```

```

3775 \fi
3776 \expandafter\put@me@back
3777 \fi
3778 \let\anchor@spot@empty
3779 }

```

## 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.

```

3780 \let\htmladding\hyperimage
3781 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3782 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3783 \def\htmlref#1#2{% anchor text, label
3784 \label@hyperref[{#2}]{#1}%
3785 }

```

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.

```

3786 \def\@l@texttohtmlX{%
3787 \let\hhyperref\hyperref
3788 \def\hyperref##1##2##3##4{% anchor text for HTML
3789 % text to print before label in print
3790 % label
3791 % post-label text in print
3792 ##2\ref{##4}##3%
3793 }%
3794 }

```

## 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.

```

3795 \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

```



```

3796 \def\HyField@NewFlag#1#2{%
3797   \lowercase{\HyField@NewOption{#2}}%
3798   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3799 }

```

\HyField@NewFlagOnly

```

3800 \def\HyField@NewFlagOnly#1#2{%
3801   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3802 }

```

\HyField@NewOption #1: option name

```

3803 \def\HyField@NewOption#1{%
3804   \expandafter\newif\csname ifFld@#1\endcsname
3805   \define@key{Field}{#1}[true]{%
3806     \lowercase{\Field@boolkey{##1}}{#1}%
3807   }%
3808 }

```

\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

```

3809 \def\HyField@NewBitsetFlag#1#2#3#4{%
3810   \begingroup
3811     \count@=#4\relax
3812     \advance\count@\m@ne
3813     \def\x##1{%
3814       \endgroup
3815       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3816       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
3817         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3818           (\number#4) #2%
3819         }%
3820       \else
3821         \expandafter\edef\csname HyField@#3@#1\endcsname{%
3822           \csname HyField@#3@#1\endcsname
3823           /#2%
3824         }%
3825       \fi
3826     }%
3827   \expandafter\x\expandafter{\the\count@}%
3828 }

```

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

```

3829 \def\HyField@UseFlag#1#2{%
3830   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3831 }

```

\HyField@@UseFlag

```

3832 \def\HyField@@UseFlag#1#2{%
3833   \bitsetSetValue{HyField@#2}{%
3834     \csname HyField@#2@#1\endcsname
3835   }{%
3836     \csname ifFld@#1\endcsname 1\else 0\fi
3837   }%
3838 }

```

```

\HyField@SetFlag The bit set is HyField@#1
3839 \def\HyField@SetFlag#1#2{%
3840   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3841 }

\HyField@@SetFlag
3842 \def\HyField@@SetFlag#1#2{%
3843   \bitsetSetValue{HyField@#2}{%
3844     \csname HyField@#2@#1\endcsname
3845   }{1}%
3846 }

\HyField@PrintFlags
3847 \def\HyField@PrintFlags#1#2{%
3848   \ifHy@verbose
3849     \begingroup
3850     \let\Hy@temp\@empty
3851     \let\MessageBreak\relax
3852     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3853     \bitsetGetSetBitList{HyField@#1}\do{%
3854       \edef\Hy@temp{%
3855         \Hy@temp
3856         \csname HyField@#1@\x\endcsname\MessageBreak
3857       }%
3858     }%
3859   \edef\x{\endgroup
3860     \noexpand\Hy@Info{%
3861       Field flags: %
3862       \expandafter\ifx\@car#1\@nil S\else/\fi
3863       #1 %
3864       \bitsetGetDec{HyField@#1} %
3865       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3866       \Hy@temp
3867       for #2%
3868     }%
3869   }\x
3870 \fi
3871 }

```

### 19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3872 \HyField@NewFlag{Ff}{ReadOnly}{1}
3873 \HyField@NewFlag{Ff}{Required}{2}
3874 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3875 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3876 \HyField@NewFlag{Ff}{Radio}{16}
3877 \HyField@NewFlag{Ff}{Pushbutton}{17}
3878 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3879 \HyField@NewFlag{Ff}{Multiline}{13}
3880 \HyField@NewFlag{Ff}{Password}{14}
3881 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3882 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4

```

```

3883 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3884 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3885 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3886 \HyField@NewFlag{Ff}{Combo}{18}
3887 \HyField@NewFlag{Ff}{Edit}{19}
3888 \HyField@NewFlag{Ff}{Sort}{20}
3889 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3890 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3891 \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.

```

3892 \newif\ifFld@popdown
3893 \define@key{Field}{popdown}[true]{%
3894   \lowercase{\Field@boolkey{#1}}{popdown}%
3895 }

```

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.

```

3896 \HyField@NewFlag{F}{Invisible}{1}
3897 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3898 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3899 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3900 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3901 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3902 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3903 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3904 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3905 \ifHy@pdfa
3906   \def\HyField@PDFAFflagWarning#1#2{%
3907     \Hy@Warning{%
3908       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3909       be set to ‘#2’%
3910     }%
3911   }%
3912   \Fld@invisiblefalse
3913   \def\Fld@invisibletrue{%
3914     \HyField@PDFAFflagWarning{invisible}{false}%
3915   }%
3916   \Fld@hiddenfalse
3917   \def\Fld@hiddentrue{%
3918     \HyField@PDFAFflagWarning{hidden}{false}%
3919   }%
3920   \Fld@printtrue
3921   \def\Fld@printfalse{%
3922     \HyField@PDFAFflagWarning{print}{true}%
3923   }%
3924   \Fld@nozoomtrue
3925   \def\Fld@nozoomfalse{%
3926     \HyField@PDFAFflagWarning{nozoom}{true}%
3927   }%
3928   \Fld@norotatetrue

```

```

3929 \def\Fld@norotatefalse{%
3930   \HyField@PDFAFldWarning{norotate}{true}%
3931 }%
3932 \Fld@noviewfalse
3933 \def\Fld@noviewtrue{%
3934   \HyField@PDFAFldWarning{noview}{false}%
3935 }%
3936 \fi

```

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

```

3937 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3938 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3939 \HyField@NewFlag{Submit}{GetMethod}{4}
3940 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3941 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3942 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3943 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3944 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3945 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3946 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3947 \HyField@NewFlag{Submit}{ExclFKey}{12}
3948 \HyField@NewFlag{Submit}{EmbedForm}{14}

3949 \define@key{Field}{export}{%
3950   \lowercase{\def\Hy@temp{#1}}%
3951   \@ifundefined{Fld@export@\Hy@temp}{%
3952     \@onelevel@sanitize\Hy@temp
3953     \PackageError{hyperref}{%
3954       Unknown export format '\Hy@temp'.\MessageBreak
3955       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3956     }\@ehc
3957   }{%
3958     \let\Fld@export\Hy@temp
3959   }%
3960 }
3961 \def\Fld@export{fdf}
3962 \@namedef{Fld@export@fdf}{0}%
3963 \@namedef{Fld@export@html}{1}%
3964 \@namedef{Fld@export@xfdf}{2}%
3965 \@namedef{Fld@export@pdf}{3}%

```

## 19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3966 \def\HyField@FlagsSubmit{%
3967   \bitsetReset{HyField@Submit}%
3968   \ifcase\@nameuse{Fld@export@\Fld@export} %
3969     % FDF
3970     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3971     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3972     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3973     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3974     \HyField@UseFlag{Submit}{CanonicalFormat}%
3975     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3976     \HyField@UseFlag{Submit}{ExclFKey}%
3977     \HyField@UseFlag{Submit}{EmbedForm}%
3978   \or % HTML
3979     \HyField@SetFlag{Submit}{ExportFormat}%

```

```

3980 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3981 \HyField@UseFlag{Submit}{GetMethod}%
3982 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3983 \HyField@UseFlag{Submit}{CanonicalFormat}%
3984 \or % XFDF
3985 \HyField@SetFlag{Submit}{XFDF}%
3986 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3987 \HyField@UseFlag{Submit}{SubmitCoordinates}%
3988 \HyField@UseFlag{Submit}{CanonicalFormat}%
3989 \or % PDF
3990 \HyField@SetFlag{Submit}{SubmitPDF}%
3991 \HyField@UseFlag{Submit}{GetMethod}%
3992 \fi
3993 \HyField@PrintFlags{Submit}{submit button field}%
3994 \bitsetIsEmpty{HyField@Submit}{%
3995 \def\Fld@submitflags{%
3996 }{%
3997 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3998 }%
3999 }

```

### 19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

4000 \def\HyField@FlagsAnnot#1{%
4001 \bitsetReset{HyField@F}%
4002 \HyField@UseFlag{F}{Invisible}%
4003 \HyField@UseFlag{F}{Hidden}%
4004 \HyField@UseFlag{F}{Print}%
4005 \HyField@UseFlag{F}{NoZoom}%
4006 \HyField@UseFlag{F}{NoRotate}%
4007 \HyField@UseFlag{F}{NoView}%
4008 \HyField@UseFlag{F}{Locked}%
4009 \HyField@UseFlag{F}{ToggleNoView}%
4010 \HyField@UseFlag{F}{LockedContents}%
4011 \HyField@PrintFlags{F}{#1}%
4012 \bitsetIsEmpty{HyField@F}{%
4013 \def\Fld@annotflags{%
4014 }{%
4015 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
4016 }%
4017 }

```

### 19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

4018 \def\HyField@FlagsPushButton{%
4019 \HyField@FlagsAnnot{push button field}%
4020 \bitsetReset{HyField@Ff}%
4021 \HyField@UseFlag{Ff}{ReadOnly}%
4022 \HyField@UseFlag{Ff}{Required}%
4023 \HyField@UseFlag{Ff}{NoExport}%
4024 \HyField@SetFlag{Ff}{PushButton}%
4025 \HyField@PrintFlags{Ff}{push button field}%
4026 \bitsetIsEmpty{HyField@Ff}{%
4027 \def\Fld@flags{%

```

```

4028 }{%
4029     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4030 }%
4031 }

```

### 19.1.5 Check box field

\HyField@FlagsCheckBox

```

4032 \def\HyField@FlagsCheckBox{%
4033     \HyField@FlagsAnnot{check box field}%
4034     \bitsetReset{HyField@Ff}%
4035     \HyField@UseFlag{Ff}{ReadOnly}%
4036     \HyField@UseFlag{Ff}{Required}%
4037     \HyField@UseFlag{Ff}{NoExport}%
4038     \HyField@PrintFlags{Ff}{check box field}%
4039     \bitsetIsEmpty{HyField@Ff}{%
4040         \def\Fld@flags{%
4041             }{%
4042                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4043             }%
4044         }

```

### 19.1.6 Radio button field

\HyField@FlagsRadioButton

```

4045 \def\HyField@FlagsRadioButton{%
4046     \HyField@FlagsAnnot{radio button field}%
4047     \bitsetReset{HyField@Ff}%
4048     \HyField@UseFlag{Ff}{ReadOnly}%
4049     \HyField@UseFlag{Ff}{Required}%
4050     \HyField@UseFlag{Ff}{NoExport}%
4051     \HyField@UseFlag{Ff}{NoToggleToOff}%
4052     \HyField@SetFlag{Ff}{Radio}%
4053     \HyField@UseFlag{Ff}{RadiosInUnison}%
4054     \HyField@PrintFlags{Ff}{radio button field}%
4055     \bitsetIsEmpty{HyField@Ff}{%
4056         \def\Fld@flags{%
4057             }{%
4058                 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4059             }%
4060         }

```

### 19.1.7 Text fields

\HyField@FlagsText

```

4061 \def\HyField@FlagsText{%
4062     \HyField@FlagsAnnot{text field}%
4063     \bitsetReset{HyField@Ff}%
4064     \HyField@UseFlag{Ff}{ReadOnly}%
4065     \HyField@UseFlag{Ff}{Required}%
4066     \HyField@UseFlag{Ff}{NoExport}%
4067     \HyField@UseFlag{Ff}{Multiline}%
4068     \HyField@UseFlag{Ff}{Password}%
4069     \HyField@UseFlag{Ff}{FileSelect}%
4070     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4071     \HyField@UseFlag{Ff}{DoNotScroll}%

```

```

4072 \ifFld@comb
4073   \ifcase0\ifFld@multiline
4074       \else\ifFld@password
4075       \else\ifFld@fileselect
4076       \else 1\fi\fi\fi\relax
4077   \PackageError{hyperref}{%
4078     Field option 'comb' cannot used together with\MessageBreak
4079     'multiline', 'password', or 'fileselect'%
4080   }\@ehc
4081   \else
4082     \HyField@UseFlag{Ff}{Comb}%
4083   \fi
4084 \fi
4085 \HyField@UseFlag{Ff}{RichText}%
4086 \HyField@PrintFlags{Ff}{text field}%
4087 \bitsetIsEmpty{HyField@Ff}{%
4088   \def\Fld@flags{%
4089 }{%
4090   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4091 }%
4092 }

```

### 19.1.8 Choice fields

\HyField@FlagsChoice

```

4093 \def\HyField@FlagsChoice{%
4094   \HyField@FlagsAnnot{choice field}%
4095   \bitsetReset{HyField@Ff}%
4096   \HyField@UseFlag{Ff}{ReadOnly}%
4097   \HyField@UseFlag{Ff}{Required}%
4098   \HyField@UseFlag{Ff}{NoExport}%
4099   \HyField@UseFlag{Ff}{Combo}%
4100   \ifFld@combo
4101     \HyField@UseFlag{Ff}{Edit}%
4102   \fi
4103   \HyField@UseFlag{Ff}{Sort}%
4104   \HyField@UseFlag{Ff}{MultiSelect}%
4105   \ifFld@combo
4106     \ifFld@edit
4107       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
4108     \fi
4109   \fi
4110   \HyField@UseFlag{Ff}{CommitOnSelChange}%
4111   \HyField@PrintFlags{Ff}{choice field}%
4112   \bitsetIsEmpty{HyField@Ff}{%
4113     \def\Fld@flags{%
4114 }{%
4115   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
4116 }%
4117 }

```

## 19.2 Choice field

4118 \RequirePackage{kvsetkeys}[2007/09/29]

\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.

```

4119 \def\HyField@PDFChoices#1{%
4120   \begingroup
4121     \gdef\Fld@choices{}%
4122     \def\HyTmp@optlist{}%
4123     \let\HyTmp@optitem\relax
4124     \count@=0 %
4125     \kv@parse{#1}{%
4126       \Hy@pdfstringdef\kv@key\kv@key
4127       \ifx\kv@value\relax
4128         \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
4129           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
4130         \else
4131           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
4132         \fi
4133       \else
4134         \Hy@pdfstringdef\kv@value\kv@value
4135         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
4136       \fi
4137     \edef\HyTmp@optlist{%
4138       \HyTmp@optlist
4139       \HyTmp@optitem{the\count@}{\kv@key}0%
4140     }%
4141     \advance\count@ by 1 %
4142     \@gobbletwo
4143   }%
4144   \xdef\Fld@choices{/Opt[\Fld@choices]}%
4145   \ifFld@multiselect
4146     \HyField@@PDFChoices{DV}\Fld@default
4147     \HyField@@PDFChoices{V}\Fld@value
4148   \else
4149     \ifx\Fld@default\relax
4150     \else
4151       \pdfstringdef\Hy@gtemp\Fld@default
4152       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4153     \fi
4154     \ifx\Fld@value\relax
4155     \else
4156       \pdfstringdef\Hy@gtemp\Fld@value
4157       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4158     \fi
4159   \fi
4160 \endgroup
4161 }

```

\HyField@@PDFChoices

```

4162 \def\HyField@@PDFChoices#1#2{%
4163   \ifx#2\relax
4164   \else
4165     \count@=0 %
4166     \def\HyTmp@optitem##1##2##3{%
4167       \def\HyTmp@key{##2}%
4168       \ifx\HyTmp@key\Hy@gtemp
4169         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4170           \HyTmp@optlist
4171           \HyTmp@optitem{##1}{##2}1%
4172         }%

```



```

4173     \let\HyTmp@found=Y%
4174 \else
4175     \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4176         \HyTmp@optlist
4177         \HyTmp@optitem{##1}{##2}##3%
4178     }%
4179 \fi
4180 }%
4181 \expandafter\comma@parse\expandafter{#2}{%
4182     \pdfstringdef\Hy@gtemp\comma@entry
4183     \let\HyTmp@found=N %
4184     \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4185     \HyTmp@optlist
4186     \ifx\HyTmp@found Y%
4187         \advance\count@ by 1 %
4188     \else
4189         \@onelevel@sanitize\comma@entry
4190         \PackageWarning{hyperref}{%
4191             \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4192             \MessageBreak
4193             it cannot be found in the choices%
4194         }%
4195     \fi
4196     \@gobble
4197 }%
4198 \def\HyTmp@optitem##1##2##3{%
4199     \ifnum##3=1 %
4200         (##2)%
4201     \fi
4202 }%
4203 \ifcase\count@
4204 \or
4205     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4206 \else
4207     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4208     \ifx#1V%
4209         \def\HyTmp@optitem##1##2##3{%
4210             \ifnum##3=1 %
4211                 \@firstofone{ ##1}%
4212             \fi
4213         }%
4214         \edef\HyTmp@optlist{\HyTmp@optlist}%
4215         \xdef\Fld@choices{%
4216             \Fld@choices
4217             /I[\expandafter\@firstofone\HyTmp@optlist]%
4218         }%
4219     \fi
4220 \fi
4221 \fi
4222 }

```

### 19.3 Forms

\HyField@SetKeys

```

4223 \def\HyField@SetKeys{%
4224     \setkeys{Field}%
4225 }

```

```

4226 \newif\ifFld@checked
4227 \newif\ifFld@disabled
4228 \Fld@checkedfalse
4229 \Fld@disabledfalse
4230 \newcount\Fld@menulength
4231 \newdimen\Fld@Width
4232 \newdimen\Fld@charsize
4233 \Fld@charsize=10\p@
4234 \def\Fld@maxlen{0}
4235 \def\Fld@align{0}
4236 \def\Fld@color{0 0 0 rg}
4237 \def\Fld@bcolor{1 1 1}
4238 \def\Fld@bordercolor{1 0 0}
4239 \def\Fld@bordersep{1\p@}
4240 \def\Fld@borderwidth{1}
4241 \def\Fld@borderstyle{S}
4242 \def\Fld@cbsymbol{4}
4243 \def\Fld@radiosymbol{H}
4244 \def\Fld@rotation{0}
4245 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4246 \def\endForm{\@endForm}
4247 \newif\ifForm@html
4248 \Form@htmlfalse
4249 \def\Form@boolkey#1#2{%
4250   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4251 }
4252 \define@key{Form}{action}{%
4253   \hyper@normalise\Hy@DefFormAction{#1}%
4254 }
4255 \def\Hy@DefFormAction{\def\Form@action}
4256 \def\enc@html{html}
4257 \define@key{Form}{encoding}{%
4258   \def\Hy@tempa{#1}%
4259   \ifx\Hy@tempa\enc@html
4260     \Form@htmltrue
4261     \def\Fld@export{html}%
4262   \else
4263     \typeout{hyperref: form 'encoding' key set to #1 %
4264     -- unknown type%
4265   }%
4266   \Form@htmlfalse
4267   \fi
4268 }
4269 \define@key{Form}{method}{%
4270   \lowercase{\def\Hy@temp{#1}}%
4271   \@ifundefined{Form@method@Hy@temp}{%
4272     \onelevel@sanitize\Hy@temp
4273     \PackageError{hyperref}{%
4274       Unknown method '\Hy@temp'.\MessageBreak
4275       Known values are 'post' and 'get'%
4276     }\@ehc
4277   }{%
4278     \let\Form@method\Hy@temp
4279     \ifcase\@nameuse{Form@method@Hy@temp} %
4280       \Fld@getmethodfalse
4281     \else
4282       \Fld@getmethodtrue

```

```

4283     \fi
4284 }%
4285 }
4286 \def\Form@method{}
4287 \@namedef{Form@method@post}{0}
4288 \@namedef{Form@method@get}{1}
4289 \def\Field@boolkey#1#2{%
4290   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4291 }
4292 \newtoks\Field@toks
4293 \Field@toks={ }%
4294 \def\Field@addtoks#1#2{%
4295   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4296   \@processme
4297 }
4298 \def\Fld@checkequals#1=#2=#3\{%
4299   \def\@currDisplay{#1}%
4300   \ifx\#2\%
4301     \def\@currValue{#1}%
4302   \else
4303     \def\@currValue{#2}%
4304   \fi
4305 }
4306 \define@key{Field}{loc}{%
4307   \def\Fld@loc{#1}%
4308 }
4309 \define@key{Field}{checked}[true]{%
4310   \lowercase{\Field@boolkey{#1}}{checked}%
4311 }
4312 \define@key{Field}{disabled}[true]{%
4313   \lowercase{\Field@boolkey{#1}}{disabled}%
4314 }
4315 \define@key{Field}{accesskey}{%
4316   \Field@addtoks{accesskey}{#1}%
4317 }
4318 \define@key{Field}{tabkey}{%
4319   \Field@addtoks{tabkey}{#1}%
4320 }
4321 \define@key{Field}{name}{%
4322   \def\Fld@name{#1}%
4323 }
4324 \define@key{Field}{width}{%
4325   \def\Fld@width{#1}%
4326   \Field@Width#1\setbox0=\hbox{m}%
4327 }
4328 \define@key{Field}{maxlen}{%
4329   \def\Fld@maxlen{#1}%
4330 }
4331 \define@key{Field}{menulength}{%
4332   \Fld@menulength=#1\relax
4333 }
4334 \define@key{Field}{height}{%
4335   \def\Fld@height{#1}%
4336 }
4337 \define@key{Field}{charsize}{%
4338   \Fld@charsize#1%
4339 }

```

```

4340 \define@key{Field}{borderwidth}{%
4341   \def\Fld@borderwidth{#1}%
4342 }
4343 \define@key{Field}{borderstyle}{%
4344   \def\Fld@borderstyle{#1}%
4345 }
4346 \define@key{Field}{bordersep}{%
4347   \def\Fld@bordersep{#1}%
4348 }
4349 \define@key{Field}{default}{%
4350   \def\Fld@default{#1}%
4351 }
4352 \define@key{Field}{align}{%
4353   \def\Fld@align{#1}%
4354 }
4355 \define@key{Field}{value}{%
4356   \def\Fld@value{#1}%
4357 }
4358 \define@key{Field}{checkboxsymbol}{%
4359   \Fld@DingDef\Fld@cbsymbol{#1}%
4360 }
4361 \define@key{Field}{radiosymbol}{%
4362   \Fld@DingDef\Fld@radiosymbol{#1}%
4363 }
4364 \def\Fld@DingDef#1#2{%
4365   \def\Fld@temp{%
4366     \Fld@@DingDef#2\ding{}\@nil
4367     \let#1\Fld@temp
4368 }
4369 \def\Fld@@DingDef#1\ding#2#3\@nil{%
4370   \expandafter\def\expandafter\Fld@temp\expandafter{%
4371     \Fld@temp
4372     #1%
4373   }%
4374   \ifx\#3\%
4375     \expandafter\@gobble
4376   \else
4377     \begingroup
4378     \lccode'0=#2\relax
4379     \lowercase{\endgroup
4380     \expandafter\def\expandafter\Fld@temp\expandafter{%
4381       \Fld@temp
4382       0%
4383     }%
4384   }%
4385   \expandafter\@firstofone
4386 \fi
4387 {%
4388   \Fld@@DingDef#3\@nil
4389 }%
4390 }

4391 \define@key{Field}{rotation}{%
4392   \def\Fld@rotation{#1}%
4393 }

4394 \define@key{Field}{backgroundcolor}{%
4395   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4396 }

```

```

4397 \define@key{Field}{bordercolor}{%
4398   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4399 }
4400 \define@key{Field}{color}{%
4401   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4402 }

4403 \def\Fld@onclick@code{}
4404 \def\Fld@format@code{}
4405 \def\Fld@validate@code{}
4406 \def\Fld@calculate@code{}
4407 \def\Fld@keystroke@code{}
4408 \def\Fld@onfocus@code{}
4409 \def\Fld@onblur@code{}
4410 \def\Fld@onmousedown@code{}
4411 \def\Fld@onmouseup@code{}
4412 \def\Fld@onenter@code{}
4413 \def\Fld@onexit@code{}
4414 \def\Hy@temp#1{%
4415   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4416 }
4417 \def\Hy@@temp#1#2{%
4418   \ifHy@pdfa
4419     \define@key{Field}{#2}{%
4420       \PackageError{hyperref}{%
4421         PDF/A: Additional action ‘#2’ is prohibited%
4422       }\@ehc
4423     }%
4424   \else
4425     \define@key{Field}{#2}{%
4426       \def#1{##1}%
4427     }%
4428   \fi
4429 }
4430 \Hy@temp{keystroke}
4431 \Hy@temp{format}
4432 \Hy@temp{validate}
4433 \Hy@temp{calculate}
4434 \Hy@temp{onfocus}
4435 \Hy@temp{onblur}
4436 \Hy@temp{onenter}
4437 \Hy@temp{onexit}
4438 \def\Hy@temp#1{%
4439   \define@key{Field}{#1}{%
4440     \Field@addtoks{#1}{##1}%
4441   }%
4442 }
4443 \Hy@temp{onselect}
4444 \Hy@temp{onchange}
4445 \Hy@temp{ondblclick}
4446 \Hy@temp{onmousedown}
4447 \Hy@temp{onmouseup}
4448 \Hy@temp{onmouseover}
4449 \Hy@temp{onmousemove}
4450 \Hy@temp{onmouseout}
4451 \Hy@temp{onkeypress}
4452 \Hy@temp{onkeydown}
4453 \Hy@temp{onkeyup}

```

```

4454 \ifHy@pdfa
4455   \define@key{Field}{onclick}{%
4456     \PackageError{hyperref}{%
4457       PDF/A: Action 'onclick' is prohibited%
4458     }\@ehc
4459   }%
4460 \else
4461   \define@key{Field}{onclick}{%
4462     \def\Fld@onclick@code{#1}%
4463     \Field@addtoks{onclick}{#1}%
4464   }%
4465 \fi

4466 \DeclareRobustCommand\TextField{%
4467   \@ifnextchar[{\@TextField}{\@TextField[]}%
4468 }
4469 \DeclareRobustCommand\ChoiceMenu{%
4470   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4471 }
4472 \DeclareRobustCommand\CheckBox{%
4473   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4474 }
4475 \DeclareRobustCommand\PushButton{%
4476   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4477 }
4478 \DeclareRobustCommand\Gauge{%
4479   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4480 }
4481 \DeclareRobustCommand\Submit{%
4482   \@ifnextchar[{\@Submit}{\@Submit[]}%
4483 }
4484 \DeclareRobustCommand\Reset{%
4485   \@ifnextchar[{\@Reset}{\@Reset[]}%
4486 }
4487 \def\LayoutTextField#1#2{% label, field
4488   #1 #2%
4489 }
4490 \def\LayoutChoiceField#1#2{% label, field
4491   #1 #2%
4492 }
4493 \def\LayoutCheckField#1#2{% label, field
4494   #1 #2%
4495 }
4496 \def\LayoutPushButtonField#1{% button
4497   #1%
4498 }
4499 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4500 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4501 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4502 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4503 \def\MakeButtonField#1{%
4504   \sbox0{%
4505     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4506   }%
4507   \@tempdima\ht0 %
4508   \advance\@tempdima by \Fld@borderwidth bp %
4509   \advance\@tempdima by \Fld@borderwidth bp %
4510   \ht0\@tempdima

```

```

4511 \@tempdima\dp0 %
4512 \advance\@tempdima by \Fld@borderwidth bp %
4513 \advance\@tempdima by \Fld@borderwidth bp %
4514 \dp0\@tempdima
4515 \box0\relax
4516 }
4517 \def\DefaultHeightofSubmit{14pt}
4518 \def\DefaultWidthofSubmit{2cm}
4519 \def\DefaultHeightofReset{14pt}
4520 \def\DefaultWidthofReset{2cm}
4521 \def\DefaultHeightofCheckBox{\baselineskip}
4522 \def\DefaultWidthofCheckBox{\baselineskip}
4523 \def\DefaultHeightofChoiceMenu{\baselineskip}
4524 \def\DefaultWidthofChoiceMenu{\baselineskip}
4525 \def\DefaultHeightofText{\baselineskip}
4526 \def\DefaultHeightofTextMultiline{4\baselineskip}
4527 \def\DefaultWidthofText{3cm}
4528 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4529 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4530 \def\DefaultOptionsofPushButton{print}
4531 \def\DefaultOptionsofCheckBox{print}
4532 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4533 \def\DefaultOptionsofListBox{print}
4534 \def\DefaultOptionsofComboBox{print,edit,sort}
4535 \def\DefaultOptionsofPopdownBox{print}
4536 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 20 Setup

```

4537 \ifHy@figures
4538 \Hy@Info{Hyper figures ON}%
4539 \else
4540 \Hy@Info{Hyper figures OFF}%
4541 \fi
4542 \ifHy@nesting
4543 \Hy@Info{Link nesting ON}%
4544 \else
4545 \Hy@Info{Link nesting OFF}%
4546 \fi
4547 \ifHy@hyperindex
4548 \Hy@Info{Hyper index ON}%
4549 \else
4550 \Hy@Info{Hyper index OFF}%
4551 \fi
4552 \ifHy@backref
4553 \Hy@Info{backreferencing ON}%
4554 \else
4555 \Hy@Info{backreferencing OFF}%
4556 \fi
4557 \ifHy@colorlinks
4558 \Hy@Info{Link coloring ON}%
4559 \else
4560 \Hy@Info{Link coloring OFF}%
4561 \fi
4562 \ifHy@ocgcolorlinks

```

```

4563 \Hy@Info{Link coloring with OCG ON}%
4564 \else
4565 \Hy@Info{Link coloring with OCG OFF}%
4566 \fi
4567 \ifHy@pdfa
4568 \Hy@Info{PDF/A mode ON}%
4569 \else
4570 \Hy@Info{PDF/A mode OFF}%
4571 \fi

```

## 21 Low-level utility macros

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

```

4572 \edef\hyper@hash{\string#}
4573 \edef\hyper@tilde{\string~}
4574 \edef\hyper@quote{\string"}
4575 \let\@currentHref\@empty
4576 \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.

```

4577 \AfterBeginDocument{%
4578   \Hy@pdfstringtrue
4579   \PDF@SetupDoc
4580   \let\PDF@SetupDoc\@empty
4581   \Hy@DisableOption{pdfpagescrop}%
4582   \Hy@DisableOption{pdfpagemode}%
4583   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4584   \Hy@DisableOption{pdfdirection}%
4585   \Hy@DisableOption{pdfviewarea}%
4586   \Hy@DisableOption{pdfviewclip}%
4587   \Hy@DisableOption{pdfprintarea}%
4588   \Hy@DisableOption{pdfprintclip}%
4589   \Hy@DisableOption{pdfprintscaling}%
4590   \Hy@DisableOption{pdfduplex}%
4591   \Hy@DisableOption{pdfpicktraybypdfsize}%
4592   \Hy@DisableOption{pdfprintpagerange}%
4593   \Hy@DisableOption{pdfnumcopies}%
4594   \Hy@DisableOption{pdfstartview}%
4595   \Hy@DisableOption{pdfstartpage}%
4596   \Hy@DisableOption{pdftoolbar}%
4597   \Hy@DisableOption{pdfmenubar}%
4598   \Hy@DisableOption{pdfwindowui}%
4599   \Hy@DisableOption{pdf-fit-window}%
4600   \Hy@DisableOption{pdf-center-window}%
4601   \Hy@DisableOption{pdfdisplaydoctitle}%
4602   \Hy@DisableOption{pdfpagelayout}%
4603   \Hy@DisableOption{pdflang}%
4604   \Hy@DisableOption{baseurl}%
4605   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4606   \Hy@pdfstringfalse
4607 }

```

## 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 func-



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

```

4608 \def\NoHyper{%
4609   \def\hyper@link@{##1}##2##3##4{##4}%
4610   \def\hyper@@anchor##1{%
4611     \global\let\hyper@livelink\hyper@link
4612     \gdef\hyper@link##1##2##3{##3}%
4613     \def\hyper@anchorstart##1{%
4614       \let\hyper@anchorend\@empty
4615       \def\hyper@linkstart##1##2{%
4616         \let\hyper@linkend\@empty
4617         \def\hyper@linkurl##1##2{##1}%
4618         \def\hyper@linkfile##1##2##3{##1}%
4619         \def\hyper@link@{##1}##2##3}%
4620       \let\Hy@backout\@gobble
4621     }
4622   \def\stop@hyper{%
4623     \def\hyper@link@{##1}##2##3##4{##4}%
4624     \let\Hy@backout\@gobble
4625     \def\hyper@@anchor##1{%
4626       \def\hyper@link##1##2##3{##3}%
4627       \def\hyper@anchorstart##1{%
4628         \let\hyper@anchorend\@empty
4629         \def\hyper@linkstart##1##2{%
4630           \let\hyper@linkend\@empty
4631           \def\hyper@linkurl##1##2{##1}%
4632           \def\hyper@linkfile##1##2##3{##1}%
4633           \def\hyper@link@{##1}##2##3}%
4634       }
4635     \def\endNoHyper{%
4636       \global\let\hyper@link\hyper@livelink
4637     }
4638   }

```

## 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:

```

4639 \*nohyperref
4640 \let\hyper@@anchor\@gobble
4641 \def\hyper@link#1#2#3{#3}%
4642 \let\hyper@anchorstart\@gobble
4643 \let\hyper@anchorend\@empty
4644 \let\hyper@linkstart\@gobbletwo
4645 \let\hyper@linkend\@empty
4646 \def\hyper@linkurl#1#2{#1}%
4647 \def\hyper@linkfile#1#2#3{#1}%
4648 \def\hyper@link@{#1}#2#3}%
4649 \let\PDF@SetupDoc\@empty
4650 \let\PDF@FinishDoc\@empty
4651 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4652 \def\Acrobatmenu#1#2{\leavevmode#2}
4653 \let\pdfstringdefDisableCommands@gobbletwo
4654 \let\texorpdfstring@firstoftwo
4655 \let\pdfbookmark@undefined
4656 \newcommand\pdfbookmark[3][]{\}
4657 \let\phantomsection@empty
4658 \let\hypersetup@gobble
4659 \let\hyperbaseurl@gobble
4660 \let\href@gobble
4661 \let\hyperdef@gobbletwo
4662 \let\hyperlink@gobble
4663 \let\hypertarget@gobble
4664 \def\hyperref{%
4665   \@ifnextchar[\@gobbleopt{\expandafter@gobbletwo@gobble}%
4666 }
4667 \long\def@gobbleopt[#1]{\}
4668 \let\hyperpage@empty
4669 \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}`

```

4670 \*package
4671 \AfterBeginDocument{%

```

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.

```

4672 \if@filesw
4673   \ifHy@typexml
4674     \immediate\closeout\@mainaux
4675     \immediate\openout\@mainaux\jobname.aux\relax
4676     \immediate\write\@auxout{<relaxxml>\relax}%
4677   \fi
4678   \immediate\write\@auxout{%
4679     \string\ifx\string\hyper@anchor\string@undefined^^J%
4680     \global\let\string\oldcontentsline\string\contentsline^^J%
4681     \gdef\string\contentsline%
4682       \string#1\string#2\string#3\string#4{%
4683       \string\oldcontentsline%
4684         {\string#1}{\string#2}{\string#3}}^^J%
4685     \global\let\string\oldnewlabel\string\newlabel^^J%
4686     \gdef\string\newlabel\string#1\string#2{%
4687       \string\newlabelxx{\string#1}\string#2}^^J%
4688     \gdef\string\newlabelxx%
4689       \string#1\string#2\string#3\string#4\string#5\string#6{%
4690       \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.

```

4691   \string\AtEndDocument{%
4692     \let\string\contentsline\string\oldcontentsline^^J%
4693     \let\string\newlabel\string\oldnewlabel^^J%

```

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.

```

4694     \string\else^^J%
4695     \global\let\string\hyper@last\relax^^J%
4696     \string\fi^^J%
4697   }%
4698 \fi

```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

4699 \ifx\hyper@last\@undefined
4700   \def\@starttoc#1{%
4701     \begingroup
4702       \makeatletter
4703       \IfFileExists{\jobname.#1}{%
4704         \Hy@WarningNoLine{%
4705           old #1 file detected, not used; run LaTeX again%
4706         }%
4707       }{}%
4708       \if@filesw
4709         \expandafter\newwrite\csname tf@#1\endcsname
4710         \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4711       \fi
4712       \@nobreakfalse
4713     \endgroup
4714   }%
4715   \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4716 \fi
4717 }

```

## 25 Title strings

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

```

4718 \ifHy@usetitle
4719   \let\HyOrg@title\title
4720   \let\HyOrg@author\author
4721   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4722   \def\Hy@scanopttitle[#1]{%
4723     \gdef\Hy@title{#1}%
4724     \HyOrg@title[{#1}]%
4725   }%
4726   \def\Hy@scantitle#1{%
4727     \gdef\Hy@title{#1}%
4728     \HyOrg@title{#1}%
4729   }%
4730   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4731   \def\Hy@scanoptauthor[#1]{%
4732     \gdef\Hy@author{#1}%
4733     \HyOrg@author[{#1}]%
4734   }%
4735   \def\Hy@scanauthor#1{%
4736     \gdef\Hy@author{#1}%

```

```

4737 \HyOrg@author{#1}%
4738 }%

```

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.

```

4739 \begingroup
4740 \def\process@me#1\@nil#2{%
4741 \expandafter\let\expandafter\x\csname @#2\endcsname
4742 \edef\y{\expandafter\strip@prefix\meaning\x}%
4743 \def\c##1##2\@nil{%
4744 \ifx\\##1\\%
4745 \else
4746 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4747 \expandafter{\x}%
4748 \fi
4749 }%
4750 \expandafter\c\y\relax#1\@nil
4751 }%
4752 \expandafter\process@me\string\@latex@\@nil{title}%
4753 \expandafter\process@me\string\@latex@\@nil{author}%
4754 \endgroup
4755 \fi
4756 \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.

```

4757 \def\Hy@UseMaketitleString#1{%
4758 \@ifundefined{Hy@#1}{}%
4759 \begingroup
4760 \let\Hy@saved@hook\pdfstringdefPreHook
4761 \pdfstringdefDisableCommands{%
4762 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4763 \let\newline\\%
4764 }%
4765 \expandafter\ifx\csname @pdf#1\endcsname\@empty
4766 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4767 \csname Hy@#1\endcsname\@empty
4768 }%
4769 \fi
4770 \global\let\pdfstringdefPreHook\Hy@saved@hook
4771 \endgroup
4772 }%
4773 }
4774 \def\Hy@newline@title#1{ #1}
4775 \def\Hy@newline@author#1{, #1}
4776 \def\Hy@UseMaketitleInfos{%
4777 \Hy@UseMaketitleString{title}%
4778 \Hy@UseMaketitleString{author}%
4779 }

```

## 26 Page numbers

This stuff is done by Heiko Oberdiek.

## 27 Every page

```
4780 \RequirePackage{atbegshi}[2007/09/09]
4781 \def\Hy@EveryPageHook{}
4782 \def\Hy@EveryPageBoxHook{}
4783 \def\Hy@FirstPageHook{}
4784 \AtBeginShipout{%
4785   \Hy@EveryPageHook
4786   \ifx\Hy@EveryPageBoxHook\@empty
4787   \else
4788     \setbox\AtBeginShipoutBox=\vbox{%
4789       \offinterlineskip
4790       \Hy@EveryPageBoxHook
4791       \box\AtBeginShipoutBox
4792     }%
4793   \fi
4794 }
4795 \AtBeginShipoutFirst{%
4796   \Hy@FirstPageHook
4797 }
4798 \g@addto@macro\Hy@FirstPageHook{%
4799   \PDF@FinishDoc
4800   \gdef\PDF@FinishDoc{}}%
4801 }
```

### 27.1 PDF /PageLabels

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

```
4802 \ifHy@pagelabels
4803   \begingroup\expandafter\expandafter\expandafter\endgroup
4804   \expandafter\ifx\csname thepage\endcsname\relax
4805     \Hy@pagelabelsfalse
4806     \Hy@WarningNoLine{%
4807       Option 'pdfpagelabels' is turned off\MessageBreak
4808       because \string\thepage\space is undefined%
4809     }%
4810     \csname fi\endcsname
4811     \csname iffalse\expandafter\endcsname
4812   \fi
```

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

```
4813 \def\thispdfpagelabel#1{%
4814   \gdef\HyPL@thisLabel{#1}%
4815 }%
4816 \global\let\HyPL@thisLabel\relax
```

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

```
4817 \def\HyPL@Labels{}
```

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

```
4818 \newcount\Hy@abspage
4819 \Hy@abspage=0 %
```

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

```
4820 \def\HyPL@LastType{init}%
4821 \def\HyPL@LastNumber{0}%
4822 \def\HyPL@LastPrefix{}
```

Definitions for the PDF names of the  $\LaTeX$  pendants.

```
4823 \def\HyPL@arabic{D}%
4824 \def\HyPL@Roman{R}%
4825 \def\HyPL@roman{r}%
4826 \def\HyPL@Alph{A}%
4827 \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.

