

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

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

`\checklatex` Optional argument: release date of  $\LaTeX$ .

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

59 \def\HyC@checkcommand{%
60   \ifx\HyC@next\relax
61     \PackageError{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{%
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 \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 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).

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

```
pdfstartview={FitBH \hypercaltcbp{\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 L<sup>A</sup>T<sub>E</sub>X 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  $\text{\LaTeX 2}_\epsilon$  versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

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

```

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

```

```

    }\@eha}
\def\@inmathwarn#1{%
  \ifmode
    \@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 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*#2\END{%
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*#2\END{%
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@<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         \begingroup
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     \endgroup
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 }
```

```

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\endcscname\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}[\|]{%
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\cyrz\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{\}d\}j\}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\extravietnam\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@unicodfalse
2854     \pdfstringdef\@pdfcreationdate{#1}%
2855   \endgroup
2856 }
2857 \define@key{Hyp}{pdfmoddate}{%
2858   \begingroup
2859     \Hy@unicodfalse
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]
3017 \AddOption{tex4ht}{Add option tex4ht if package tex4ht is loaded.}
3018 \@ifpackageloaded{tex4ht}{%
3019   \ifpackagewith{hyperref}{tex4ht}{-}{-}%
3020   \PassOptionsToPackage{tex4ht}{hyperref}%
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@DvipdfmxOutlineOpentrue
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@DvipdfmxOutlineOpentrue
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\@bookmarksoopenlevel} % 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\cename 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\@@latextohtmlX{%
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 \def\*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   }
```

```

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 }

```

AMS<sup>L</sup>TEX 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}{\the\thepage}{\the\thepage}{\the\thepage}{\the\thepage}{\the\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\@eqnacr{\nonumber\@seqnacr}\@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\@xfootnotemark[#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\@capytype\@undefined
5723     \@latex@error{\noexpand\caption outside float}\@ehd
5724     \expandafter\@gobble
5725   \else
5726     \H@refstepcounter\@capytype
5727     \let\Hy@tempa\@caption
5728     \@ifundefined{float@caption}{%
5729       {%
5730         \expandafter\ifx\csname @float@c@\@capytype\endcsname
5731           \float@caption
5732         \let\Hy@tempa\Hy@float@caption
5733       \fi
5734     }%
5735     \expandafter\@firstofone
5736   \fi
5737   {\@dblarg{\Hy@tempa\@capytype}}%
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{\@capytype}%
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     $^{}%

```

```

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             }%
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

```

\redefine \Har@checkcitations:
6039   \long\def\HAR@checkcitations#1#2#3#4{%
6040     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
6041     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
6042       \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
6043       \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
6044         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
6045         \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
6046           \else
6047             \@tempswatrue
6048           \fi
6049         \else
6050           \@tempswatrue
6051         \fi
6052       \else
6053         \@tempswatrue
6054       \fi
6055     }%
6056   }%

```

## 37.2 Package chicago

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

```

6058 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

6059   \def\citeN{%
6060     \def\@citesep{-1000}%
6061     \def\@cite##1##2{##1}%
6062     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
6063     \@citedata@opt
6064   }%

```

`\shortciteN`

```

6065   \def\shortciteN{%
6066     \def\@citesep{-1000}%
6067     \def\@cite##1##2{##1}%
6068     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
6069     \@citedata@opt
6070   }%

```

`\@citedata@opt`

```

6071   \def\@citedata@opt{%
6072     \let\@cite@opt\empty
6073     \@ifnextchar [{%
6074       \@tempswatrue
6075       \@citedatax@opt
6076     }{%
6077       \@tempswafalse
6078       \@citedatax[]%
6079     }%
6080   }%

```



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

```

```

6348         }%
6349     \fi
6350 \fi
6351 }%
6352 \else
6353 \def\@wrindex#1{\@@wrindex#1||\}%
6354 \def\@@wrindex#1|#2|#3\{\%
6355 \if@filesw
6356 \ifx\|#2\%
6357 \protected@write\@indexfile{}\%
6358 \string\indexentry{#1|hyperpage}{\thepage}%
6359 }%
6360 \else
6361 \HyInd@@@wrindex{#1}#2\%
6362 \fi
6363 \fi
6364 \endgroup
6365 \esphack
6366 }%
6367 \def\HyInd@@@wrindex#1#2#3\{\%
6368 \def\Hy@temp@A{#2}%
6369 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6370 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6371 \relax
6372 \protected@write\@indexfile{}\%
6373 \string\indexentry{%
6374 #1|hyperindexformat{/#2#3}%
6375 }{\thepage}%
6376 }%
6377 \else
6378 \ifx\|#3\%
6379 \ifx\Hy@temp@A\HyInd@ParenRight
6380 \protected@write\@indexfile{}\%
6381 \string\indexentry{#1|#2}{\thepage}%
6382 }%
6383 \else
6384 \protected@write\@indexfile{}\%
6385 \string\indexentry{#1|#2hyperpage}{\thepage}%
6386 }%
6387 \fi
6388 \else
6389 \protected@write\@indexfile{}\%
6390 \string\indexentry{%
6391 #1|#2hyperindexformat{/#3}%
6392 }{\thepage}%
6393 }%
6394 \fi
6395 \fi
6396 }%
6397 \fi
6398 }%
6399 \fi
6400 \Hy@DisableOption{hyperindex}
6401 \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.