```
4828 \def\HyPL@EveryPage{%
4829   \begingroup
4830   \ifx\HyPL@thisLabel\relax
4831     \let\HyPL@page\thepage
4832   \else
4833     \let\HyPL@page\HyPL@thisLabel
4834     \global\let\HyPL@thisLabel\relax
4835   \fi
4836   \let\HyPL@Type\relax
4837   \ifnum\the\c@page>0 %
4838     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4839   \fi
4840   \let\Hy@temp Y%
4841   \ifx\HyPL@Type\HyPL@LastType
4842   \else
4843     \let\Hy@temp N%
4844   \fi
4845   \ifx\HyPL@Type\relax
4846     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4847   \else
4848     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4849   \fi
4850   \ifx\HyPL@Prefix\HyPL@LastPrefix
4851   \else
4852     \let\Hy@temp N%
4853   \fi
4854   \if Y\Hy@temp
4855     \advance\c@page by -1 %
4856     \ifnum\HyPL@LastNumber=\the\c@page\relax
4857     \else
4858       \let\Hy@temp N%
4859     \fi
4860     \Hy@StepCount\c@page
4861   \fi
4862   \if N\Hy@temp
4863     \ifx\HyPL@Type\relax
4864       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4865     \else
4866       \HyPL@StorePageLabel{%
4867         \ifx\HyPL@Prefix\@empty
4868         \else
4869           /P(\HyPL@Prefix)%
4870       \fi
```

```

4871      /S/\csname HyPL\HyPL@Type\endcsname
4872      \ifnum\the\c@page=1 %
4873      \else
4874      \space/St \the\c@page
4875      \fi
4876      }%
4877      \fi
4878      \fi
4879      \xdef\HyPL@LastNumber{\the\c@page}%
4880      \global\let\HyPL@LastType\HyPL@Type
4881      \global\let\HyPL@LastPrefix\HyPL@Prefix
4882      \endgroup
4883      \Hy@GlobalStepCount\Hy@abspage
4884      }%

```

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

```

4885 \def\HyPL@CheckThePage#1\@nil{%
4886   \HyPL@@CheckThePage{#1}\csname\endcsname\c@page\@nil
4887 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L<sup>A</sup>T<sub>E</sub>X, e. g.: `\csname @arabic\endcsname\c@page`. In the current implemenation 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`.

```

4888 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4889   \def\Hy@tempa{#4}%
4890   \def\Hy@tempb{\csname\endcsname\c@page}%
4891   \ifx\Hy@tempa\Hy@tempb
4892     \expandafter\ifx\csname HyPL#3\endcsname\relax
4893     \else
4894       \def\HyPL@Type{#3}%
4895       \def\HyPL@Prefix{#2}%
4896       \fi
4897     \else
4898       \begingroup
4899         \let\Hy@next\endgroup
4900         \let\HyPL@found\@undefined
4901         \def\arabic{\HyPL@Format{arabic}}%
4902         \def\Roman{\HyPL@Format{Roman}}%
4903         \def\roman{\HyPL@Format{roman}}%
4904         \def\Alph{\HyPL@Format{Alph}}%
4905         \def\alph{\HyPL@Format{alph}}%
4906         \protected@edef\Hy@temp{#1}%
4907         \ifx\HyPL@found\relax
4908           \toks@{\expandafter{\Hy@temp}}%
4909           \edef\Hy@next{\endgroup
4910             \noexpand\HyPL@@@CheckThePage\the\toks@
4911             \noexpand\HyPL@found\relax\noexpand\@nil
4912           }%
4913         \fi
4914         \Hy@next
4915       \fi
4916     }%

```

`\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`.

```

4917 \def\HyPL@Format#1#2{%
4918   \ifx\HyPL@found\undefined
4919     \expandafter\ifx\csname c@#2\endcsname\c@page
4920       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4921     \else
4922       \expandafter\noexpand\csname#1\endcsname{#2}%
4923     \fi
4924   \else
4925     \expandafter\noexpand\csname#1\endcsname{#2}%
4926   \fi
4927 }%

```

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

```

4928 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4929   \def\Hy@tempa{#3}%
4930   \def\Hy@tempb{\HyPL@found\relax}%
4931   \ifx\Hy@tempa\Hy@tempb
4932     \def\HyPL@Type{#2}%
4933     \def\HyPL@Prefix{#1}%
4934   \fi
4935 }%

```

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

```

4936 \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`.

```

4937 \def\HyPL@Useless{0<</S/D>>}%
4938 \@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.

```

4939 \def\HyPL@SetPageLabels{%
4940   \@onelevel@sanitize\HyPL@Labels
4941   \ifx\HyPL@Labels\@empty
4942   \else
4943     \ifx\HyPL@Labels\HyPL@Useless
4944     \else
4945       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4946     \fi
4947   \fi
4948 }%

```

```

4949 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4950 \fi

```

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

```

4951 \Hy@DisableOption{pdfpagelabels}
4952 </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

```
4953 \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.

```
4954 \*vTeX)
4955 \providecommand*\XR@ext}{pdf}
4956 \edef\Hy@VTeXversion{%
4957   \ifx\VTeXversion\@undefined
4958     \z@
4959   \else
4960     \ifx\VTeXversion\relax
4961       \z@
4962     \else
4963       \VTeXversion
4964     \fi
4965   \fi
4966 }
4967 \begingroup
4968   \ifnum\Hy@VTeXversion<660 %
4969     \gdef\Hy@PutCatalog#1{%
4970       \Hy@WarningNoLine{%
4971         VTeX 6.59g or above required for pdfpagelabels%
4972       }%
4973     }%
4974   \else
4975     \gdef\Hy@PutCatalog#1{%
4976       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4977     }%
4978     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4979       \ifx\#2\%
4980         \else
4981           \immediate\special{!pdfpagelabels #2}%
4982         \fi
4983       }%
4984     \fi
4985 \endgroup
4986 \pdfTeX)
4987 \*pdfTeX | vTeX)
```

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

```
4988 \ifHy@pagelabels
4989   \def\HyPL@StorePageLabel#1{%
4990     \toks@\expandafter{\HyPL@Labels}%
4991     \xdef\HyPL@Labels{%
4992       \the\toks@
4993       \the\Hy@abspage<<#1>>%
4994     }%
4995   }%
```

At the end of the document, \clearpage tries to make sure, that no further pages will follow. Then the PDF catalog entry for \PageLabels is set.

```
4996 \@ifclassloaded{revtex4}{%
4997   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
}
```

```

4998 }{%
4999   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
5000 }%

5001 \fi
5002 </pdfTeX | vTeX>

```

### 27.1.2 pdfmarkbase, dvipdfm

```

5003 <*pdfmarkbase>
5004 \begingroup
5005   \toks@{\expandafter{\Hy@FirstPageHook}}%
5006   \xdef\Hy@FirstPageHook{%
5007     \noexpand\headerps@out{%
5008       systemdict /pdfmark known%
5009       {%
5010         userdict /?pdfmark systemdict /exec get put%
5011       }{%
5012         userdict /?pdfmark systemdict /pop get put %
5013         userdict /pdfmark systemdict /cleartomark get put%
5014       }%
5015       ifelse%
5016     }%
5017     \the\toks@
5018   }%
5019 \endgroup
5020 </pdfmarkbase>

\Hy@PutCatalog

5021 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
5022 <*pdfmarkbase>
5023 \def\Hy@PutCatalog#1{%
5024   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
5025 }
5026 </pdfmarkbase>

5027 <*pdfmarkbase | dvipdfm>
5028 \ifHy@pagelabels

```

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

```

5029 \def\HyPL@StorePageLabel#1{%
5030   \if@filesw
5031     \begingroup
5032       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
5033       \immediate\write\@mainaux{%
5034         \string\HyPL@Entry{\Hy@tempa}%
5035       }%
5036     \endgroup
5037   \fi
5038 }%

```

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.

```

5039 \AfterBeginDocument{%
5040   \if@filesw
5041     \immediate\write\@mainaux{%
5042       \string\providecommand\string*\string\HyPL@Entry[1]{}%
5043     }%

```

```

5044 \fi
5045 \ifx\HyPL@Labels\@empty
5046 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
5047 \else
5048 \HyPL@SetPageLabels
5049 \fi
5050 \let\HyPL@Entry\@gobble
5051 }%

\HyPL@Entry

5052 \def\HyPL@Entry#1{%
5053 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
5054 \HyPL@Labels
5055 #1%
5056 }%
5057 }%

5058 \fi
5059 </pdfmarkbase | dvipdfm>

5060 <*package>

5061 \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 it’s 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

```

5062 \def\Hy@CounterExists#1{%
5063 \begingroup\expandafter\expandafter\expandafter\endgroup
5064 \expandafter\ifx\csname c@#1\endcsname\relax
5065 \expandafter\@gobble
5066 \else
5067 \begingroup\expandafter\expandafter\expandafter\endgroup
5068 \expandafter\ifx\csname the#1\endcsname\relax
5069 \expandafter\expandafter\expandafter\@gobble
5070 \else
5071 \expandafter\expandafter\expandafter\@firstofone
5072 \fi
5073 \fi
5074 }
5075 \Hy@CounterExists{section}{%

```

```

5076 \newcommand\theHequation{\theHsection.\arabic{equation}}%
5077 }
5078 \Hy@CounterExists{part}{%
5079 \newcommand\theHpart{\arabic{part}}%
5080 }
5081 \@ifundefined{thechapter}{%
5082 \newcommand\theHsection {\arabic{section}}%
5083 \newcommand\theHfigure {\arabic{figure}}%
5084 \newcommand\theHtable {\arabic{table}}%
5085 }{%
5086 \newcommand\theHchapter {\arabic{chapter}}%
5087 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
5088 \newcommand\theHtable {\theHchapter.\arabic{table}}%
5089 \newcommand\theHsection {\theHchapter.\arabic{section}}%
5090 }
5091 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
5092 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
5093 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
5094 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
5095 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
5096 \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.

```

5097 \let\H@item\item
5098 \newcounter{Item}
5099 \def\theHItem{\arabic{Item}}
5100 \def\item{%
5101 \hyper@itemfalse
5102 \if@nmbrlist\hyper@itemtrue\fi
5103 \H@item
5104 }
5105 \newcommand\theHenumi {\theHItem}
5106 \newcommand\theHenumii {\theHItem}
5107 \newcommand\theHenumiii {\theHItem}
5108 \newcommand\theHenumiv {\theHItem}
5109 \newcommand\theHHfootnote {\arabic{Hfootnote}}
5110 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
5111 \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.

```

5112 \let\H@refstepcounter\refstepcounter
5113 \edef\name@of@eq{equation}%
5114 \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.

```

5115 \newif\if@hyper@item
5116 \newif\if@skiphyperref
5117 \hyper@itemfalse
5118 \@skiphyperreffalse
5119 \def\refstepcounter#1{%
5120 \ifHy@pdfstring
5121 \else

```

```

5122 \H@refstepcounter{#1}%
5123 \edef\This@name{#1}%
5124 \ifx\This@name\name@of@slide
5125 \else
5126 \if@skiphyperref
5127 \else
5128 \if@hyper@item
5129 \stepcounter{Item}%
5130 \hyper@refstepcounter{Item}%
5131 \@hyper@itemfalse
5132 \else
5133 \hyper@refstepcounter{#1}%
5134 \fi
5135 \fi
5136 \fi
5137 \fi
5138 }

```

AMSL<sup>A</sup>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.

```

5139 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

5140 \def\hyper@refstepcounter#1{%
5141 \edef\This@name{#1}%
5142 \ifx\This@name\name@of@eq
5143 \ifundefined{theHequation}{%
5144 \make@stripped@name{\theequation}%
5145 \let\theHequation\newname
5146 }{}%
5147 \fi
5148 \ifundefined{theH#1}{%
5149 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5150 }{}%
5151 \hyper@makecurrent{#1}%
5152 \ifmeasuring@
5153 \else
5154 \Hy@raisedlink{%
5155 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5156 }%
5157 \fi
5158 }

```

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`.

```

5159 \begingroup\expandafter\expandafter\expandafter\endgroup
5160 \expandafter\ifx\csname chapter\endcsname\relax
5161 \def\Hy@chapterstring{section}%
5162 \else
5163 \def\Hy@chapterstring{chapter}%
5164 \fi
5165 \def\Hy@appendixstring{appendix}

```

```

5166 \def\Hy@chapapp{\Hy@chapterstring}
5167 \let\HyOrg@appendix\appendix
5168 \def\appendix{%
5169   \@ifundefined{chapter}%
5170     {\gdef\theHsection{\Alph{section}}}%
5171     {\gdef\theHchapter{\Alph{chapter}}}%
5172   \xdef\Hy@chapapp{\Hy@appendixstring}%
5173   \HyOrg@appendix
5174 }

```

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

```

5175 \def\hyper@makecurrent#1{%
5176   \begingroup
5177     \edef\Hy@param{#1}%
5178     \ifx\Hy@param\Hy@chapterstring
5179       \let\Hy@param\Hy@chapapp
5180     \fi
5181     \ifHy@hypertextnames
5182       \let\@number\@firstofone
5183       \@ifundefined{latin@Alph}{-}{%
5184         \ifx\@Alph\greek@Alph
5185           \def\@Alph{Alph\@arabic}%
5186         \fi
5187       }%
5188       \ifx\@Alph\@Alph@bul
5189         \def\@Alph{Alph\@arabic}%
5190       \fi
5191       \ifx\@alph\@alph@bul
5192         \def\@alph{alph\@arabic}%
5193       \fi
5194       \ifHy@naturalnames
5195         \let\textlatin\@firstofone
5196         \xdef\@currentHlabel{\csname the#1\endcsname}%
5197       \else
5198         \xdef\@currentHlabel{%
5199           \csname
5200             the%
5201             \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
5202             #1%
5203           \endcsname
5204         }%
5205       \fi
5206       \xdef\@currentHref{%
5207         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5208       }%
5209       \else
5210         \Hy@GlobalStepCount\Hy@linkcounter
5211         \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
5212       \fi
5213     \endgroup
5214 }

5215 \@ifpackageloaded{fancyvrb}{%
5216   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{%
5217     \def\FV@StepLineNo{%
5218       \FV@SetLineNo
5219       \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%

```

```

5220      \FV@StepLineNo
5221    }%
5222  }%
5223 }{}

```

## 29 Package lastpage support

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

`\lastpage@putlabel`

```

5224 \AtBeginDocument{%
5225   \@ifclassloaded{revtex4}{%
5226     \@namedef{ver@lastpage.sty}{1994/06/25}%
5227   }{}%
5228   \@ifpackageloaded{lastpage}{%
5229     \ifHy@pageanchor
5230     \else
5231       \Hy@WarningNoLine{%
5232         The \string\pageref{LastPage} link doesn't work\MessageBreak
5233         with disabled option 'pageanchor'%
5234       }%
5235     \fi
5236     \def\lastpage@putlabel{%
5237       \addtocounter{page}{-1}%
5238       \if@filesw
5239         \begingroup
5240           \let\@number\@firstofone
5241           \ifHy@pageanchor
5242             \ifHy@hypertexnames
5243               \ifHy@plainpages
5244                 \def\Hy@temp{\arabic{page}}%
5245               \else
5246                 \Hy@unicodefalse
5247                 \pdfstringdef\Hy@temp{\thepage}%
5248               \fi
5249             \else
5250               \def\Hy@temp{\the\Hy@pagecounter}%
5251             \fi
5252           \fi
5253           \immediate\write\@auxout{%
5254             \string\newlabel
5255             {LastPage}{}{\thepage}{}{%
5256               \ifHy@pageanchor page.\Hy@temp\fi}{}%
5257             }%
5258           \endgroup
5259         \fi
5260       \addtocounter{page}{1}%
5261     }%
5262     \@ifclassloaded{revtex4}{%
5263       \begingroup
5264       \toks@{\expandafter{\lastpage@putlabel}}%

```

```

5265         \edef\x{\endgroup
5266             \def\noexpand\lastpage@putlabel{%
5267                 \noexpand\stepcounter{page}%
5268                 \the\toks@
5269                 \noexpand\addtocounter{page}\noexpand\m@ne
5270             }%
5271         }%
5272     \x
5273 }{}%
5274 }{}%
5275 }
5276 </package>
5277 <*check>
5278 \checkpackage{lastpage}[1994/06/25]
5279 \checkcommand\def\lastpage@putlabel{%
5280     \addtocounter{page}{-1}%
5281     \immediate\write\@auxout{%
5282         \string\newlabel{LastPage}{\the\thepage}}%
5283     }%
5284     \addtocounter{page}{1}%
5285 }
5286 </check>
5287 <*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.

```

5288 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
5289 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}}{0}}

```

## 31 Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: [jbezos@arrakis.es](mailto:jbezos@arrakis.es)).

Package titlesec support:

```

5290 \@ifpackageloaded{titlesec}{%
5291     \def\ttl@Hy@steplink#1{%
5292         \Hy@GlobalStepCount\Hy@linkcounter
5293         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5294         \def\ttl@Hy@saveanchor{%
5295             \Hy@raisedlink{%
5296                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5297             }%
5298         }%
5299     }%
5300     \def\ttl@Hy@refstepcounter#1{%
5301         \let\ttl@b\Hy@raisedlink
5302         \def\Hy@raisedlink##1{%
5303             \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5304         }%
5305         \refstepcounter{#1}%
5306         \let\Hy@raisedlink\ttl@b
5307     }%
5308 }{}

```



Package titletoc support:

```
5309 \ifpackageloaded{titletoc}{%
5310   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5311 }{}
```

## 32 Package varioref support

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

```
5312 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
5313 \ifpackageloaded{varioref}{%
5314   \def\vref@pagenum#1#2{%
5315     \ifundefined{r@#2}{%
5316       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5317     }{}%
5318     \edef#1{\getpagerefnumber{#2}}%
5319   }%
5320 }
```

## 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

```
5321 \ifpackageloaded{longtable}{%
5322   \begingroup
5323     \def\y{\LT@array}%
5324     \ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5325     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5326       \expandafter\endgroup
5327       \expandafter\def\y[#1]##2{%
5328         \H@refstepcounter{#1}%
5329         \hyper@makecurrent{table}%
5330         \let\Hy@LT@currentHlabel\@currentHlabel
5331         \let\Hy@LT@currentHref\@currentHref
5332         #2\@sharp####4%
5333       }%
5334     }%
5335     \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil
```

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

```
5336   \begingroup
5337     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5338     \endgroup
5339     \def\LT@start{%
5340       #1%
5341       \let\@currentHlabel\Hy@LT@currentHlabel
5342       \let\@currentHref\Hy@LT@currentHref
5343       \Hy@raisedlink{%
5344         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5345       }%
5346       \ifvoid\LT@firsthead\copy
```

```

5347      #2%
5348    }%
5349  }%
5350  \expandafter\x\LT@start\@nil
5351 }{}

```

## 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.

```

5352 \let\new@refstepcounter\refstepcounter
5353 \let\H@equation\equation
5354 \let\H@endequation\endequation

5355 \@ifpackageloaded{amsmath}{%
5356   \long\def\Hy@temp{%
5357     \incr@eqnum
5358     \mathdisplay@push
5359     \st@rredfalse \global\@eqnswtrue
5360     \mathdisplay{equation}%
5361   }%
5362   \ifx\Hy@temp\equation
5363     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5364       \csname iftrue\endcsname
5365   \else
5366     \long\def\equation{%
5367       \mathdisplay@push
5368       \st@rredfalse \global\@eqnswtrue
5369       \mathdisplay{equation}%
5370       \incr@eqnum
5371     }%
5372   \fi
5373 \fi
5374 }{%
5375 \def\equation{%
5376   \let\refstepcounter\H@refstepcounter
5377   \H@equation
5378   \@ifundefined{theHequation}{%
5379     \make@stripped@name{\theequation}%
5380     \let\theHequation\newname
5381   }{}%
5382   \hyper@makecurrent{equation}%
5383   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5384   \let\refstepcounter\new@refstepcounter
5385 }%
5386 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5387 }

```

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.

```

5388 \newif\if@eqnstar
5389 \@eqnstarfalse
5390 \let\H@eqnarray\eqnarray
5391 \let\H@endeqnarray\endeqnarray
5392 \def\eqnarray{%
5393   \let\Hy@reserved@a\relax
5394   \def\@currentHref{}%
5395   \H@eqnarray
5396   \if@eqnstar
5397   \else
5398     \ifx\\ \@currentHref\\%
5399     \else
5400       \@ifundefined{theHequation}{%
5401         \make@stripped@name{\theequation}%
5402         \let\theHequation\newname
5403       }{}%
5404       \hyper@makecurrent{equation}%
5405       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5406     \fi
5407   \fi
5408 }
5409 \def\endeqnarray{%
5410   \H@endeqnarray
5411 }

```

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.

```

5412 \@namedef{eqnarray*}{%
5413   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
5414 }
5415 \@namedef{endeqnarray*}{%
5416   \nonumber\endeqnarray\@eqnstarfalse
5417 }

```

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

```

5418 \@ifundefined{subeqnarray}{%
5419   \let\H@subeqnarray\subeqnarray
5420   \let\H@endsubeqnarray\endsubeqnarray
5421   \def\subeqnarray{%
5422     \let\Hy@reserved@a\relax
5423     \H@subeqnarray
5424     \@ifundefined{theHequation}{%
5425       \make@stripped@name{\theequation}%
5426       \let\theHequation\newname
5427     }{}%
5428     \hyper@makecurrent{equation}%
5429     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5430   }%
5431   \def\endsubeqnarray{%
5432     \H@endsubeqnarray
5433   }%
5434   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5435 }

```

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

```

5436 \def\make@stripped@name#1{%
5437   \begingroup
5438     \escapechar\m@ne

```

```

5439 \global\let\newname\@empty
5440 \protected@edef\Hy@tempa{#1}%
5441 \edef\@tempb{%
5442   \noexpand\@tfor\noexpand\Hy@tempa:=%
5443   \expandafter\strip@prefix\meaning\Hy@tempa
5444 }%
5445 \@tempb\do{%
5446   \if\Hy@tempa\else
5447     \if}\Hy@tempa\else
5448       \xdef\newname{\newname\Hy@tempa}%
5449     \fi
5450   \fi
5451 }%
5452 \endgroup
5453 }

```

Support for amsmath's subequations:

```

5454 \begingroup\expandafter\expandafter\expandafter\endgroup
5455 \expandafter\ifx\csname subequations\endcsname\relax
5456 \else
5457   \let\HyOrg@subequations\subequations
5458   \def\subequations{%
5459     \stepcounter{equation}%
5460     \protected@edef\theHparentequation{%
5461       \ifundefined{theHequation}\theequation\theHequation
5462     }%
5463     \addtocounter{equation}{-1}%
5464     \HyOrg@subequations
5465     \def\theHequation{\theHparentequation\alph{equation}}%
5466     \ignorespaces
5467   }%
5468 \fi

```

Support for package amsthm (Daniel Müllner):

```

5469 \@ifpackageloaded{amsthm}{%
5470   \def\@thm#1#2#3{%
5471     \ifhmode
5472       \unskip\unskip\par
5473     \fi
5474     \normalfont
5475     \trivlist
5476     \let\thmheadnl\relax
5477     \let\thm@swap\@gobble
5478     \thm@notefont{\fontseries\mddefault\upshape}%
5479     \thm@headpunct{.}% add period after heading
5480     \thm@headsep 5\p@ plus\p@ minus\p@\relax
5481     \thm@space@setup
5482     #1% style overrides
5483     \@topsep \thm@preskip % used by thm head
5484     \@topsepadd \thm@postskip % used by \@endparenv
5485     \def\dth@counter{#2}%
5486     \ifx\@empty\dth@counter
5487       \def\@tempa{%
5488         \@oparg{\@begintheorem{#3}{}} []%
5489       }%
5490     \else
5491       \H@refstepcounter{#2}%
5492       \hyper@makecurrent{#2}%

```

```

5493     \def\@tempa{%
5494       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{[]}%
5495     }%
5496     \fi
5497     \@tempa
5498   }%
5499   \dth@everypar={%
5500     \@minipagefalse
5501     \global\@newlistfalse
5502     \@noparitemfalse
5503     \if@inlabel
5504       \global\@inlabelfalse
5505     \begingroup
5506       \setbox\z@\lastbox
5507       \ifvoid\z@
5508         \kern-\itemindent
5509       \fi
5510     \endgroup
5511     \ifx\@empty\dth@counter
5512     \else
5513       \Hy@raisedlink{%
5514         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5515       }%
5516     \fi
5517     \unhbox\@labels
5518   \fi
5519   \if@nobreak
5520     \@nobreakfalse \clubpenalty\@M
5521   \else
5522     \clubpenalty\@clubpenalty \everypar{}%
5523   \fi
5524 }%
5525 }{}

```

## 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.

```

5526 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5527 \ifHy@hyperfootnotes
5528   \newcounter{Hfootnote}%
5529   \let\H@@footnotetext\@footnotetext
5530   \let\H@@footnotemark\@footnotemark
5531   \def\@xfootnotenext[#1]{%
5532     \begingroup
5533       \csname c@\@mpfn\endcsname #1\relax
5534       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5535     \endgroup
5536     \ifx\@footnotetext\@mpfootnotetext
5537       \expandafter\H@@mpfootnotetext
5538     \else
5539       \expandafter\H@@footnotetext
5540     \fi

```

```

5541 }%
5542 \def\@footnotemark[#1]{%
5543   \begingroup
5544     \c@footnote #1\relax
5545     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5546   \endgroup
5547   \H@@footnotemark
5548 }%
5549 \let\H@@mpfootnotetext\@mpfootnotetext
5550 \long\def\@mpfootnotetext#1{%
5551   \H@@mpfootnotetext{%
5552     \ifHy@nesting
5553       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5554     \else
5555       \Hy@raisedlink{%
5556         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5557       }#1%
5558     \fi
5559   }%
5560 }%
5561 \long\def\@footnotetext#1{%
5562   \H@@footnotetext{%
5563     \ifHy@nesting
5564       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5565     \else
5566       \Hy@raisedlink{%
5567         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5568       }%
5569       \let\@currentHlabel\Hy@footnote@currentHlabel
5570       \let\@currentHref\Hy@footnote@currentHref
5571       \let\@currentlabelname\@empty
5572       #1%
5573     \fi
5574   }%
5575 }%

```

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.

```

5576 \def\@footnotemark{%
5577   \leavevmode
5578   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5579   \stepcounter{Hfootnote}%
5580   \global\let\Hy@saved@currentHlabel\@currentHlabel
5581   \global\let\Hy@saved@currentHref\@currentHref
5582   \hyper@makecurrent{Hfootnote}%
5583   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5584   \global\let\Hy@footnote@currentHref\@currentHref
5585   \global\let\@currentHlabel\Hy@saved@currentHlabel
5586   \global\let\@currentHref\Hy@saved@currentHref
5587   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5588   \@makefnmark
5589   \hyper@linkend
5590   \ifhmode\spacefactor\@x@sf\fi
5591   \relax
5592 }%

```

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

```

5593 \ifpackageloaded{longtable}{%
5594   \CheckCommand*{\LT@p@ftntext}[1]{%
5595     \edef\@tempa{%
5596       \the\LT@p@ftn
5597       \noexpand\footnotetext[\the\c@footnote]%
5598     }%
5599     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5600   }%
5601   \long\def\LT@p@ftntext#1{%
5602     \edef\@tempa{%
5603       \the\LT@p@ftn
5604       \begingroup
5605         \noexpand\c@footnote=\the\c@footnote\relax
5606         \noexpand\protected@xdef
5607           \noexpand\@thefnmark{\noexpand\thempfn}%
5608         \noexpand\protected@xdef\noexpand\@thefnmark{%
5609           \noexpand\thempfn
5610         }%
5611         \expandafter\expandafter\expandafter\noexpand
5612         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5613         \expandafter\expandafter\expandafter{%
5614           \expandafter\Hy@footnote@currentHref\expandafter
5615           }\expandafter{\Hy@footnote@currentHlabel}%
5616       }%
5617       \global\LT@p@ftn\expandafter{%
5618         \@tempa{#1}%
5619       }\endgroup
5620     }%
5621   }%
5622   \long\def\Hy@LT@footnotetext#1#2#3{%
5623     \H@@footnotetext{%
5624       \ifHy@nesting
5625         \hyper@@anchor{#1}{#3}%
5626       \else
5627         \Hy@raisedlink{%
5628           \hyper@@anchor{#1}{\relax}%
5629         }%
5630         \def\@currentHlabel{#2}%
5631         \def\@currentHref{#1}%
5632         \let\@currentlabelname\@empty
5633         #3%
5634       \fi
5635     }%
5636   }%
5637 }-%

```

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

```

5638 \ifpackageloaded{fancyvrb}{%
5639   \def\V@@footnotetext{%
5640     \insert\footins\bgroup
5641     \csname reset@font\endcsname
5642     \footnotesize
5643     \interlinepenalty\interfootnotelinepenalty

```

```

5644 \splittopskip\footnotesep
5645 \splitmaxdepth\dp\strutbox
5646 \floatingpenalty \@MM
5647 \hsize\columnwidth
5648 \@parboxrestore
5649 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5650 \@makefnmark}%
5651 \rule{\z@}{\footnotesep}%
5652 \bgroup
5653 \aftergroup\V@@@footnotetext
5654 \Hy@raisedlink{%
5655 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5656 }%
5657 \let\@currentHlabel\Hy@footnote@currentHlabel
5658 \let\@currentHref\Hy@footnote@currentHref
5659 \let\@currentlabelname\@empty
5660 \ignorespaces
5661 }%
5662 }{}%

```

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.

```

5663 \let\HyOrg@maketitle\maketitle
5664 \def\maketitle{%
5665 \let\Hy@saved@footnotemark\@footnotemark
5666 \let\Hy@saved@footnotetext\@footnotetext
5667 \let\@footnotemark\H@@footnotemark
5668 \let\@footnotetext\H@@footnotetext
5669 \@ifnextchar[\Hy@maketitle@optarg{% ]
5670 \HyOrg@maketitle
5671 \Hy@maketitle@end
5672 }%
5673 }%
5674 \def\Hy@maketitle@optarg[#1]{%
5675 \HyOrg@maketitle[#{#1}]%
5676 \Hy@maketitle@end
5677 }%
5678 \def\Hy@maketitle@end{%
5679 \ifx\@footnotemark\H@@footnotemark
5680 \let\@footnotemark\Hy@saved@footnotemark
5681 \fi
5682 \ifx\@footnotetext\H@@footnotetext
5683 \let\@footnotetext\Hy@saved@footnotetext
5684 \fi
5685 }%

```

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

```

5686 \def\realfootnote{%
5687 \ifnextchar[\@xfootnote{%
5688 \stepcounter{\@mpfn}%
5689 \protected@xdef\@thefnmark{\thempfn}%
5690 \H@@@footnotemark\H@@@footnotetext
5691 }%
5692 }%
5693 \fi
5694 \Hy@DisableOption{hyperfootnotes}

```



```

5695 </package>
5696 <*check>
5697 \checklatex
5698 \checkcommand\def\@xfootnotenext[#1]{%
5699   \begingroup
5700     \csname c@\mpfn\endcsname #1\relax
5701     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5702   \endgroup
5703   \@footnotetext
5704 }
5705 \checkcommand\def\@xfootnotemark[#1]{%
5706   \begingroup
5707     \c@footnote #1\relax
5708     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5709   \endgroup
5710   \@footnotemark
5711 }
5712 \checkcommand\def\@footnotemark{%
5713   \leavevmode
5714   \ifhmode\edef\@xsf{\the\spacefactor}\nobreak\fi
5715   \@makefnmark
5716   \ifhmode\spacefactor\@xsf\fi
5717   \relax
5718 }
5719 </check>
5720 <*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.

```

5721 \def\caption{%
5722   \ifx\@captive\@undefined
5723     \@latex@error{\noexpand\caption outside float}\@ehd
5724     \expandafter\@gobble
5725   \else
5726     \H@refstepcounter\@captive
5727     \let\Hy@tempa\@caption
5728     \@ifundefined{float@caption}{%
5729       {%
5730         \expandafter\ifx\csname @float@c@\@captive\endcsname
5731           \float@caption
5732         \let\Hy@tempa\Hy@float@caption
5733       \fi
5734     }%
5735     \expandafter\@firstofone
5736   \fi
5737   {\@dblarg{\Hy@tempa\@captive}}%
5738 }
5739 \long\def\@caption#1[#2]#3{%
5740   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5741     \csname iftrue\endcsname
5742     \global\let\@currentHref\hc@currentHref
5743   \else
5744     \hyper@makecurrent{\@captive}%
5745   \fi

```

```

5746 \def\@currentlabelname{#2}%
5747 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5748   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5749 }%
5750 \begingroup
5751   \@parboxrestore
5752   \if@minipage
5753     \@setminipage
5754   \fi
5755   \normalsize
5756   \expandafter\ifx\csname if@capstart\endcsname
5757     \csname iftrue\endcsname
5758   \global\@capstartfalse
5759   \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5760 \else
5761   \@makecaption{\csname fnum@#1\endcsname}{%
5762     \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5763   \ifHy@nesting
5764     \hyper@@anchor{\@currentHref}{#3}%
5765   \else
5766     \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5767   \fi
5768 }%
5769 \fi
5770 \par
5771 \endgroup
5772 }

```

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.

```

5773 \let\Hy@float@caption\@caption
5774 \@ifpackageloaded{float}{%
5775   \def\Hy@float@caption{%
5776     \ifx\Hy@float@currentHref\@undefined
5777       \hyper@makecurrent{\@captype}%
5778       \global\let\Hy@float@currentHref\@currentHref
5779     \else
5780       \let\@currentHref\Hy@float@currentHref
5781     \fi
5782     \float@caption
5783   }%
5784   \let\HyOrg@float@makebox\float@makebox
5785   \renewcommand{\float@makebox}[1]{%
5786     \HyOrg@float@makebox{%
5787       #1\relax
5788       \ifx\Hy@float@currentHref\@undefined
5789       \else
5790         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5791       \global\let\Hy@float@currentHref\@undefined
5792       \fi
5793     }%
5794   }%
5795 }{}
5796 \</package>
5797 \< *check>
5798 \checklatex[1999/06/01 - 2000/06/01]

```

```

5799 \checkcommand\def\caption{%
5800   \ifx\@capttype\undefined
5801     \@latex@error{\noexpand\caption outside float}\@ehd
5802     \expandafter\@gobble
5803   \else
5804     \refstepcounter\@capttype
5805     \expandafter\@firstofone
5806   \fi
5807   {\@dblarg{\@caption\@capttype}}%
5808 }
5809 \checkcommand\long\def\@caption#1[#2]#3{%
5810   \par
5811   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5812   {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5813   \begingroup
5814     \@parboxrestore
5815     \if@minipage
5816       \@setminipage
5817     \fi
5818     \normalsize
5819     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5820   \endgroup
5821 }
5822 \end{check}
5823 \end{package}

```

## 37 Bibliographic references

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

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

```

5824 \def\hyper@natlinkstart#1{%
5825   \Hy@backout{#1}%
5826   \hyper@linkstart{cite}{cite.#1}%
5827   \def\hyper@nat@current{#1}%
5828 }
5829 \def\hyper@natlinkend{%
5830   \hyper@linkend
5831 }
5832 \def\hyper@natlinkbreak#1#2{%
5833   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5834 }
5835 \def\hyper@natanchorstart#1{%
5836   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5837 }
5838 \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.

```

5839 \@ifundefined{NAT@parse}{%
5840   \providecommand*\@extra@binfo{}%
5841   \providecommand*\@extra@b@citeb{}%
5842   \def\bibcite#1#2{%
5843     \newl@bel{b}{#1\@extra@binfo}{%
5844       \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
5845     }%
5846   }%
5847   \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.”.

```

5848 \let\Hy@bibcite\bibcite
5849 \begingroup
5850   \@ifundefined{bbl@cite@choice}{%
5851     \g@addto@macro\bbl@cite@choice{%
5852       \let\bibcite\Hy@bibcite
5853     }%
5854   }%
5855 \endgroup

```

\@BIBLABEL is working around a ‘feature’ of RevT<sub>E</sub>X.

```

5856 \providecommand*\@BIBLABEL{\@biblabel}%
5857 \def\@lbibitem[#1]#2{%
5858   \@skiphyperreftrue
5859   \H@item[%
5860     \ifx\Hy@raisedlink\@empty
5861       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5862       \@BIBLABEL{#1}%
5863       \hyper@anchorend
5864     \else
5865       \Hy@raisedlink{%
5866         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5867       }%
5868       \@BIBLABEL{#1}%
5869     \fi
5870     \hfill
5871   ]%
5872   \@skiphyperreffalse
5873   \if@filesw
5874     \begingroup
5875       \let\protect\@noexpand
5876       \immediate\write\@auxout{%
5877         \string\bibcite{#2}{#1}%
5878       }%
5879     \endgroup
5880   \fi
5881   \ignorespaces
5882 }%

```

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

```

5883 \def\@bibitem#1{%
5884   \@skiphyperreftrue\H@item\@skiphyperreffalse
5885   \Hy@raisedlink{%
5886     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5887   }%
5888   \if@filesw
5889     \begingroup

```

```

5890         \let\protect\noexpand
5891         \immediate\write\@auxout{%
5892             \string\bibcite{#1}{\the\value{\@listctr}}}%
5893     }%
5894 \endgroup
5895 \fi
5896 \ignorespaces
5897 }%
5898 }{}

5899 </package>
5900 <*check>
5901 \checklatex
5902 \checkcommand\def\@lbibitem[#1]#2{%
5903     \item[\@biblabel{#1}\hfill]%
5904     \if@files
5905     {%
5906         \let\protect\noexpand
5907         \immediate\write\@auxout{%
5908             \string\bibcite{#2}{#1}%
5909         }%
5910     }%
5911 \fi
5912 \ignorespaces
5913 }
5914 \checkcommand\def\@bibitem#1{%
5915     \item
5916     \if@files
5917     \immediate\write\@auxout{%
5918         \string\bibcite{#1}{\the\value{\@listctr}}}%
5919     }%
5920 \fi
5921 \ignorespaces
5922 }
5923 </check>
5924 <*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.

```

5925 \@ifclassloaded{revtex}{%
5926     \Hy@Info{*** compatibility with revtex **** }%
5927     \def\revtex@checking#1#2{%
5928         \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5929         \expandafter\def\csname b@#1\endcsname{#2}%
5930         \@SetMaxRnhefLabel{#1}%
5931         \expandafter\let\csname b@#1\endcsname\T@temp
5932     }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

5933 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
5934 \providecommand*\@extra@b@citeb{}%
5935 \def\CITE[#1]#2{%
5936     \let\@citea\@empty
5937     \leavevmode
5938     \unskip
5939     $\sim$%

```

```

5940 \scriptstyle
5941 \@CITE{%
5942   \@for\@citeb:=#2\do{%
5943     \@citea
5944     \def\@citea{,\penalty\@m\ }%
5945     \edef\@citeb{\expandafter\@firstofone\@citeb}%
5946     \if@filesw
5947       \immediate\write\@auxout{\string\citation{\@citeb}}%
5948     \fi
5949     \@ifundefined{b@\@citeb\extra@b@citeb}{%
5950       \mbox{\reset@font\bfseries ?}%
5951       \G@refundefinedtrue
5952       \@latex@warning{%
5953         Citation ‘\@citeb’ on page \thepage \space undefined%
5954       }%
5955     }{%
5956       {\csname b@\@citeb\extra@b@citeb\endcsname}%
5957     }%
5958   }%
5959 }{\#1}%
5960 }$%
5961 }%

```

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.

```

5962 \def\@citex[#1]#2{%
5963   \let\@citea\@empty
5964   \@cite{%
5965     \@for\@citeb:=#2\do{%
5966       \@citea
5967       \def\@citea{,\penalty\@m\ }%
5968       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5969       \if@filesw
5970         \immediate\write\@auxout{\string\citation{\@citeb}}%
5971       \fi
5972       \@ifundefined{b@\@citeb\extra@b@citeb}{%
5973         \mbox{\reset@font\bfseries ?}%
5974         \G@refundefinedtrue
5975         \@latex@warning{%
5976           Citation ‘\@citeb’ on page \thepage \space undefined%
5977         }%
5978       }{%
5979         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
5980       }%
5981     }%
5982   }{\#1}%
5983 }%
5984 }{}

```

### 37.1 Package harvard

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

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

```

5985 \@ifpackageloaded{harvard}{%
5986   \AtBeginDocument{%
5987     \Hy@Info{*** compatibility with harvard **** }%
5988     \Hy@raiselinksfalse
5989     \def\harvardcite#1#2#3#4{%
5990       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{}{cite.#1}{#2}}%
5991       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{}{cite.#1}{#3}}%
5992       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{}{cite.#1}{#4}}%
5993       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5994     }%
5995     \def\HAR@citetoaux#1{%
5996       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5997       \ifHy@backref
5998         \ifx\@empty\@currentlabel
5999         \else
6000           \@bsphack
6001           \if@filesw
6002             \protected@write\@auxout{}{%
6003               \string\writefile{brf}{%
6004                 \string\backcite{#1}{%
6005                   {\thepage}{\@currentlabel}{\@currentHref}%
6006                 }%
6007             }%
6008           \fi
6009         \fi
6010         \@esphack
6011       \fi
6012     \fi
6013   }%
6014   \def\harvarditem{%
6015     \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
6016   }%
6017   \def\@harvarditem[#1]#2#3#4#5\par{%
6018     \item[]%
6019     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
6020     \if@filesw
6021       \begingroup
6022         \def\protect##1{\string ##1\space}%
6023         \ifthenelse{\equal{#1}{\null}}{%
6024           {\def\next{{#4}{#2}{#3}}}%
6025           {\def\next{{#4}{#2}{#1}{#3}}}%
6026           \immediate\write\@auxout{\string\harvardcite\codeof\next}%
6027         \endgroup
6028       \fi
6029       \protect\hspace*{-\labelwidth}%
6030       \protect\hspace*{-\labelsep}%
6031       \ignorespaces
6032       #5%
6033       \ifHy@backref
6034         \newblock
6035         \backref{\csname br@#4\endcsname}%
6036       \fi
6037     \par
6038   }%

```

`\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

```

\long\def\HAR@checkcitations#1#2#3#4{%
\def\HAR@tempa{\hyper@link[cite]{}{cite.#1}{#2}}%
\expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
\def\HAR@tempa{\hyper@link[cite]{}{cite.#1}{#3}}%
\expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
\def\HAR@tempa{\hyper@link[cite]{}{cite.#1}{#4}}%
\expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
\else
\@tempswatrue
\fi
\else
\@tempswatrue
\fi
\else
\@tempswatrue
\fi
}%
}%
}{}

```

## 37.2 Package chicago

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

```

\@ifpackageloaded{chicago}{%

```

`\citeN`

```

\def\citeN{%
\def\@citesep{-1000}%
\def\@cite##1##2{##1}%
\def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
\@citedata@opt
}%

```

`\shortciteN`

```

\def\shortciteN{%
\def\@citesep{-1000}%
\def\@cite##1##2{##1}%
\def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
\@citedata@opt
}%

```

`\@citedata@opt`

```

\def\@citedata@opt{%
\let\@cite@opt\empty
\@ifnextchar [{%
\@tempswatrue
\@citedatax@opt
}%
\@tempswafalse
\@citedatax[]%
}%
}%

```



\@citedatax@opt

```
6081 \def\@citedatax@opt[#1]{%
6082   \def\@cite@opt{, #1}%
6083   \@citedatax[#1]}%
6084 }%
6085 }{}
```

## 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.

```
6086 \def\Hy@EveryPageAnchor{%
6087   \Hy@DistillerDestFix
6088   \ifHy@pageanchor
6089     \ifHy@hypertextnames
6090       \ifHy@plainpages
6091         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
6092       \else
6093         \begingroup
6094           \let\@number\@firstofone
6095           \Hy@unicodedefalse
6096           \pdfstringdef\@the@H@page{\thepage}%
6097         \endgroup
6098         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
6099       \fi
6100     \else
6101       \Hy@GlobalStepCount\Hy@pagecounter
6102       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
6103     \fi
6104     \vbox to 0pt{%
6105       \kern\voffset
6106       \kern\topmargin
6107       \kern-1bp\relax
6108       \hbox to 0pt{%
6109         \kern\hoffset
6110         \kern\ifodd\value{page}%
6111           \oddsidemargin
6112         \else
6113           \evensidemargin
6114         \fi
6115         \kern-1bp\relax
6116         \Hy@TempPageAnchor
6117       \hss
6118     }%
6119     \vss
6120   }%
6121 \fi
6122 }
6123 \g@addto@macro\Hy@EveryPageBoxHook{%
6124   \Hy@EveryPageAnchor
6125 }
```

## 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.

```

6126 \def\addcontentsline#1#2#3{% toc extension, type, tag
6127   \begingroup
6128     \let\label@gobble
6129     \ifx\@currentHref\@empty
6130       \Hy@Warning{%
6131         No destination for bookmark of \string\addcontentsline,%
6132         \MessageBreak destination is added%
6133       }%
6134       \phantomsection
6135     \fi
6136     \expandafter\ifx\csname toplevel@#2\endcsname\relax
6137       \begingroup
6138         \def\Hy@tempa{#1}%
6139         \ifx\Hy@tempa\Hy@bookmarkstype
6140           \Hy@WarningNoLine{%
6141             bookmark level for unknown #2 defaults to 0%
6142           }%
6143         \else
6144           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
6145         \fi
6146       \endgroup
6147       \expandafter\gdef\csname toplevel@#2\endcsname{0}%
6148     \fi
6149     \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
6150     \Hy@writebookmark{\csname the#2\endcsname}%
6151       {#3}%
6152       {\@currentHref}%
6153       {\Hy@toclevel}%
6154       {#1}%
6155     \ifHy@verbose
6156       \def\Hy@tempa{#3}%
6157       \@onelevel@sanitize\Hy@tempa
6158       \typeout{pdfTeX: bookmark at \the\inputlineno: %
6159         {\csname the#2\endcsname}%
6160         {\Hy@tempa}%
6161         {\@currentHref}%
6162         {\Hy@toclevel}%
6163         {#1}%
6164       }%
6165     \fi
6166     \addtocontents{#1}{%
6167       \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
6168     }%
6169   \endgroup
6170 }
6171 \def\contentsline#1#2#3#4{%
6172   \ifx\#4\%
6173     \csname l@#1\endcsname{#2}{#3}%
6174   \else
6175     \ifcase\Hy@linktoc % none
6176       \csname l@#1\endcsname{#2}{#3}%
6177     \or % section

```

```

6178     \csname l@#1\endcsname{%
6179       \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6180     }{#3}%
6181   \or % page
6182     \csname l@#1\endcsname{#{2}}{%
6183       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6184     }%
6185   \else % all
6186     \csname l@#1\endcsname{%
6187       \hyper@linkstart{link}{#4}{#2}\hyper@linkend
6188     }{%
6189       \hyper@linkstart{link}{#4}{#3}\hyper@linkend
6190     }%
6191   \fi
6192 \fi
6193 }

6194 \</package>
6195 \<*check>
6196 \checklatex
6197 \checkcommand\def\addcontentsline#1#2#3{%
6198   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
6199 }
6200 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
6201 \</check>
6202 \<*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.

```

6203 \let\H@definecounter\@definecounter
6204 \def\@definecounter#1{%
6205   \H@definecounter{#1}%
6206   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6207 }

```

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.

```

6208 \let\H@newctr\@newctr
6209 \def\@newctr#1[#2]{%
6210   \H@newctr#1[#2]%
6211   \expandafter\def\csname theH#1\endcsname{%
6212     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
6213   }%
6214 }

```

## 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.

```

6215 \@ifpackageloaded{amsmath}{%
6216   \def\Hy@make@anchor{%
6217     \Hy@GlobalStepCount\Hy@linkcounter
6218     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6219     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6220   }%
6221   \def\Hy@make@df@tag@@#1{%
6222     \gdef\df@tag{%
6223       \maketag@@@{\Hy@make@anchor#1}%
6224       \def\@currentlabel{#1}%
6225     }%
6226   }%
6227   \def\Hy@make@df@tag@@@#1{%
6228     \gdef\df@tag{%
6229       \tagform@{\Hy@make@anchor#1}%
6230       \toks@{\xp{\p@equation{#1}}}%
6231       \edef\@currentlabel{\the\toks@}%
6232     }%
6233   }%
6234   \let\HyOrg@make@df@tag@@\make@df@tag@@
6235   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6236   \let\make@df@tag@@\Hy@make@df@tag@@
6237   \let\make@df@tag@@@\Hy@make@df@tag@@@
6238 }{}

```

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

```

6239 \@ifpackagewith{hyperref}{pdfTeX}{%
6240   \let\H@seteqlabel\@seteqlabel
6241   \def\@seteqlabel#1{%
6242     \H@seteqlabel{#1}%
6243     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6244     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6245   }%
6246 }{}

```

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.

```

6247 \let\HyOrg@addtoreset\@addtoreset
6248 \def\@addtoreset#1#2{%
6249   \HyOrg@addtoreset{#1}{#2}%
6250   \expandafter\xdef\csname theH#1\endcsname{%
6251     \expandafter\noexpand
6252     \csname the\@ifundefined{theH#2}{H#2}\endcsname
6253     .\noexpand\the\noexpand\value{#1}%

```

```

6254 }%
6255 }

```

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

```

6256 \</package>
6257 \<*check>
6258 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6259 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6260   \ifundefined{c@#2}{\@nocounterr{#2}}{%
6261     \ifundefined{c@#3}{\@nocnterr{#3}}{%
6262       \addtoreset{#2}{#3}%
6263       \xp\xdef\csname the#2\endcsname{%
6264         \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6265       }%
6266     }%
6267   }%
6268 }%
6269 \</check>
6270 \<*package>
6271 \ifpackageloaded{amsmath}{%
6272   \ifpackagelater{amsmath}{1999/12/14}{%
6273     \renewcommand*\numberwithin[3][\arabic]{%
6274       \ifundefined{c@#2}{\@nocounterr{#2}}{%
6275         \ifundefined{c@#3}{\@nocnterr{#3}}{%
6276           \HyOrg@addtoreset{#2}{#3}%
6277           \xp\xdef\csname the#2\endcsname{%
6278             \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6279           }%
6280           \xp\xdef\csname theH#2\endcsname{%
6281             \xp\@nx
6282             \csname the\ifundefined{theH#3}{H#3}\endcsname
6283             .\@nx#1{#2}%
6284           }%
6285         }%
6286       }%
6287     }%
6288   }{%
6289     \Hy@WarningNoLine{%
6290       \string\numberwithin\space of package 'amsmath' %
6291       only fixed\MessageBreak
6292       for version 2000/06/06 v2.12 or newer%
6293     }%
6294   }%
6295 }{}

```

## 42 Included figures

Simply intercept the low level graphics package macro.

```

6296 \ifHy@figures
6297   \let\Hy@Gin@setfile\Gin@setfile
6298   \def\Gin@setfile#1#2#3{%
6299     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6300   }%
6301 \fi
6302 \Hy@DisableOption{hyperfigures}

```

## 43 hyperindex entries

Internal command names are prefixed with `\HyInd@`.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the `|` feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the `|` specifier for something like boldening entries. That would make `Makeindex` fail (cannot have two `|` specifiers). The solution is for the author to use generic coding, and put in the requisite `\hyperpage` in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

6303 \ifHy@hyperindex
6304   \def\HyInd@ParenLeft{ }%
6305   \def\HyInd@ParenRight{ }%
6306   \Hy@nextfalse
6307   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6308   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6309   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
6310   \begingroup
6311     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6312   \lowercase{\endgroup
6313     \ifHy@next
6314       \let\HyInd@org@wrindex\wrindex
6315       \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
6316       \def\HyInd@@wrindex#1#2|#3|#4\{\%
6317         \ifx\|#3\%
6318           \HyInd@org@wrindex{#1}-{#2|hyperpage}%
6319         \else
6320           \def\Hy@temp@A{#3}%
6321           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6322             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6323             \relax
6324           \HyInd@org@wrindex{#1}-{#2|#3}%
6325         \else
6326           \HyInd@org@wrindex{#1}-{#2|#3hyperpage}%
6327         \fi
6328       \fi
6329     }%
6330   \else
6331     \def\@wrindex#1{\@@wrindex#1||\}%
6332     \def\@@wrindex#1|#2|#3\{\%
6333       \if@files
6334         \ifx\|#2\%
6335           \protected@write\@indexfile{}\%
6336             \string\indexentry{#1|hyperpage}{\thepage}%
6337         }%
6338       \else
6339         \def\Hy@temp@A{#2}%
6340         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6341           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6342           \relax
6343         \protected@write\@indexfile{}\%
6344           \string\indexentry{#1|#2}{\thepage}%
6345         }%
6346       \else
6347         \protected@write\@indexfile{}\%

```

```

6348             \string\indexentry{#1|#2hyperpage}{\thepage}%
6349         }%
6350     \fi
6351 \fi
6352 \fi
6353 \endgroup
6354 \esphack
6355 }%
6356 \fi
6357 }%
6358 \fi
6359 \Hy@DisableOption{hyperindex}
6360 \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.

```

6361 \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.

```

6362 \def\hyperpage#1{%
6363   \HyInd@hyperpage#1\nohyperpage{}\@nil
6364 }
6365 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6366   \HyInd@@hyperpage{#1}%
6367   #2%
6368   \def\Hy@temp{#3}%
6369   \ifx\Hy@temp\@empty
6370   \else
6371     \Hy@ReturnAfterFi{%
6372       \HyInd@hyperpage#3\@nil
6373     }%
6374   \fi
6375 }
6376 \def\HyInd@@hyperpage#1{\@hyperpage#1---\}
6377 \def\@hyperpage#1--#2--#3\{%
6378   \ifx\#2\%
6379     \@commahyperpage{#1}%
6380   \else
6381     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6382   \fi
6383 }
6384 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6385 \def\@commahyperpage#1, #2,#3\{%
6386   \ifx\#2\%
6387     \HyInd@pagelink{#1}%
6388   \else
6389     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6390   \fi
6391 }

```

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

```

6392 \def\HyInd@pagelink#1{%
6393   \begingroup
6394     \toks@={}%
6395     \HyInd@removespaces#1 \@nil

```

```

6396 \endgroup
6397 }
6398 \def\HyInd@removespaces#1 #2\@nil{%
6399 \toks@=\expandafter{\the\toks@#1}%
6400 \ifx\#2\%
6401 \edef\x{\the\toks@}%
6402 \ifx\x\@empty
6403 \else
6404 \hyperlink{page.\the\toks@}{\the\toks@}%
6405 \fi
6406 \else
6407 \Hy@ReturnAfterFi{%
6408 \HyInd@removespaces#2\@nil
6409 }%
6410 \fi
6411 }

```

## 44 Compatibility with foiltex

```

6412 \@ifclassloaded{foils}{%
6413 \providecommand*\ext@table{lot}%
6414 \providecommand*\ext@figure{lof}%
6415 }{}

```

## 45 Compatibility with seminar slide package

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

```

6416 \@ifclassloaded{seminar}{%
6417 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6418 }{%
6419 \Hy@seminarslidesfalse
6420 }
6421 \@ifpackageloaded{slidesec}{%
6422 \newcommand\theHslidesection {\arabic{slidesection}}%
6423 \newcommand\theHslidesubsection{%
6424 \theHslidesection.\arabic{slidesubsection}}%
6425 }%
6426 \def\slide@heading[#1]#2{%
6427 \H@refstepcounter{slidesection}%
6428 \@addtoreset{slidesubsection}{slidesection}%
6429 \addtocontents{los}{%
6430 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6431 {\@SCTR}{slideheading.\theslidesection}}%
6432 }%
6433 \def\Hy@tempa{#2}%
6434 \ifx\Hy@tempa\@empty
6435 \else
6436 {%
6437 \edef\@currentlabel{%
6438 \csname p@slidesection\endcsname\theslidesection
6439 }%
6440 \makeslideheading{#2}%
6441 }%
6442 \fi
6443 \gdef\theslideheading{#1}%

```



```

6444 \gdef\theslidesubheading{%
6445 \ifHy@bookmarksnumbered
6446 \def\Hy@slidetitle{\theslidesection\space #1}%
6447 \else
6448 \def\Hy@slidetitle{#1}%
6449 \fi
6450 \ifHy@hypertextnames
6451 \ifHy@naturalnames
6452 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6453 \Hy@writebookmark
6454 {\theslidesection}%
6455 {\Hy@slidetitle}%
6456 {slideheading.\theslidesection}%
6457 {1}%
6458 {toc}%
6459 \else
6460 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6461 \Hy@writebookmark
6462 {\theslidesection}%
6463 {\Hy@slidetitle}%
6464 {slideheading.\theHslidesection}%
6465 {1}%
6466 {toc}%
6467 \fi
6468 \else
6469 \Hy@GlobalStepCount\Hy@linkcounter
6470 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6471 \Hy@writebookmark
6472 {\theslidesection}%
6473 {\Hy@slidetitle}%
6474 {slideheading.\the\Hy@linkcounter}%
6475 {1}%
6476 {toc}%
6477 \fi
6478 }%
6479 \def\slide@subheading[#1]#2{%
6480 \H@refstepcounter{slidesubsection}%
6481 \addtocontents{los}{%
6482 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6483 {\@SCTR}{slideheading.\theslidesubsection}%
6484 }%
6485 \def\Hy@tempa{#2}%
6486 \ifx\Hy@tempa\@empty
6487 \else
6488 {%
6489 \edef\@currentlabel{%
6490 \csname p@slidesubsection\endcsname\theslidesubsection
6491 }%
6492 \makeslidesubheading{#2}%
6493 }%
6494 \fi
6495 \gdef\theslidesubheading{#1}%
6496 \ifHy@bookmarksnumbered
6497 \def\Hy@slidetitle{\theslidesubsection\space #1}%
6498 \else
6499 \def\Hy@slidetitle{#1}%
6500 \fi

```

```

6501 \ifHy@hypertextnames
6502 \ifHy@naturalnames
6503 \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6504 \Hy@writebookmark
6505 {\theslidesubsection}%
6506 {\Hy@slidetitle}%
6507 {slideheading.\theslidesubsection}%
6508 {2}%
6509 {toc}%
6510 \else
6511 \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6512 \Hy@writebookmark
6513 {\theslidesubsection}%
6514 {\Hy@slidetitle}%
6515 {slideheading.\theHslidesubsection}%
6516 {2}%
6517 {toc}%
6518 \fi
6519 \else
6520 \Hy@GlobalStepCount\Hy@linkcounter
6521 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6522 \Hy@writebookmark
6523 {\theslidesubsection}%
6524 {\Hy@slidetitle}%
6525 {slideheading.\the\Hy@linkcounter}%
6526 {1}%
6527 {toc}%
6528 \fi
6529 }%
6530 \providecommand*{\listslidenam}{List of Slides}%
6531 \def\listofslides{%
6532 \section*{%
6533 \listslidenam
6534 \@mkboth{%
6535 \expandafter\MakeUppercase\listslidenam
6536 }{%
6537 \expandafter\MakeUppercase\listslidenam
6538 }%
6539 }%
6540 \def\l@slide##1##2##3##4{%
6541 \slide@undottedcline{%
6542 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6543 }{%
6544 }%
6545 \let\l@subslide\l@slide
6546 \@startlos
6547 }%
6548 \def\slide@contents{%
6549 \def\l@slide##1##2##3##4{%
6550 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6551 }%
6552 \let\l@subslide\@gobblefour
6553 \@startlos
6554 }%
6555 \def\Slide@contents{%
6556 \def\l@slide##1##2##3##4{%
6557 \ifcase\l@slide@flag

```

```

6558 \message{##1 ** \the\c@slide@section}%
6559 \ifnum##1>\c@slide@section
6560 \def\lslide@flag{1}%
6561 {%
6562 \large
6563 \slide@cline{%
6564 \slidenumberline{$\rightarrow\bullet$}%
6565 {\hyperlink{##4}{##2}}%
6566 }{##3}%
6567 }%
6568 \else
6569 {%
6570 \large
6571 \slide@cline{%
6572 \slidenumberline{$\surd\;\bullet$}%
6573 {\hyperlink{##4}{##2}}%
6574 }{##3}%
6575 }%
6576 \fi
6577 \or
6578 \def\lslide@flag{2}%
6579 {%
6580 \large
6581 \slide@cline{%
6582 \slidenumberline{$\bullet$}%
6583 {\hyperlink{##4}{##2}}%
6584 }{##3}%
6585 }%
6586 \or
6587 {%
6588 \large
6589 \slide@cline{%
6590 \slidenumberline{$\bullet$}%
6591 {\hyperlink{##4}{##2}}%
6592 }{##3}%
6593 }%
6594 \fi
6595 }%
6596 \def\l@subslide##1##2##3##4{%
6597 \ifnum\lslide@flag=1 %
6598 \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6599 \fi
6600 }%
6601 \def\lslide@flag{0}%
6602 \@startlos
6603 }%
6604 }{}

```

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.)

```

6605 \ifHy@texht
6606 \expandafter\endinput
6607 \fi
6608 \let\real@setref\@setref
6609 \def\@setref#1#2#3{% csname, extract group, refname
6610 \ifx#1\relax
6611 \protect\G@refundefinedtrue

```

```

6612 \nfss@text{\reset@font\bfseries ??}%
6613 \@latex@warning{%
6614   Reference ‘#3’ on page \thepage \space undefined%
6615 }%
6616 \else
6617   \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6618 \fi
6619 }

```

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

```

6620 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6621   \begingroup
6622     \toks0={\hyper@@link{#5}{#4}}%
6623     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6624     \edef\x{\endgroup
6625       \the\toks0 {\the\toks1 }}%
6626   }%
6627   \x
6628 }
6629 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6630   \ifx#1\relax
6631     \protect\G@refundefinedtrue
6632     \nfss@text{\reset@font\bfseries ??}%
6633     \@latex@warning{%
6634       Reference ‘#3’ on page \thepage \space undefined%
6635     }%
6636   \else
6637     \protect\hyper@@link
6638     {\expandafter\@fifthoffive#1}%
6639     {page.\expandafter\@secondoffive#1}%
6640     {\expandafter\@secondoffive#1}%
6641   \fi
6642 }
6643 </package>
6644 <*check>
6645 \checklatex
6646 \checkcommand\def\@setref#1#2#3{%
6647   \ifx#1\relax
6648     \protect\G@refundefinedtrue
6649     \nfss@text{\reset@font\bfseries ??}%
6650     \@latex@warning{%
6651       Reference ‘#3’ on page \thepage\space undefined%
6652     }%
6653   \else
6654     \expandafter#2#1\null
6655   \fi
6656 }
6657 </check>
6658 <*package>

```

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

```

6659 \def\HyRef@StarSetRef#1{%
6660   \begingroup
6661     \Hy@safe@activetrue
6662     \edef\x{#1}%
6663     \@onelevel@sanitize\x

```

```

6664 \edef\x{\endgroup
6665 \noexpand\HyRef@StarSetRef
6666 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6667 }%
6668 \x
6669 }
6670 \def\HyRef@StarSetRef#1#2#3{%
6671 \ifx#1\undefined
6672 \let#1\relax
6673 \fi
6674 \real@setref#1#3{#2}%
6675 }
6676 \def\@refstar#1{%
6677 \HyRef@StarSetRef{#1}\@firstoffive
6678 }
6679 \def\@pagerefstar#1{%
6680 \HyRef@StarSetRef{#1}\@secondoffive
6681 }
6682 \AtBeginDocument{%
6683 \ifpackageloaded{varioref}{%
6684 \def\@Refstar#1{%
6685 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6686 }%
6687 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6688 \MakeUppercase#1%
6689 }%
6690 \DeclareRobustCommand*\Ref}{%
6691 \@ifstar\@Refstar\HyRef@Ref
6692 }%
6693 \def\HyRef@Ref#1{%
6694 \hyperref[#{1}]{\Ref*{#1}}%
6695 }%
6696 \def\Vr@f#1{%
6697 \leavevmode\unskip\vref@space
6698 \hyperref[#{1}]{%
6699 \Ref*{#1}%
6700 \let\vref@space\nobreakspace
6701 \@vpageref[\unskip]{#1}%
6702 }%
6703 }%
6704 \def\vr@f#1{%
6705 \leavevmode\unskip\vref@space
6706 \begingroup
6707 \let\T@pageref\@pagerefstar
6708 \hyperref[#{1}]{%
6709 \ref*{#1}%
6710 \vpageref[\unskip]{#1}%
6711 }%
6712 \endgroup
6713 }%
6714 }{}%
6715 }
6716 \DeclareRobustCommand*\autopageref}{%
6717 \@ifstar{%
6718 \HyRef@autopagerefname\pageref*%
6719 }\HyRef@autopageref
6720 }

```

```

6721 \def\HyRef@autopageref#1{%
6722   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6723 }
6724 \def\HyRef@autopagerefname{%
6725   \@ifundefined{pageautorefname}{%
6726     \@ifundefined{pagename}{%
6727       \Hy@Warning{No autoref name for 'page'}%
6728     }{%
6729       \pagename\nobreakspace
6730     }%
6731   }{%
6732     \pageautorefname\nobreakspace
6733   }%
6734 }
6735 \DeclareRobustCommand*\autoref{%
6736   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@{link}}%
6737 }
6738 \def\HyRef@autoref#1#2{%
6739   \begingroup
6740     \Hy@safe@activetrue
6741     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6742   \endgroup
6743 }
6744 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6745   \HyRef@ShowKeysRef{#2}%
6746   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6747     \edef\HyRef@thisref{%
6748       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6749     }%
6750     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6751     \Hy@safe@activesfalse
6752     #3{%
6753       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6754     }{%
6755       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6756     }{%
6757       \HyRef@currentHtag
6758       \expandafter\@firstoffive#1\@empty\@empty\@empty
6759       \null
6760     }%
6761   \else
6762     \protect\G@refundefinedtrue
6763     \nfss@text{\reset@font\bfseries ??}%
6764     \@latex@warning{%
6765       Reference '#2' on page \thepage\space undefined%
6766     }%
6767   \fi
6768 }
6769 \def\HyRef@testreftype#1.#2\{%
6770   \@ifundefined{#1autorefname}{%
6771     \@ifundefined{#1name}{%
6772       \HyRef@StripStar#1\*\@nil{#1}%
6773       \@ifundefined{\HyRef@name autorefname}{%
6774         \@ifundefined{\HyRef@name name}{%
6775           \def\HyRef@currentHtag{%
6776             \Hy@Warning{No autoref name for '#1'}%
6777           }{%

```

```

6778         \edef\HyRef@currentHtag{%
6779             \expandafter\noexpand\csname\HyRef@name name\endcsname
6780             \noexpand~%
6781         }%
6782     }%
6783 }{%
6784     \edef\HyRef@currentHtag{%
6785         \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6786         \noexpand~%
6787     }%
6788 }%
6789 }{%
6790     \edef\HyRef@currentHtag{%
6791         \expandafter\noexpand\csname#1name\endcsname
6792         \noexpand~%
6793     }%
6794 }%
6795 }{%
6796     \edef\HyRef@currentHtag{%
6797         \expandafter\noexpand\csname#1autorefname\endcsname
6798         \noexpand~%
6799     }%
6800 }%
6801 }
6802 \def\HyRef@StripStar#1*\#2\@nil#3{%
6803     \def\HyRef@name{#2}%
6804     \ifx\HyRef@name\HyRef@CaseStar
6805         \def\HyRef@name{#1}%
6806     \else
6807         \def\HyRef@name{#3}%
6808     \fi
6809 }
6810 \def\HyRef@CaseStar{*\\}
6811 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6812 \let\HyRef@ShowKeysRef\@gobble
6813 \def\HyRef@ShowKeysInit{%
6814     \begingroup\expandafter\expandafter\expandafter\endgroup
6815     \expandafter\ifx\csname SK@@label\endcsname\relax
6816     \else
6817         \ifx\SK@ref\@empty
6818         \else
6819             \def\HyRef@ShowKeysRef{%
6820                 \SK@\SK@@ref
6821             }%
6822         \fi
6823     \fi
6824 }
6825 \@ifpackageloaded{showkeys}{%
6826     \HyRef@ShowKeysInit
6827 }{%
6828     \AtBeginDocument{%
6829         \@ifpackageloaded{showkeys}{%
6830             \HyRef@ShowKeysInit
6831         }{}%

```

```

6832 }%
6833 }

```

Defaults for the names that `\autoref` uses.

```

6834 \providecommand*{\AMSautorefname}{\equationautorefname}
6835 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6836 \providecommand*{\Itemautorefname}{\itemautorefname}
6837 \providecommand*{\itemautorefname}{item}
6838 \providecommand*{\equationautorefname}{Equation}
6839 \providecommand*{\footnoteautorefname}{footnote}
6840 \providecommand*{\itemautorefname}{item}
6841 \providecommand*{\figureautorefname}{Figure}
6842 \providecommand*{\tableautorefname}{Table}
6843 \providecommand*{\partautorefname}{Part}
6844 \providecommand*{\appendixautorefname}{Appendix}
6845 \providecommand*{\chapterautorefname}{chapter}
6846 \providecommand*{\sectionautorefname}{section}
6847 \providecommand*{\subsectionautorefname}{subsection}
6848 \providecommand*{\subsubsectionautorefname}{subsubsection}
6849 \providecommand*{\paragraphautorefname}{paragraph}
6850 \providecommand*{\subparagraphautorefname}{subparagraph}
6851 \providecommand*{\FancyVerbLineautorefname}{line}
6852 \providecommand*{\theoremautorefname}{Theorem}
6853 \providecommand*{\pageautorefname}{page}
6854 \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>E<sub>X</sub> offers `\pdfescapestring`.

```

6855 < *pdftex | dvipdfm | vtex | pdfmarkbase | dviwindo >
6856 \RequirePackage{pdfTexcmds}[2007/11/11]
6857 \begingroup\expandafter\expandafter\expandafter\endgroup
6858 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6859   \begingroup
6860     \catcode'\|=0 %
6861     \@makeother\| %
6862     |@firstofone{| \endgroup
6863     |def|Hy@pstringdef#1#2{%
6864       |begingroup
6865         |edef~{|string~}%
6866         |xdef|Hy@gtemp{#2}%
6867       |endgroup
6868       |let#1|Hy@gtemp
6869       |@onelevel@sanitize#1%
6870       |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6871       |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6872       |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6873     }%

```



```

6874 |def|Hy@ExchangeBackslash#1\#2|@nil{%
6875 #1%
6876 |ifx|\#2|\%%
6877 |else
6878 \\\%
6879 |Hy@ReturnAfterFi{%
6880 |Hy@ExchangeBackslash#2|@nil
6881 }%
6882 |fi
6883 }%
6884 }%
6885 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6886 #1%
6887 \ifx\\#2\\%
6888 \else
6889 \@backslashchar(%
6890 \Hy@ReturnAfterFi{%
6891 \Hy@ExchangeLeftParenthesis#2\@nil
6892 }%
6893 \fi
6894 }%
6895 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6896 #1%
6897 \ifx\\#2\\%
6898 \else
6899 \@backslashchar)%
6900 \Hy@ReturnAfterFi{%
6901 \Hy@ExchangeRightParenthesis#2\@nil
6902 }%
6903 \fi
6904 }%
6905 \else
6906 \def\Hy@pstringdef#1#2{%
6907 \begingroup
6908 \edef~{\string~}%
6909 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6910 \endgroup
6911 \let#1\Hy@gtemp
6912 }%
6913 \fi
6914 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

6915 <*pdfTeX>
6916 \providecommand*\XR@ext}{pdf}
6917 \Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's  $\TeX$  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`.

- pdf $\TeX$  1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdf $\TeX$  1.30, 2005-08-08: `\pdfminorversion`

```

6918 \let\Hy@pdfminorversion\relax
6919 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

6920 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6921 \begingroup\expandafter\expandafter\expandafter\endgroup
6922 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6923 \else
6924 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6925 \fi
6926 \else
6927 \def\Hy@pdfminorversion{\pdfminorversion}%
6928 \fi
6929 \ifundefined{Hy@pdfminorversion}{%
6930 \PackageInfo{hyperref}{%
6931 PDF version is not set, because pdfTeX is too old (<1.10a)%
6932 }%
6933 }{%
6934 \ifHy@ocgcolorlinks
6935 \ifnum\Hy@pdfminorversion<5 %
6936 \setkeys{Hyp}{pdfversion=1.5}%
6937 \fi
6938 \fi
6939 \ifHy@setpdfversion
6940 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6941 \else
6942 \Hy@pdfminorversion=\Hy@pdfversion\relax
6943 \fi
6944 \PackageInfo{hyperref}{%
6945 \expandafter\string\Hy@pdfminorversion
6946 :=\number\Hy@pdfversion\space
6947 }%
6948 \fi
6949 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6950 }
6951 \Hy@DisableOption{pdfversion}%

6952 \ifHy@ocgcolorlinks
6953 \immediate\pdfobj{%
6954 <<%
6955 /Type/OCG%
6956 /Name(View)%
6957 /Usage<<%
6958 /Print<<%
6959 /PrintState/OFF%
6960 >>%
6961 /View<<%
6962 /ViewState/ON%
6963 >>%
6964 >>%
6965 >>%
6966 }%
6967 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6968 \immediate\pdfobj{%
6969 <<%
6970 /Type/OCG%
6971 /Name(Print)%
6972 /Usage<<%
6973 /Print<<%
6974 /PrintState/ON%
6975 >>%
6976 /View<<%

```

```

6977         /ViewState/OFF%
6978     >>%
6979     >>%
6980     >>%
6981 }%
6982 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6983 \immediate\pdfobj{%
6984     [%
6985         \OBJ@OCG@view\space\OBJ@OCG@print
6986     ]%
6987 }%
6988 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6989 \pdfcatalog{%
6990     /OCProperties<<%
6991         /OCGs \OBJ@OCGs
6992     /D<<%
6993         /OFF[\OBJ@OCG@print]%
6994         /AS[%
6995             <<%
6996                 /Event/View%
6997                 /OCGs \OBJ@OCGs
6998                 /Category[/View]%
6999             >>%
7000             <<%
7001                 /Event/Print%
7002                 /OCGs \OBJ@OCGs
7003                 /Category[/Print]%
7004             >>%
7005             <<%
7006                 /Event/Export%
7007                 /OCGs \OBJ@OCGs
7008                 /Category[/Print]%
7009             >>%
7010         ]%
7011     >>%
7012 >>%
7013 }%
7014 \begingroup
7015     \edef\x{\endgroup
7016         \pdfpageresources{%
7017             /Properties<<%
7018                 /OCView \OBJ@OCG@view
7019                 /OCPrint \OBJ@OCG@print
7020             >>%
7021         }%
7022     }%
7023 \x
7024 \AtBeginDocument{%
7025     \def\Hy@colorlink#1{%
7026         \begingroup
7027             \ifHy@ocgcolorlinks
7028                 \def\Hy@ocgcolor{#1}%
7029                 \setbox0=\color@hbox
7030             \else
7031                 \HyColor@UseColor#1%
7032             \fi
7033         }%

```

```

7034 \def\Hy@endcolorlink{%
7035 \ifHy@ocgcolorlinks
7036 \color@endbox
7037 \mbox{%
7038 \pdfliteral page{/OC/OCPrint BDC}%
7039 \rlap{\copy0}%
7040 \pdfliteral page{EMC/OC/OCView BDC}%
7041 \begingroup
7042 \expandafter\HyColor@UseColor\Hy@ocgcolor
7043 \box0 %
7044 \endgroup
7045 \pdfliteral page{EMC}%
7046 }%
7047 \fi
7048 \endgroup
7049 }%
7050 }%
7051 \else
7052 \Hy@DisableOption{ocgcolorlinks}%
7053 \fi

```

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

```

7054 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7055 \ifx\pdfstartlink\@undefined% less than version 14
7056 \let\pdfstartlink\pdfannotlink
7057 \let\pdflinkmargin\@tempdima
7058 \let\pdfxform\pdfform
7059 \let\pdflastxform\pdfastform
7060 \let\pdfrefxform\pdfrefform
7061 \else
7062 \pdflinkmargin1pt %
7063 \fi

```

First set up the default linking

```

7064 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7065 \def\new@pdflink#1{%
7066 \ifHy@verbose
7067 \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7068 \fi
7069 \Hy@SaveLastskip
7070 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7071 \Hy@DestName\Hy@pstringDest\@pdfview
7072 \Hy@RestoreLastskip
7073 }
7074 \let\pdf@endanchor\@empty

```

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

```

7075 \def\Hy@DestName#1#2{%
7076 \pdfdest name{#1}#2\relax
7077 }

```

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.

```

7078 \providecommand*\@pdfborder{0 0 1}
7079 \providecommand*\@pdfborderstyle{}
7080 \def\Hy@undefinedname{UNDEFINED}
7081 \def\find@pdflink#1#2{%
7082   \leavevmode
7083   \protected@edef\Hy@testname{#2}%
7084   \ifx\Hy@testname\@empty
7085     \Hy@Warning{%
7086       Empty destination name,\MessageBreak
7087       using '\Hy@undefinedname'%
7088     }%
7089     \let\Hy@testname\Hy@undefinedname
7090   \else
7091     \Hy@pstringdef\Hy@testname{%
7092       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7093     }%
7094   \fi
7095   \Hy@StartlinkName{%
7096     \ifHy@pdfa /F 4\fi
7097     \Hy@setpdfborder
7098     \ifx\@pdfhighlight\@empty
7099     \else
7100       /H\@pdfhighlight
7101     \fi
7102     \ifx\CurrentBorderColor\relax
7103     \else
7104       /C[\CurrentBorderColor]%
7105     \fi
7106   }\Hy@testname
7107   \expandafter\Hy@colorlink\csname @#1color\endcsname
7108 }
7109 \def\Hy@StartlinkName#1#2{%
7110   \pdfstartlink attr{#1}goto name{#2}\relax
7111 }
7112 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7113 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7114 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7115 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7116 \def\hyper@linkstart#1#2{%
7117   \@ifundefined{@#1bordercolor}{%
7118     \let\CurrentBorderColor\relax
7119   }{%
7120     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7121   }%
7122   \find@pdflink{#1}{#2}%
7123 }
7124 \def\hyper@linkend{\close@pdflink}
7125 \def\hyper@link#1#2#3{%
7126   \@ifundefined{@#1bordercolor}{%
7127     \let\CurrentBorderColor\relax
7128   }{%
7129     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7130   }%
7131   \find@pdflink{#1}{#2}#3%
7132   \close@pdflink
7133 }
7134 \let\CurrentBorderColor\@linkbordercolor

```

```

7135 \def\hyper@linkurl#1#2{%
7136   \begingroup
7137     \Hy@pstringdef\Hy@pstringURI{#2}%
7138     \hyper@chars
7139     \leavevmode
7140     \pdfstartlink
7141     attr{%
7142       \Hy@setpdfborder
7143       \ifx\@pdfhighlight\@empty
7144       \else
7145         /H\@pdfhighlight
7146       \fi
7147       \ifx\@urlbordercolor\relax
7148       \else
7149         /C[\@urlbordercolor]%
7150       \fi
7151     }%
7152     user{%
7153       /Subtype/Link%
7154       \ifHy@pdfa /F 4\fi
7155       /A<<%
7156         /Type/Action%
7157         /S/URI%
7158         /URI(\Hy@pstringURI)%
7159       >>%
7160     }%
7161     \relax
7162     \Hy@colorlink\@urlcolor#1%
7163     \close@pdflink
7164   \endgroup
7165 }
7166 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7167   \begingroup
7168     \Hy@pstringdef\Hy@pstringF{#2}%
7169     \Hy@pstringdef\Hy@pstringD{#3}%
7170     \leavevmode
7171     \pdfstartlink
7172     attr{%
7173       \Hy@setpdfborder
7174       \ifx\@pdfhighlight\@empty
7175       \else
7176         /H\@pdfhighlight
7177       \fi
7178       \ifx\@filebordercolor\relax
7179       \else
7180         /C[\@filebordercolor]%
7181       \fi
7182     }%
7183     user {%
7184       /Subtype/Link%
7185       \ifHy@pdfa /F 4\fi
7186       /A<<%
7187         /F(\Hy@pstringF)%
7188         /S/GoToR%
7189         \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}

7190      \ifx\|#3\%
7191      /D[0 \@pdfstartview]%
7192      \else
7193      /D(\Hy@pstringD)%
7194      \fi
7195      >>%
7196      }%
7197      \relax
7198      \Hy@colorlink\@filecolor#1%
7199      \close@pdflink
7200 \endgroup
7201 }
7202 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
7203 \begingroup
7204   \Hy@pstringdef\Hy@pstringF{#1}%
7205   \Hy@pstringdef\Hy@pstringP{#3}%
7206   \leavevmode
7207   \pdfstartlink
7208   attr{%
7209     \Hy@setpdfborder
7210     \ifx\@pdfhighlight\@empty
7211     \else
7212       /H\@pdfhighlight
7213     \fi
7214     \ifx\@runbordercolor\relax
7215     \else
7216       /C[\@runbordercolor]%
7217     \fi
7218   }%
7219   user {%
7220     /Subtype/Link%
7221     \ifHy@pdfa /F 4\fi
7222     /A<<%
7223       /F(\Hy@pstringF)%
7224       /S/Launch%
7225       \Hy@SetNewWindow
7226       \ifx\|#3\%
7227       \else
7228         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7229       \fi
7230     >>%
7231   }%
7232   \relax
7233   \Hy@colorlink\@runcolor#2%
7234   \close@pdflink
7235 \endgroup
7236 }

```

\@pdfproducer

```

7237 \ifx\@pdfproducer\relax
7238   \begingroup\expandafter\expandafter\expandafter\endgroup
7239   \expandafter\ifx\csname luatexversion\endcsname\relax
7240     \def\@pdfproducer{pdfTeX}%
7241     \ifx\eTeXversion\@undefined
7242     \else
7243       \ifx\eTeXversion\relax
7244       \else
7245         \ifnum\eTeXversion>0 %
7246           \def\@pdfproducer{pdfeTeX}%
7247         \fi
7248       \fi
7249     \fi
7250   \ifx\pdftexversion\@undefined
7251   \else
7252     \ifnum\pdftexversion<100 %
7253       \edef\@pdfproducer{%
7254         \@pdfproducer
7255         \the\pdftexversion.\pdftexrevision
7256       }%
7257     \else
7258       \ifnum\pdftexversion<130 %
7259         \edef\@pdfproducer{%
7260           \@pdfproducer-%
7261           \expandafter\@car\the\pdftexversion\@empty\@nil.%
7262           \expandafter\@cdr\the\pdftexversion\@empty\@nil
7263           \pdftexrevision
7264         }%
7265       \else
7266       \ifnum\pdftexversion<140 %
7267       \else
7268         \def\@pdfproducer{pdfTeX}%
7269       \fi
7270       \edef\@pdfproducer{%
7271         \@pdfproducer-%
7272         \expandafter\@car\the\pdftexversion\@empty\@nil.%
7273         \expandafter\@cdr\the\pdftexversion\@empty\@nil.%
7274         \pdftexrevision
7275       }%
7276     \fi
7277   \fi
7278 \fi
7279 \else
7280   \begingroup
7281     \count@=\luatexversion
7282     \divide\count@ by 100 %
7283     \edef\x{\the\count@}%
7284     \count@=-\x\relax
7285     \multiply\count@ by 100 %
7286     \advance\count@ by \luatexversion
7287     \edef\x{\endgroup
7288       \def\noexpand\@pdfproducer{%
7289         LuaTeX-\x.\the\count@.\luatexrevision
7290       }%
7291     }%
7292   \x
7293 \fi

```



7294 \fi

\PDF@SetupDox

```
7295 \def\PDF@SetupDoc{%
7296   \ifx\@pdfpagescrop\@empty
7297   \else
7298     \edef\process@me{%
7299       \pdfpagesattr={%
7300         /CropBox[\@pdfpagescrop]%
7301         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7302         \else
7303         ^^J\the\pdfpagesattr
7304         \fi
7305       }%
7306     }%
7307     \process@me
7308   \fi
7309   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7310   \pdfcatalog{%
7311     /PageMode/\@pdfpagemode
7312     \ifx\@baseurl\@empty
7313     \else
7314     /URI<</Base(\Hy@pstringB)>>%
7315     \fi
7316   }%
7317   \ifx\@pdfstartpage\@empty
7318   \else
7319     \ifx\@pdfstartview\@empty
7320     \else
7321       openaction goto page\@pdfstartpage{\@pdfstartview}%
7322     \fi
7323   \fi
7324   \edef\Hy@temp{%
7325     \ifHy@toolbar\else /HideToolbar true\fi
7326     \ifHy@menubar\else /HideMenubar true\fi
7327     \ifHy>windowui\else /HideWindowUI true\fi
7328     \ifHy@fitwindow /FitWindow true\fi
7329     \ifHy@centerwindow /CenterWindow true\fi
7330     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7331     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7332     \Hy@UseNameKey{Direction}\@pdfdirection
7333     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7334     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7335     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7336     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7337     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7338     \Hy@UseNameKey{Duplex}\@pdfduplex
7339     \ifx\@pdfpicktraybypdfsize\@empty
7340     \else
7341       /PickTrayByPDFSize \@pdfpicktraybypdfsize
7342     \fi
7343     \ifx\@pdfprintpagerange\@empty
7344     \else
7345       /PrintPageRange[\@pdfprintpagerange]%
7346     \fi
7347     \ifx\@pdfnumcopies\@empty
7348     \else
```

```

7349     /NumCopies \@pdfnumcopies
7350   \fi
7351 }%
7352 \pdfcatalog{%
7353   \ifx\Hy@temp\@empty
7354   \else
7355     /ViewerPreferences<<\Hy@temp>>%
7356   \fi
7357   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7358   \ifx\@pdflang\@empty
7359   \else
7360     /Lang(\@pdflang)%
7361   \fi
7362 }%
7363 }

```

\PDF@FinishDoc

```

7364 \def\PDF@FinishDoc{%
7365   \Hy@UseMaketitleInfos
7366   \pdfinfo{%
7367     /Author(\@pdfauthor)%
7368     /Title(\@pdftitle)%
7369     /Subject(\@pdfsubject)%
7370     /Creator(\@pdfcreator)%
7371     \ifx\@pdfcreationdate\@empty
7372     \else
7373       /CreationDate(\@pdfcreationdate)%
7374     \fi
7375     \ifx\@pdfmoddate\@empty
7376     \else
7377       /ModDate(\@pdfmoddate)%
7378     \fi
7379     \ifx\@pdfproducer\relax
7380     \else
7381       /Producer(\@pdfproducer)%
7382     \fi
7383     /Keywords(\@pdfkeywords)%
7384   }%
7385   \Hy@DisableOption{pdfauthor}%
7386   \Hy@DisableOption{pdftitle}%
7387   \Hy@DisableOption{pdfsubject}%
7388   \Hy@DisableOption{pdfcreator}%
7389   \Hy@DisableOption{pdfcreationdate}%
7390   \Hy@DisableOption{pdfmoddate}%
7391   \Hy@DisableOption{pdfproducer}%
7392   \Hy@DisableOption{pdfkeywords}%
7393 }

```

\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.

```

7394 \def\hyper@pagetransition{%
7395   \ifx\@pdfpagetransition\relax
7396   \else
7397     \expandafter\Hy@RemoveTransPageAttr
7398     \the\pdfpageattr~J/Trans{>>>\END
7399     \ifx\@pdfpagetransition\@empty

```

```

7400     \else
7401         \edef\@processme{%
7402             \global\pdfpageattr{%
7403                 \the\pdfpageattr
7404                 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7405             }%
7406         }%
7407         \@processme
7408     \fi
7409 \fi
7410 }

```

**\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.

```

7411 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7412     \ifx\#2\%
7413         \global\pdfpageattr{#1}%
7414     \else
7415         \Hy@RemoveTransPageAttr#1#4\END
7416     \fi
7417 }

```

**\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`.

```

7418 \def\hyper@pageduration{%
7419     \ifx\@pdfpageduration\relax
7420     \else
7421         \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
7422         \ifx\@pdfpageduration\@empty
7423         \else
7424             \edef\@processme{%
7425                 \global\pdfpageattr{%
7426                     \the\pdfpageattr
7427                     ^^J/Dur \@pdfpageduration\space
7428                 }%
7429             }%
7430             \@processme
7431         \fi
7432     \fi
7433 }

```

**\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.

```

7434 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7435     \ifx\#2\%
7436         \global\pdfpageattr{#1}%
7437     \else
7438         \Hy@RemoveDurPageAttr#1#4\END
7439     \fi
7440 }

```

`\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).

```

7441 \def\hyper@pagehidden{%
7442   \ifHy@useHidKey
7443     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7444     \ifHy@pdfpagehidden
7445       \edef\@processme{%
7446         \global\pdfpageattr{%
7447           \the\pdfpageattr
7448             ^^J/Hid true % SPACE
7449         }%
7450       }%
7451       \@processme
7452     \fi
7453   \fi
7454 }
```

`\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.

```

7455 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7456   \ifx\#2\%
7457     \global\pdfpageattr{#1}%
7458   \else
7459     \Hy@RemoveHidPageAttr#1#4\END
7460   \fi
7461 }

7462 \g@addto@macro\Hy@EveryPageHook{%
7463   \hyper@pagetransition
7464   \hyper@pageduration
7465   \hyper@pagehidden
7466 }

7467 \AtBeginDocument{%
7468   \ifHy@setpagesize
7469     \expandafter\@firstofone
7470   \else
7471     \expandafter\@gobble
7472   \fi
7473   {%
7474     \@ifclassloaded{seminar}{%
7475       \setlength{\pdfhorigin}{1truein}%
7476       \setlength{\pdfvorigin}{1truein}%
7477     \ifportrait
7478       \ifdim\paperwidth=\z@
7479       \else
7480         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7481       \fi
7482       \ifdim\paperheight=\z@
7483       \else
7484         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7485       \fi
7486     \else
7487       \ifdim\paperheight=\z@
7488       \else
```

```

7489         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7490     \fi
7491     \ifdim\paperwidth=\z@
7492     \else
7493         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7494     \fi
7495 \fi
7496 }{%
7497     \@ifundefined{stockwidth}{%
7498         \ifdim\paperwidth=\z@
7499         \else
7500             \setlength{\pdfpagewidth}{\paperwidth}%
7501         \fi
7502         \ifdim\paperheight=\z@
7503         \else
7504             \setlength{\pdfpageheight}{\paperheight}%
7505         \fi
7506     }{%
7507         \ifdim\stockwidth=\z@
7508         \else
7509             \setlength{\pdfpagewidth}{\stockwidth}%
7510         \fi
7511         \ifdim\stockheight=\z@
7512         \else
7513             \setlength{\pdfpageheight}{\stockheight}%
7514         \fi
7515     }%
7516 }%
7517 }%
7518 \Hy@DisableOption{setpagesize}%
7519 }
7520 \def\Acrobatmenu#1#2{%
7521     \Hy@Acrobatmenu{#1}{#2}{%
7522         \pdfstartlink
7523         attr{%
7524             \Hy@setpdfborder
7525             \ifx\@pdfhighlight\@empty
7526             \else
7527                 /H\@pdfhighlight
7528             \fi
7529             \ifx\@menubordercolor\relax
7530             \else
7531                 /C[\@menubordercolor]%
7532             \fi
7533         }%
7534         user{%
7535             /Subtype/Link%
7536             \ifHy@pdfa /F 4\fi
7537             /A<<%
7538                 /S/Named/N/#1%
7539             >>%
7540         }%
7541         \relax
7542         \Hy@colorlink\@menucolor#2%
7543         \close@pdflink
7544     }%
7545 }

```

### 46.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf<sub>T</sub><sub>E</sub>X's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdf<sub>T</sub><sub>E</sub>X— 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`.

```
7546 \def\Hy@FixNotFirstPage{%
7547   \gdef\Hy@FixNotFirstPage{%
7548     \setbox\AtBeginShipoutBox=\hbox{%
7549       \copy\AtBeginShipoutBox
7550     }%
7551   }%
7552 }
7553 \AtBeginShipout{\Hy@FixNotFirstPage}
7554 </pdfTeX>
```

## 46.3 hypertex

The Hyper<sub>T</sub><sub>E</sub>X 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 <sub>T</sub><sub>E</sub>X file — the <sub>T</sub><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.

```
7555 <*hypertex>
7556 \providecommand*{\XR@ext}{dvi}
7557 \def\PDF@FinishDoc{}
```

```

7558 \def\PDF@SetupDoc{%
7559   \ifx\@baseurl\@empty
7560   \else
7561     \special{html:<base href="\@baseurl">}%
7562   \fi
7563 }
7564 \def\hyper@anchor#1{%
7565   \Hy@SaveLastskip
7566   \begingroup
7567     \let\protect=\string
7568     \hyper@chars
7569     \special{html:<a name=%
7570       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7571   \endgroup
7572   \Hy@activeanchortrue
7573   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7574   \special{html:</a>}%
7575   \Hy@activeanchorfalse
7576   \Hy@RestoreLastskip
7577 }
7578 \def\hyper@anchorstart#1{%
7579   \Hy@SaveLastskip
7580   \begingroup
7581     \hyper@chars
7582     \special{html:<a name=%
7583       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7584   \endgroup
7585   \Hy@activeanchortrue
7586 }
7587 \def\hyper@anchorend{%
7588   \special{html:</a>}%
7589   \Hy@activeanchorfalse
7590   \Hy@RestoreLastskip
7591 }
7592 \def\@urltype{url}
7593 \def\hyper@linkstart#1#2{%
7594   \expandafter\Hy@colorlink\csname @#1color\endcsname
7595   \def\Hy@tempa{#1}%
7596   \ifx\Hy@tempa\@urltype
7597     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7598   \else
7599     \begingroup
7600       \hyper@chars
7601       \special{html:<a href=%
7602         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
7603     \endgroup
7604   \fi
7605 }
7606 \def\hyper@linkend{%
7607   \special{html:</a>}%
7608   \Hy@endcolorlink
7609 }
7610 \def\hyper@linkfile#1#2#3{%
7611   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7612 }
7613 \def\hyper@linkurl#1#2{%

```

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

```

7614 \leavevmode
7615 \ifHy@raiselinks
7616   \setbox\@tempboxa=\color@hbox #1\color@endbox
7617   \@linkdim\dp\@tempboxa
7618   \lower\@linkdim\hbox{%
7619     \hyper@chars
7620     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7621   }%
7622   \Hy@colorlink\@urlcolor#1%
7623   \@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).

```

7624   \advance\@linkdim by -6.5\p@
7625   \raise\@linkdim\hbox{\special{html:</a>}}%
7626   \Hy@endcolorlink
7627 \else
7628   \begingroup
7629   \hyper@chars
7630   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7631   \Hy@colorlink\@urlcolor#1%
7632   \special{html:</a>}}%
7633   \Hy@endcolorlink
7634   \endgroup
7635 \fi
7636 }

```

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

```

7637 \def\hyper@link#1#2#3{%
7638   \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
7639 }

7640 \def\hyper@image#1#2{%
7641   \begingroup
7642   \hyper@chars
7643   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7644   \endgroup
7645 }
7646 </hypertex>
7647 <*dviwindo>

```

## 46.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`,  $\LaTeX$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.



```

7648 \providecommand*{\XR@ext}{dvi}
7649 \providecommand*{\wwwbrowser}{c:\string\netscape\string\netscape}
7650 \def\hyper@anchor#1{%
7651   \Hy@SaveLastskip
7652   \begingroup
7653     \let\protect=\string
7654     \special{mark: #1}%
7655   \endgroup
7656   \Hy@activeanchortrue
7657   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7658   \Hy@activeanchorfalse
7659   \Hy@RestoreLastskip
7660 }
7661 \def\hyper@anchorstart#1{%
7662   \Hy@SaveLastskip
7663   \special{mark: #1}%
7664   \Hy@activeanchortrue
7665 }
7666 \def\hyper@anchorend{%
7667   \Hy@activeanchorfalse
7668   \Hy@RestoreLastskip
7669 }
7670 \def\hyper@linkstart#1#2{%
7671   \expandafter\Hy@colorlink\csname @#1color\endcsname
7672   \special{button: %
7673     10000000 %
7674     \number\baselineskip\space
7675     #2%
7676   }%
7677 }
7678 \def\hyper@linkend{%
7679   \Hy@endcolorlink
7680 }
7681 \def\hyper@link#1#2#3{%
7682   \setbox\@tempboxa=\color@hbox #3\color@endbox
7683   \leavevmode
7684   \ifHy@raiselinks
7685     \@linkdim\dp\@tempboxa
7686     \lower\@linkdim\hbox{%
7687       \special{button: %
7688         \number\wd\@tempboxa\space
7689         \number\ht\@tempboxa\space
7690         #2%
7691       }%
7692       \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7693       \Hy@endcolorlink
7694     }%
7695     \@linkdim\ht\@tempboxa
7696     \advance\@linkdim by -6.5\p@
7697     \raise\@linkdim\hbox{}%
7698   \else
7699     \special{button: %
7700       \number\wd\@tempboxa\space
7701       \number\ht\@tempboxa\space
7702       #2%
7703     }%
7704     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%

```

```

7705 \Hy@endcolorlink
7706 \fi
7707 }
7708 \def\hyper@linkurl#1#2{%
7709 \begingroup
7710 \hyper@chars
7711 \leavevmode
7712 \setbox\@tempboxa=\color@hbox #1\color@endbox
7713 \ifHy@raiselinks
7714 \@linkdim\dp\@tempboxa
7715 \lower\@linkdim\hbox{%
7716 \special{button: %
7717 \number\wd\@tempboxa\space
7718 \number\ht\@tempboxa\space
7719 launch: \wwwbrowser\space
7720 #2%
7721 }%
7722 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7723 }%
7724 \@linkdim\ht\@tempboxa
7725 \advance\@linkdim by -6.5\p@
7726 \raise\@linkdim\hbox{}}%
7727 \else
7728 \special{button: %
7729 \number\wd\@tempboxa\space
7730 \number\ht\@tempboxa\space
7731 launch: \wwwbrowser\space
7732 #2%
7733 }%
7734 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7735 \fi
7736 \endgroup
7737 }
7738 \def\hyper@linkfile#1#2#3{%
7739 \begingroup
7740 \hyper@chars
7741 \leavevmode
7742 \setbox\@tempboxa=\color@hbox #1\color@endbox
7743 \ifHy@raiselinks
7744 \@linkdim\dp\@tempboxa
7745 \lower\@linkdim\hbox{%
7746 \special{button: %
7747 \number\wd\@tempboxa\space
7748 \number\ht\@tempboxa\space
7749 #3,%
7750 file: #2%
7751 }%
7752 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7753 }%
7754 \@linkdim\ht\@tempboxa
7755 \advance\@linkdim by -6.5\p@
7756 \raise\@linkdim\hbox{}}%
7757 \else
7758 \special{button: %
7759 \number\wd\@tempboxa\space
7760 \number\ht\@tempboxa\space
7761 #3,%

```

```

7762         file: #2%
7763     }%
7764     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7765     \fi
7766 \endgroup
7767 }
7768 \ifx\@pdfproducer\relax
7769 \def\@pdfproducer{dviwindo + Distiller}%
7770 \fi
7771 \def\PDF@FinishDoc{%
7772     \Hy@UseMaketitleInfos
7773     \special{PDF: Keywords \@pdfkeywords}%
7774     \special{PDF: Title \@pdftitle}%
7775     \special{PDF: Creator \@pdfcreator}%
7776     \ifx\@pdfcreationdate\@empty
7777     \else
7778         \special{PDF: CreationDate \@pdfcreationdate}%
7779     \fi
7780     \ifx\@pdfmoddate\@empty
7781     \else
7782         \special{PDF: ModDate \@pdfmoddate}%
7783     \fi
7784     \special{PDF: Author \@pdfauthor}%
7785     \ifx\@pdfproducer\relax
7786     \else
7787         \special{PDF: Producer \@pdfproducer}%
7788     \fi
7789     \special{PDF: Subject \@pdfsubject}%
7790     \Hy@DisableOption{pdfauthor}%
7791     \Hy@DisableOption{pdftitle}%
7792     \Hy@DisableOption{pdfsubject}%
7793     \Hy@DisableOption{pdfcreator}%
7794     \Hy@DisableOption{pdfcreationdate}%
7795     \Hy@DisableOption{pdfmoddate}%
7796     \Hy@DisableOption{pdfproducer}%
7797     \Hy@DisableOption{pdfkeywords}%
7798 }
7799 \def\PDF@SetupDoc{%
7800     \ifx\@baseurl\@empty
7801     \else
7802         \special{PDF: Base \@baseurl}%
7803     \fi
7804     \ifx\@pdfpagescrop\@empty\else
7805         \special{PDF: BBox \@pdfpagescrop}%
7806     \fi
7807     \def\Hy@temp{%
7808     \ifx\@pdfstartpage\@empty
7809     \else
7810         \ifx\@pdfstartview\@empty
7811         \else
7812             \edef\Hy@temp{%
7813                 ,Page=\@pdfstartpage
7814                 ,View=\@pdfstartview
7815             }%
7816         \fi
7817     \fi
7818     \edef\Hy@temp{%

```

```

7819     \noexpand\pdfmark{%
7820         pdfmark=/DOCVIEW,%
7821         PageMode=/\@pdfpagemode
7822         \Hy@temp
7823     }%
7824 }%
7825 \Hy@temp
7826 \ifx\@pdfpagescrop\@empty
7827 \else
7828     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7829 \fi
7830 \edef\Hy@temp{%
7831     \ifHy@toolbar\else /HideToolbar true\fi
7832     \ifHy@menubar\else /HideMenubar true\fi
7833     \ifHy>windowui\else /HideWindowUI true\fi
7834     \ifHy@fitwindow /FitWindow true\fi
7835     \ifHy@centerwindow /CenterWindow true\fi
7836     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7837     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7838     \Hy@UseNameKey{Direction}\@pdfdirection
7839     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7840     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7841     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7842     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7843     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7844     \Hy@UseNameKey{Duplex}\@pdfduplex
7845     \ifx\@pdfpicktraybypdfsize\@empty
7846     \else
7847         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7848     \fi
7849     \ifx\@pdfprintpagerange\@empty
7850     \else
7851         /PrintPageRange[\@pdfprintpagerange]%
7852     \fi
7853     \ifx\@pdfnumcopies\@empty
7854     \else
7855         /NumCopies \@pdfnumcopies
7856     \fi
7857 }%
7858 \pdfmark{pdfmark=/PUT,%
7859     Raw={%
7860         \string{Catalog\string}<<%
7861         \ifx\Hy@temp\@empty
7862         \else
7863             /ViewerPreferences<<\Hy@temp>>%
7864         \fi
7865         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7866         \ifx\@pdflang\@empty
7867         \else
7868             /Lang(\@pdflang)%
7869         \fi
7870         >>%
7871     }%
7872 }%
7873 }
7874 </dviwindo>
7875 <*dvipdfm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
7876 \providecommand*{\XR@ext}{pdf}
7877 \Hy@setbreaklinks{true}
7878 \newsavebox{\pdfm@box}
7879 \def\@pdfm@mark#1{\special{pdf:#1}}
7880 \def\@pdfm@dest#1{%
7881   \Hy@SaveLastskip
7882   \begin{group}
7883     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7884     \def\x{XYZ}%
7885     \ifx\x\@pdfview
7886       \def\x{XYZ @xpos @ypos null}%
7887     \else
7888       \def\x{FitH}%
7889       \ifx\x\@pdfview
7890         \def\x{FitH @ypos}%
7891       \else
7892         \def\x{FitBH}%
7893         \ifx\x\@pdfview
7894           \def\x{FitBH @ypos}%
7895         \else
7896           \def\x{FitV}%
7897           \ifx\x\@pdfview
7898             \def\x{FitV @xpos}%
7899           \else
7900             \def\x{FitBV}%
7901             \ifx\x\@pdfview
7902               \def\x{FitBV @xpos}%
7903             \else
7904               \def\x{Fit}%
7905               \ifx\x\@pdfview
7906                 \let\x\@pdfview
7907               \else
7908                 \def\x{FitB}%
7909                 \ifx\x\@pdfview
7910                   \let\x\@pdfview
7911                 \else
7912                   \def\x{FitR}%
7913                   \ifx\x\@pdfview
7914                     \Hy@Warning{'pdfview=FitR' is not supported}%
7915                     \def\x{XYZ @xpos @ypos null}%
7916                   \else
7917                     \@onelevel@sanitize\@pdfview
7918                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7919                     \def\x{XYZ @xpos @ypos null}%
7920                   \fi
7921                 \fi
7922               \fi
7923             \fi
7924           \fi
7925         \fi
7926       \fi
7927     \fi
7928     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7929   \end{group}
```

```

7930 \Hy@RestoreLastskip
7931 }
7932 \providecommand*\@pdfview{XYZ}
7933 \providecommand*\@pdfborder{0 0 1}
7934 \providecommand*\@pdfborderstyle{}
7935 \def\hyper@anchor#1{%
7936   \@pdfm@dest{#1}%
7937 }
7938 \def\hyper@anchorstart#1{%
7939   \Hy@activeanchortrue
7940   \@pdfm@dest{#1}%
7941 }
7942 \def\hyper@anchorend{%
7943   \Hy@activeanchorfalse
7944 }
7945 \newcounter{Hy@AnnotLevel}
7946 \ifHy@ocgcolorlinks
7947   \def\OBJ@OCG@view{@OCG@view}%
7948   \@pdfm@mark{%
7949     obj \OBJ@OCG@view <<%
7950       /Type/OCG%
7951       /Name(View)%
7952       /Usage<<%
7953       /Print<<%
7954       /PrintState/OFF%
7955       >>%
7956       /View<<%
7957       /ViewState/ON%
7958       >>%
7959       >>%
7960     >>%
7961   }%
7962   \@pdfm@mark{close \OBJ@OCG@view}%
7963   \def\OBJ@OCG@print{@OCG@print}%
7964   \@pdfm@mark{%
7965     obj \OBJ@OCG@print <<%
7966       /Type/OCG%
7967       /Name(Print)%
7968       /Usage<<%
7969       /Print<<%
7970       /PrintState/ON%
7971       >>%
7972       /View<<%
7973       /ViewState/OFF%
7974       >>%
7975       >>%
7976     >>%
7977   }%
7978   \@pdfm@mark{close \OBJ@OCG@print}%
7979   \def\OBJ@OCGs{@OCGs}%
7980   \@pdfm@mark{%
7981     obj \OBJ@OCGs [%
7982       \OBJ@OCG@view\space\OBJ@OCG@print
7983     ]%
7984   }%
7985   \@pdfm@mark{close \OBJ@OCGs}%
7986   \@pdfm@mark{%

```

```

7987     put @catalog <<%
7988         /OCProperties<<%
7989         /OCGs \OBJ@OCGs
7990         /D<<%
7991         /OFF[\OBJ@OCG@print]%
7992         /AS[%
7993             <<%
7994                 /Event/View%
7995                 /OCGs \OBJ@OCGs
7996                 /Category[/View]%
7997             >>%
7998             <<%
7999                 /Event/Print%
8000                 /OCGs \OBJ@OCGs
8001                 /Category[/Print]%
8002             >>%
8003             <<%
8004                 /Event/Export%
8005                 /OCGs \OBJ@OCGs
8006                 /Category[/Print]%
8007             >>%
8008         ]%
8009     >>%
8010 >>%
8011 >>%
8012 }%
8013 \AtBeginShipout{%
8014     \setbox\AtBeginShipoutBox=\hbox{%
8015         \copy\AtBeginShipoutBox
8016         \@pdfm@mark{%
8017             put @resources <<%
8018                 /Properties<<%
8019                 /OCView \OBJ@OCG@view
8020                 /OCPrint \OBJ@OCG@print
8021             >>%
8022             >>%
8023         }%
8024     }%
8025 }%
8026 \AtBeginDocument{%
8027     \def\Hy@colorlink#1{%
8028         \begingroup
8029         \ifHy@ocgcolorlinks
8030             \def\Hy@ocgcolor{#1}%
8031             \setbox0=\color@hbox
8032         \else
8033             \HyColor@UseColor#1%
8034         \fi
8035     }%
8036     \def\Hy@endcolorlink{%
8037         \ifHy@ocgcolorlinks
8038             \color@endbox
8039             \mbox{%
8040                 \@pdfm@mark{content /OC/OCPrint BDC}%
8041                 \rlap{\copy0}%
8042                 \@pdfm@mark{content EMC/OC/OCView BDC}%
8043                 \begingroup

```

```

8044         \expandafter\HyColor@UseColor\Hy@ocgcolor
8045         \box0 %
8046     \endgroup
8047     \@pdfmark{content EMC}%
8048 }%
8049 \fi
8050 \endgroup
8051 }%
8052 }%
8053 \else
8054 \Hy@DisableOption{ocgcolorlinks}%
8055 \fi

8056 \def\Hy@BeginAnnot#1{%
8057 \stepcounter{Hy@AnnotLevel}%
8058 \ifnum\value{Hy@AnnotLevel}=\@ne
8059 #1%
8060 \fi
8061 }
8062 \def\Hy@endAnnot{%
8063 \ifnum\value{Hy@AnnotLevel}=\@ne
8064 \Hy@endcolorlink
8065 \@pdfmark{eann}%
8066 \fi
8067 \addtocounter{Hy@AnnotLevel}\m@ne
8068 }

8069 \def\Hy@undefinedname{UNDEFINED}
8070 \def\hyper@linkstart#1#2{%
8071 \Hy@BeginAnnot{%
8072 \protected@edef\Hy@testname{#2}%
8073 \ifx\Hy@testname\@empty
8074 \Hy@Warning{%
8075 Empty destination name,\MessageBreak
8076 using '\Hy@undefinedname'%
8077 }%
8078 \let\Hy@testname\Hy@undefinedname
8079 \else
8080 \Hy@pstringdef\Hy@testname{%
8081 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8082 }%
8083 \fi
8084 \@pdfmark{%
8085 bann<<%
8086 /Type/Annot%
8087 /Subtype/Link%
8088 \ifHy@pdfa /F 4\fi
8089 \Hy@setpdfborder
8090 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8091 \else
8092 /C[\csname @#1bordercolor\endcsname]%
8093 \fi
8094 /A<<%
8095 /S/GoTo%
8096 /D(\Hy@testname)%
8097 >>%
8098 >>%
8099 }%
8100 \expandafter\Hy@colorlink\csname @#1color\endcsname

```



```

8101 }%
8102 }
8103 \def\hyper@linkend{\Hy@EndAnnot}%
8104 \def\hyper@link#1#2#3{%
8105   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8106 }
8107 \def\hyper@linkfile#1#2#3{%
8108   \leavevmode
8109   \Hy@BeginAnnot{%
8110     \Hy@pstringdef\Hy@pstringF{#2}%
8111     \Hy@pstringdef\Hy@pstringD{#3}%
8112     \@pdfm@mark{%
8113       bann<<%
8114         /Type/Annot%
8115         /Subtype/Link%
8116         \ifHy@pdfa /F 4\fi
8117         \Hy@setpdfborder
8118         \ifx\@filebordercolor\relax
8119           \else
8120             /C[\@filebordercolor]%
8121           \fi
8122         /A<<%
8123         /S/GoToR%
8124         /F(\Hy@pstringF)%
8125         /D\ifx\#3\[\[0 \@pdfstartview]\else(\Hy@pstringD)\fi
8126         \Hy@SetNewWindow
8127       >>%
8128     >>%
8129   }%
8130   \Hy@colorlink\@filecolor
8131 }%
8132 #1%
8133 \Hy@EndAnnot
8134 }
8135 \def\hyper@linkurl#1#2{%
8136   \leavevmode
8137   \Hy@BeginAnnot{%
8138     \Hy@pstringdef\Hy@pstringURI{#2}%
8139     \@pdfm@mark{%
8140       bann<<%
8141         /Type/Annot%
8142         /Subtype/Link%
8143         \ifHy@pdfa /F 4\fi
8144         \Hy@setpdfborder
8145         \ifx\@urlbordercolor\relax
8146           \else
8147             /C[\@urlbordercolor]%
8148           \fi
8149         /A<<%
8150         /S/URI%
8151         /URI(\Hy@pstringURI)%
8152       >>%
8153     >>%
8154   }%
8155   \Hy@colorlink\@urlcolor
8156 }%
8157 #1%

```

```

8158 \Hy@EndAnnot
8159 }
8160 \def\Acrobatmenu#1#2{%
8161 \Hy@Acrobatmenu{#1}{#2}{%
8162 \Hy@BeginAnnot{%
8163 \@pdfm@mark{%
8164 bann<<%
8165 /Type/Annot%
8166 /Subtype/Link%
8167 \ifHy@pdfa /F 4\fi
8168 /A<<%
8169 /S/Named%
8170 /N/#1%
8171 >>%
8172 \Hy@setpdfborder
8173 \ifx\@menubordercolor\relax
8174 \relax
8175 /C[\@menubordercolor]%
8176 \fi
8177 >>%
8178 }%
8179 \Hy@colorlink\@menucolor
8180 }%
8181 #2%
8182 \Hy@EndAnnot
8183 }%
8184 }
8185 \ifx\@pdfproducer\relax
8186 \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>T</sub>E<sub>X</sub>. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8187 \begingroup\expandafter\expandafter\expandafter\endgroup
8188 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8189 \else
8190 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8191 \fi
8192 \fi
8193 \def\PDF@FinishDoc{%
8194 \Hy@UseMaketitleInfos
8195 \@pdfm@mark{%
8196 docinfo<<%
8197 /Title(\@pdftitle)%
8198 /Subject(\@pdfsubject)%
8199 /Creator(\@pdfcreator)%
8200 \ifx\@pdfcreationdate\empty
8201 \else
8202 /CreationDate(\@pdfcreationdate)%
8203 \fi
8204 \ifx\@pdfmoddate\empty
8205 \else
8206 /ModDate(\@pdfmoddate)%
8207 \fi
8208 /Author(\@pdfauthor)%
8209 \ifx\@pdfproducer\relax
8210 \else
8211 /Producer(\@pdfproducer)%
8212 \fi
8213 /Keywords(\@pdfkeywords)%

```

```

8214     >>%
8215 }%
8216 \Hy@DisableOption{pdfauthor}%
8217 \Hy@DisableOption{pdftitle}%
8218 \Hy@DisableOption{pdfsubject}%
8219 \Hy@DisableOption{pdfcreator}%
8220 \Hy@DisableOption{pdfcreationdate}%
8221 \Hy@DisableOption{pdfmoddate}%
8222 \Hy@DisableOption{pdfproducer}%
8223 \Hy@DisableOption{pdfkeywords}%
8224 }

8225 \def\PDF@SetupDoc{%
8226   \edef\Hy@temp{%
8227     \ifHy@toolbar\else /HideToolbar true\fi
8228     \ifHy@menubar\else /HideMenubar true\fi
8229     \ifHy@windowui\else /HideWindowUI true\fi
8230     \ifHy@fitwindow /FitWindow true\fi
8231     \ifHy@centerwindow /CenterWindow true\fi
8232     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8233     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8234     \Hy@UseNameKey{Direction}\@pdfdirection
8235     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8236     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8237     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8238     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8239     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8240     \Hy@UseNameKey{Duplex}\@pdfduplex
8241     \ifx\@pdfpicktraybypdfsize\@empty
8242     \else
8243       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8244     \fi
8245     \ifx\@pdfprintpagerange\@empty
8246     \else
8247       /PrintPageRange[\@pdfprintpagerange]%
8248     \fi
8249     \ifx\@pdfnumcopies\@empty
8250     \else
8251       /NumCopies \@pdfnumcopies
8252     \fi
8253   }%
8254   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8255   \@pdfm@mark{%
8256     docview<<%
8257     \ifx\@pdfstartpage\@empty
8258     \else
8259       \ifx\@pdfstartview\@empty
8260       \else
8261         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8262       \fi
8263     \fi
8264     \ifx\@baseurl\@empty
8265     \else
8266       /URI<</Base(\Hy@pstringB)>>%
8267     \fi
8268     /PageMode/\@pdfpagemode
8269     \ifx\Hy@temp\@empty
8270     \else

```

```

8271      /ViewerPreferences<<\Hy@temp>>%
8272      \fi
8273      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8274      \ifx\@pdflang\@empty
8275      \else
8276      /Lang(\@pdflang)%
8277      \fi
8278      >>%
8279      }%
8280      \ifx\@pdfpagescrop\@empty
8281      \else
8282      \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8283      \fi
8284      }

8285      \AtBeginShipoutFirst{%
8286      \ifHy@setpagesize
8287      \begingroup
8288      \@ifundefined{stockwidth}{%
8289      \ifx\special@paper\@empty
8290      \special{papersize=\the\paperwidth,\the\paperheight}%
8291      \else
8292      \special{papersize=\special@paper}%
8293      \fi
8294      }{%
8295      \ifdim\stockwidth=\z@
8296      \else
8297      \special{papersize=\the\stockwidth,\the\stockheight}%
8298      \fi
8299      }%
8300      \endgroup
8301      \fi
8302      \Hy@DisableOption{setpagesize}%
8303      }
8304      </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.

```

8305 <*vtexhtml>
8306 \providecommand*{\XR@ext}{htm}
8307 \RequirePackage{vtexhtml}
8308 \newif\if@Localurl
8309 \def\PDF@FinishDoc{}
8310 \def\PDF@SetupDoc{%
8311   \ifx\@baseurl\@empty
8312   \else
8313     \special{!direct <base href="\@baseurl">}%
8314   \fi
8315 }
8316 \def\@urltype{url}
8317 \def\hyper@link#1#2#3{%
8318   \leavevmode
8319   \special{!direct <a href=%
8320     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8321   #3%

```

```

8322 \special{!direct </a>}%
8323 }
8324 \def\hyper@linkurl#1#2{%
8325   \begingroup
8326     \hyper@chars
8327     \leavevmode
8328     \MathBSuppress=1\relax
8329     \special{!direct <a href=%
8330       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8331     #1%
8332     \MathBSuppress=0\relax
8333     \special{!direct </a>}%
8334   \endgroup
8335 }
8336 \def\hyper@linkfile#1#2#3{%
8337   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
8338 }
8339 \def\hyper@linkstart#1#2{%
8340   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8341     \@Localurltrue
8342     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8343   \else
8344     \@Localurlfalse
8345     \begingroup
8346       \hyper@chars
8347       \special{!aref \HyperDestNameFilter{#2}}%
8348     \endgroup
8349   \fi
8350 }
8351 \def\hyper@linkend{%
8352   \if@Localurl
8353     \special{!endaref}%
8354   \else
8355     \special{!direct </a>}%
8356   \fi
8357 }
8358 \def\hyper@anchorstart#1{%
8359   \Hy@SaveLastskip
8360   \begingroup
8361     \hyper@chars
8362     \special{!aname #1}%
8363     \special{!direct <a name=%
8364       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8365   \endgroup
8366   \Hy@activeanchortrue
8367 }
8368 \def\hyper@anchorend{%
8369   \special{!direct </a>}%
8370   \Hy@activeanchorfalse
8371   \Hy@RestoreLastskip
8372 }
8373 \def\hyper@anchor#1{%
8374   \Hy@SaveLastskip
8375   \begingroup
8376     \let\protect=\string
8377     \hyper@chars
8378     \leavevmode

```

```

8379 \special{!aname #1}%
8380 \special{!direct <a name=%
8381 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8382 \endgroup
8383 \Hy@activeanchortrue
8384 \bgroup\anchor@spot\egroup
8385 \special{!direct </a>}%
8386 \Hy@activeanchorfalse
8387 \Hy@RestoreLastskip
8388 }
8389 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8390 \def\@endForm{}
8391 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8392 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8393 }
8394 \def\@TextField[#1]#2{% parameters, label
8395 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8396 }
8397 \def\@CheckBox[#1]#2{% parameters, label
8398 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8399 }
8400 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8401 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8402 }
8403 \def\@PushButton[#1]#2{% parameters, label
8404 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8405 }
8406 \def\@Reset[#1]#2{%
8407 \typeout{Sorry, TeXpider does not yet support FORMs}%
8408 }
8409 \def\@Submit[#1]#2{%
8410 \typeout{Sorry, TeXpider does not yet support FORMs}%
8411 }
8412 </vtexhtml>
8413 <*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.

```

8414 \ifx\mediaheight\@undefined
8415 \else
8416 \ifx\mediaheight\relax
8417 \else
8418 \ifHy@setpagesize
8419 \providecommand*{\VTeXInitMediaSize}{%
8420 \ifundefined{stockwidth}{%
8421 \ifdim\paperheight>0pt %
8422 \setlength\mediaheight\paperheight
8423 \fi
8424 \ifdim\paperheight>0pt %
8425 \setlength\mediawidth\paperwidth
8426 \fi
8427 }{%
8428 \ifdim\stockheight>0pt %
8429 \setlength\mediaheight\stockheight
8430 \fi
8431 \ifdim\stockwidth>0pt %

```

```

8432         \setlength\mediawidth\stockwidth
8433     \fi
8434 }%
8435 }%
8436 \AtBeginDocument{\VTeXInitMediaSize}%
8437 \fi
8438 \Hy@DisableOption{setpagesize}%
8439 \fi
8440 \fi

```

Older versions of VTeX require xyz in lower case.

```

8441 \providecommand*\@pdfview{xyz}
8442 \providecommand*\@pdfborder{0 0 1}
8443 \providecommand*\@pdfborderstyle{}
8444 \let\CurrentBorderColor\@linkbordercolor
8445 \def\hyper@anchor#1{%
8446     \Hy@SaveLastskip
8447     \begingroup
8448         \let\protect=\string
8449         \hyper@chars
8450         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8451     \endgroup
8452     \Hy@activeanchortrue
8453     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8454     \Hy@activeanchorfalse
8455     \Hy@RestoreLastskip
8456 }
8457 \def\hyper@anchorstart#1{%
8458     \Hy@SaveLastskip
8459     \begingroup
8460         \hyper@chars
8461         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8462     \endgroup
8463     \Hy@activeanchortrue
8464 }
8465 \def\hyper@anchorend{%
8466     \Hy@activeanchorfalse
8467     \Hy@RestoreLastskip
8468 }
8469 \def\@urltype{url}
8470 \def\Hy@undefinedname{UNDEFINED}
8471 \def\hyper@linkstart#1#2{%
8472     \Hy@pstringdef\Hy@pstringURI{#2}%
8473     \expandafter\Hy@colorlink\csname @#1color\endcsname
8474     \@ifundefined{#@#1bordercolor}{%
8475         \let\CurrentBorderColor\relax
8476     }{%
8477         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8478     }%
8479     \def\Hy@tempa{#1}%
8480     \ifx\Hy@tempa\@urltype
8481         \special{!%
8482             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8483             a=<%
8484                 \ifHy@pdfa /F 4\fi
8485                 \Hy@setpdfborder
8486                 \ifx\CurrentBorderColor\relax
8487                     \else

```

```

8488         /C [\CurrentBorderColor]%
8489     \fi
8490     >%
8491     }%
8492 \else
8493     \protected@edef\Hy@testname{#2}%
8494     \ifx\Hy@testname\@empty
8495         \Hy@Warning{%
8496             Empty destination name,\MessageBreak
8497             using '\Hy@undefinedname'%
8498         }%
8499         \let\Hy@testname\Hy@undefinedname
8500     \fi
8501     \special{!%
8502         aref \expandafter\HyperDestNameFilter
8503             \expandafter{\Hy@testname};%
8504         a=<%
8505             \ifHy@pdfa /F 4\fi
8506             \Hy@setpdfborder
8507             \ifx\CurrentBorderColor\relax
8508                 \else
8509                     /C [\CurrentBorderColor]%
8510                 \fi
8511             >%
8512         }%
8513     \fi
8514 }
8515 \def\hyper@linkend{%
8516     \special{!endaref}%
8517     \Hy@endcolorlink
8518 }
8519 \def\hyper@linkfile#1#2#3{%
8520     \leavevmode
8521     \special{!%
8522         aref <%
8523             \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8524             f=#2>#3;%
8525         a=<%
8526             \ifHy@pdfa /F 4\fi
8527             \Hy@setpdfborder
8528             \ifx\@filebordercolor\relax
8529                 \else
8530                     /C [\@filebordercolor]%
8531                 \fi
8532             >%
8533         }%
8534         \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8535     \special{!endaref}%
8536 }
8537 \def\hyper@linkurl#1#2{%
8538     \begingroup
8539         \Hy@pstringdef\Hy@pstringURI{#2}%
8540         \hyper@chars
8541         \leavevmode
8542         \special{!%
8543             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8544             a=<%

```



```

8545         \ifHy@pdfa /F 4\fi
8546         \Hy@setpdfborder
8547         \ifx\@urlbordercolor\relax
8548         \else
8549         /C [\@urlbordercolor]%
8550         \fi
8551     >%
8552 }%
8553 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8554 \special{!endaref}%
8555 \endgroup
8556 }
8557 \def\hyper@link#1#2#3{%
8558     \@ifundefined{#@1bordercolor}{%
8559         \let\CurrentBorderColor\relax
8560     }{%
8561         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8562     }%
8563     \leavevmode
8564     \protected@edef\Hy@testname{#2}%
8565     \ifx\Hy@testname\@empty
8566         \Hy@Warning{%
8567             Empty destination name,\MessageBreak
8568             using '\Hy@undefinedname'%
8569         }%
8570         \let\Hy@testname\Hy@undefinedname
8571     \fi
8572     \special{!%
8573         aref \expandafter\HyperDestNameFilter
8574         \expandafter{\Hy@testname};%
8575         a=<%
8576         \ifHy@pdfa /F 4\fi
8577         \Hy@setpdfborder
8578         \ifx\CurrentBorderColor\relax
8579         \else
8580         /C [\CurrentBorderColor]%
8581         \fi
8582         >%
8583     }%
8584     \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8585     \special{!endaref}%
8586 }
8587 \def\hyper@image#1#2{%
8588     \hyper@linkurl{#2}{#1}%
8589 }
8590 \def\@hyper@launch run:#1\#2#3{%
8591     \Hy@pstringdef\Hy@pstringF{#1}%
8592     \Hy@pstringdef\Hy@pstringP{#3}%
8593     \leavevmode
8594     \special{!aref %
8595         <u=%
8596         /Type/Action%
8597         /S/Launch%
8598         /F(\Hy@pstringF)%
8599         \Hy@SetNewWindow
8600         \ifx\#3\@empty /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8601         >;%

```

```

8602     a=<%
8603         \ifHy@pdfa /F 4\fi
8604         \Hy@setpdfborder
8605         \ifx\@runbordercolor\relax
8606         \else
8607             /C[\@runbordercolor]%
8608         \fi
8609     >%
8610 }%
8611 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8612 \special{!endaref}%
8613 }
8614 \def\Acrobatmenu#1#2{%
8615     \Hy@Acrobatmenu{#1}{#2}{%
8616         \special{!%
8617             aref <u=/S /Named /N /#1>;%
8618             a=<%
8619                 \ifHy@pdfa /F 4\fi
8620                 \Hy@setpdfborder
8621                 \ifx\@menubordercolor\relax
8622                 \else
8623                     /C[\@menubordercolor]%
8624                 \fi
8625             >%
8626         }%
8627         \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8628         \special{!endaref}%
8629     }%
8630 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for VT<sub>E</sub>X 7.02 or later.

Please never use \@ifundefined{VTeXversion}{...}{...} *globally*.

```

8631 \ifnum\Hy@VTeXversion<702 %
8632 \else
8633     \def\hyper@pagetransition{%
8634         \ifx\@pdfpagetransition\relax
8635         \else
8636             \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8637         \else
8638             \hvtex@parse@trans\@pdfpagetransition
8639         \fi
8640     \fi
8641 }%

```

I have to write an “honest” parser to convert raw PDF code into VT<sub>E</sub>X \special.  
(AVK)

Syntax of VT<sub>E</sub>X \special{!trans <transition\_effect>}:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D

```

```

<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

8642 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8643 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8644 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8645 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8646 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8647 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8648 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8649 \def\hvtex@par@dimension{/Dm}%
8650 \def\hvtex@par@direction{/Di}%
8651 \def\hvtex@par@duration{/D}%
8652 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8653 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8654 \def\hvtex@gettoken@#1 #2\@nil{%
8655   \edef\hvtex@token{#1}%
8656   \edef\hvtex@buffer{#2}%
8657 }%
8658 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8659 \let\hvtex@trans@code\@empty
8660 \let\hvtex@param@dimension\@empty
8661 \let\hvtex@param@direction\@empty
8662 \let\hvtex@param@duration\@empty
8663 \let\hvtex@param@motion\@empty
8664 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8665 \hvtex@gettoken
8666 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8667 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8668 \else
8669 \hvtex@gettoken
8670 \fi
8671 \fi
8672 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8673 \hvtex@trans@params
8674 }%

```

Reentrant macro to parse optional parameters.

```

8675 \def\hvtex@trans@params{%
8676   \ifx\hvtex@buffer\@empty
8677   \else
8678     \hvtex@gettoken
8679     \let\hvtex@trans@par\hvtex@token
8680     \ifx\hvtex@buffer\@empty
8681     \else
8682       \hvtex@gettoken
8683       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```

8684       \let\hvtex@param@duration\hvtex@token
8685       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8686       \expandafter\edef\expandafter\hvtex@param@motion
8687       \expandafter{\expandafter\@gobble\hvtex@token}%
8688       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8689       \expandafter\edef\expandafter\hvtex@param@dimension
8690       \expandafter{\expandafter\@gobble\hvtex@token}%
8691       \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).

```

8692       \let\hvtex@param@direction\hvtex@token
8693       \fi\fi\fi\fi
8694       \fi
8695       \fi
8696       \ifx\hvtex@buffer\@empty
8697       \let\next\hvtex@produce@trans
8698       \else
8699       \let\next\hvtex@trans@params
8700       \fi
8701       \next
8702   }%

```

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

```

8703 \def\hvtex@produce@trans{%
8704   \let\vtex@trans@special\@empty
8705   \if S\hvtex@trans@code
8706     \edef\vtex@trans@special{\hvtex@trans@code
8707       \hvtex@param@dimension\hvtex@param@motion}%
8708   \else\if B\hvtex@trans@code
8709     \edef\vtex@trans@special{%
8710       \hvtex@trans@code\hvtex@param@dimension
8711     }%
8712   \else\if X\hvtex@trans@code
8713     \edef\vtex@trans@special{%
8714       \hvtex@trans@code\hvtex@param@motion
8715     }%
8716   \else\if W\hvtex@trans@code
8717     \edef\vtex@trans@special{%
8718       \hvtex@trans@code\hvtex@param@direction
8719     }%
8720   \else\if D\hvtex@trans@code

```

```

8721     \let\vtex@trans@special\hvtex@trans@code
8722     \else\if R\hvtex@trans@code
8723         \let\vtex@trans@special\hvtex@trans@code
8724     \else\if G\hvtex@trans@code
8725         \edef\vtex@trans@special{%
8726             \hvtex@trans@code\hvtex@param@direction
8727         }%
8728     \fi\fi\fi\fi\fi\fi\fi
8729     \ifx\vtex@trans@special\@empty
8730     \else
8731         \ifx\hvtex@param@duration\@empty
8732         \else
8733             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8734         \multiply\dimen@\@m
8735         \edef\vtex@trans@special{%
8736             \vtex@trans@special,\strip@pt\dimen@
8737         }%
8738     \fi

```

And all the mess is just for this.

```

8739     \special{!trans \vtex@trans@special}%
8740     \fi
8741 }%

8742 \def\hyper@pageduration{%
8743     \ifx\@pdfpageduration\relax
8744     \else
8745         \ifx\@pdfpageduration\@empty
8746             \special{!duration-}%
8747         \else
8748             \special{!duration \@pdfpageduration}%
8749         \fi
8750     \fi
8751 }%

8752 \def\hyper@pagehidden{%
8753     \ifHy@useHidKey
8754         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8755     \fi
8756 }%

8757 \g@addto@macro\Hy@EveryPageBoxHook{%
8758     \hyper@pagetransition
8759     \hyper@pageduration
8760     \hyper@pagehidden
8761 }%
8762 \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

```

8763 \ifx\@pdfproducer\relax
8764   \def\@pdfproducer{VTeX}%
8765   \ifnum\Hy@VTeXversion>\z@
8766     \count@\VTeXversion
8767     \divide\count@ 100 %
8768     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8769     \multiply\count@ -100 %
8770     \advance\count@\VTeXversion
8771     \edef\@pdfproducer{%
8772       \@pdfproducer
8773       .\ifnum\count@<10 0\fi\the\count@
8774       \ifx\VTeXOS\undefined\else
8775         \ifnum\VTeXOS>0 %
8776           \ifnum\VTeXOS<6 %
8777             \space(%
8778             \ifcase\VTeXOS
8779               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8780             \fi
8781             )%
8782           \fi
8783         \fi
8784       \fi
8785       ,\space
8786       \ifnum\OpMode=\@ne PDF\else PS\fi
8787       \space backend%
8788       \ifx\gexmode\undefined\else
8789         \ifnum\gexmode>\z@\space with GeX\fi
8790       \fi
8791     }%
8792   \fi
8793 \fi

```

Current !pdfinfo key syntax:

Key	Field	Type
a	<b>Author</b>	String
b	<b>CropBox</b>	String
c	<b>Creator</b>	String
k	<b>Keywords</b>	String
l	<b>PageLayout</b>	PS
p	<b>PageMode</b>	PS
r	<b>Producer</b>	String
s	<b>Subject</b>	String
t	<b>Title</b>	String
u	<b>URI</b>	PS
v	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<< . . >>> (yuck; no choice).

```

8794 \def\PDF@SetupDoc{%
8795   \ifx\@pdfpagescrop\@empty
8796   \else
8797     \special{!pdfinfo b=<\@pdfpagescrop>}%
8798   \fi
8799   \ifx\@pdfstartpage\@empty
8800   \else
8801     \ifx\@pdfstartview\@empty
8802     \else
8803       \special{!onopen Page\@pdfstartpage}%
8804     \fi

```

```

8805 \fi
8806 \special{!pdfinfo p=<\/\@pdfpagemode>}%
8807 \ifx\@baseurl\@empty
8808 \else
8809 \special{!pdfinfo u=<<<\/Base (\@baseurl)>>>}%
8810 \fi
8811 \special{!pdfinfo v=<<<%
8812 \ifHy@toolbar\else /HideToolbar true\fi
8813 \ifHy@menubar\else /HideMenubar true\fi
8814 \ifHy@windowui\else /HideWindowUI true\fi
8815 \ifHy@fitwindow /FitWindow true\fi
8816 \ifHy@centerwindow /CenterWindow true\fi
8817 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8818 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8819 \Hy@UseNameKey{Direction}\@pdfdirection
8820 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8821 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8822 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8823 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8824 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8825 \Hy@UseNameKey{Duplex}\@pdfduplex
8826 \ifx\@pdfpicktraybypdfsize\@empty
8827 \else
8828 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8829 \fi
8830 \ifx\@pdfprintpagerange\@empty
8831 \else
8832 /PrintPageRange[\@pdfprintpagerange]%
8833 \fi
8834 \ifx\@pdfnumcopies\@empty
8835 \else
8836 /NumCopies \@pdfnumcopies
8837 \fi
8838 >>>}%
8839 \ifx\@pdfpagelayout\@empty
8840 \else
8841 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
8842 \fi
8843 }%
8844 \def\PDF@FinishDoc{%
8845 \Hy@UseMaketitleInfos
8846 \special{!pdfinfo a=<\/\@pdfauthor>}%
8847 \special{!pdfinfo t=<\/\@pdftitle>}%
8848 \special{!pdfinfo s=<\/\@pdfsubject>}%
8849 \special{!pdfinfo c=<\/\@pdfcreator>}%
8850 \ifx\@pdfproducer\relax
8851 \else
8852 \special{!pdfinfo r=<\/\@pdfproducer>}%
8853 \fi
8854 \special{!pdfinfo k=<\/\@pdfkeywords>}%
8855 \Hy@DisableOption{pdfauthor}%
8856 \Hy@DisableOption{pdftitle}%
8857 \Hy@DisableOption{pdfsubject}%
8858 \Hy@DisableOption{pdfcreator}%
8859 \Hy@DisableOption{pdfcreationdate}%
8860 \Hy@DisableOption{pdfmoddate}%
8861 \Hy@DisableOption{pdfproducer}%

```

```

8862 \Hy@DisableOption{pdfkeywords}%
8863 }
8864 \</vtx>

```

## 46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

8865 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8866 <package>\providecommand*\Hy@DistillerDestFix{}
8867 <*pdfmark | dviwindo>
8868 \def\Hy@DistillerDestFix{%
8869   \begingroup
8870     \let\x\literalps@out

```

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

```

8871   \ifnum \@ifundefined{OpMode}{0}{%
8872     \@ifundefined{gexmode}{0}{%
8873       \ifnum\gexmode>0 \OpMode\else 0\fi
8874     }>1 %
8875   \def\x##1{%
8876     \immediate\special{!=##1}%
8877   }%
8878 \fi
8879 \x{%
8880   /product where{%
8881     pop %
8882     product(Distiller)search{%
8883       pop pop pop %
8884       version(.)search{%
8885         exch pop exch pop%
8886         (3011)eq{%
8887           gsave %
8888           newpath 0 0 moveto closepath clip%
8889           /Courier findfont 10 scalefont setfont %
8890           72 72 moveto(.)show %
8891           grestore%
8892         }if%
8893       }{pop}ifelse%
8894     }{pop}ifelse%
8895   }if%
8896 }%
8897 \endgroup
8898 }
8899 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of



<code>\pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

<code>H.S</code>	start of anchor, link or rect
<code>#1 H.A</code>	end of anchor, argument=baselineskip in pt
<code>#1 H.L</code>	end of link, argument=baselineskip in pt
<code>H.R</code>	end of rect
<code>H.B</code>	raw rect code

```

8900 <*pdfmark>
8901 \Hy@breaklinks@unsupported
8902 \def\hyper@anchor#1{%
8903   \Hy@SaveLastskip
8904   \beginngroup
8905     \pdfmark[\anchor@spot]{%
8906       pdfmark=/DEST,%
8907       linktype=anchor,%
8908       View=/\@pdfview \@pdfviewparams,%
8909       DestAnchor={#1}%
8910     }%
8911   \endgroup
8912   \Hy@RestoreLastskip
8913 }
8914 \@ifundefined{hyper@anchorstart}{\endinput}{}
8915 \def\hyper@anchorstart#1{%
8916   \Hy@SaveLastskip
8917   \literalps@out{H.S}%
8918   \xdef\hyper@currentanchor{#1}%
8919   \Hy@activeanchortrue
8920 }
8921 \def\hyper@anchorend{%
8922   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8923   \pdfmark{%
8924     pdfmark=/DEST,%
8925     linktype=anchor,%
8926     View=/\@pdfview \@pdfviewparams,%
8927     DestAnchor=\hyper@currentanchor,%
8928   }%
8929   \Hy@activeanchorfalse
8930   \Hy@RestoreLastskip
8931 }
8932 \def\hyper@linkstart#1#2{%
8933   \ifHy@breaklinks
8934   \else
8935     \leavevmode\hbox\bgroup
8936     \fi
8937     \expandafter\Hy@colorlink\csname @#1color\endcsname
8938     \literalps@out{H.S}%
8939     \xdef\hyper@currentanchor{#2}%
8940     \gdef\hyper@currentlinktype{#1}%
8941 }
8942 \def\hyper@linkend{%
8943   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8944   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8945     \let\Hy@tempcolor\relax

```

```

8946 }{%
8947   \edef\Hy@tempcolor{%
8948     \csname @\hyper@currentlinktype bordercolor\endcsname
8949   }%
8950 }%
8951 \pdfmark{%
8952   pdfmark=/ANN,%
8953   linktype=link,%
8954   Subtype=/Link,%
8955   PDFAFlags=4,%
8956   Dest=\hyper@currentanchor,%
8957   AcroHighlight=\@pdfhighlight,%
8958   Border=\@pdfborder,%
8959   BorderStyle=\@pdfborderstyle,%
8960   Color=\Hy@tempcolor,%
8961   Raw=H.B%
8962 }%
8963 \Hy@endcolorlink
8964 \ifHy@breaklinks
8965 \else
8966   \egroup
8967 \fi
8968 }

```

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.

```

8969 \begingroup
8970 \catcode'P=12 %
8971 \catcode'T=12 %
8972 \lowercase{\endgroup
8973 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8974 }
8975 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8976 \def\hyper@pagetransition{%
8977   \ifx\@pdfpagetransition\relax
8978   \else
8979     \ifx\@pdfpagetransition\@empty
8980       % 1. Does an old entry have to be deleted?
8981       % 2. If 1=yes, how to delete?
8982     \else
8983       \pdfmark{%
8984         pdfmark=/PUT,%
8985         Raw={%
8986           \string{ThisPage\string}%
8987           <</Trans << /S /\@pdfpagetransition\space >> >>%
8988         }%
8989       }%
8990     \fi
8991 \fi
8992 }

```

\hyper@pageduration

```

8993 \def\hyper@pageduration{%
8994   \ifx\@pdfpageduration\relax

```

```

8995 \else
8996   \ifx\@pdfpageduration\@empty
8997     % 1. Does an old entry have to be deleted?
8998     % 2. If 1=yes, how to delete?
8999   \else
9000     \pdfmark{%
9001       pdfmark=/PUT,%
9002       Raw={%
9003         \string{ThisPage\string}%
9004         <</Dur \@pdfpageduration>>%
9005       }%
9006     }%
9007   \fi
9008 \fi
9009 }

```

\hyper@pagehidden

```

9010 \def\hyper@pagehidden{%
9011   \ifHy@useHidKey
9012     \pdfmark{%
9013       pdfmark=/PUT,%
9014       Raw={%
9015         \string{ThisPage\string}%
9016         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9017       }%
9018     }%
9019   \fi
9020 }

9021 \g@addto@macro\Hy@EveryPageBoxHook{%
9022   \hyper@pagetransition
9023   \hyper@pageduration
9024   \hyper@pagehidden
9025 }

9026 \def\hyper@image#1#2{%
9027   \hyper@linkurl{#2}{#1}%
9028 }

9029 \def\Hy@undefinedname{UNDEFINED}
9030 \def\hyper@link#1#2#3{%
9031   \@ifundefined{#1bordercolor}{%
9032     \let\Hy@tempcolor\relax
9033   }{%
9034     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
9035   }%
9036   \begingroup
9037     \protected@edef\Hy@testname{#2}%
9038     \ifx\Hy@testname\@empty
9039       \Hy@Warning{%
9040         Empty destination name,\MessageBreak
9041         using '\Hy@undefinedname'%
9042       }%
9043     \let\Hy@testname\Hy@undefinedname
9044   \fi
9045   \pdfmark[#{3}]{%
9046     Color=\Hy@tempcolor,%
9047     linktype={#1},%
9048     AcroHighlight=\@pdfhighlight,%

```

```

9049     Border=\@pdfborder,%
9050     BorderStyle=\@pdfborderstyle,%
9051     pdfmark=/ANN,%
9052     Subtype=/Link,%
9053     PDFAFlags=4,%
9054     Dest=\Hy@testname
9055 }%
9056 \endgroup
9057 }
9058 \newtoks\pdf@docset
9059 \def\PDF@FinishDoc{%
9060   \Hy@UseMaketitleInfos
9061   \let\Hy@temp\@empty
9062   \ifx\@pdfcreationdate\@empty
9063   \else
9064     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9065   \fi
9066   \ifx\@pdfmoddate\@empty
9067   \else
9068     \expandafter\def\expandafter\Hy@temp\expandafter{%
9069       \Hy@temp
9070       ModDate=\@pdfmoddate,%
9071     }%
9072   \fi
9073   \ifx\@pdfproducer\relax
9074   \else
9075     \expandafter\def\expandafter\Hy@temp\expandafter{%
9076       \Hy@temp
9077       Producer=\@pdfproducer,%
9078     }%
9079   \fi
9080   \expandafter
9081   \pdfmark\expandafter{%
9082     \Hy@temp
9083     pdfmark=/DOCINFO,%
9084     Title=\@pdftitle,%
9085     Subject=\@pdfsubject,%
9086     Creator=\@pdfcreator,%
9087     Author=\@pdfauthor,%
9088     Keywords=\@pdfkeywords
9089   }%
9090   \Hy@DisableOption{pdfauthor}%
9091   \Hy@DisableOption{pdftitle}%
9092   \Hy@DisableOption{pdfsubject}%
9093   \Hy@DisableOption{pdfcreator}%
9094   \Hy@DisableOption{pdfcreationdate}%
9095   \Hy@DisableOption{pdfmoddate}%
9096   \Hy@DisableOption{pdfproducer}%
9097   \Hy@DisableOption{pdfkeywords}%
9098 }
9099 \def\PDF@SetupDoc{%
9100   \def\Hy@temp{}%
9101   \ifx\@pdfstartpage\@empty
9102   \else
9103     \ifx\@pdfstartview\@empty
9104     \else
9105       \edef\Hy@temp{%

```

```

9106         ,Page=\@pdfstartpage
9107         ,View=\@pdfstartview
9108     }%
9109 \fi
9110 \fi
9111 \edef\Hy@temp{%
9112     \noexpand\pdfmark{%
9113         pdfmark=/DOCVIEW,%
9114         PageMode=/\@pdfpagemode
9115     \Hy@temp
9116 }%
9117 }%
9118 \Hy@temp
9119 \ifx\@pdfpagescrop\@empty
9120 \else
9121     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9122 \fi
9123 \edef\Hy@temp{%
9124     \ifHy@toolbar\else /HideToolbar true\fi
9125     \ifHy@menubar\else /HideMenubar true\fi
9126     \ifHy>windowui\else /HideWindowUI true\fi
9127     \ifHy@fitwindow /FitWindow true\fi
9128     \ifHy@centerwindow /CenterWindow true\fi
9129     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9130     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9131     \Hy@UseNameKey{Direction}\@pdfdirection
9132     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9133     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9134     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9135     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9136     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9137     \Hy@UseNameKey{Duplex}\@pdfduplex
9138     \ifx\@pdfpicktraybypdfsize\@empty
9139     \else
9140         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9141     \fi
9142     \ifx\@pdfprintpagerange\@empty
9143     \else
9144         /PrintPageRange[\@pdfprintpagerange]%
9145     \fi
9146     \ifx\@pdfnumcopies\@empty
9147     \else
9148         /NumCopies \@pdfnumcopies
9149     \fi
9150 }%
9151 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9152 \pdfmark{%
9153     pdfmark=/PUT,%
9154     Raw={%
9155         \string{Catalog\string}<<%
9156         \ifx\Hy@temp\@empty
9157         \else
9158             /ViewerPreferences<<\Hy@temp>>%
9159         \fi
9160         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9161         \ifx\@pdflang\@empty
9162         \else

```

```

9163         /Lang(\@pdflang)%
9164     \fi
9165     \ifx\@baseurl\@empty
9166     \else
9167         /URI<</Base(\Hy@pstringB)>>%
9168     \fi
9169     >>%
9170 }%
9171 }%
9172 }
9173 </pdfmark>
9174 <*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.

```

9175 \newif\ifHy@pdfmarkerror
9176 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9177 \def\pdfmark@[#1]#2{%
9178     \Hy@pdfmarkerrorfalse
9179     \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9180     \@processme
9181     \let\pdf@type\relax
9182     \setkeys{PDF}{#2}%
9183     \ifHy@pdfmarkerror
9184     \else
9185         \ifx\pdf@type\relax
9186             \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9187             \ifx\#1\%
9188             \else
9189                 \pdf@rect{#1}%
9190             \fi
9191         \else
9192             \ifx\#1\%
9193                 \literalps@out{%
9194                     [\the\pdf@toks\space\pdf@type\space pdfmark%
9195                 ]%
9196             \else
9197                 \@ifundefined{@\pdf@linktype color}{%
9198                     \Hy@colorlink\@linkcolor
9199                 }{%
9200                     \expandafter\Hy@colorlink
9201                         \csname @\pdf@linktype color\endcsname
9202                 }%
9203                 \pdf@rect{#1}%
9204                 \literalps@out{%
9205                     [\the\pdf@toks\space\pdf@type\space pdfmark%
9206                 ]%
9207                 \Hy@endcolorlink
9208             \fi
9209         \fi
9210     \fi
9211 }

```

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}
```

```
9212 \newsavebox{\pdf@box}
9213 \providecommand*{\Hy@setouterhbox}{\sbox}
9214 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9215 \def\Hy@DEST{/DEST}
9216 \def\pdf@rect#1{%
9217   \leavevmode
9218   \ifHy@breaklinks
9219     \Hy@setouterhbox\pdf@box{#1}%
9220   \else
9221     \sbox\pdf@box{#1}%
9222   \fi
9223   \dimen@ht\pdf@box
9224   \ifdim\dp\pdf@box=\z@
9225     \literalps@out{H.S}%
9226   \else
9227     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9228   \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...).

```
9229 \ifHy@breaklinks
9230   \expandafter\Hy@breaklinksunhbox
9231 \else
9232   \expandafter\box
9233 \fi
9234 \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

9235 \ifdim\dimen@=\z@
9236   \literalps@out{H.R}%
9237 \else
9238   \raise\dimen@\hbox{\literalps@out{H.R}}%
9239 \fi
9240 \ifx\pdf@type\Hy@DEST
9241 \else
9242   \pdf@addtoksx{H.B}%
9243 \fi
9244 }
```

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.

```
9245 \newtoks\pdf@toks
9246 \newtoks\pdf@defaulttoks
9247 \pdf@defaulttoks={}
9248 \def\pdf@addtoks#1#2{%
```

```

9249 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9250 \@processme
9251 }
9252 \def\pdf@addtoksx#1{%
9253 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9254 \@processme
9255 }
9256 \def\PDFdefaults#1{%
9257 \pdf@defaulttoks={#1}%
9258 }

```

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

```

9259 % what is the type of pdfmark?
9260 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9261 % what is the link type?
9262 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9263 \def\pdf@linktype{link}
9264 % parameter is a stream of PDF
9265 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9266 % parameter is a name
9267 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9268 % parameter is a array
9269 \define@key{PDF}{Border}{%
9270 \edef\Hy@temp{#1}%
9271 \ifx\Hy@temp\@empty
9272 \else
9273 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9274 \fi
9275 }
9276 \let\Hy@BorderArrayPatch\@empty
9277 % parameter is a dictionary
9278 \define@key{PDF}{BorderStyle}{%
9279 \edef\Hy@temp{#1}%
9280 \ifx\Hy@temp\@empty
9281 \else
9282 \pdf@addtoks{<<#1>>}{BS}%
9283 \fi
9284 }
9285 % parameter is a array
9286 \define@key{PDF}{Color}{%
9287 \ifx\relax#1\relax
9288 \else
9289 \pdf@addtoks{[#1]}{Color}% hash-ok
9290 \fi
9291 }
9292 % parameter is a string
9293 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9294 % parameter is a integer
9295 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9296 % parameter is a array
9297 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9298 % parameter is a string
9299 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9300 % parameter is a string or file
9301 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9302 % parameter is a destination
9303 \define@key{PDF}{Dest}{%
9304 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```



```

9305 \ifx\Hy@pstringDest\@empty
9306   \Hy@pdfmarkerrortrue
9307   \Hy@Warning{Destination with empty name ignored}%
9308 \else
9309   \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9310 \fi
9311 }
9312 \define@key{PDF}{DestAnchor}{%
9313   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9314   \ifx\Hy@pstringDest\@empty
9315     \Hy@pdfmarkerrortrue
9316     \Hy@Warning{Destination with empty name ignored}%
9317   \else
9318     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9319   \fi
9320 }
9321 % parameter is a string
9322 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9323 % parameter is a string
9324 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9325 % parameter is a int
9326 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9327 \define@key{PDF}{PDFAFlags}{%
9328   \ifHy@pdfa
9329     \pdf@addtoks{#1}{F}%
9330   \fi
9331 }
9332 % parameter is a name
9333 \define@key{PDF}{AcroHighlight}{%
9334   \begingroup
9335     \edef\x{#1}%
9336     \expandafter\endgroup\ifx\x\@empty
9337     \else
9338       \pdf@addtoks{#1}{H}%
9339     \fi
9340 }
9341 % parameter is a string
9342 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9343 % parameter is a string
9344 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9345 % parameter is a string
9346 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9347 % parameter is a string
9348 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9349 % parameter is a Boolean
9350 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9351 % parameter is a integer or name
9352 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9353 % parameter is a name
9354 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9355 % parameter is a string
9356 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9357 % parameter is a array
9358 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9359 % parameter is a integer
9360 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9361 % parameter is a name

```

```

9362 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9363 % parameter is a string
9364 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9365 % parameter is a string
9366 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9367 % parameter is a string
9368 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9369 % parameter is an array
9370 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9371 % parameter is a string
9372 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9373 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9374 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9375 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9376 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9377 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9378 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9379 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9380 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9381 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9382 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9383 </pdfmarkbase>
9384 <*pdfmark>
9385 \def\Acrobatmenu#1#2{%
9386   \Hy@Acrobatmenu{#1}{#2}{%
9387     \pdfmark[{#2}]{%
9388       linktype=menu,%
9389       pdfmark=/ANN,%
9390       AcroHighlight=\pdfhighlight,%
9391       Border=\pdfborder,%
9392       BorderStyle=\pdfborderstyle,%
9393       Action={<< /Subtype /Named /N /#1 >>},%
9394       Subtype=/Link,%
9395       PDFAPFlags=4%
9396     }%
9397   }%
9398 }

```

And now for some useful examples:

```

9399 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9400 \def\PDFNextPage@[#1]#2{%
9401   \pdfmark[{#2}]{%
9402     #1,%
9403     Border=\pdfborder,%
9404     BorderStyle=\pdfborderstyle,%
9405     Color=.2 .1 .5,%
9406     pdfmark=/ANN,%
9407     Subtype=/Link,%
9408     PDFAPFlags=4,%
9409     Page=/Next%
9410   }%
9411 }
9412 \def\PDFPreviousPage{%
9413   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9414 }
9415 \def\PDFPreviousPage@[#1]#2{%

```

```

9416 \pdfmark[{#2}]{%
9417     #1,%
9418     Border=\pdfborder,%
9419     BorderStyle=\pdfborderstyle,%
9420     Color=.4 .4 .1,%
9421     pdfmark=/ANN,%
9422     Subtype=/Link,%
9423     PDFAFlags=4,%
9424     Page=/Prev%
9425 }%
9426 }
9427 \def\PDFOpen#1{%
9428     \pdfmark{#1,pdfmark=/DOCVIEW}%
9429 }

```

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

```

9430 \def\hyper@linkurl#1#2{%
9431     \begingroup
9432     \Hy@pstringdef\Hy@pstringURI{#2}%
9433     \hyper@chars
9434     \leavevmode
9435     \pdfmark[{#1}]{%
9436         pdfmark=/ANN,%
9437         linktype=url,%
9438         AcroHighlight=\pdfhighlight,%
9439         Border=\pdfborder,%
9440         BorderStyle=\pdfborderstyle,%
9441         Color=\urlbordercolor,%
9442         Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9443         Subtype=/Link,%
9444         PDFAFlags=4%
9445     }%
9446     \endgroup
9447 }
9448 \def\hyper@linkfile#1#2#3{%
9449     \begingroup
9450     \Hy@pstringdef\Hy@pstringF{#2}%
9451     \Hy@pstringdef\Hy@pstringD{#3}%
9452     \leavevmode
9453     \pdfmark[{#1}]{%
9454         pdfmark=/ANN,%
9455         Subtype=/Link,%
9456         PDFAFlags=4,%
9457         AcroHighlight=\pdfhighlight,%
9458         Border=\pdfborder,%
9459         BorderStyle=\pdfborderstyle,%
9460         linktype=file,%
9461         Color=\filebordercolor,%
9462         Action={%
9463             <<%
9464             /S/GoToR%
9465             \Hy@SetNewWindow
9466             /F(\Hy@pstringF)%
9467             /D\ifx\#3\ [O \pdfstartview]\else(\Hy@pstringD)cvn\fi
9468             >>%
9469         }%
9470     }%
9471     \endgroup

```

```

9472 }
9473 \def\@hyper@launch run:#1\#2#3{%
9474   \begingroup
9475     \Hy@pstringdef\Hy@pstringF{#1}%
9476     \Hy@pstringdef\Hy@pstringP{#3}%
9477     \leavevmode
9478     \pdfmark[{#2}]{%
9479       pdfmark=/ANN,%
9480       Subtype=/Link,%
9481       PDFAFlags=4,%
9482       AcroHighlight=\@pdfhighlight,%
9483       Border=\@pdfborder,%
9484       BorderStyle=\@pdfborderstyle,%
9485       linktype=run,%
9486       Color=\@runbordercolor,%
9487       Action={%
9488         <<%
9489           /S/Launch%
9490           \Hy@SetNewWindow
9491           /F(\Hy@pstringF)%
9492           \ifx\#3\%
9493             \else
9494               /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9495             \fi
9496           >>%
9497         }%
9498       }%
9499   \endgroup
9500 }
9501 \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.

```

9502 < *dvips>
9503 \providecommand*\XR@ext}{pdf}
9504 \def\Hy@raisedlink{}
9505 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9506 \def\headerps@out#1{\special{! #1}}%
9507 \input{pdfmark.def}%
9508 \ifx\@pdfproducer\relax
9509   \def\@pdfproducer{dvips + Distiller}%
9510 \fi
9511 \providecommand*\@pdfborder{0 0 1}
9512 \providecommand*\@pdfborderstyle{}
9513 \providecommand*\@pdfview{XYZ}
9514 \providecommand*\@pdfviewparams{ H.V}
9515 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9516 \g@addto@macro\Hy@FirstPageHook{%
9517   \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.

```
9518 /DvipsToPDF{72.27 mul Resolution div} def%
9519 /PDFToDvips{72.27 div Resolution mul} def%
9520 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border 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.

```
9521 /BorderArrayPatch{%
9522   [exch%
9523     dup dup type/integertype eq exch type/realtype eq or%
9524     {BPToDvips}if%
9525     }forall]%
9526   }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.

```
9527 /HyperBorder {1 PDFToDvips} def%
9528 /H.V {pdf@hoff pdf@voff null} def%
9529 /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

```
9530 /H.S {%
9531   currentpoint %
9532   HyperBorder add /pdf@lly exch def %
9533   dup DvipsToPDF 72 add /pdf@hoff exch def %
9534   HyperBorder sub /pdf@llx exch def%
9535 } def%
```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The  $x$  and  $y$  coordinates of the current point, minus the `baselineskip`

```
9536 /H.L {%
9537   2 sub dup%
9538   /HyperBasePt exch def %
9539   PDFToDvips /HyperBaseDvips exch def %
9540   currentpoint %
9541   HyperBaseDvips sub /pdf@ury exch def%
9542   /pdf@urx exch def%
9543 } def%
9544 /H.A {%
```

```

9545      H.L %
9546 % |/\pdf@voff| = the distance from the top of the page to a point
9547 % |\baselineskip| above the current point in PDF coordinates
9548      currentpoint exch pop %
9549      vsize 72 sub exch DvipsToPDF %
9550      HyperBasePt sub % baseline skip
9551      sub /\pdf@voff exch def%
9552  } def%
9553  /H.R {%
9554      currentpoint %
9555      HyperBorder sub /\pdf@ury exch def %
9556      HyperBorder add /\pdf@urx exch def %
9557 % |/\pdf@voff| = the distance from the top of the page to the current point, in
9558 % PDF coordinates
9559      currentpoint exch pop vsize 72 sub %
9560      exch DvipsToPDF sub /\pdf@voff exch def%
9561  } def%
9562 }%
9563 }
9564 \AtBeginShipoutFirst{%
9565   \ifHy@setpagesize
9566     \begingroup
9567       \@ifundefined{stockwidth}{%
9568         \ifx\special@paper\@empty
9569           \special{papersize=\the\paperwidth,\the\paperheight}%
9570         \else
9571           \special{papersize=\special@paper}%
9572         \fi
9573       }{%
9574         \ifdim\stockwidth=\z@
9575         \else
9576           \special{papersize=\the\stockwidth,\the\stockheight}%
9577         \fi
9578       }%
9579     \endgroup
9580   \fi
9581   \Hy@DisableOption{setpagesize}%
9582 }
9583 </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.

```

9584 <*vtexpdfmark>
9585 \providecommand*{\XR@ext}{pdf}
9586 \def\Hy@raisedlink{}
9587 \def\literalps@out#1{\special{pS:#1}}%
9588 \def\headerps@out#1{\immediate\special{pS:#1}}%
9589 \input{pdfmark.def}%
9590 \ifx\@pdfproducer\relax
9591   \ifnum\OpMode=\@ne
9592     \def\@pdfproducer{VTeX}%
9593   \else

```

```

9594 \def\pdfproducer{VTeX + Distiller}%
9595 \fi
9596 \fi
9597 \providecommand*\pdfborder{0 0 1}
9598 \providecommand*\pdfborderstyle{}
9599 \providecommand*\pdfview{XYZ}
9600 \providecommand*\pdfviewparams{ H.V}

9601 \g@addto@macro\Hy@FirstPageHook{%
9602 \headerps@out{%
9603 /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.

```

9604 /HyperBorder {1} def%
9605 /H.V {pdf@hoff pdf@voff null} def%
9606 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9607 /H.S {%
9608 currentpoint %
9609 HyperBorder sub%
9610 /pdf@lly exch def %
9611 dup 72 add /pdf@hoff exch def %
9612 HyperBorder sub%
9613 /pdf@llx exch def%
9614 } def%

```

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

```

9615 /H.L {%
9616 2 sub%
9617 /HyperBasePt exch def %
9618 currentpoint %
9619 HyperBasePt add HyperBorder add%
9620 /pdf@ury exch def %
9621 HyperBorder add%
9622 /pdf@urx exch def%
9623 } def%
9624 /H.A {%
9625 H.L %
9626 currentpoint exch pop %
9627 vsize 72 sub exch %
9628 HyperBasePt add add%
9629 /pdf@voff exch def%
9630 } def%

```

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

```

9631 /H.R {%
9632 currentpoint %
9633 HyperBorder add%
9634 /pdf@ury exch def %
9635 HyperBorder add%
9636 /pdf@urx exch def %
9637 currentpoint exch pop vsize 72 sub add%
9638 /pdf@voff exch def%
9639 } def%

```

```

9640 }%
9641 }
9642 </vtxpdfmark>

```

## 46.11 Textures

```

9643 <*textures>
9644 \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.

```

9645 \begingroup
9646 \obeylines %
9647 \gdef\Hy@ps@CR{\noexpand
9648 }%
9649 \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`.

```

9650 \def\literalps@out#1{%
9651 \special{postscript 0 0 transform}%
9652 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9653 }%
9654 %

```

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.

```

9655 \def\headerps@out#1{%
9656 \special{%
9657 prepostscript TeXdict begin\Hy@ps@CR
9658 #1\Hy@ps@CR
9659 end%
9660 }%
9661 }%
9662 %

```

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.

```

9663 \g@addto@macro\Hy@FirstPageHook{%
9664 \headerps@out{%
9665 /betterpdfmark {%
9666 systemdict begin %

```



```

9667      dup /BP eq%
9668      {cleartomark gsave nulldevice []}%
9669      {dup /EP eq%
9670        {cleartomark cleartomark grestore}%
9671        {cleartomark}%
9672        ifelse%
9673      }ifelse %
9674      end%
9675    }def\Hy@ps@CR
9676    __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9677  }% end of \headerps@out
9678}% end of \AtBeginShipoutFirst
9679%
9680\input{pdfmark.def}%
9681%
9682\ifx\@pdfproducer\relax
9683  \def\@pdfproducer{Textures + Distiller}%
9684\fi
9685\providecommand*\@pdfborder{0 0 1}
9686\providecommand*\@pdfborderstyle{}
9687\providecommand*\@pdfview{XYZ}
9688\providecommand*\@pdfviewparams{ H.V}
9689%

```

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  $\TeX$ .

```

9690\headerps@out{%

```

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

```

9691  /vsize {\Hy@pageheight} def%
9692  /DvipsToPDF {} def%
9693  /PDFToDvips {} def%
9694  /BPToDvips {} def%
9695  /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9696  /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9697  /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9698  /H.S {%
9699    currentpoint %
9700    HyperBorder add /pdf@lly exch def %
9701    dup DvipsToPDF 72 add /pdf@hoff exch def %
9702    HyperBorder sub /pdf@llx exch def%
9703  } def\Hy@ps@CR
9704  /H.L {%
9705    2 sub %
9706    PDFToDvips /HyperBase exch def %
9707    currentpoint %
9708    HyperBase sub /pdf@ury exch def%
9709    /pdf@urx exch def%
9710  } def\Hy@ps@CR
9711  /H.A {%
9712    H.L %
9713    currentpoint exch pop %
9714    vsize 72 sub exch DvipsToPDF %
9715    HyperBase sub % baseline skip
9716    sub /pdf@voff exch def%

```

```

9717 } def\Hy@ps@CR
9718 /H.R {%
9719   currentpoint %
9720   HyperBorder sub /pdf@ury exch def %
9721   HyperBorder add /pdf@urx exch def %
9722   currentpoint exch pop vsize 72 sub %
9723   exch DvipsToPDF sub /pdf@voff exch def%
9724 } def\Hy@ps@CR
9725 }

9726 \AfterBeginDocument{%
9727   \ifHy@colorlinks
9728     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9729   \fi
9730 }

```

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.

```

9731 \expandafter\let\expandafter\keepPDF@SetupDoc
9732 \csname PDF@SetupDoc\endcsname
9733 \def\PDF@SetupDoc{%
9734   \ifx\@baseurl\@empty
9735   \else
9736     \special{html:<base href="\@baseurl">}%
9737   \fi
9738   \keepPDF@SetupDoc
9739 }

9740 \def\hyper@anchor#1{%
9741   \Hy@SaveLastskip
9742   \begingroup
9743     \let\protect=\string
9744     \special{html:<a name=%
9745       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9746   \endgroup
9747   \Hy@activeanchortrue
9748   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9749   \special{html:</a>}%
9750   \Hy@activeanchorfalse
9751   \Hy@RestoreLastskip
9752 }

9753 \def\hyper@anchorstart#1{%
9754   \Hy@SaveLastskip
9755   \begingroup
9756     \hyper@chars
9757     \special{html:<a name=%
9758       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9759   \endgroup
9760   \Hy@activeanchortrue
9761 }

9762 \def\hyper@anchorend{%
9763   \special{html:</a>}%
9764   \Hy@activeanchorfalse
9765   \Hy@RestoreLastskip
9766 }

9767 \def\@urltype{url}
9768 \def\hyper@linkstart#1#2{%
9769   \expandafter\Hy@colorlink\csname @#1color\endcsname
9770   \def\Hy@tempa{#1}%

```

```

9771 \ifx\Hy@tempa\@urltype
9772 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9773 \else
9774 \begingroup
9775 \hyper@chars
9776 \special{html:<a href=%
9777 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9778 \endgroup
9779 \fi
9780 }
9781 \def\hyper@linkend{%
9782 \special{html:</a>}}%
9783 \Hy@endcolorlink
9784 }
9785 \def\hyper@linkfile#1#2#3{%
9786 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9787 }
9788 \def\hyper@linkurl#1#2{%
9789 \leavevmode
9790 \ifHy@raiselinks
9791 \setbox\@tempboxa=\color@hbox #1\color@endbox
9792 \@linkdim\dp\@tempboxa
9793 \lower\@linkdim\hbox{%
9794 \hyper@chars
9795 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9796 }%
9797 \Hy@colorlink\@urlcolor#1%
9798 \@linkdim\ht\@tempboxa
9799 \advance\@linkdim by -6.5\p@
9800 \raise\@linkdim\hbox{\special{html:</a>}}%
9801 \Hy@endcolorlink
9802 \else
9803 \begingroup
9804 \hyper@chars
9805 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9806 \Hy@colorlink\@urlcolor#1%
9807 \special{html:</a>}}%
9808 \Hy@endcolorlink
9809 \endgroup
9810 \fi
9811 }

```

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

```

9812 \def\hyper@link#1#2#3{%
9813 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9814 }
9815 \def\hyper@image#1#2{%
9816 \begingroup
9817 \hyper@chars
9818 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9819 \endgroup
9820 }
9821 </textures>

```

## 46.12 dvipsone

```

9822 % \subsection{dvipsone driver}
9823 % Over-ride the default setup macro in pdfmark driver to use Y\&Y

```

```

9824% |\special| commands.
9825 \providecommand*{\XR@ext}{pdf}
9826 \def\Hy@raisedlink{}
9827 \providecommand*\pdfborder{0 0 1}
9828 \providecommand*\pdfborderstyle{}
9829 \def\literalps@out#1{\special{ps:#1}}%
9830 \def\headerps@out#1{\special{headertext=#1}}%
9831 \input{pdfmark.def}%
9832 \ifx\@pdfproducer\relax
9833 \def\@pdfproducer{dvipsone + Distiller}%
9834 \fi
9835 \def\PDF@FinishDoc{%
9836 \Hy@UseMaketitleInfos
9837 \special{PDF: Keywords \@pdfkeywords}%
9838 \special{PDF: Title \@pdftitle}%
9839 \special{PDF: Creator \@pdfcreator}%
9840 \ifx\@pdfcreationdate\empty
9841 \else
9842 \special{PDF: CreationDate \@pdfcreationdate}%
9843 \fi
9844 \ifx\@pdfmoddate\empty
9845 \else
9846 \special{PDF: ModDate \@pdfmoddate}%
9847 \fi
9848 \special{PDF: Author \@pdfauthor}%
9849 \ifx\@pdfproducer\relax
9850 \else
9851 \special{PDF: Producer \@pdfproducer}%
9852 \fi
9853 \special{PDF: Subject \@pdfsubject}%
9854 \Hy@DisableOption{pdfauthor}%
9855 \Hy@DisableOption{pdftitle}%
9856 \Hy@DisableOption{pdfsubject}%
9857 \Hy@DisableOption{pdfcreator}%
9858 \Hy@DisableOption{pdfcreationdate}%
9859 \Hy@DisableOption{pdfmoddate}%
9860 \Hy@DisableOption{pdfproducer}%
9861 \Hy@DisableOption{pdfkeywords}%
9862 }
9863 \def\PDF@SetupDoc{%
9864 \def\Hy@temp{}%
9865 \ifx\@pdfstartpage\empty
9866 \else
9867 \ifx\@pdfstartview\empty
9868 \else
9869 \edef\Hy@temp{%
9870 ,Page=\@pdfstartpage
9871 ,View=\@pdfstartview
9872 }%
9873 \fi
9874 \fi
9875 \edef\Hy@temp{%
9876 \noexpand\pdfmark{%
9877 pdfmark=/DOCVIEW,%
9878 PageMode=/\@pdfpagemode
9879 \Hy@temp

```

```

9881     }%
9882 }%
9883 \Hy@temp
9884 \ifx\@pdfpagescrop\@empty
9885 \else
9886   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9887 \fi
9888 \edef\Hy@temp{%
9889   \ifHy@toolbar\else /HideToolbar true\fi
9890   \ifHy@menubar\else /HideMenubar true\fi
9891   \ifHy@windowui\else /HideWindowUI true\fi
9892   \ifHy@fitwindow /FitWindow true\fi
9893   \ifHy@centerwindow /CenterWindow true\fi
9894   \ifHy@displaydoctitle /DisplayDocTitle true\fi
9895   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9896   \Hy@UseNameKey{Direction}\@pdfdirection
9897   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9898   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9899   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9900   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9901   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9902   \Hy@UseNameKey{Duplex}\@pdfduplex
9903   \ifx\@pdfpicktraybypdfsize\@empty
9904   \else
9905     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9906   \fi
9907   \ifx\@pdfprintpagerange\@empty
9908   \else
9909     /PrintPageRange[\@pdfprintpagerange]%
9910   \fi
9911   \ifx\@pdfnumcopies\@empty
9912   \else
9913     /NumCopies \@pdfnumcopies
9914   \fi
9915 }%
9916 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9917 \pdfmark{%
9918   pdfmark=/PUT,%
9919   Raw={%
9920     \string{Catalog\string}<<%
9921     \ifx\Hy@temp\@empty
9922     \else
9923       /ViewerPreferences<<\Hy@temp>>%
9924     \fi
9925     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9926     \ifx\@pdflang\@empty
9927     \else
9928       /Lang(\@pdflang)%
9929     \fi
9930     \ifx\@baseurl\@empty
9931     \else
9932       /URI<</Base(\Hy@pstringB)>>%
9933     \fi
9934     >>%
9935   }%
9936 }%
9937 }

```

```

9938 \providecommand*\@pdfview{XYZ}
9939 \providecommand*\@pdfviewparams{ %
9940   gsave revscl currentpoint grestore %
9941   72 add exch pop null exch null%
9942 }
9943 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

9944 \g@addto@macro\Hy@FirstPageHook{%
9945   \headerps@out{%

```

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

```

9946   /DvipsToPDF { 65781 div } def%
9947   /PDFToDvips { 65781 mul } def%
9948   /BPToDvips{65781 mul}def%
9949   /HyperBorder { 1 PDFToDvips } def%
9950   /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.

```

9951   /BorderArrayPatch{%
9952     [exch{%
9953       dup dup type/integertype eq exch type/realtype eq or%
9954       {BPToDvips}if%
9955     }forall]%
9956   }def%
9957   /H.S {%
9958     currentpoint %
9959     HyperBorder add /pdf@lly exch def %
9960     dup DvipsToPDF 72 add /pdf@hoff exch def %
9961     HyperBorder sub /pdf@llx exch def%
9962   } def%
9963   /H.L {%
9964     2 sub %
9965     PDFToDvips /HyperBase exch def %
9966     currentpoint %
9967     HyperBase sub /pdf@ury exch def%
9968     /pdf@urx exch def%
9969   } def%
9970   /H.A {%
9971     H.L %
9972     currentpoint exch pop %
9973     HyperBase sub % baseline skip
9974     DvipsToPDF /pdf@voff exch def%
9975   } def%
9976   /H.R {%
9977     currentpoint %
9978     HyperBorder sub /pdf@ury exch def %
9979     HyperBorder add /pdf@urx exch def %
9980     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9981   } def%
9982   }%
9983 }
9984 (/dvipsone)

```

## 46.13 TeX4ht

```
9985 <*tex4ht>
9986 \providecommand*{\XR@ext}{html}
9987 \def\Hy@raisedlink{}
9988 \@ifpackageloaded{tex4ht}{%
9989   \typeout{hyperref tex4ht: tex4ht already loaded}%
9990 }{%
9991   \RequirePackage[htex4ht]{tex4ht}%
9992 }
9993 \hyperlinkfileprefix{}
9994 \def\PDF@FinishDoc{}
9995 \def\PDF@SetupDoc{%
9996   \ifx\@baseurl\@empty
9997   \else
9998     \special{t4ht=<base href="\@baseurl">}%
9999   \fi
10000 }
10001 \def\hyper@anchor#1{%
10002   \Hy@SaveLastskip
10003   \begingroup
10004     \let\protect=\string
10005     \special{t4ht=<a name=%
10006       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10007   \endgroup
10008   \Hy@activeanchortrue
10009   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10010   \special{t4ht=</a>}%
10011   \Hy@activeanchorfalse
10012   \Hy@RestoreLastskip
10013 }
10014 \def\hyper@anchorstart#1{%
10015   \Hy@SaveLastskip
10016   \begingroup
10017     \hyper@chars\special{t4ht=<a name=%
10018       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10019   \endgroup
10020   \Hy@activeanchortrue
10021 }
10022 \def\hyper@anchorend{%
10023   \special{t4ht=</a>}%
10024   \Hy@activeanchorfalse
10025   \Hy@RestoreLastskip
10026 }
10027 \def\@urltype{url}
10028 \def\hyper@linkstart#1#2{%
10029   \expandafter\Hy@colorlink\csname @#1color\endcsname
10030   \def\Hy@tempa{#1}%
10031   \ifx\Hy@tempa\@urltype
10032     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10033   \else
10034     \begingroup
10035       \hyper@chars
10036       \special{t4ht=<a href=%
10037         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10038     \endgroup
10039   \fi
10040 }
```

```

10041 \def\hyper@linkend{%
10042   \special{t4ht=</a>}%
10043   \Hy@endcolorlink
10044 }
10045 \def\hyper@linkfile#1#2#3{%
10046   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10047 }
10048 \def\hyper@linkurl#1#2{%
10049   \leavevmode
10050   \ifHy@raiselinks
10051     \setbox\@tempboxa=\color@hbox #1\color@endbox
10052     \@linkdim\dp\@tempboxa
10053     \lower\@linkdim\hbox{%
10054       \begingroup
10055         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10056       \endgroup
10057     }%
10058     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10059     \@linkdim\ht\@tempboxa
10060     \advance\@linkdim by -6.5\p@
10061     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
10062   \else
10063     \begingroup
10064     \hyper@chars
10065     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10066     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10067     \special{t4ht=</a>}%
10068   \endgroup
10069 \fi
10070 }

```

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

```

10071 \def\hyper@link#1#2#3{%
10072   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10073 }
10074 \def\hyper@image#1#2{%
10075   \begingroup
10076   \hyper@chars
10077   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
10078   \endgroup
10079 }
10080 \let\autoref\ref
10081 \ifx \rEfLiNK \UnDef
10082   \def\rEfLiNK #1#2{#2}%
10083 \fi
10084 \def\backref#1{}
10085 </tex4ht>
10086 <*tex4htcfg>
10087 \IfFileExists{\jobname.cfg}{\endinput}{}
10088 \Preamble{html}
10089   \begin{document}%
10090 \EndPreamble
10091 \def\TeX{TeX}
10092 \def\OMEGA{\Omega}
10093 \def\LaTeX{LaTeX}
10094 \def\LaTeXe{\LaTeX2e}
10095 \def\eTeX{e-TeX}
10096 \def\MF{Metafont}

```



```
10097 \def\MP{MetaPost}
10098 </tex4htcfg>
```

## 47 Driver-specific form support

### 47.1 pdfmarks

```
10099 <*pdfmark>
10100 \long\def\@Form[#1]{%
10101 \g@addto@macro\Hy@FirstPageHook{%
10102 \headerps@out{%
10103 [%
10104   /_objdef{pdfDocEncoding}%
10105   /type/dict%
10106 /OBJ pdfmark%
10107 [%
10108   {pdfDocEncoding}%
10109   <<%
10110     /Type/Encoding%
10111     /Differences[%
10112       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10113       /tilde %
10114       39/quotesingle %
10115       96/grave %
10116       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10117       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10118       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10119       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10120       /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10121       164/currency %
10122       166/brokenbar %
10123       168/dieresis/copyright/ordfeminine %
10124       172/logicalnot/.notdef/registered/macron/degree/plusminus%
10125       /twosuperior/threesuperior/acute/mu %
10126       183/periodcentered/cedilla/onesuperior/ordmasculine %
10127       188/onequarter/onehalf/threequarters %
10128       192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10129       /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10130       /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10131       /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10132       /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10133       /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10134       /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10135       /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10136       /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10137       /ucircumflex/udieresis/yacute/thorn/ydieresis%
10138     ]%
10139   >>%
10140 /PUT pdfmark%
10141 [%
10142   /_objdef{ZaDb}%
10143   /type/dict%
10144 /OBJ pdfmark%
10145 [%
10146   {ZaDb}%
10147   <<%
10148     /Type/Font%
10149     /Subtype/Type1%
```

```

10150     /Name/ZaDb%
10151     /BaseFont/ZapfDingbats%
10152   >>%
10153 /PUT pdfmark%
10154 [%
10155   /_objdef{Helv}%
10156   /type/dict%
10157 /OBJ pdfmark%
10158 [%
10159   {Helv}%
10160   <<%
10161     /Type/Font%
10162     /Subtype/Type1%
10163     /Name/Helv%
10164     /BaseFont/Helvetica%
10165     /Encoding{pdfDocEncoding}%
10166   >>%
10167 /PUT pdfmark%
10168 [%
10169   /_objdef{aform}%
10170   /type/dict%
10171 /OBJ pdfmark%
10172 [%
10173   /_objdef{afields}%
10174   /type/array%
10175 /OBJ pdfmark%
10176 {%
10177   [%
10178     /BBox[0 0 100 100]%
10179     /_objdef{Check}%
10180   /BP pdfmark %
10181   1 0 0 setrgbcolor%
10182   /ZapfDingbats 80 selectfont %
10183   20 20 moveto%
10184   (4)show%
10185   [/EP pdfmark%
10186   [%
10187     /BBox[0 0 100 100]%
10188     /_objdef{Cross}%
10189   /BP pdfmark %
10190   1 0 0 setrgbcolor%
10191   /ZapfDingbats 80 selectfont %
10192   20 20 moveto%
10193   (8)show%
10194   [/EP pdfmark%
10195   [%
10196     /BBox[0 0 250 100]%
10197     /_objdef{Submit}%
10198   /BP pdfmark %
10199   0.6 setgray %
10200   0 0 250 100 rectfill %
10201   1 setgray %
10202   2 2 moveto %
10203   2 98 lineto %
10204   248 98 lineto %
10205   246 96 lineto %
10206   4 96 lineto %

```

```

10207 4 4 lineto %
10208 fill %
10209 0.34 setgray %
10210 248 98 moveto %
10211 248 2 lineto %
10212 2 2 lineto %
10213 4 4 lineto %
10214 246 4 lineto %
10215 246 96 lineto %
10216 fill%
10217 /Helvetica 76 selectfont %
10218 0 setgray %
10219 8 22.5 moveto%
10220 (Submit)show%
10221 [/EP pdfmark%
10222 [%
10223   /BBox[0 0 250 100]%
10224   /_objdef{SubmitP}%
10225 /BP pdfmark %
10226 0.6 setgray %
10227 0 0 250 100 rectfill %
10228 0.34 setgray %
10229 2 2 moveto %
10230 2 98 lineto %
10231 248 98 lineto %
10232 246 96 lineto %
10233 4 96 lineto %
10234 4 4 lineto %
10235 fill %
10236 1 setgray %
10237 248 98 moveto %
10238 248 2 lineto %
10239 2 2 lineto %
10240 4 4 lineto %
10241 246 4 lineto %
10242 246 96 lineto %
10243 fill%
10244 /Helvetica 76 selectfont %
10245 0 setgray %
10246 10 20.5 moveto%
10247 (Submit)show%
10248 [/EP pdfmark%
10249 } ?pdfmark%
10250 [%
10251 {aform}%
10252 <<%
10253   /Fields{afields}%
10254   /DR<<%
10255     /Font<<%
10256       /ZaDb{ZaDb}%
10257       /Helv{Helv}%
10258     >>%
10259   >>%
10260   /DA(/Helv 10 Tf 0 g)%
10261   /CO{corder}%
10262   \ifHy@pdfa
10263   \else

```

```

10264      /NeedAppearances true%
10265      \fi
10266    >>%
10267  /PUT pdfmark%
10268 [%
10269   {Catalog}%
10270   <<%
10271     /AcroForm{aform}%
10272   >>%
10273 /PUT pdfmark%
10274 [%
10275   /_objdef{corder}%
10276   /type/array%
10277 /OBJ pdfmark% dps
10278 }}%
10279   \setkeys{Form}{#1}%
10280 }
10281 \def\@endForm{}
10282 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10283   \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10284 }
10285 \def\@TextField[#1]#2{% parameters, label
10286   \def\Fld@name{#2}%
10287   \def\Fld@default{}%
10288   \let\Fld@value\@empty
10289   \def\Fld@width{\DefaultWidthofText}%
10290   \def\Fld@height{%
10291     \ifFld@multiline
10292       \DefaultHeightofTextMultiline
10293     \else
10294       \DefaultHeightofText
10295     \fi
10296   }%
10297   \begingroup
10298     \Field@toks={ }%
10299     \expandafter\HyField@SetKeys\expandafter{%
10300       \DefaultOptionsofText,#1%
10301     }%
10302     \HyField@FlagsText
10303     \ifFld@hidden\def\Fld@width{1sp}\fi
10304     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10305     \LayoutTextField{#2}{%
10306       \Hy@escapeform\PDFForm@Text
10307       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10308         pdfmark=/ANN,Raw={\PDFForm@Text}%
10309       }%
10310     }%
10311   \endgroup
10312 }
10313 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10314   \def\Fld@name{#2}%
10315   \let\Fld@default\relax
10316   \let\Fld@value\relax
10317   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10318   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10319   \begingroup
10320     \Fld@menulength=0 %

```

```

10321 \@tempdima\z@
10322 \@for\@curropt:=#3\do{%
10323   \expandafter\Fld@checkequals\@curropt==\%
10324   \Hy@StepCount\Fld@menulength
10325   \settowidth{\@tempdimb}{\@currDisplay}%
10326   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10327 }%
10328 \advance\@tempdima by 15\p@
10329 \Field@toks={ }%
10330 \beginngroup
10331   \HyField@SetKeys{#1}%
10332 \edef\x{\endgroup
10333   \noexpand\expandafter
10334   \noexpand\HyField@SetKeys
10335   \noexpand\expandafter{%
10336     \expandafter\noexpand\csname DefaultOptionsof%
10337       \ifFld@radio
10338         Radio%
10339       \else
10340         \ifFld@combo
10341           \ifFld@popdown
10342             PopdownBox%
10343           \else
10344             ComboBox%
10345           \fi
10346         \else
10347           ListBox%
10348         \fi
10349       \fi
10350     \endcsname
10351   }%
10352 }\x
10353 \HyField@SetKeys{#1}%
10354 \ifFld@hidden\def\Fld@width{1sp}\fi
10355 \ifx\Fld@value\relax
10356   \let\Fld@value\Fld@default
10357 \fi
10358 \LayoutChoiceField{#2}{%
10359   \ifFld@radio
10360     \HyField@FlagsRadioButton
10361     \@@Radio{#3}%
10362   \else
10363     \beginngroup
10364       \HyField@FlagsChoice
10365       \ifdim\Fld@width<\@tempdima
10366         \ifdim\@tempdima<1cm\@tempdima1cm\fi
10367         \edef\Fld@width{\the\@tempdima}%
10368       \fi
10369       \ifFld@combo
10370       \else
10371         \@tempdima=\the\Fld@menulength\Fld@charsize
10372         \advance\@tempdima by \Fld@borderwidth bp %
10373         \advance\@tempdima by \Fld@borderwidth bp %
10374         \edef\Fld@height{\the\@tempdima}%
10375       \fi
10376       \@@ListBox{#3}%
10377     \endgroup

```

```

10378     \fi
10379   }%
10380 \endgroup
10381 }
10382 \def\@@Radio#1{%
10383   \Fld@listcount=0 %
10384   \@for\@curropt:=#1\do{%
10385     \expandafter\Fld@checkequals\@curropt==\%
10386     \Hy@StepCount\Fld@listcount
10387     \@currDisplay\space
10388     \Hy@escapeform\PDFForm@Radio
10389     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10390       pdfmark=/ANN,%
10391       Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10392     } % deliberate space between radio buttons
10393   }%
10394 }
10395 \newcount\Fld@listcount
10396 \def\@@ListBox#1{%
10397   \HyField@PDFChoices{#1}%
10398   \Hy@escapeform\PDFForm@List
10399   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10400     pdfmark=/ANN,Raw={\PDFForm@List}%
10401   }%
10402 }
10403 \def\@PushButton[#1]#2{% parameters, label
10404   \def\Fld@name{#2}%
10405   \begingroup
10406     \Field@toks={ }%
10407     \expandafter\HyField@SetKeys\expandafter{%
10408       \DefaultOptionsofPushButton,#1%
10409     }%
10410     \ifHy@pdfa
10411       \PackageError{hyperref}{%
10412         PDF/A: Push button with JavaScript is prohibited%
10413       }{\@ehc}
10414       \LayoutPushButtonField{%
10415         \leavevmode
10416         \MakeButtonField{#2}%
10417       }%
10418     \else
10419       \HyField@FlagsPushButton
10420       \ifFld@hidden\def\Fld@width{1sp}\fi
10421       \LayoutPushButtonField{%
10422         \leavevmode
10423         \Hy@escapeform\PDFForm@Push
10424         \pdfmark[\MakeButtonField{#2}]{%
10425           pdfmark=/ANN,Raw={\PDFForm@Push}%
10426         }%
10427       }%
10428     \fi
10429   \endgroup
10430 }
10431 \def\@Submit[#1]#2{%
10432   \Field@toks={ }%
10433   \def\Fld@width{\DefaultWidthofSubmit}%
10434   \def\Fld@height{\DefaultHeightofSubmit}%

```

```

10435 \begingroup
10436   \expandafter\HyField@SetKeys\expandafter{%
10437     \DefaultOptionsofSubmit,#1%
10438   }%
10439   \HyField@FlagsPushButton
10440   \HyField@FlagsSubmit
10441   \ifFld@hidden\def\Fld@width{1sp}\fi
10442   \Hy@escapeform\PDFForm@Submit
10443   \pdfmark[\MakeButtonField{#2}]{%
10444     pdfmark=/ANN,%
10445     Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10446   }%
10447 \endgroup
10448 }
10449 \def\@Reset[#1]#2{%
10450   \Field@toks={ }%
10451   \def\Fld@width{\DefaultWidthofReset}%
10452   \def\Fld@height{\DefaultHeightofReset}%
10453   \begingroup
10454     \expandafter\HyField@SetKeys\expandafter{%
10455       \DefaultOptionsofReset,#1%
10456     }%
10457     \leavevmode
10458     \ifHy@pdfa
10459       \PackageError{hyperref}{%
10460         PDF/A: Reset action is prohibited%
10461       }{\@ehc
10462         \MakeButtonField{#2}%
10463       }%
10464     \else
10465       \HyField@FlagsPushButton
10466       \ifFld@hidden\def\Fld@width{1sp}\fi
10467       \Hy@escapeform\PDFForm@Reset
10468       \pdfmark[\MakeButtonField{#2}]{%
10469         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10470       }%
10471     \fi
10472   \endgroup
10473 }%
10474 \def\@CheckBox[#1]#2{% parameters, label
10475   \def\Fld@name{#2}%
10476   \def\Fld@default{0}%
10477   \begingroup
10478     \def\Fld@width{\DefaultWidthofCheckBox}%
10479     \def\Fld@height{\DefaultHeightofCheckBox}%
10480     \Field@toks={ }%
10481     \expandafter\HyField@SetKeys\expandafter{%
10482       \DefaultOptionsofCheckBox,#1%
10483     }%
10484     \HyField@FlagsCheckBox
10485     \ifFld@hidden\def\Fld@width{1sp}\fi
10486     \LayoutCheckField{#2}{%
10487       \Hy@escapeform\PDFForm@Check
10488       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10489         pdfmark=/ANN,Raw={\PDFForm@Check}%
10490       }%
10491     }%
10492   \endgroup

```

```

10492 }
10493 </pdfmark>

```

## 47.2 HyperTeX

```

10494 <*hypertext>
10495 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10496 \def\@endForm{}
10497 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10498   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10499 }
10500 \def\@TextField[#1]#2{% parameters, label
10501   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10502 }
10503 \def\@CheckBox[#1]#2{% parameters, label
10504   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10505 }
10506 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10507   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10508 }
10509 \def\@PushButton[#1]#2{% parameters, label
10510   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10511 }
10512 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10513 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10514 </hypertext>

```

## 47.3 TeX4ht

```

10515 <*tex4ht>
10516 \def\@Form[#1]{%
10517   \setkeys{Form}{#1}%
10518   \HCode{<form action="\Form@action" method="\Form@method">}%
10519 }
10520 \def\@endForm{\HCode{</form>}}
10521 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10522   \typeout{Sorry, TeX4ht does not support gauges}%
10523 }
10524 \def\@TextField[#1]#2{% parameters, label
10525   \let\Hy@reserved@a\@empty
10526   \def\Fld@name{#2}%
10527   \def\Fld@default{}%
10528   \bgroup
10529     \Field@toks={ }%
10530     \setkeys{Field}{#1}%
10531     \HCode{<label for="\Fld@name">#2</label>}%
10532     \ifFld@password
10533       \@@PasswordField
10534     \else
10535       \@@TextField
10536     \fi
10537   \egroup
10538 }
10539 \def\@@PasswordField{%
10540   \HCode{%
10541     <input type="password" %
10542       id="\Fld@name" %
10543       name="\Fld@name" %
10544       \ifFld@hidden type="hidden" \fi

```



```

10545     value="\Fld@default" %
10546     \the\Field@toks
10547     >%
10548 }%
10549 }
10550 \def\@@TextField{%
10551   \ifFld@multiline
10552     \HCode{<textarea %
10553       \ifFld@readonly readonly \fi
10554       id="\Fld@name" %
10555       name="\Fld@name" %
10556       \ifFld@hidden type="hidden" \fi
10557       \the\Field@toks>%
10558   }%
10559   \Fld@default
10560   \HCode{</textarea>}%
10561 \else
10562   \HCode{<input type="textbox" %
10563     \ifFld@readonly readonly \fi
10564     id="\Fld@name" %
10565     name="\Fld@name" %
10566     \ifFld@hidden type="hidden" \fi
10567     value="\Fld@default" %
10568     \the\Field@toks>%
10569   }%
10570 \fi
10571 }
10572 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10573   \def\Fld@name{#2}%
10574   \def\Fld@default{}%
10575   \let\Hy@reserved@a\relax
10576   \begin{group}
10577     \expandafter\Fld@findlength#3\\%
10578     \Field@toks={ }%
10579     \setkeys{Field}{#1}%
10580     #2%
10581     \ifFld@radio
10582       \expandafter\@@Radio#3\\%
10583     \else
10584       \expandafter\@@Menu#3\\%
10585     \fi
10586   \end{group}
10587 }
10588 \def\Fld@findlength#1\\{%
10589   \Fld@menulength=0 %
10590   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10591 }
10592 \def\@@Menu#1\\{%
10593   \HCode{<select size="\the\Fld@menulength" %
10594     name="\Fld@name" %
10595     \the\Field@toks>%
10596   }%
10597   \@for\@curropt:=#1\do{%
10598     \expandafter\Fld@checkequals\@curropt==\\%
10599     \HCode{<option %
10600       \ifx\@curropt\Fld@default selected \fi
10601       value="\@currValue">\@currDisplay</option>%

```

```

10602     }%
10603 }%
10604 \HCode{</select>}%
10605 }
10606 \def\@Radio#1\\{%
10607   \@for\@curropt:=#1\do{%
10608     \expandafter\Fld@checkequals\@curropt==\\%
10609     \HCode{<input type="radio" %
10610       \ifx\@curropt\Fld@default checked \fi
10611       name="\Fld@name" %
10612       value="\@currValue" %
10613       \the\Field@toks>%
10614     }%
10615     \@currDisplay
10616   }%
10617 }
10618 \def\@PushButton[#1]#2{% parameters, label
10619   \def\Fld@name{#2}%
10620   \bgroup
10621     \Field@toks={ }%
10622     \setkeys{Field}{#1}%
10623     \HCode{<input type="button" %
10624       name="\Fld@name" %
10625       value="#2" %
10626       \the\Field@toks>%
10627     }%
10628     \HCode{</button>}%
10629   \egroup
10630 }
10631 \def\@Submit[#1]#2{%
10632   \HCode{<button type="submit">#2</button>}%
10633 }
10634 \def\@Reset[#1]#2{%
10635   \HCode{<button type="reset">#2</button>}%
10636 }
10637 \def\@CheckBox[#1]#2{% parameters, label
10638   \let\Hy@reserved@a\@empty
10639   \def\Fld@name{#2}%
10640   \def\Fld@default{0}%
10641   \bgroup
10642     \Field@toks={ }%
10643     \setkeys{Field}{#1}%
10644     \HCode{<input type="checkbox" %
10645       \ifFld@checked checked \fi
10646       \ifFld@disabled disabled \fi
10647       \ifFld@readonly readonly \fi
10648       name="\Fld@name" %
10649       \ifFld@hidden type="hidden" \fi
10650       value="\Fld@default" %
10651       \the\Field@toks>%
10652     #2%
10653   }%
10654   \egroup
10655 }
10656 </tex4ht>

```

## 47.4 pdfTeX

```

10657 <*pdfTeX>
10658 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10659   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10660 }
10661 \def\MakeFieldObject#1#2{\sbox0{#1}%
10662   \immediate\pdfxform0 %
10663   \expandafter\edef\csname #2object\endcsname{%
10664     \the\pdflastxform\space 0 R%
10665   }%
10666 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10667 }%
10668 \def\HyField@afields{}
10669 \begingroup\expandafter\expandafter\expandafter\endgroup
10670 \expandafter\ifx\csname pdfastlink\endcsname\relax
10671   \let\HyField@AddToFields\relax
10672   \PackageInfo{hyperref}{%
10673     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10674     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10675     but other PDF viewers might complain%
10676   }%
10677 \else
10678   \def\HyField@AddToFields{%
10679     \xdef\HyField@afields{%
10680       \ifx\HyField@afields\@empty
10681         \else
10682           \HyField@afields
10683           \space
10684         \fi
10685       \the\pdfastlink\space 0 R%
10686     }%
10687   }%
10688 \fi
10689 \def\@Form[#1]{%
10690   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10691   \setkeys{Form}{#1}%
10692   \Hy@FormObjects
10693   \ifnum\pdfTeXversion>13 %
10694     \pdfrefobj\OBJ@pdfdocencoding
10695     \pdfrefobj\OBJ@ZaDb
10696     \pdfrefobj\OBJ@Helv
10697   \fi
10698   \AtEndDocument{%
10699     \immediate\pdfobj{%
10700       <<%
10701         /Fields[\HyField@afields]%
10702         /DR<<%
10703           /Font<<%
10704             /ZaDb \OBJ@ZaDb\space 0 R%
10705             /Helv \OBJ@Helv\space 0 R%
10706           >>%
10707         >>%
10708         /DA(/Helv 10 Tf 0 g)%
10709         \ifHy@pdfa
10710         \else
10711           /NeedAppearances true%
10712         \fi
10713       >>%

```

```

10714 }%
10715 \edef\OBJ@acroform{\the\pdflastobj}%
10716 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10717 }%
10718 \MakeFieldObject{%
Same as \ding{123} of package pifont.
10719 \beginngroup
10720 \fontfamily{pzd}%
10721 \fontencoding{U}%
10722 \fontseries{m}%
10723 \fontshape{n}%
10724 \selectfont
10725 \char123 %
10726 \endgroup
10727 }{Ding}%
10728 \MakeFieldObject{%
10729 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10730 }{Submit}%
10731 \MakeFieldObject{%
10732 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10733 }{SubmitP}%
10734 }
10735 \def\@endForm{}
10736 \def\@TextField[#1]#2{% parameters, label
10737 \def\Fld@name{#2}%
10738 \def\Fld@default{}%
10739 \let\Fld@value\@empty
10740 \def\Fld@width{\DefaultWidthofText}%
10741 \def\Fld@height{%
10742 \ifFld@multiline
10743 \DefaultHeightofTextMultiline
10744 \else
10745 \DefaultHeightofText
10746 \fi
10747 }%
10748 \beginngroup
10749 \Field@toks={ }%
10750 \expandafter\HyField@SetKeys\expandafter{%
10751 \DefaultOptionsofText,#1%
10752 }%
10753 \PDFForm@Name
10754 \HyField@FlagsText
10755 \ifFld@hidden\def\Fld@width{1sp}\fi
10756 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10757 \LayoutTextField{#2}{%
10758 \Hy@escapeform\PDFForm@Text
10759 \pdfstartlink user {\PDFForm@Text}\relax
10760 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10761 \HyField@AddToFields
10762 }%
10763 \endgroup
10764 }
10765 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10766 \def\Fld@name{#2}%
10767 \let\Fld@default\relax
10768 \let\Fld@value\relax
10769 \def\Fld@width{\DefaultWidthofChoiceMenu}%

```

```

10770 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10771 \begingroup
10772   \Fld@menulength=0 %
10773   \@tempdima\z@
10774   \@for\@curropt:=#3\do{%
10775     \expandafter\Fld@checkequals\@curropt==\\%
10776     \Hy@StepCount\Fld@menulength
10777     \settowidth{\@tempdimb}{\@currDisplay}%
10778     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10779   }%
10780   \advance\@tempdima by 15\p@
10781   \Field@toks={ }%
10782   \begingroup
10783     \HyField@SetKeys{#1}%
10784   \edef\x{\endgroup
10785     \noexpand\expandafter
10786     \noexpand\HyField@SetKeys
10787     \noexpand\expandafter{%
10788       \expandafter\noexpand\csname DefaultOptionsof%
10789         \ifFld@radio
10790           Radio%
10791         \else
10792           \ifFld@combo
10793             \ifFld@popdown
10794               PopdownBox%
10795             \else
10796               ComboBox%
10797             \fi
10798           \else
10799             ListBox%
10800           \fi
10801         \fi
10802       \endcsname
10803     }%
10804   }\x
10805   \HyField@SetKeys{#1}%
10806   \PDFForm@Name
10807   \ifFld@hidden\def\Fld@width{1sp}\fi
10808   \ifx\Fld@value\relax
10809     \let\Fld@value\Fld@default
10810   \fi
10811   \LayoutChoiceField{#2}{%
10812     \ifFld@radio
10813       \HyField@FlagsRadioButton
10814       \@@Radio{#3}%
10815     \else
10816       \begingroup
10817         \HyField@FlagsChoice
10818         \ifdim\Fld@width<\@tempdima
10819           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10820         \edef\Fld@width{\the\@tempdima}%
10821       \fi
10822       \ifFld@combo
10823       \else
10824         \@tempdima=\the\Fld@menulength\Fld@charsize
10825         \advance\@tempdima by \Fld@borderwidth bp %
10826         \advance\@tempdima by \Fld@borderwidth bp %

```

```

10827         \edef\Fld@height{\the\@tempdima}%
10828         \fi
10829         \@@Listbox{#3}%
10830     \endgroup
10831 \fi
10832 }%
10833 \endgroup
10834 }
10835 \def\@@Radio#1{%
10836     \Fld@listcount=0 %
10837     \@for\@curropt:=#1\do{%
10838         \expandafter\Fld@checkequals\@curropt==\%
10839         \Hy@StepCount\Fld@listcount
10840         \@currDisplay\space
10841         \leavevmode
10842         \Hy@escapeform\PDFForm@Radio
10843         \pdfstartlink user {%
10844             \PDFForm@Radio
10845             /AP<<%
10846             /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.

```

10847         /\@currValue\space \DingObject
10848         >>%
10849     >>%
10850 }%
10851 \relax
10852 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10853 \ifnum\Fld@listcount=1 %
10854     \HyField@AddToFields
10855 \fi
10856 \space % deliberate space between radio buttons
10857 }%
10858 }
10859 \newcount\Fld@listcount
10860 \def\@@Listbox#1{%
10861     \HyField@PDFChoices{#1}%
10862     \leavevmode
10863     \Hy@escapeform\PDFForm@List
10864     \pdfstartlink user {\PDFForm@List}\relax
10865     \MakeChoiceField{\Fld@width}{\Fld@height}%
10866     \pdfendlink
10867     \HyField@AddToFields
10868 }
10869 \def\@PushButton[#1]#2{% parameters, label
10870     \def\Fld@name{#2}%
10871     \begingroup
10872         \Field@toks={ }%
10873         \expandafter\HyField@SetKeys\expandafter{%
10874             \DefaultOptionsofPushButton,#1%
10875         }%
10876         \PDFForm@Name
10877         \ifHy@pdfa
10878             \PackageError{hyperref}{%
10879                 PDF/A: Push button with JavaScript is prohibited%
10880             }\@ehc

```

```

10881     \LayoutPushButtonField{%
10882     \leavevmode
10883     \MakeButtonField{#2}%
10884     }%
10885 \else
10886     \HyField@FlagsPushButton
10887     \ifFld@hidden\def\Fld@width{1sp}\fi
10888     \LayoutPushButtonField{%
10889     \leavevmode
10890     \Hy@escapeform\PDFForm@Push
10891     \pdfstartlink user {\PDFForm@Push}\relax
10892     \MakeButtonField{#2}%
10893     \pdfendlink
10894     \HyField@AddToFields
10895     }%
10896 \fi
10897 \endgroup
10898 }
10899 \def\@Submit[#1]#2{%
10900 \Field@toks={ }%
10901 \def\Fld@width{\DefaultWidthofSubmit}%
10902 \def\Fld@height{\DefaultHeightofSubmit}%
10903 \begingroup
10904 \expandafter\HyField@SetKeys\expandafter{%
10905 \DefaultOptionsofSubmit,#1%
10906 }%
10907 \HyField@FlagsPushButton
10908 \HyField@FlagsSubmit
10909 \ifFld@hidden\def\Fld@width{1sp}\fi
10910 \leavevmode
10911 \Hy@escapeform\PDFForm@Submit
10912 \pdfstartlink user {%
10913 \PDFForm@Submit
10914 /AP<</N \SubmitObject/D \SubmitPObject>>%
10915 }%
10916 \relax
10917 \MakeButtonField{#2}%
10918 \pdfendlink
10919 \HyField@AddToFields
10920 \endgroup
10921 }
10922 \def\@Reset[#1]#2{%
10923 \Field@toks={ }%
10924 \def\Fld@width{\DefaultWidthofReset}%
10925 \def\Fld@height{\DefaultHeightofReset}%
10926 \begingroup
10927 \expandafter\HyField@SetKeys\expandafter{%
10928 \DefaultOptionsofReset,#1%
10929 }%
10930 \leavevmode
10931 \ifHy@pdfa
10932 \PackageError{hyperref}{%
10933 PDF/A: Reset action is prohibited%
10934 }\@ehc
10935 \MakeButtonField{#2}%
10936 \else
10937 \HyField@FlagsPushButton

```

```

10938     \ifFld@hidden\def\Fld@width{1sp}\fi
10939     \Hy@escapeform\PDFForm@Reset
10940     \pdfstartlink user {\PDFForm@Reset}\relax
10941     \MakeButtonField{#2}%
10942     \pdfendlink
10943     \HyField@AddToFields
10944     \fi
10945 \endgroup
10946 }
10947 \def\@CheckBox[#1]#2{% parameters, label
10948     \def\Fld@name{#2}%
10949     \def\Fld@default{0}%
10950     \begingroup
10951         \def\Fld@width{\DefaultWidthofCheckBox}%
10952         \def\Fld@height{\DefaultHeightofCheckBox}%
10953         \Field@toks={ }%
10954         \expandafter\HyField@SetKeys\expandafter{%
10955             \DefaultOptionsofCheckBox,#1%
10956         }%
10957         \PDFForm@Name
10958         \HyField@FlagsCheckBox
10959         \ifFld@hidden\def\Fld@width{1sp}\fi
10960         \LayoutCheckField{#2}{%
10961             \Hy@escapeform\PDFForm@Check
10962             \pdfstartlink user {\PDFForm@Check}\relax
10963             \MakeCheckField{\Fld@width}{\Fld@height}%
10964             \pdfendlink
10965             \HyField@AddToFields
10966         }%
10967     \endgroup
10968 }
10969 \def\Hy@FormObjects{%
10970     \pdfobj {%
10971         <<%
10972             /Type/Encoding%
10973             /Differences[%
10974                 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10975                 /ring/tilde %
10976                 39/quotesingle %
10977                 96/grave %
10978                 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10979                 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10980                 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10981                 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10982                 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10983                 164/currency %
10984                 166/brokenbar %
10985                 168/dieresis/copyright/ordfeminine %
10986                 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10987                 /twosuperior/threesuperior/acute/mu %
10988                 183/periodcentered/cedilla/onesuperior/ordmasculine %
10989                 188/onequarter/onehalf/threequarters %
10990                 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10991                 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10992                 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10993                 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10994                 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%

```



```

10995      /grave/aacute/acircumflex/atilde/adieresis/aring/ae%
10996      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10997      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10998      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10999      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11000    ]%
11001    >>%
11002  }%
11003  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11004  \pdfobj{%
11005    <<%
11006      /Type/Font%
11007      /Subtype/Type1%
11008      /Name/ZaDb%
11009      /BaseFont/ZapfDingbats%
11010    >>%
11011  }%
11012  \xdef\OBJ@ZaDb{\the\pdflastobj}%
11013  \pdfobj{%
11014    <<%
11015      /Type/Font%
11016      /Subtype/Type1%
11017      /Name/Helv%
11018      /BaseFont/Helvetica%
11019      /Encoding \OBJ@pdfdocencoding\space 0 R%
11020    >>%
11021  }%
11022  \xdef\OBJ@Helv{\the\pdflastobj}%
11023  \global\let\Hy@FormObjects\relax
11024 }
11025 </pdfTeX>

```

## 47.5 dvipdfm

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

11026 < *dvipdfm>

```

\@Gauge

```

11027 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11028   \typeout{Sorry, dvipdfm does not support FORM gauges}%
11029 }

```

\@Form

```

11030 \def\@Form[#1]{%
11031   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
11032   \setkeys{Form}{#1}%
11033   \Hy@FormObjects
11034   \@pdfm@mark{obj @afields []}%
11035   \@pdfm@mark{obj @corder []}%
11036   \@pdfm@mark{%
11037     obj @aform <<%
11038       /Fields @afields%
11039       /DR<<%
11040       /Font<<%
11041       /ZaDb @OBJZaDb%
11042       /Helv @OBJHelv%

```

```

11043         >>%
11044     >>%
11045     /DA(/Helv 10 Tf 0 g)%
11046     /CO @corder%
11047     \ifHy@pdfa
11048     \else
11049         /NeedAppearances true%
11050     \fi
11051     >>%
11052 }%
11053 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11054 }

\@endForm

11055 \def\@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

11056 \def\dvipdfm@setdim{%
11057     height \the\ht\pdfm@box\space
11058     width \the\wd\pdfm@box\space
11059     depth \the\dp\pdfm@box\space
11060 }

\HyField@AnnotCount

11061 \newcount\HyField@AnnotCount
11062 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

11063 \def\HyField@AdvanceAnnotCount{%
11064     \global\advance\HyField@AnnotCount\@ne
11065 }

\HyField@TheAnnotCount

11066 \def\HyField@TheAnnotCount{%
11067     \the\HyField@AnnotCount
11068 }

\@TextField

11069 \def\@TextField[#1]#2{% parameters, label
11070     \def\Fld@name{#2}%
11071     \def\Fld@default{}%
11072     \let\Fld@value\@empty
11073     \def\Fld@width{\DefaultWidthofText}%
11074     \def\Fld@height{%
11075         \ifFld@multiline
11076             \DefaultHeightofTextMultiline
11077         \else
11078             \DefaultHeightofText
11079         \fi
11080     }%
11081     \begingroup
11082         \Field@toks={ }%
11083         \expandafter\HyField@SetKeys\expandafter{%
11084             \DefaultOptionsofText,#1%
11085         }%
11086     \PDFForm@Name

```

```

11087 \HyField@FlagsText
11088 \ifFld@hidden\def\Fld@width{1sp}\fi
11089 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
11090 \setbox\pdfm@box=\hbox{%
11091   \MakeTextField{\Fld@width}{\Fld@height}%
11092 }%
11093 \HyField@AdvanceAnnotCount
11094 \LayoutTextField{#2}{%
11095   \Hy@escapeform\PDFForm@Text
11096   \@pdfm@mark{%
11097     ann @text\HyField@TheAnnotCount\space
11098     \dvipdfm@setdim << \PDFForm@Text >>%
11099   }%
11100 }%
11101 \unhbox\pdfm@box
11102 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
11103 % record in @afields array
11104 \endgroup
11105 }

```

#### \@ChoiceMenu

```

11106 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11107   \def\Fld@name{#2}%
11108   \let\Fld@default\relax
11109   \let\Fld@value\relax
11110   \def\Fld@width{\DefaultWidthofChoiceMenu}%
11111   \def\Fld@height{\DefaultHeightofChoiceMenu}%
11112   \begingroup
11113     \Fld@menulength=0 %
11114     \@tempdima\z@
11115     \@for\@curropt:=#3\do{%
11116       \expandafter\Fld@checkequals\@curropt==\%
11117       \Hy@StepCount\Fld@menulength
11118       \settowidth{\@tempdimb}{\@currDisplay}%
11119       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11120     }%
11121     \advance\@tempdima by 15\p@
11122     \Field@toks={ }%
11123     \begingroup
11124       \HyField@SetKeys{#1}%
11125     \edef\x{\endgroup
11126       \noexpand\expandafter
11127       \noexpand\HyField@SetKeys
11128       \noexpand\expandafter{%
11129         \expandafter\noexpand\cname DefaultOptionsof%
11130         \ifFld@radio
11131           Radio%
11132         \else
11133           \ifFld@combo
11134             \ifFld@popdown
11135               PopdownBox%
11136             \else
11137               ComboBox%
11138             \fi
11139           \else
11140             ListBox%
11141           \fi

```

```

11142         \fi
11143         \endcsname
11144     }%
11145 } \x
11146 \HyField@SetKeys{#1}%
11147 \PDFForm@Name
11148 \ifFld@hidden\def\Fld@width{1sp}\fi
11149 \ifx\Fld@value\relax
11150     \let\Fld@value\Fld@default
11151 \fi
11152 \LayoutChoiceField{#2}{%
11153     \ifFld@radio
11154         \HyField@FlagsRadioButton
11155         \@@Radio{#3}%
11156     \else
11157         \begingroup
11158             \HyField@FlagsChoice
11159             \ifdim\Fld@width<\@tempdima
11160                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
11161                 \edef\Fld@width{\the\@tempdima}%
11162             \fi
11163             \ifFld@combo
11164             \else
11165                 \@tempdima=\the\Fld@menulength\Fld@charsize
11166                 \advance\@tempdima by \Fld@borderwidth bp %
11167                 \advance\@tempdima by \Fld@borderwidth bp %
11168                 \edef\Fld@height{\the\@tempdima}%
11169             \fi
11170             \@@Listbox{#3}%
11171         \endgroup
11172     \fi
11173 }%
11174 \endgroup
11175 }

```

\@@Radio

```

11176 \def\@@Radio#1{%
11177     \Fld@listcount=0 %
11178     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11179     \@for\@curropt:=#1\do{%
11180         \expandafter\Fld@checkequals\@curropt==\%
11181         \Hy@StepCount\Fld@listcount
11182         \@currDisplay\space
11183         \leavevmode
11184         \Hy@escapeform\PDFForm@Radio
11185         \ifnum\Fld@listcount=1 %
11186             \HyField@AdvanceAnnotCount
11187         \fi
11188         \@pdfm@mark{%
11189             ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11190             \dvi pdfm@setdim
11191             <<%
11192             \PDFForm@Radio
11193             /AP<</N<</\@currValue /null>>>>%
11194             >>%
11195         }%
11196         \unhcopy\pdfm@box\space% deliberate space between radio buttons

```

```

11197     \ifnum\Fld@listcount=1 %
11198         \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11199     \fi
11200 }%
11201 }

\Fld@listcount

11202 \newcount\Fld@listcount

@@@Listbox

11203 \def\@@Listbox#1{%
11204     \HyField@PDFChoices{#1}%
11205     \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
11206     \leavevmode
11207     \Hy@escapeform\PDFForm@List
11208     \HyField@AdvanceAnnotCount
11209     \@pdfm@mark{%
11210         ann @list\HyField@TheAnnotCount\space
11211         \dvipdfm@setdim
11212         <<\PDFForm@List>>%
11213     }%
11214     \unhbox\pdfm@box
11215     \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11216 }

@@@PushButton

11217 \def\@PushButton[#1]#2{% parameters, label
11218     \def\Fld@name{#2}%
11219     \beginngroup
11220         \Field@toks={ }%
11221         \expandafter\HyField@SetKeys\expandafter{%
11222             \DefaultOptionsofPushButton,#1%
11223         }%
11224         \PDFForm@Name
11225         \ifHy@pdfa
11226             \PackageError{hyperref}{%
11227                 PDF/A: Push button with JavaScript is prohibited%
11228             }\@ehc
11229             \LayoutPushButtonField{%
11230                 \leavevmode
11231                 \MakeButtonField{#2}%
11232             }%
11233         \else
11234             \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11235             \HyField@FlagsPushButton
11236             \ifFld@hidden\def\Fld@width{1sp}\fi
11237             \HyField@AdvanceAnnotCount
11238             \LayoutPushButtonField{%
11239                 \leavevmode
11240                 \Hy@escapeform\PDFForm@Push
11241                 \@pdfm@mark{%
11242                     ann @push\HyField@TheAnnotCount\space
11243                     \dvipdfm@setdim
11244                     <<\PDFForm@Push>>%
11245                 }%
11246             }%
11247             \unhbox\pdfm@box

```

```

11248      \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11249      \fi
11250    \endgroup
11251  }

\@Submit

11252 \def\@Submit[#1]#2{%
11253   \Field@toks={ }%
11254   \def\Fld@width{\DefaultWidthofSubmit}%
11255   \def\Fld@height{\DefaultHeightofSubmit}%
11256   \begingroup
11257     \expandafter\HyField@SetKeys\expandafter{%
11258       \DefaultOptionsofSubmit,#1%
11259     }%
11260     \HyField@FlagsPushButton
11261     \HyField@FlagsSubmit
11262     \ifFld@hidden\def\Fld@width{1sp}\fi
11263     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11264     \leavevmode
11265     \Hy@escapeform\PDFForm@Submit
11266     \HyField@AdvanceAnnotCount
11267     \@pdfm@mark{%
11268       ann @submit\HyField@TheAnnotCount\space
11269       \dvi pdfm@setdim
11270       <<\PDFForm@Submit>>%
11271     }%
11272     \unhbox\pdfm@box%
11273     \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11274   \endgroup
11275 }

\@Reset

11276 \def\@Reset[#1]#2{%
11277   \Field@toks={ }%
11278   \def\Fld@width{\DefaultWidthofReset}%
11279   \def\Fld@height{\DefaultHeightofReset}%
11280   \begingroup
11281     \expandafter\HyField@SetKeys\expandafter{%
11282       \DefaultOptionsofReset,#1%
11283     }%
11284     \leavevmode
11285     \ifHy@pdfa
11286       \PackageError{hyperref}{%
11287         PDF/A: Reset action is prohibited%
11288       }\@ehc
11289       \MakeButtonField{#2}%
11290     \else
11291       \HyField@FlagsPushButton
11292       \ifFld@hidden\def\Fld@width{1sp}\fi
11293       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11294       \Hy@escapeform\PDFForm@Reset
11295       \HyField@AdvanceAnnotCount
11296       \@pdfm@mark{%
11297         ann @reset\HyField@TheAnnotCount\space
11298         \dvi pdfm@setdim
11299         <<\PDFForm@Reset>>%
11300       }%

```

```

11301      \unhbox\pdfm@box
11302      \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11303      \fi
11304  \endgroup
11305 }

```

\@CheckBox

```

11306 \def\@CheckBox[#1]#2{% parameters, label
11307   \def\Fld@name{#2}%
11308   \def\Fld@default{0}%
11309   \beginngroup
11310     \def\Fld@width{\DefaultWidthofCheckBox}%
11311     \def\Fld@height{\DefaultHeightofCheckBox}%
11312     \Field@toks={ }%
11313     \expandafter\HyField@SetKeys\expandafter{%
11314       \DefaultOptionsofCheckBox,#1%
11315     }%
11316     \PDFForm@Name
11317     \HyField@FlagsCheckBox
11318     \ifFld@hidden\def\Fld@width{1sp}\fi
11319     \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11320     \HyField@AdvanceAnnotCount
11321     \LayoutCheckField{#2}{%
11322       \Hy@escapeform\PDFForm@Check
11323       \@pdfm@mark{%
11324         ann @check\HyField@TheAnnotCount\space
11325         \dvipdfm@setdim
11326         <<\PDFForm@Check>>%
11327       }%
11328       \unhbox\pdfm@box
11329       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11330     }%
11331   \endgroup
11332 }

11333 \def\Hy@FormObjects{%
11334   \@pdfm@mark{obj @OBJpdfdocencoding%
11335     <<%
11336       /Type/Encoding%
11337       /Differences[%
11338         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11339         39/quotesingle %
11340         96/grave %
11341         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11342         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11343         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11344         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11345         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11346         164/currency %
11347         166/brokenbar %
11348         168/dieresis/copyright/ordfeminine %
11349         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11350         /twosuperior/threesuperior/acute/mu %
11351         183/periodcentered/cedilla/onesuperior/ordmasculine %
11352         188/onequarter/onehalf/threequarters %
11353         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11354         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11355         /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%

```

```

11356      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11357      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11358      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11359      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11360      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11361      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11362      /thorn/ydieresis%
11363    ]%
11364    >>%
11365  }%
11366  \@pdfm@mark{obj @OBJZaDb%
11367    <<%
11368      /Type/Font%
11369      /Subtype/Type1%
11370      /Name/ZaDb%
11371      /BaseFont/ZapfDingbats%
11372    >>%
11373  }%
11374  \@pdfm@mark{obj @OBJHelv%
11375    <<%
11376      /Type/Font%
11377      /Subtype/Type1%
11378      /Name/Helv%
11379      /BaseFont/Helvetica%
11380      /Encoding @OBJpdfdocencoding%
11381    >>%
11382  }%
11383  \global\let\Hy@FormObjects\relax
11384 }
11385 </dvipdfm>

```

## 47.6 Common forms part

```

11386 <*pdfform>

\Hy@escapestring

11387 \begingroup\expandafter\expandafter\expandafter\endgroup
11388 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11389   \let\Hy@escapestring\@firstofone
11390   \def\Hy@escapeform#1{%
11391     \ifHy@escapeform
11392       \def\Hy@escapestring##1{%
11393         \noexpand\Hy@escapestring{\noexpand##1}%
11394       }%
11395       \edef\Hy@temp{#1}%
11396       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11397       \def\Hy@escapestring##1{%
11398         \@ifundefined{Hy@esc@\string##1}{%
11399           ##1%
11400           \ThisShouldNotHappen
11401         }{%
11402           \csname Hy@esc@\string##1\endcsname
11403         }%
11404       }%
11405     \else
11406       \let\Hy@escapestring\@firstofone
11407     \fi

```



```

11408 }%
11409 \def\Hy@escapeform#1\Hy@escapestring#2#3\@nil{%
11410   \ifx\#3\%
11411     \else
11412       \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11413       \Hy@ReturnAfterFi{%
11414         \Hy@escapeform#3\@nil
11415       }%
11416     \fi
11417   }%
11418 \else
11419   \def\Hy@escapeform#1{%
11420     \ifHy@escapeform
11421       \let\Hy@escapestring\pdfescapestring
11422     \else
11423       \let\Hy@escapestring\@firstofone
11424     \fi
11425   }%
11426   \Hy@escapeform{}%
11427 \fi

```

#### \PDFForm@Name

```

11428 \def\PDFForm@Name{%
11429   \begingroup
11430   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11431     \ifHy@unicode
11432       \Hy@unicodetofalse
11433     \fi
11434   \fi
11435   \pdfstringdef\Hy@gtemp\Fld@name
11436 \endgroup
11437 \let\Fld@name\Hy@gtemp
11438 }

```

#### \PDFForm@Check

```

11439 \def\PDFForm@Check{%
11440   /Subtype/Widget%
11441   \Fld@annotflags
11442   /T(\Fld@name)%
11443   /FT/Btn%
11444   \Fld@flags
11445   /Q \Fld@align
11446   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11447   /MK<<%
11448     \ifnum\Fld@rotation=\z@
11449     \else
11450       /R \Fld@rotation
11451     \fi
11452     \ifx\Fld@bordercolor\relax
11453     \else
11454       /BC[\Fld@bordercolor]%
11455     \fi
11456     \ifx\Fld@bcolor\relax
11457     \else
11458       /BG[\Fld@bcolor]%
11459     \fi
11460     /CA(\Hy@escapestring{\Fld@cbsymbol})%

```

```

11461 >>%
11462 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11463 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11464 /H/P%
11465 \ifFld@checked /V/Yes\else /V/Off\fi
11466 }

```

\PDFForm@Push

```

11467 \ifHy@pdfa
11468 \else
11469 \def\PDFForm@Push{%
11470 /Subtype/Widget%
11471 \Fld@annotflags
11472 /T(\Fld@name)%
11473 /FT/Btn%
11474 \Fld@flags
11475 /H/P%
11476 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11477 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11478 \ifx\Fld@bordercolor\relax\else 1\fi
11479 \space
11480 \else
11481 /MK<<%
11482 \ifnum\Fld@rotation=\z@
11483 \else
11484 /R \Fld@rotation
11485 \fi
11486 \ifx\Fld@bordercolor\relax
11487 \else
11488 /BC[\Fld@bordercolor]%
11489 \fi
11490 >>%
11491 \fi
11492 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11493 }%
11494 \fi

```

\Fld@additionalactions

```

11495 \def\Fld@@additionalactions{%
K input (keystroke) format
11496 \ifx\Fld@keystroke@code\@empty
11497 \else
11498 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11499 \fi
F display format
11500 \ifx\Fld@format@code\@empty
11501 \else
11502 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11503 \fi
V validation
11504 \ifx\Fld@validate@code\@empty
11505 \else
11506 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11507 \fi

```

#### C calculation

```
11508 \ifx\Fld@calculate@code\@empty
11509 \else
11510 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11511 \fi
```

#### Fo receiving the input focus

```
11512 \ifx\Fld@onfocus@code\@empty
11513 \else
11514 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11515 \fi
```

#### Bl loosing the input focus (blurred)

```
11516 \ifx\Fld@onblur@code\@empty
11517 \else
11518 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11519 \fi
```

#### D pressing the mouse button (down)

```
11520 \ifx\Fld@onmousedown@code\@empty
11521 \else
11522 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11523 \fi
```

#### U releasing the mouse button (up)

```
11524 \ifx\Fld@onmouseup@code\@empty
11525 \else
11526 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11527 \fi
```

#### E cursor enters the annotation's active area.

```
11528 \ifx\Fld@onenter@code\@empty
11529 \else
11530 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11531 \fi
```

#### X cursor exits the annotation's active area.

```
11532 \ifx\Fld@onexit@code\@empty
11533 \else
11534 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11535 \fi
11536 }
```

```
11537 \def\Fld@additionalactions{%
11538 \if-\Fld@@additionalactions-%
11539 \else
11540 \ifHy@pdfa
11541 \else
11542 /AA<<\Fld@@additionalactions>>%
11543 \fi
11544 \fi
11545 }
```

#### \PDFForm@List

```
11546 \def\PDFForm@List{%
11547 /Subtype/Widget%
11548 \Fld@annotflags
11549 /T(\Fld@name)%
11550 /FT/Ch%
11551 \Fld@flags
```

```

11552 /Q \Fld@align
11553 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11554 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11555 \ifx\Fld@bordercolor\relax\else 1\fi
11556 \ifx\Fld@bcolor\relax \else 1\fi
11557 \space
11558 \else
11559 /MK<<%
11560 \ifnum\Fld@rotation=\z@
11561 \else
11562 /R \Fld@rotation
11563 \fi
11564 \ifx\Fld@bordercolor\relax
11565 \else
11566 /BC[\Fld@bordercolor]%
11567 \fi
11568 \ifx\Fld@bcolor\relax
11569 \else
11570 /BG[\Fld@bcolor]%
11571 \fi
11572 >>%
11573 \fi
11574 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11575 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11576 \Fld@choices
11577 \Fld@additionalactions
11578 }

```

\PDFForm@Radio

```

11579 \def\PDFForm@Radio{%
11580 /Subtype/Widget%
11581 \Fld@annotflags
11582 /T(\Fld@name)%
11583 /FT/Btn%
11584 \Fld@flags
11585 /H/P%
11586 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11587 /MK<<%
11588 \ifnum\Fld@rotation=\z@
11589 \else
11590 /R \Fld@rotation
11591 \fi
11592 \ifx\Fld@bordercolor\relax
11593 \else
11594 /BC[\Fld@bordercolor]%
11595 \fi
11596 \ifx\Fld@bcolor\relax
11597 \else
11598 /BG[\Fld@bcolor]%
11599 \fi
11600 /CA(\Fld@radiosymbol)%
11601 >>%
11602 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11603 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11604 \ifx\@currValue\Fld@default
11605 /V\Fld@default
11606 \else

```

```

11607     /V/Off%
11608   \fi
11609   \Fld@additionalactions
11610 }

```

\PDFForm@Text

```

11611 \def\PDFForm@Text{%
11612   /Subtype/Widget%
11613   \Fld@annotflags
11614   /T(\Fld@name)%
11615   /FT/Tx%
11616   \Fld@flags
11617   /Q \Fld@align
11618   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11619   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11620       \ifx\Fld@bordercolor\relax\else 1\fi
11621       \ifx\Fld@bcolor\relax   \else 1\fi
11622       \space
11623   \else
11624     /MK<<%
11625       \ifnum\Fld@rotation=\z@
11626       \else
11627         /R \Fld@rotation
11628       \fi
11629       \ifx\Fld@bordercolor\relax
11630       \else
11631         /BC[\Fld@bordercolor]%
11632       \fi
11633       \ifx\Fld@bcolor\relax
11634       \else
11635         /BG[\Fld@bcolor]%
11636       \fi
11637     >>%
11638   \fi
11639   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11640     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11641   /DV(\Hy@escapestring{\Fld@default})%
11642   /V(\Hy@escapestring{\Fld@value})%
11643   \Fld@additionalactions
11644   \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11645 }

```

\PDFForm@Submit

```

11646 \def\PDFForm@Submit{%
11647   /Subtype/Widget%
11648   \Fld@annotflags
11649   /T(\Fld@name)%
11650   /FT/Btn%
11651   \Fld@flags
11652   /H/P%
11653   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11654   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11655       \ifx\Fld@bordercolor\relax\else 1\fi
11656       \space
11657   \else
11658     /MK<<%
11659       \ifnum\Fld@rotation=\z@

```

```

11660         \else
11661             /R \Fld@rotation
11662         \fi
11663         \ifx\Fld@bordercolor\relax
11664         \else
11665             /BC[\Fld@bordercolor]%
11666         \fi
11667     >>%
11668 \fi
11669 /A<<%
11670     /S/SubmitForm%
11671     /F<<%
11672         /FS/URL%
11673         /F(\Hy@escapestring{\Form@action})%
11674     >>%
11675     \Fld@submitflags
11676 >>%
11677 }

```

\PDFForm@Reset

```

11678 \ifHy@pdfa
11679 \else
11680     \def\PDFForm@Reset{%
11681         /Subtype/Widget%
11682         \Fld@annotflags
11683         /T(\Fld@name)%
11684         /FT/Btn%
11685         \Fld@flags
11686         /H/P%
11687         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11688         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11689             \ifx\Fld@bordercolor\relax\else 1\fi
11690             \space
11691     \else
11692         /MK<<%
11693             \ifnum\Fld@rotation=\z@
11694             \else
11695                 /R \Fld@rotation
11696             \fi
11697             \ifx\Fld@bordercolor\relax
11698             \else
11699                 /BC[\Fld@bordercolor]%
11700             \fi
11701 %         /CA (Clear)
11702 %         /AC (Done)
11703     >>%
11704 \fi
11705 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11706 /A<</S/ResetForm>>%
11707 }%
11708 \fi

```

11709 </pdfform>

11710 <\*package>

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
11711 \def\phantomsection{%
11712   \Hy@GlobalStepCount\Hy@linkcounter
11713   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11714   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11715 }
11716 \</package>
```

### 48.1 Bookmarks

```
11717 \<*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`.

```
11718 \def\Hy@writebookmark#1#2#3#4#5{%
11719   % section number, text, label, level, file
11720   \ifx\WriteBookmarks\relax%
11721     \else
11722       \ifnum#4>\Hy@bookmarksdepth\relax
11723       \else
11724         \@writetorep{#1}{#2}{#3}{#4}{#5}%
11725       \fi
11726     \fi
11727 }
11728 \def\Hy@currentbookmarklevel{0}
11729 \def\Hy@numberline#1{#1 }
11730 \def\@writetorep#1#2#3#4#5{%
11731   \begingroup
11732     \edef\Hy@tempa{#5}%
11733     \ifx\Hy@tempa\Hy@bookmarkstype
11734       \edef\Hy@level{#4}%
11735       \ifx\Hy@levelcheck Y%
11736         \@tempcnta\Hy@level\relax
11737         \advance\@tempcnta by -1 %
11738         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11739           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11740           \advance\@tempcnta by 1 %
11741           \Hy@Warning{%
11742             Difference (\the\@tempcnta) between bookmark levels is %
11743             greater \MessageBreak than one, level fixed%
11744           }%
11745           \@tempcnta\Hy@currentbookmarklevel
11746           \advance\@tempcnta by 1 %
11747           \edef\Hy@level{\the\@tempcnta}%
11748         \fi
11749       \fi
11750     \endgroup
11751     \@writetorep{#1}{#2}{#3}{\Hy@level}{#5}%
11752 }
```

```

11748     \fi
11749   \else
11750     \global\let\Hy@levelcheck Y%
11751   \fi
11752   \global\let\Hy@currentbookmarklevel\Hy@level
11753   \@tempcnta\Hy@level\relax
11754   \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11755   \advance\@tempcnta by -1 %
11756   \edef\Hy@tempa{#3}%
11757   \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11758   \ifx\Hy@tempa\Hy@tempb
11759     \Hy@Warning{%
11760       The anchor of a bookmark and its parent's must not%
11761       \MessageBreak be the same. Added a new anchor%
11762     }%
11763     \phantomsection
11764   \fi
11765   \ifHy@bookmarksnumbered
11766     \let\numberline\Hy@numberline
11767     \let\partnumberline\Hy@numberline
11768     \let\chapternumberline\Hy@numberline
11769   \else
11770     \let\numberline\@gobble
11771     \let\partnumberline\@gobble
11772     \let\chapternumberline\@gobble
11773   \fi
11774   \pdfstringdef\Hy@tempa{#2}%
11775   \if@filesw
11776     \protected@write\@outlinefile{}{%
11777       \protect\BOOKMARK
11778       [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11779       {\Hy@tempa}{\Hy@tempb}%
11780     }%
11781   \fi
11782   \fi
11783 \endgroup
11784 }

```

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

```

11785 \newcommand{\currentpdfbookmark}{%
11786   \pdfbookmark[\Hy@currentbookmarklevel]%
11787 }
11788 \newcommand{\subpdfbookmark}{%
11789   \@tempcnta\Hy@currentbookmarklevel
11790   \Hy@StepCount\@tempcnta
11791   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11792 }
11793 \newcommand{\belowpdfbookmark}[2]{%
11794   \@tempcnta\Hy@currentbookmarklevel
11795   \Hy@StepCount\@tempcnta
11796   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11797   \advance\@tempcnta by -1 %
11798   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11799 }

```

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.

```

11800 \renewcommand\pdfbookmark[3][0]{%
11801   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11802   \hyper@anchorstart{#3.#1}\hyper@anchorend
11803 }
11804 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1][-]}}
11805 \def\@BOOKMARK[#1]{\ifnextchar[{\@BOOKMARK[#1]}{\@BOOKMARK[#1][-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo pdf macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```

11806 <*vtex>
11807 \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.

```

11808 \begingroup
11809   \catcode'\'=12 %
11810   \ifnum\Hy@VTeXversion<650 %
11811     \catcode'\=12 %
11812     \gdef\hv@pdf@char#1#2#3{%
11813       \char
11814       \ifcase'#1#2#3 %
11815         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11816         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11817         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11818         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11819         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11820         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11821         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11822         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11823         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11824         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11825         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11826         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11827         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11828         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11829         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11830         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11831         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11832         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11833         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11834         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11835         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11836         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11837         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11838         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11839         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11840         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11841         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11842         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11843         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11844         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11845         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%

```

```

11846     \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11847     \fi
11848   }%
11849   \else
11850     \gdef\hv@pdf@char{\char'}%
11851   \fi
11852 \endgroup

```

\@@BOOKMARK

```

11853 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11854   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11855   \edef\@mycount{\the\@serial@counter}%
11856   \Hy@StepCount\@serial@counter
11857   \edef\@parcount{%
11858     \expandafter\ifx\csname @count@#5\endcsname\relax
11859     0%
11860     \else
11861       \csname @count@#5\endcsname
11862     \fi
11863   }%
11864   \immediate\special{%
11865     !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11866     s=\ifx#2-c\else o\fi,t=#4%
11867   }%
11868 }%

```

\ReadBookmarks

```

11869 \def\ReadBookmarks{%
11870   \begingroup
11871     \def\0{\hv@pdf@char 0}%
11872     \def\1{\hv@pdf@char 1}%
11873     \def\2{\hv@pdf@char 2}%
11874     \def\3{\hv@pdf@char 3}%
11875     \def\({}%
11876     \def\)}%
11877     \def\do##1{%
11878       \ifnum\the\catcode'##1=\active
11879       \makeother##1%
11880     \fi
11881   }%
11882   \dospecials
11883   \InputIfFileExists{\jobname.out}{\}{}%
11884 \endgroup
11885 \ifx\WriteBookmarks\relax
11886 \else
11887   \if@filesw
11888     \newwrite\@outlinefile
11889     \immediate\openout\@outlinefile=\jobname.out\relax
11890     \ifHy@typexml
11891       \immediate\write\@outlinefile{<relaxxml>\relax}%
11892     \fi
11893   \fi
11894 \fi
11895 }

11896 </vtex>
11897 <!*vtex>

```

```

11898 \def\ReadBookmarks{%
11899   \begingroup
11900     \escapechar='\'%
11901     \let\escapechar\@gobble %
11902     \def\@@BOOKMARK[##1][##2]##3##4##5{\calc@bm@number{##5}}%
11903     \InputIfFileExists{\jobname.out}{\relax}%
11904     \ifx\WriteBookmarks\relax
11905       \global\let\WriteBookmarks\relax
11906     \fi
11907     \def\@@BOOKMARK[##1][##2]##3##4##5{%
11908       \def\Hy@temp{##4}%
11909     \pdfTeX
11910       \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11911       \Hy@OutlineName{\Hy@pstringName{%
11912         ##2\check@bm@number{##3}}%
11913       }{%
11914         \expandafter\strip@prefix\meaning\Hy@temp
11915       }%
11916     \pdfTeX
11917     \pdfmark{
11918       pdfmark=/OUT,%
11919       Count={##2\check@bm@number{##3}},%
11920       Dest={##3},%
11921       Title=\expandafter\strip@prefix\meaning\Hy@temp
11922     }%
11923     \pdfmark
11924   \pdfmark
11925   \dvipdfm
11926     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11927     \pdfmark{
11928       outline \ifHy@DvipdfmxOutlineOpen
11929         [%
11930         \ifnum##21>\z@
11931         \else
11932         -%
11933         \fi
11934         ] %
11935         \fi
11936         ##1<%
11937         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11938         /A<%
11939         /S/GoTo%
11940         /D(\Hy@pstringName)%
11941         >>%
11942         >>%
11943       }%
11944     \dvipdfm
11945     }%
11946     {%
11947       \def\WriteBookmarks{0}%
11948       \InputIfFileExists{\jobname.out}{\relax}%
11949     }%
11950     {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}}%
11951     \ifx\WriteBookmarks\relax
11952     \else
11953       \if@filesW
11954         \newwrite\@outlinefile

```

```

11955      \immediate\openout\@outlinefile=\jobname.out\relax
11956      \ifHy@typexml
11957        \immediate\write\@outlinefile{<relaxxml>\relax}%
11958      \fi
11959    \fi
11960  \fi
11961  \endgroup
11962 }
11963 < *pdfTex >
11964 \def\Hy@OutlineName#1#2#3#4{%
11965   \pdfoutline goto name{#2}count#3{#4}%
11966 }
11967 < /pdfTex >
11968 \def\check@bm@number#1{%
11969   \expandafter\ifx\csname B_#1\endcsname\relax
11970     0%
11971   \else
11972     \csname B_#1\endcsname
11973   \fi
11974 }
11975 \def\calc@bm@number#1{%
11976   \@tempcnta=\check@bm@number{#1}\relax
11977   \advance\@tempcnta by 1 %
11978   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11979 }
11980 < /!vTex >

11981 \ifHy@implicit
11982 \else
11983   \expandafter\endinput
11984 \fi

11985 < /outlines >
11986 < *outlines | hypertex >

11987 \let\H@old@ssect\@ssect
11988 \def\@ssect#1#2#3#4#5{%
11989   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11990   \phantomsection
11991 }
11992 \let\H@old@schapter\@schapter
11993 \def\@schapter#1{%
11994   \H@old@schapter{#1}%
11995   \begingroup
11996     \let\@mkboth\@gobbletwo
11997     \Hy@GlobalStepCount\Hy@linkcounter
11998     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11999     \Hy@raisedlink{%
12000       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12001     }%
12002   \endgroup
12003 }

```

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:

```

12004 \@ifundefined{@chapter}{}{%
12005   \let\Hy@org@chapter\@chapter
12006   \def\@chapter{%

```

```

12007 \def\Hy@next{%
12008 \Hy@GlobalStepCount\Hy@linkcounter
12009 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12010 \Hy@raisedlink{%
12011 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12012 }%
12013 }%
12014 \ifnum\c@secnumdepth>\m@ne
12015 \@ifundefined{if@mainmatter}%
12016 \iftrue{\csname if@mainmatter\endcsname}%
12017 \let\Hy@next\relax
12018 \fi
12019 \fi
12020 \Hy@next
12021 \Hy@org@chapter
12022 }%
12023 }

12024 \let\H@old@part\@part
12025 \begingroup\expandafter\expandafter\expandafter\endgroup
12026 \expandafter\ifx\csname chapter\endcsname\relax
12027 \let\Hy@secnum@part\z@
12028 \else
12029 \let\Hy@secnum@part\m@ne
12030 \fi
12031 \def\@part{%
12032 \ifnum\Hy@secnum@part>\c@secnumdepth
12033 \phantomsection
12034 \fi
12035 \H@old@part
12036 }

12037 \let\H@old@spart\@spart
12038 \def\@spart#1{%
12039 \H@old@spart{#1}%
12040 \Hy@GlobalStepCount\Hy@linkcounter
12041 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12042 \Hy@raisedlink{%
12043 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12044 }%
12045 }

12046 \let\H@old@sect\@sect
12047 \def\@sect#1#2#3#4#5#6[#7]#8{%
12048 \ifnum #2>\c@secnumdepth
12049 \Hy@GlobalStepCount\Hy@linkcounter
12050 \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12051 \fi
12052 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
12053 \ifnum #2>\c@secnumdepth
12054 \Hy@raisedlink{%
12055 \hyper@anchorstart{\@currentHref}\hyper@anchorend
12056 }%
12057 \fi
12058 }

12059 </outlines | hypertex>
12060 <*outlines>

12061 \expandafter\def\csname Parent-4\endcsname{}
12062 \expandafter\def\csname Parent-3\endcsname{}

```

```

12063 \expandafter\def\csname Parent-2\endcsname{}
12064 \expandafter\def\csname Parent-1\endcsname{}
12065 \expandafter\def\csname Parent0\endcsname{}
12066 \expandafter\def\csname Parent1\endcsname{}
12067 \expandafter\def\csname Parent2\endcsname{}
12068 \expandafter\def\csname Parent3\endcsname{}
12069 \expandafter\def\csname Parent4\endcsname{}
12070 </outlines>

```

## 49 Compatibility with koma-script classes

```
12071 <*outlines | hypertex>
```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for 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.

```

12072 \def\Hy@tempa{%
12073   \def\@addchap[##1]##2{%
12074     \typeout{##2}%
12075     \if@twoside
12076       \mkboth{##1}{}%
12077     \else
12078       \mkboth{}{##1}%
12079     \fi
12080     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12081     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12082     \Hy@GlobalStepCount\Hy@linkcounter
12083     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12084     \Hy@raisedlink{%
12085       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12086     }%
12087     \if@twocolumn
12088       \topnewpage[\@makeschapterhead{##2}]%
12089     \else
12090       \@makeschapterhead{##2}%
12091       \@afterheading
12092     \fi
12093     \addcontentsline{toc}{chapter}{##1}%
12094   }%
12095 }
12096 \@ifclassloaded{scrbook}{%
12097   \@ifclasslater{scrbook}{2001/01/01}{%
12098     \let\Hy@tempa\@empty
12099   }{}%
12100 }{%
12101   \@ifclassloaded{scrreprt}{%
12102     \@ifclasslater{scrreprt}{2001/01/01}{%
12103       \let\Hy@tempa\@empty
12104     }{}%
12105   }{%
12106     \let\Hy@tempa\@empty
12107   }%
12108 }%
12109 \Hy@tempa
12110 </outlines | hypertex>

```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

### 50.1 PD1 encoding

```
12111 \DeclareFontEncoding{PD1}{-}{-}
12112 \DeclareFontEncoding{PD1}{-}{-}

Accents
12113 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
12114 \DeclareTextAccent{\'}{PD1}{\textacute}
12115 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
12116 \DeclareTextAccent{\~}{PD1}{\texttilde}
12117 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
12118 \DeclareTextAccent{\r}{PD1}{\textring}
12119 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
12120 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
12121 \DeclareTextAccent{\c}{PD1}{\textcedilla}
12122 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
12123 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
12124 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
12125 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
12126 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
12127 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
12128 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
12129 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
12130 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
12131 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
12132 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
12133 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
12134 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
12135 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
12136 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
12137 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
12138 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
12139 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
12140 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
12141 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
12142 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
12143 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
12144 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
12145 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
12146 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
12147 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
12148 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
12149 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12150 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
12151 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

Special white space escape characters not for use in bookmarks but for other PDF strings.
12152 % U+0009 (CHARACTER TABULATION)
12153 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
12154 % U+000A (LINE FEED)
12155 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
12156 % U+000D (CARRIAGE RETURN)
12157 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
```

12158 % U+02D8 BREVE; breve  
 12159 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
 12160 % U+02C7 CARON; caron  
 12161 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
 12162 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
 12163 \DeclareTextCommand{\textcirc{circumflex}}{PD1}{\032}% U+02C6  
 12164 % U+02D9 DOT ABOVE; dotaccent  
 12165 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
 12166 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 12167 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
 12168 % U+02DB OGONEK; ogonek  
 12169 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
 12170 % U+02DA RING ABOVE; ring  
 12171 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
 12172 % U+02DC SMALL TILDE; ilde, \*tilde  
 12173 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
 \040: U+0020 SPACE; \*space, spacehackarabic  
 \041: U+0021 EXCLAMATION MARK; exclam  
 12174 % U+0022 QUOTATION MARK; quotedbl  
 12175 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
 12176 % U+0023 NUMBER SIGN; numbersign  
 12177 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
 12178 % U+0024 DOLLAR SIGN; dollar  
 12179 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
 12180 % U+0025 PERCENT SIGN; percent  
 12181 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
 12182 % U+0026 AMPERSAND; ampersand  
 12183 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
 \047: U+0027 APOSTROPHE; quotesingle  
  
 12184 % U+0028 LEFT PARENTHESIS; parenleft  
 12185 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
 12186 % U+0029 RIGHT PARENTHESIS; parenright  
 12187 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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  
 12188 % U+002E FULL STOP; period  
 12189 \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  
 12190 % U+003C LESS-THAN SIGN; less  
 12191 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 12192 % U+003E GREATER-THAN SIGN; greater  
 12193 \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  
 12194 % U+005C REVERSE SOLIDUS; backslash  
 12195 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12196 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12197 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 12198 % U+005F LOW LINE; underscore  
 12199 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 12200 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 12201 % U+0060 GRAVE ACCENT; grave  
 12202 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 12203 % U+0069 LATIN SMALL LETTER I; i  
 12204 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 12205 % U+007B LEFT CURLY BRACKET; braceleft  
 12206 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 12207 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12208 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 12209 % U+007D RIGHT CURLY BRACKET; braceright  
 12210 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 12211 % U+007E TILDE; asciitilde  
 12212 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 12213 % U+2022 BULLET; bullet  
 12214 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 12215 % U+2020 DAGGER; dagger  
 12216 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 12217 % U+2021 DOUBLE DAGGER; daggerdbl  
 12218 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 12219 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 12220 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 12221 % U+2014 EM DASH; emdash  
 12222 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 12223 % U+2013 EN DASH; endash  
 12224 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
 12225 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 12226 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
 12227 % U+2044 FRACTION SLASH; fraction  
 12228 \DeclareTextCommand{\textfactionsolidus}{PD1}{\207}% U+2044  
 12229 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 12230 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
 12231 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 12232 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
 12233 % U+2212 MINUS SIGN; minus  
 12234 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
 12235 % U+2030 PER MILLE SIGN; perthousand  
 12236 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030

12237 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
12238 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
12239 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
12240 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
12241 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
12242 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
12243 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
12244 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
12245 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
12246 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
12247 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
12248 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
12249 % U+2122 TRADE MARK SIGN; trademark  
12250 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
12251 % U+FB01 LATIN SMALL LIGATURE FI; fi  
12252 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
12253 % U+FB02 LATIN SMALL LIGATURE FL; fl  
12254 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
12255 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
12256 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
12257 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
12258 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
12259 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
12260 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
12261 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
12262 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178  
12263 \DeclareTextCommand{\IJ}{PD1}{\230}  
12264 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
12265 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
12266 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
12267 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
12268 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
12269 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
12270 % U+0153 LATIN SMALL LIGATURE OE; oe  
12271 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
12272 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
12273 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
12274 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
12275 \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.

12276 % U+20AC EURO SIGN; \*Euro, euro  
12277 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
12278 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
12279 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
12280 % U+00A2 CENT SIGN; cent  
12281 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
12282 % U+00A3 POUND SIGN; sterling  
12283 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
12284 % U+00A4 CURRENCY SIGN; currency  
12285 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
12286 % U+00A5 YEN SIGN; yen  
12287 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
12288 % U+00A6 BROKEN BAR; brokenbar  
12289 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
12290 % U+00A7 SECTION SIGN; section  
12291 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7

12292 % U+00A8 DIAERESIS; dieresis  
 12293 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
 12294 % U+00A9 COPYRIGHT SIGN; copyright  
 12295 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
 12296 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12297 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
 12298 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12299 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
 12300 % U+00AC NOT SIGN; logicalnot  
 12301 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
 12302 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
 No glyph \255 in PDFDocEncoding.  
 12303 % U+00AE REGISTERED SIGN; registered  
 12304 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
 12305 % U+00AF MACRON; \*macron, overscore  
 12306 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
 12307 % U+00B0 DEGREE SIGN; degree  
 12308 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
 12309 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12310 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
 12311 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 12312 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
 12313 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 12314 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
 12315 % U+00B4 ACUTE ACCENT; acute  
 12316 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
 12317 % U+00B5 MICRO SIGN; mu, mu1  
 12318 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
 12319 % U+00B6 PILCROW SIGN; paragraph  
 12320 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
 12321 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12322 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
 12323 % U+00B8 CEDILLA; cedilla  
 12324 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
 12325 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 12326 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
 12327 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12328 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
 12329 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 12330 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
 12331 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12332 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
 12333 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12334 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
 12335 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 12336 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
 12337 % U+00BF INVERTED QUESTION MARK; questiondown  
 12338 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
 12339 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 12340 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
 12341 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 12342 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
 12343 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 12344 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
 12345 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 12346 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
 12347 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis

12348 \DeclareTextCompositeCommand{"}{PD1}{A}{\304}% U+00C4  
12349 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12350 \DeclareTextCompositeCommand{r}{PD1}{A}{\305}% U+00C5  
12351 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12352 \DeclareTextCommand{AE}{PD1}{\306}% U+00C6  
12353 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12354 \DeclareTextCompositeCommand{c}{PD1}{C}{\307}% U+00C7  
12355 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12356 \DeclareTextCompositeCommand{'}{PD1}{E}{\310}% U+00C8  
12357 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12358 \DeclareTextCompositeCommand{'}{PD1}{E}{\311}% U+00C9  
12359 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12360 \DeclareTextCompositeCommand{^}{PD1}{E}{\312}% U+00CA  
12361 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12362 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB  
12363 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12364 \DeclareTextCompositeCommand{'}{PD1}{I}{\314}% U+00CC  
12365 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12366 \DeclareTextCompositeCommand{'}{PD1}{I}{\315}% U+00CD  
12367 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12368 \DeclareTextCompositeCommand{^}{PD1}{I}{\316}% U+00CE  
12369 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12370 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF  
12371 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12372 \DeclareTextCommand{DH}{PD1}{\320}% U+00D0  
12373 \DeclareTextCommand{DJ}{PD1}{\320}% U+00D0  
12374 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12375 \DeclareTextCompositeCommand{~}{PD1}{N}{\321}% U+00D1  
12376 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12377 \DeclareTextCompositeCommand{'}{PD1}{O}{\322}% U+00D2  
12378 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12379 \DeclareTextCompositeCommand{'}{PD1}{O}{\323}% U+00D3  
12380 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12381 \DeclareTextCompositeCommand{^}{PD1}{O}{\324}% U+00D4  
12382 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12383 \DeclareTextCompositeCommand{~}{PD1}{O}{\325}% U+00D5  
12384 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12385 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6  
12386 % U+00D7 MULTIPLICATION SIGN; multiply  
12387 \DeclareTextCommand{textmultiply}{PD1}{\327}% U+00D7  
12388 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12389 \DeclareTextCommand{O}{PD1}{\330}% U+00D8  
12390 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12391 \DeclareTextCompositeCommand{'}{PD1}{U}{\331}% U+00D9  
12392 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12393 \DeclareTextCompositeCommand{'}{PD1}{U}{\332}% U+00DA  
12394 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12395 \DeclareTextCompositeCommand{^}{PD1}{U}{\333}% U+00DB  
12396 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12397 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC  
12398 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12399 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335}% U+00DD  
12400 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12401 \DeclareTextCommand{TH}{PD1}{\336}% U+00DE  
12402 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12403 \DeclareTextCommand{ss}{PD1}{\337}% U+00DF  
12404 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave

12405 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
12406 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12407 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12408 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12409 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
12410 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12411 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12412 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12413 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12414 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12415 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12416 % U+00E6 LATIN SMALL LETTER AE; ae  
12417 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12418 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12419 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12420 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12421 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
12422 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12423 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12424 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12425 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12426 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12427 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
12428 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12429 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
12430 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12431 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12432 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12433 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12434 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12435 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12436 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12437 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12438 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12439 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12440 % U+00F0 LATIN SMALL LETTER ETH; eth  
12441 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12442 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12443 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12444 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12445 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
12446 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12447 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
12448 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12449 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
12450 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12451 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
12452 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
12453 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
12454 % U+00F7 DIVISION SIGN; divide  
12455 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
12456 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
12457 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
12458 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
12459 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
12460 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
12461 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA

```

12462 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
12463 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
12464 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
12465 \DeclareTextCompositeCommand{\\"}{PD1}{u}{\374}% U+00FC
12466 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
12467 \DeclareTextCompositeCommand{\' }{PD1}{y}{\375}% U+00FD
12468 % U+00FE LATIN SMALL LETTER THORN; thorn
12469 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
12470 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
12471 \DeclareTextCompositeCommand{\\"}{PD1}{y}{\377}% U+00FF
12472 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

12473 \DeclareTextCommand{\SS}{PD1}{SS}
12474 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

12475 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12476 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12477 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12478 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12479 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12480 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12481 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12482 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12483 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12484 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12485 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12486 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12487 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12488 \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;

```

12489 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12490 \DeclareTextCompositeCommand{\' }{PD1}{c}{c}% cacute
12491 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12492 \DeclareTextCompositeCommand{\' }{PD1}{n}{n}% nacute
12493 \DeclareTextCompositeCommand{\' }{PD1}{s}{s}% sacute
12494 \DeclareTextCompositeCommand{\' }{PD1}{z}{z}% zacute
12495 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12496 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12497 \DeclareTextCompositeCommand{\' }{PD1}{C}{C}% Cacute
12498 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12499 \DeclareTextCompositeCommand{\' }{PD1}{N}{N}% Nacute
12500 \DeclareTextCompositeCommand{\' }{PD1}{S}{S}% Sacute
12501 \DeclareTextCompositeCommand{\' }{PD1}{Z}{Z}% Zacute
12502 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

12503 </pdlenc>

```

## 50.2 PU encoding

```

12504 <*puenc>
12505 \DeclareFontEncoding{PU}{ }{}

```

### 50.2.1 NFSS2 accents

```

12506 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12507 \DeclareTextCommand{\' }{PU}[1]{\#1\83\000}% U+0300

```

```

12508 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12509 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
12510 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12511 \DeclareTextCommand{\~}{PU}[1]{#1\83\002}% U+0302
12512 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
12513 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
12514 % U+0304 COMBINING MACRON; macroncmb
12515 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
12516 % U+0306 COMBINING BREVE; brevecmb
12517 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
12518 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
12519 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
12520 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12521 % U+0308 COMBINING DIAERESIS; dieriesiscmb
12522 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12523 % U+030A COMBINING RING ABOVE; ringcmb
12524 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12525 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12526 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12527 % U+030C COMBINING CARON; caroncmb
12528 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12529 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
12530 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12531 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12532 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12533 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12534 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12535 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12536 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12537 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12538 % U+0327 COMBINING CEDILLA; cedillacmb
12539 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12540 % U+0328 COMBINING OGONEK; ogonekcmb
12541 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12542 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12543 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12544 % U+20DD COMBINING ENCLOSING CIRCLE
12545 \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.
12546 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
12547 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12548 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
12549 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12550 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12551 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12552 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12553 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12554 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12555 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12556 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12557 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12558 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12559 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12560 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12561 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12562 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}

```

```

12563 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12564 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12565 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
12566 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12567 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
12568 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12569 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12570 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12571 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12572 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12573 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12574 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}
12575 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12576 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12577 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12578 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12579 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12580 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12581 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12582 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12583 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12584 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12585 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12586 \DeclareTextCommand{\capitalgrave}{PU}[1]{\'{#1}}
12587 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12588 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12589 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12590 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
12591 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12592 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12593 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12594 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12595 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12596 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12597 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12598 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

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

Special white space escape characters.

```

12599 % U+0009 (CHARACTER TABULATION)
12600 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12601 % U+000A (LINE FEED)
12602 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12603 % U+000D (CARRIAGE RETURN)
12604 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12605 % U+0022 QUOTATION MARK; quotedbl
12606 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12607 % U+0023 NUMBER SIGN; numbersign
12608 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12609 % U+0024 DOLLAR SIGN; dollar
12610 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12611 % U+0025 PERCENT SIGN; percent
12612 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025

```



12613 % U+0026 AMPERSAND; ampersand  
 12614 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026  
 12615 % U+0027 APOSTROPHE; quotesingle  
 12616 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 12617 % U+0028 LEFT PARENTHESIS; parenleft  
 12618 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 12619 % U+0029 RIGHT PARENTHESIS; parenright  
 12620 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 12621 % U+002A ASTERISK; asterisk  
 12622 \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  
 12623 % U+003C LESS-THAN SIGN; less  
 12624 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 12625 % U+003E GREATER-THAN SIGN; greater  
 12626 \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  
 12627 % U+005C REVERSE SOLIDUS; backslash  
 12628 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12629 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12630 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12631 % U+005F LOW LINE; underscore  
 12632 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12633 % U+0060 GRAVE ACCENT; grave  
 12634 \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  
 12635 % U+0069 LATIN SMALL LETTER I; i  
 12636 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12637 \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  
 12638 % U+007B LEFT CURLY BRACKET; braceleft  
 12639 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12640 % U+007C VERTICAL LINE; \*bar, verticalbar

12641 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12642 % U+007D RIGHT CURLY BRACKET; braceright  
 12643 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12644 % U+007E TILDE; asciitilde  
 12645 \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  
 12646 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12647 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12648 % U+00A2 CENT SIGN; cent  
 12649 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12650 % U+00A3 POUND SIGN; sterling  
 12651 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12652 % U+00A4 CURRENCY SIGN; currency  
 12653 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12654 % U+00A5 YEN SIGN; yen  
 12655 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12656 % U+00A6 BROKEN BAR; brokenbar  
 12657 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12658 % U+00A7 SECTION SIGN; section  
 12659 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12660 % U+00A8 DIAERESIS; dieresis  
 12661 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 12662 % U+00A9 COPYRIGHT SIGN; copyright  
 12663 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 12664 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12665 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 12666 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12667 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 12668 % U+00AC NOT SIGN; logicalnot  
 12669 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 12670 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 12671 % U+00AE REGISTERED SIGN; registered  
 12672 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 12673 % U+00AF MACRON; \*macron, overscore  
 12674 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 12675 % U+00B0 DEGREE SIGN; degree  
 12676 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 12677 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12678 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 12679 % U+00B2 SUPERSCRIFT TWO; twosuperior  
 12680 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 12681 % U+00B3 SUPERSCRIFT THREE; threesuperior  
 12682 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 12683 % U+00B4 ACUTE ACCENT; acute  
 12684 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 12685 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 12686 % U+00B5 MICRO SIGN; mu, mu1  
 12687 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 12688 % U+00B6 PILCROW SIGN; paragraph  
 12689 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 12690 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12691 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 12692 % U+00B8 CEDILLA; cedilla

12693 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
12694 % U+00B9 SUPERSCRIPT ONE; onesuperior  
12695 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
12696 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12697 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
12698 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12699 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
12700 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12701 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
12702 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12703 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
12704 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12705 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12706 % U+00BF INVERTED QUESTION MARK; questiondown  
12707 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12708 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12709 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12710 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12711 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12712 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12713 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12714 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12715 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12716 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12717 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4  
12718 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12719 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
12720 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12721 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
12722 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12723 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
12724 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12725 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
12726 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12727 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
12728 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12729 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
12730 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12731 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB  
12732 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12733 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
12734 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12735 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
12736 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12737 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
12738 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12739 \DeclareTextCompositeCommand{\\"}{PU}{I}{\80\317}% U+00CF  
12740 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12741 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
12742 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12743 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
12744 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12745 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
12746 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12747 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
12748 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12749 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4

12750 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12751 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
12752 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12753 \DeclareTextCompositeCommand{\\"}{PU}{O}{\80\326}% U+00D6  
12754 % U+00D7 MULTIPLICATION SIGN; multiply  
12755 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12756 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12757 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12758 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12759 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
12760 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12761 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
12762 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12763 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
12764 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12765 \DeclareTextCompositeCommand{\\"}{PU}{U}{\80\334}% U+00DC  
12766 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12767 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
12768 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12769 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12770 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12771 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12772 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12773 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
12774 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12775 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
12776 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12777 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
12778 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12779 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
12780 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12781 \DeclareTextCompositeCommand{\\"}{PU}{a}{\80\344}% U+00E4  
12782 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12783 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
12784 % U+00E6 LATIN SMALL LETTER AE; ae  
12785 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
12786 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12787 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
12788 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12789 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
12790 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12791 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
12792 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12793 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
12794 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12795 \DeclareTextCompositeCommand{\\"}{PU}{e}{\80\353}% U+00EB  
12796 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12797 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
12798 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
12799 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12800 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12801 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12802 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12803 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
12804 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
12805 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12806 \DeclareTextCompositeCommand{\\"}{PU}{i}{\80\357}% U+00EF

12807 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
 12808 % U+00F0 LATIN SMALL LETTER ETH; eth  
 12809 \DeclareTextCommand{dh}{PU}{\80\360}% U+00F0  
 12810 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
 12811 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1  
 12812 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 12813 \DeclareTextCompositeCommand{'}{PU}{o}{\80\362}% U+00F2  
 12814 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 12815 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3  
 12816 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 12817 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4  
 12818 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 12819 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5  
 12820 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12821 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
 12822 % U+00F7 DIVISION SIGN; divide  
 12823 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12824 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12825 \DeclareTextCommand{o}{PU}{\80\370}% U+00F8  
 12826 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12827 \DeclareTextCompositeCommand{'}{PU}{u}{\80\371}% U+00F9  
 12828 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12829 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA  
 12830 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12831 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB  
 12832 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12833 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
 12834 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12835 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD  
 12836 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12837 \DeclareTextCommand{th}{PU}{\80\376}% U+00FE  
 12838 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12839 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

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

12840 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12841 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100  
 12842 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12843 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101  
 12844 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12845 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12846 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12847 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12848 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12849 \DeclareTextCompositeCommand{k}{PU}{A}{\81\004}% U+0104  
 12850 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 12851 \DeclareTextCompositeCommand{k}{PU}{a}{\81\005}% U+0105  
 12852 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 12853 \DeclareTextCompositeCommand{'}{PU}{C}{\81\006}% U+0106  
 12854 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 12855 \DeclareTextCompositeCommand{'}{PU}{c}{\81\007}% U+0107  
 12856 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 12857 \DeclareTextCompositeCommand{^}{PU}{C}{\81\010}% U+0108  
 12858 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 12859 \DeclareTextCompositeCommand{^}{PU}{c}{\81\011}% U+0109  
 12860 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent

12861 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
12862 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
12863 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
12864 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
12865 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
12866 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
12867 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
12868 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
12869 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
12870 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
12871 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
12872 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
12873 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
12874 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
12875 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
12876 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
12877 \DeclareTextCompositeCommand{=} {PU}{E}{\81\022}% U+0112  
12878 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
12879 \DeclareTextCompositeCommand{=} {PU}{e}{\81\023}% U+0113  
12880 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
12881 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
12882 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
12883 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
12884 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
12885 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12886 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12887 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12888 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12889 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12890 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12891 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12892 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12893 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12894 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12895 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12896 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12897 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12898 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12899 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12900 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12901 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12902 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12903 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12904 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12905 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12906 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12907 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
12908 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
12909 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
12910 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
12911 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
12912 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
12913 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
12914 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
12915 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
12916 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
12917 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126

12918 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
 12919 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
 12920 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
 12921 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 12922 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
 12923 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 12924 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129  
 12925 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
 12926 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
 12927 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
 12928 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
 12929 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B  
 12930 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibrevé  
 12931 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
 12932 % U+012D LATIN SMALL LETTER I WITH BREVE; ibrevé  
 12933 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 12934 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D  
 12935 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
 12936 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
 12937 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
 12938 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 12939 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F  
 12940 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
 12941 \DeclareTextCompositeCommand{.}{PU}{I}{\81\060}% U+0130  
 12942 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 12943 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
 12944 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
 12945 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
 12946 % U+0133 LATIN SMALL LIGATURE IJ; ij  
 12947 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
 12948 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
 12949 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
 12950 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 12951 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 12952 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135  
 12953 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 12954 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 12955 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 12956 \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 chosen `\textkra`.

12957 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 12958 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 12959 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 12960 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 12961 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 12962 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 12963 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 12964 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 12965 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 12966 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 12967 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 12968 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 12969 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 12970 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘I’ with a dot above (reasonable). Therefore the \. accent is reused instead of making a separate accent macro \textmiddledot.

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12971 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
12972 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
12973 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
12974 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
12975 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
12976 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
12977 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
12978 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
12979 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
12980 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
12981 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
12982 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
12983 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
12984 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
12985 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
12986 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
12987 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
12988 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
12989 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
12990 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
12991 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
12992 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
12993 % U+014A LATIN CAPITAL LETTER ENG; Eng
12994 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
12995 % U+014B LATIN SMALL LETTER ENG; eng
12996 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
12997 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
12998 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
12999 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
13000 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
13001 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
13002 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
13003 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
13004 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
13005 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
13006 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
13007 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
13008 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
13009 % U+0152 LATIN CAPITAL LIGATURE OE; OE
13010 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
13011 % U+0153 LATIN SMALL LIGATURE OE; oe
13012 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
13013 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
13014 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
13015 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
13016 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
13017 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
13018 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
13019 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
13020 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
13021 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
13022 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
13023 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
13024 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
13025 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute

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13026 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
13027 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
13028 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
13029 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
13030 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
13031 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
13032 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
13033 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
13034 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
13035 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
13036 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
13037 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
13038 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
13039 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13040 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
13041 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
13042 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
13043 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
13044 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
13045 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
13046 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
13047 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
13048 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
13049 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
13050 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
13051 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
13052 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
13053 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
13054 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
13055 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
13056 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
13057 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
13058 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
13059 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
13060 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
13061 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
13062 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
13063 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
13064 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
13065 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
13066 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
13067 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
13068 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
13069 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
13070 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
13071 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
13072 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
13073 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
13074 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
13075 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
13076 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
13077 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
13078 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
13079 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
13080 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
13081 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
13082 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176

13083 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 13084 \DeclareTextCompositeCommand{\`}{PU}{y}{\81\167}% U+0177  
 13085 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 13086 \DeclareTextCompositeCommand{\\"}{PU}{Y}{\81\170}% U+0178  
 13087 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 13088 \DeclareTextCompositeCommand{\' }{PU}{Z}{\81\171}% U+0179  
 13089 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 13090 \DeclareTextCompositeCommand{\' }{PU}{z}{\81\172}% U+017A  
 13091 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 13092 \DeclareTextCompositeCommand{\. }{PU}{Z}{\81\173}% U+017B  
 13093 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 13094 \DeclareTextCompositeCommand{\. }{PU}{z}{\81\174}% U+017C  
 13095 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13096 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13097 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13098 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13099 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13100 \DeclareTextCommand{\textlongs}{PU}{\81\177}% U+017F

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

13101 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13102 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13103 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13104 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13105 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13106 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13107 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13108 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13109 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13110 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13111 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13112 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13113 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13114 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13115 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 13116 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 13117 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 13118 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 13119 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 13120 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 13121 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 13122 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 13123 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 13124 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 13125 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 13126 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 13127 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 13128 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 13129 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 13130 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 13131 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 13132 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 13133 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 13134 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 13135 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 13136 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 13137 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0

13138 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
13139 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
13140 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
13141 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
13142 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
13143 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
13144 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
13145 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
13146 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
13147 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
13148 \DeclareTextCompositeCommand{\'}{PU}{AE}{\81\374}% U+01FC  
13149 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
13150 \DeclareTextCompositeCommand{\'}{PU}{ae}{\81\375}% U+01FD  
13151 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
13152 \DeclareTextCompositeCommand{\'}{PU}{O}{\81\376}% U+01FE  
13153 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacut  
13154 \DeclareTextCompositeCommand{\'}{PU}{o}{\81\377}% U+01FF  
13155 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
13156 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
13157 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
13158 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
13159 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
13160 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
13161 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
13162 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
13163 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
13164 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
13165 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
13166 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
13167 \DeclareTextCompositeCommand{\G}{PU}{j}{\82\011}% U+0209  
13168 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
13169 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
13170 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
13171 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
13172 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
13173 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
13174 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
13175 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
13176 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
13177 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
13178 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
13179 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
13180 % U+021E LATIN CAPITAL LETTER H WITH CARON  
13181 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
13182 % U+021F LATIN SMALL LETTER H WITH CARON  
13183 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
13184 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
13185 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
13186 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
13187 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
13188 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
13189 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
13190 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
13191 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
13192 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
13193 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
13194 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE

13195 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 13196 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13197 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 13198 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13199 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 13200 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13201 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

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

13202 % U+02C7 CARON; caron  
 13203 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13204 % U+02D8 BREVE; breve  
 13205 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13206 % U+02D9 DOT ABOVE; dotaccent  
 13207 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13208 % U+02DA RING ABOVE; ring  
 13209 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13210 % U+02DB OGONEK; ogonek  
 13211 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13212 % U+02DC SMALL TILDE; ilde, \*tilde  
 13213 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13214 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13215 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13216 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 13217 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13218 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13219 % U+02F7 MODIFIER LETTER LOW TILDE  
 13220 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

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

13221 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13222 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13223 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13224 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13225 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13226 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13227 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13228 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13229 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13230 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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

13231 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13232 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13233 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13234 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13235 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 13236 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13237 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13238 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13239 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13240 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13241 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13242 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13243 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13244 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 13245 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos

13246 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
13247 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
13248 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
13249 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadieresis  
13250 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
13251 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
13252 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
13253 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
13254 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
13255 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
13256 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
13257 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta  
13258 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13259 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13260 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13261 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13262 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13263 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13264 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13265 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13266 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13267 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13268 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13269 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13270 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13271 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13272 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13273 % U+039C GREEK CAPITAL LETTER MU; Mu  
13274 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13275 % U+039D GREEK CAPITAL LETTER NU; Nu  
13276 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13277 % U+039E GREEK CAPITAL LETTER XI; Xi  
13278 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13279 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13280 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13281 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13282 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13283 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13284 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13285 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13286 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13287 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13288 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13289 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13290 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13291 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13292 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13293 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13294 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13295 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13296 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13297 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13298 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13299 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13300 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13301 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13302 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis

13303 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13304 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13305 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13306 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon  
13307 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13308 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos  
13309 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13310 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos  
13311 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13312 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresisto  
13313 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
13314 % U+03B1 GREEK SMALL LETTER ALPHA; alpha  
13315 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13316 % U+03B2 GREEK SMALL LETTER BETA; beta  
13317 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13318 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13319 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13320 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13321 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13322 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13323 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13324 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13325 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13326 % U+03B7 GREEK SMALL LETTER ETA; eta  
13327 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13328 % U+03B8 GREEK SMALL LETTER THETA; theta  
13329 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13330 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13331 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13332 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13333 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13334 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13335 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13336 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13337 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13338 % U+03BD GREEK SMALL LETTER NU; nu  
13339 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13340 % U+03BE GREEK SMALL LETTER XI; xi  
13341 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13342 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13343 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13344 % U+03C0 GREEK SMALL LETTER PI; pi  
13345 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13346 % U+03C1 GREEK SMALL LETTER RHO; rho  
13347 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13348 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13349 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13350 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
13351 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
13352 % U+03C4 GREEK SMALL LETTER TAU; tau  
13353 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
13354 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
13355 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
13356 % U+03C6 GREEK SMALL LETTER PHI; phi  
13357 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
13358 % U+03C7 GREEK SMALL LETTER CHI; chi  
13359 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7

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13360 % U+03C8 GREEK SMALL LETTER PSI; psi
13361 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
13362 % U+03C9 GREEK SMALL LETTER OMEGA; omega
13363 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
13364 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
13365 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
13366 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
13367 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
13368 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
13369 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
13370 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
13371 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
13372 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
13373 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13374 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
13375 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13376 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13377 % U+03DB GREEK SMALL LETTER STIGMA
13378 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13379 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13380 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13381 % U+03DD GREEK SMALL LETTER DIGAMMA
13382 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13383 % U+03DE GREEK LETTER KOPPA; Koppagreek
13384 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13385 % U+03DF GREEK SMALL LETTER KOPPA
13386 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13387 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13388 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13389 % U+03E1 GREEK SMALL LETTER SAMPI
13390 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1

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## 50.2.9 Cyrillic: U+0400 to U+04FF

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

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13391 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13392 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
13393 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13394 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13395 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???
13396 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13397 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13398 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13399 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% U+0403
13400 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13401 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13402 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13403 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13404 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13405 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13406 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13407 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13408 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
13409 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13410 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13411 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13412 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409

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13413 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
13414 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
13415 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
13416 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
13417 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
13418 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
13419 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
13420 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
13421 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
13422 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
13423 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
13424 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
13425 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
13426 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
13427 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
13428 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
13429 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
13430 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
13431 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
13432 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
13433 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
13434 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
13435 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
13436 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
13437 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13438 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13439 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13440 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13441 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13442 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13443 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13444 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13445 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13446 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13447 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13448 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13449 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13450 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13451 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13452 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13453 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13454 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13455 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13456 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13457 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13458 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13459 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13460 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
13461 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13462 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13463 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13464 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13465 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13466 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13467 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13468 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
13469 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039



13470 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13471 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
13472 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13473 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13474 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13475 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13476 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13477 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13478 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13479 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13480 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13481 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
13482 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13483 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13484 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13485 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13486 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13487 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
13488 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13489 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
13490 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13491 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13492 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13493 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
13494 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13495 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13496 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13497 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13498 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13499 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13500 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13501 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13502 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13503 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13504 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
13505 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13506 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13507 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
13508 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13509 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13510 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13511 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13512 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13513 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13514 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13515 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
13516 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13517 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13518 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13519 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13520 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13521 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13522 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13523 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13524 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13525 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13526 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic

13527 \DeclareTextCommand{\cysr}{PU}{\84\101}% U+0441  
13528 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13529 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13530 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13531 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13532 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13533 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13534 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13535 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13536 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13537 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
13538 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
13539 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13540 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13541 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13542 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13543 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13544 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13545 \DeclareTextCommand{\cyhrdsn}{PU}{\84\112}% U+044A  
13546 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13547 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
13548 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13549 \DeclareTextCommand{\cysrftsn}{PU}{\84\114}% U+044C  
13550 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13551 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
13552 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13553 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E  
13554 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13555 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F  
13556 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13557 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13558 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13559 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451  
13560 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13561 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13562 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13563 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13564 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13565 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13566 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13567 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13568 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13569 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13570 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13571 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13572 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13573 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
13574 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13575 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13576 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13577 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
13578 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13579 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13580 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13581 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13582 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13583 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C

13584 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13585 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13586 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13587 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13588 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13589 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13590 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13591 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13592 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13593 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13594 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13595 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
13596 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13597 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13598 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
13599 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13600 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13601 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13602 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13603 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13604 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13605 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13606 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13607 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic  
13608 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13609 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic  
13610 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13611 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13612 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13613 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13614 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13615 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13616 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13617 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13618 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13619 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13620 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13621 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13622 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13623 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13624 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13625 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13626 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13627 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13628 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13629 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13630 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13631 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
13632 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13633 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13634 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13635 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13636 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13637 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13638 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13639 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
13640 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478

13641 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 13642 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 13643 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 13644 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 13645 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 13646 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 13647 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 13648 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 13649 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 13650 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 13651 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 13652 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 13653 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 13654 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 13655 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 13656 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 13657 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 13658 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 13659 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 13660 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 13661 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 13662 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 13663 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 13664 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 13665 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 13666 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 13667 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 13668 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 13669 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 13670 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 13671 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 13672 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 13673 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 13674 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 13675 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 13676 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 13677 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 13678 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 13679 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 13680 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 13681 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 13682 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 13683 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 13684 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 13685 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 13686 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496

13687 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 13688 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 13689 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 13690 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 13691 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 13692 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 13693 \DeclareTextCommand{\cyrzdsd}{PU}{\84\231}% U+0499  
 13694 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 13695 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 13696 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 13697 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 13698 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 13699 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kavertikalstrokecyrillic  
 13700 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
 13701 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kavertikalstrokecyrillic  
 13702 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
 13703 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
 13704 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
 13705 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
 13706 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
 13707 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
 13708 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
 13709 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
 13710 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
 13711 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 13712 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 13713 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 13714 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 13715 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 13716 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 13717 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 13718 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 13719 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 13720 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 13721 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 13722 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 13723 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 13724 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 13725 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 13726 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 13727 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 13728 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 13729 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 13730 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 13731 \DeclareTextCommand{\cyrdsdsc}{PU}{\84\253}% U+04AB  
 13732 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 13733 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 13734 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 13735 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 13736 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
 13737 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 13738 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 13739 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 13740 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 13741 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 13742 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 13743 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic

13744 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1  
13745 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic  
13746 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13747 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
13748 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13749 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13750 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13751 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13752 \DeclareTextCommand{\cyrтетse}{PU}{\84\265}% U+04B5  
13753 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13754 \DeclareTextCommand{\CYRCHDSC}{PU}{\84\266}% U+04B6  
13755 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
13756 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
13757 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
13758 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
13759 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
13760 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
13761 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
13762 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
13763 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
13764 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
13765 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
13766 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
13767 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
13768 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
13769 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
13770 \DeclareTextCommand{\CYRABCHDSC}{PU}{\84\276}% U+04BE  
13771 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
13772 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
13773 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
13774 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
13775 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
13776 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
13777 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
13778 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
13779 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
13780 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
13781 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
13782 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
13783 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
13784 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
13785 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
13786 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
13787 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
13788 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
13789 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
13790 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
13791 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
13792 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
13793 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
13794 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
13795 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
13796 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
13797 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
13798 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
13799 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
13800 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE

\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

13801 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
13802 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
13803 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
13804 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
13805 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrlilic  
13806 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
13807 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrlilic  
13808 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
13809 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
13810 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
13811 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
13812 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
13813 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrlilic  
13814 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
13815 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrlilic  
13816 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
13817 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
13818 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
13819 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
13820 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
13821 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadiesiscyrlilic  
13822 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
13823 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadiesiscyrlilic  
13824 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB  
13825 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrlilic  
13826 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
13827 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrlilic  
13828 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\335}% U+04DD  
13829 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrlilic  
13830 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
13831 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrlilic  
13832 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF  
13833 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrlilic  
13834 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
13835 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrlilic  
13836 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
13837 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrlilic  
13838 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2  
13839 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrlilic  
13840 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3  
13841 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrlilic  
13842 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4  
13843 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrlilic  
13844 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5  
13845 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrlilic  
13846 \DeclareTextCompositeCommand{\U}{PU}{\CYRO}{\84\346}% U+04E6  
13847 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrlilic  
13848 \DeclareTextCompositeCommand{\U}{PU}{\cyro}{\84\347}% U+04E7  
13849 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrlilic  
13850 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
13851 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrlilic  
13852 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
13853 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrlilic  
13854 \DeclareTextCompositeCommand{\U}{PU}{\CYROTLD}{\84\352}% U+04EA  
13855 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrlilic  
13856 \DeclareTextCompositeCommand{\U}{PU}{\cyrotld}{\84\353}% U+04EB

13857 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
 13858 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
 13859 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
 13860 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
 13861 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
 13862 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE  
 13863 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
 13864 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% U+04EF  
 13865 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
 13866 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
 13867 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
 13868 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 13869 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 13870 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 13871 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 13872 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3  
 13873 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 13874 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 13875 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 13876 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 13877 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 13878 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 13879 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 13880 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 13881 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 13882 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13883 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 13884 \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  
 13885 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13886 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 13887 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13888 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 50.2.10 Thai: U+0E00 to U+0E7F

13889 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13890 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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

13891 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13892 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
 13893 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13894 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
 13895 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 13896 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 13897 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 13898 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 13899 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 13900 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
 13901 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 13902 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
 13903 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow



13904 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
13905 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
13906 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
13907 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
13908 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
13909 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
13910 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
13911 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
13912 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
13913 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
13914 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
13915 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
13916 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20  
13917 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
13918 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21  
13919 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
13920 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
13921 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
13922 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
13923 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
13924 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26  
13925 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
13926 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27  
13927 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
13928 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
13929 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
13930 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
13931 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
13932 \DeclareTextCompositeCommand{'}{PU}{K}{\9036\060}% U+1E30  
13933 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
13934 \DeclareTextCompositeCommand{'}{PU}{k}{\9036\061}% U+1E31  
13935 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
13936 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
13937 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
13938 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
13939 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
13940 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
13941 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
13942 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
13943 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
13944 \DeclareTextCompositeCommand{'}{PU}{M}{\9036\076}% U+1E3E  
13945 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
13946 \DeclareTextCompositeCommand{'}{PU}{m}{\9036\077}% U+1E3F  
13947 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
13948 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
13949 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
13950 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
13951 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
13952 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
13953 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
13954 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
13955 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
13956 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
13957 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
13958 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
13959 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
13960 \DeclareTextCompositeCommand{'}{PU}{P}{\9036\124}% U+1E54

13961 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
13962 \DeclareTextCompositeCommand{'}{PU}{p}{\9036\125}% U+1E55  
13963 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
13964 \DeclareTextCompositeCommand{.}{PU}{P}{\9036\126}% U+1E56  
13965 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
13966 \DeclareTextCompositeCommand{.}{PU}{p}{\9036\127}% U+1E57  
13967 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
13968 \DeclareTextCompositeCommand{.}{PU}{R}{\9036\130}% U+1E58  
13969 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
13970 \DeclareTextCompositeCommand{.}{PU}{r}{\9036\131}% U+1E59  
13971 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
13972 \DeclareTextCompositeCommand{b}{PU}{R}{\9036\136}% U+1E5E  
13973 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
13974 \DeclareTextCompositeCommand{b}{PU}{r}{\9036\137}% U+1E5F  
13975 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
13976 \DeclareTextCompositeCommand{.}{PU}{S}{\9036\140}% U+1E60  
13977 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
13978 \DeclareTextCompositeCommand{.}{PU}{s}{\9036\141}% U+1E61  
13979 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
13980 \DeclareTextCompositeCommand{b}{PU}{T}{\9036\156}% U+1E6E  
13981 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
13982 \DeclareTextCompositeCommand{b}{PU}{t}{\9036\157}% U+1E6F  
13983 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
13984 \DeclareTextCompositeCommand{~}{PU}{V}{\9036\174}% U+1E7C  
13985 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
13986 \DeclareTextCompositeCommand{~}{PU}{v}{\9036\175}% U+1E7D  
13987 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
13988 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\200}% U+1E80  
13989 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
13990 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\201}% U+1E81  
13991 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
13992 \DeclareTextCompositeCommand{'}{PU}{W}{\9036\202}% U+1E82  
13993 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
13994 \DeclareTextCompositeCommand{'}{PU}{w}{\9036\203}% U+1E83  
13995 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
13996 \DeclareTextCompositeCommand{"}{PU}{W}{\9036\204}% U+1E84  
13997 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
13998 \DeclareTextCompositeCommand{"}{PU}{w}{\9036\205}% U+1E85  
13999 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
14000 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86  
14001 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
14002 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87  
14003 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
14004 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A  
14005 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
14006 \DeclareTextCompositeCommand{.}{PU}{x}{\9036\213}% U+1E8B  
14007 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
14008 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
14009 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
14010 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
14011 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
14012 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
14013 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
14014 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
14015 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
14016 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
14017 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex

14018 \DeclareTextCompositeCommand{\~}{PU}{z}{\9036\221}% U+1E91  
 14019 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
 14020 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
 14021 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
 14022 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
 14023 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
 14024 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
 14025 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
 14026 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
 14027 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
 14028 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
 14029 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
 14030 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 14031 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 14032 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 14033 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 14034 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 14035 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 14036 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 14037 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 14038 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 14039 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 14040 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 14041 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 14042 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 14043 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 14044 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

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

14045 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 14046 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 14047 % U+2013 EN DASH; endash  
 14048 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 14049 % U+2014 EM DASH; emdash  
 14050 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 14051 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 14052 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 14053 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14054 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 14055 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14056 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 14057 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14058 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 14059 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14060 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14061 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14062 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14063 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14064 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14065 % U+2020 DAGGER; dagger  
 14066 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14067 % U+2021 DOUBLE DAGGER; daggerdbl  
 14068 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 14069 % U+2022 BULLET; bullet  
 14070 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14071 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14072 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026

14073 % U+2030 PER MILLE SIGN; perthousand  
 14074 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14075 % U+2031 PER TEN THOUSAND SIGN  
 14076 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14077 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 14078 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 14079 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 14080 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 14081 % U+203B REFERENCE MARK; referencemark  
 14082 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14083 % U+203D INTERROBANG  
 14084 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 14085 % U+2044 FRACTION SLASH; fraction  
 14086 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14087 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14088 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14089 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14090 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14091 % U+2052 COMMERCIAL MINUS SIGN  
 14092 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

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

14093 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 14094 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 14095 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 14096 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 14097 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 14098 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 14099 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 14100 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 14101 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 14102 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 14103 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 14104 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 14105 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 14106 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 14107 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 14108 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 14109 % U+207B SUPERSCRIPT MINUS  
 14110 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 14111 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 14112 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 14113 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 14114 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 14115 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 14116 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 14117 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 14118 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 14119 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 14120 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 14121 % U+2081 SUBSCRIPT ONE; oneinferior  
 14122 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 14123 % U+2082 SUBSCRIPT TWO; twoinferior  
 14124 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 14125 % U+2083 SUBSCRIPT THREE; threeinferior  
 14126 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 14127 % U+2084 SUBSCRIPT FOUR; fourinferior

14128 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 14129 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 14130 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 14131 % U+2086 SUBSCRIPT SIX; sixinferior  
 14132 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 14133 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 14134 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 14135 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 14136 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 14137 % U+2089 SUBSCRIPT NINE; nineinferior  
 14138 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 14139 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 14140 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 14141 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14142 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

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

14143 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14144 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14145 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14146 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14147 % U+20A6 NAIRA SIGN  
 14148 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14149 % U+20A7 PESETA SIGN; peseta  
 14150 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14151 % U+20A9 WON SIGN; won  
 14152 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14153 % U+20AB DONG SIGN; dong  
 14154 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14155 % U+20AC EURO SIGN; \*Euro, euro  
 14156 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14157 % U+20B1 PESO SIGN  
 14158 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14159 % U+20B2 GUARANI SIGN  
 14160 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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

14161 % U+2103 DEGREE CELSIUS; centigrade  
 14162 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14163 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14164 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14165 % U+2117 SOUND RECORDING COPYRIGHT  
 14166 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14167 % U+211E PRESCRIPTION TAKE; prescription  
 14168 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14169 % U+2120 SERVICE MARK  
 14170 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14171 % U+2122 TRADE MARK SIGN; trademark  
 14172 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14173 % U+2126 OHM SIGN; Ohm, Omega  
 14174 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14175 % U+2127 INVERTED OHM SIGN  
 14176 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14177 % U+212B ANGSTROM SIGN; angstrom  
 14178 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14179 % U+212E ESTIMATED SYMBOL; estimated  
 14180 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E

14181 % U+2135 ALEF SYMBOL; aleph  
 14182 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

### 50.2.16 Arrows: U+2190 to U+21FF

14183 % U+2190 LEFTWARDS ARROW; arrowleft  
 14184 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14185 % U+2191 UPWARDS ARROW; arrowup  
 14186 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14187 % U+2192 RIGHTWARDS ARROW; arrowright  
 14188 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14189 % U+2193 DOWNWARDS ARROW; arrowdown  
 14190 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

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

14191 % U+2212 MINUS SIGN; minus  
 14192 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
 14193 % U+221A SQUARE ROOT; radical  
 14194 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

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

14195 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
 14196 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
 14197 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
 14198 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

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

14199 % U+2422 BLANK SYMBOL  
 14200 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 14201 % U+2423 OPEN BOX; blank  
 14202 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

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

14203 % U+2460 CIRCLED DIGIT ONE; onecircle  
 14204 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 14205 % U+2461 CIRCLED DIGIT TWO; twocircle  
 14206 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 14207 % U+2462 CIRCLED DIGIT THREE; threecircle  
 14208 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 14209 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 14210 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 14211 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 14212 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 14213 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 14214 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 14215 % U+2466 CIRCLED DIGIT SEVEN; sevendcircle  
 14216 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 14217 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 14218 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 14219 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 14220 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 14221 % U+2469 CIRCLED NUMBER TEN; tencircle  
 14222 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 14223 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 14224 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 14225 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 14226 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 14227 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle

14228 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14229 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14230 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14231 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14232 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14233 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14234 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14235 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14236 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14237 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14238 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14239 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14240 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
14241 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
14242 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
14243 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
14244 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
14245 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
14246 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
14247 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
14248 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
14249 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
14250 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
14251 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
14252 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
14253 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
14254 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
14255 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
14256 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
14257 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
14258 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
14259 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
14260 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
14261 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
14262 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
14263 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
14264 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
14265 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
14266 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
14267 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
14268 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
14269 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
14270 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
14271 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
14272 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
14273 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
14274 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
14275 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
14276 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
14277 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
14278 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
14279 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
14280 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
14281 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
14282 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
14283 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
14284 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA

14285 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 14286 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 14287 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 14288 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 14289 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 14290 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 14291 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 14292 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 14293 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 14294 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 14295 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 14296 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 14297 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 14298 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 14299 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 14300 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 14301 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 14302 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 14303 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 14304 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 14305 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 14306 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 14307 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 14308 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 14309 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 14310 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 14311 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 14312 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 14313 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 14314 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 14315 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 14316 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 14317 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 14318 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 14319 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 14320 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 14321 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 14322 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 14323 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 14324 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 14325 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 14326 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 14327 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 14328 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 14329 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 14330 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 14331 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 14332 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 14333 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 14334 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 14335 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 14336 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 14337 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 14338 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 14339 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 14340 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 14341 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle



14342 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 14343 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 14344 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 14345 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 14346 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 14347 % U+24EA CIRCLED DIGIT ZERO  
 14348 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

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

14349 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
 14350 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
 14351 % U+25EF LARGE CIRCLE; largecircle  
 14352 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

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

14353 % U+266A EIGHTH NOTE; musicalnote  
 14354 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 14355 % U+26AD MARRIAGE SYMBOL  
 14356 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 14357 % U+26AE DIVORCE SYMBOL  
 14358 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE

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

14359 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 14360 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6  
 14361 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 14362 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7

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

14363 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 14364 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 14365 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 14366 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 50.2.25 Miscellaneous

14367 \DeclareTextCommand{\SS}{PU}{SS}

### 50.2.26 Aliases

Aliases (german.sty)

14368 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}  
 14369 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}  
 14370 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}  
 14371 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}  
 14372 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}  
 14373 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}  
 14374 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}  
 14375 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

Aliases (math names)

14376 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}  
 14377 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}  
 14378 \DeclareTextCommand{\textdiv}{PU}{\textdivide}  
 14379 \DeclareTextCommand{\textpm}{PU}{\textplusminus}  
 14380 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}  
 14381 </puenc>

### 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14382 \DeclareTextCommand{\povernenc}
14383 \DeclareTextCommand{\abreve}{PU}{\81\003}
14384 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14385 \DeclareTextCommand{\dj}{PU}{\81\021}
14386 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14387 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14388 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14389 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14390 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14391 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
14392 \DeclareTextCommand{\DJ}{PU}{\81\020}
14393 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
14394 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
14395 \DeclareTextCommand{\OHORN}{PU}{\81\240}
14396 \DeclareTextCommand{\UHORN}{PU}{\81\257}
14397 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
14398 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
14399 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
14400 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
14401 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
14402 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
14403 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
14404 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
14405 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
14406 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
14407 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
14408 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
14409 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
14410 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
14411 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
14412 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
14413 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
14414 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
14415 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
14416 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
14417 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
14418 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
14419 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
14420 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
14421 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
14422 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
14423 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
14424 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
14425 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
14426 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
14427 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
14428 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
14429 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
14430 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
14431 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
14432 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
14433 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
14434 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
14435 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
```

14436 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14437 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14438 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14439 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14440 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14441 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14442 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14443 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14444 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14445 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14446 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14447 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14448 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}  
14449 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14450 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14451 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14452 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14453 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
14454 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
14455 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14456 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14457 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14458 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14459 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14460 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14461 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14462 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14463 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14464 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14465 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14466 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14467 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14468 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14469 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14470 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14471 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14472 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14473 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
14474 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
14475 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
14476 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
14477 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
14478 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14479 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14480 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14481 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14482 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
14483 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
14484 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
14485 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
14486 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
14487 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
14488 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
14489 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
14490 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
14491 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
14492 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}

```

14493 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
14494 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
14495 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
14496 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
14497 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
14498 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
14499 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
14500 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
14501 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
14502 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
14503 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
14504 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
14505 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}
14506 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14507 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14508 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14509 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14510 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
14511 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14512 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14513 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14514 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14515 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14516 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14517 </puvnenc>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```
14518 <*puarenc>
```

```

14519 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14520 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
14521 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
14522 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA A
14523 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
14524 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOV
14525 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14526 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14527 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14528 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14529 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14530 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14531 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
14532 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
14533 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
14534 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
14535 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
14536 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
14537 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
14538 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
14539 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
14540 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
14541 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
14542 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
14543 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
14544 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN

```

```

14545 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
14546 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
14547 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
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14556 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
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14570 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14571 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14572 </puarenc>

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14574 \typeout{}
14575 \begin{document}
14576 \end{document}
14577 </check>

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