```
6402 \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.

```
6403 \def\hyperpage#1{%
6404   \HyInd@hyperpage#1\nohyperpage{}\@nil
6405 }
6406 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
6407   \HyInd@@hyperpage{#1}%
6408   #2%
6409   \def\Hy@temp{#3}%
6410   \ifx\Hy@temp\@empty
6411   \else
6412     \Hy@ReturnAfterFi{%
6413       \HyInd@hyperpage#3\@nil
6414     }%
6415   \fi
6416 }
6417 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
6418 \def\@hyperpage#1--#2--#3\{%
6419   \ifx\#2\%
6420     \@commahyperpage{#1}%
6421   \else
6422     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6423   \fi
6424 }
6425 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6426 \def\@commahyperpage#1, #2,#3\{%
6427   \ifx\#2\%
6428     \HyInd@pagelink{#1}%
6429   \else
6430     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6431   \fi
6432 }
```

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

```
6433 \def\HyInd@pagelink#1{%
6434   \begingroup
6435   \toks@={}%
6436   \HyInd@removespaces#1 \@nil
6437   \endgroup
6438 }
6439 \def\HyInd@removespaces#1 #2\@nil{%
6440   \toks@=\expandafter{\the\toks@#1}%
6441   \ifx\#2\%
6442     \edef\x{\the\toks@}%
6443     \ifx\x\@empty
6444     \else
6445       \hyperlink{page.\the\toks@}{\the\toks@}%
6446     \fi
6447   \else
6448     \Hy@ReturnAfterFi{%
6449       \HyInd@removespaces#2\@nil
6450     }%
6451   \fi
6452 }
```



## 44 Compatibility with foiltex

```
6453 \@ifclassloaded{foils}{%
6454   \providecommand*\ext@table{lot}%
6455   \providecommand*\ext@figure{lof}%
6456 }{}
```

## 45 Compatibility with seminar slide package

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

```
6457 \@ifclassloaded{seminar}{%
6458   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6459 }{%
6460   \Hy@seminarslidesfalse
6461 }
6462 \@ifpackageloaded{slidesec}{%
6463   \newcommand\theHslidesection {\arabic{slidesection}}%
6464   \newcommand\theHslidesubsection{%
6465     \theHslidesection.\arabic{slidesubsection}}%
6466 }%
6467 \def\slide@heading[#1]#2{%
6468   \H@refstepcounter{slidesection}%
6469   \@addtoreset{slidesubsection}{slidesection}%
6470   \addtocontents{los}{%
6471     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6472     {\@SCTR}{slideheading.\theslidesection}}%
6473 }%
6474 \def\Hy@tempa{#2}%
6475 \ifx\Hy@tempa\@empty
6476 \else
6477   {%
6478     \edef\@currentlabel{%
6479       \csname p@slidesection\endcsname\theslidesection
6480     }%
6481     \makeslideheading{#2}%
6482   }%
6483 \fi
6484 \gdef\theslideheading{#1}%
6485 \gdef\theslidesubheading{}%
6486 \ifHy@bookmarksnumbered
6487   \def\Hy@slidetitle{\theslidesection\space #1}%
6488 \else
6489   \def\Hy@slidetitle{#1}%
6490 \fi
6491 \ifHy@hypertextnames
6492   \ifHy@naturalnames
6493     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6494     \Hy@writebookmark
6495       {\theslidesection}%
6496       {\Hy@slidetitle}%
6497       {slideheading.\theslidesection}%
6498       {1}%
6499       {toc}%
6500   \else
6501     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6502     \Hy@writebookmark
```

```

6503         {\theslidesubsection}%
6504         {\Hy@slidetitle}%
6505         {slideheading.\theHslidesubsection}%
6506         {1}%
6507         {toc}%
6508     \fi
6509 \else
6510     \Hy@GlobalStepCount\Hy@linkcounter
6511     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6512     \Hy@writebookmark
6513         {\theslidesubsection}%
6514         {\Hy@slidetitle}%
6515         {slideheading.\the\Hy@linkcounter}%
6516         {1}%
6517         {toc}%
6518 \fi
6519 }%
6520 \def\slide@subheading[#1]#2{%
6521     \H@refstepcounter{slidesubsection}%
6522     \addtocontents{los}{%
6523         \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6524         {\@SCTR}{slideheading.\theslidesubsection}%
6525     }%
6526     \def\Hy@tempa{#2}%
6527     \ifx\Hy@tempa\@empty
6528     \else
6529         {%
6530             \edef\@currentlabel{%
6531                 \csname p@slidesubsection\endcsname\theslidesubsection
6532             }%
6533             \makeslidesubheading{#2}%
6534         }%
6535     \fi
6536     \gdef\theslidesubheading{#1}%
6537     \ifHy@bookmarksnumbered
6538         \def\Hy@slidetitle{\theslidesubsection\space #1}%
6539     \else
6540         \def\Hy@slidetitle{#1}%
6541     \fi
6542     \ifHy@hypertextnames
6543         \ifHy@naturalnames
6544             \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6545             \Hy@writebookmark
6546                 {\theslidesubsection}%
6547                 {\Hy@slidetitle}%
6548                 {slideheading.\theslidesubsection}%
6549                 {2}%
6550                 {toc}%
6551         \else
6552             \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6553             \Hy@writebookmark
6554                 {\theslidesubsection}%
6555                 {\Hy@slidetitle}%
6556                 {slideheading.\theHslidesubsection}%
6557                 {2}%
6558                 {toc}%
6559         \fi

```

```

6560 \else
6561 \Hy@GlobalStepCount\Hy@linkcounter
6562 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6563 \Hy@writebookmark
6564 {\theslidesubsection}%
6565 {\Hy@slidetitle}%
6566 {slideheading.\the\Hy@linkcounter}%
6567 {1}%
6568 {toc}%
6569 \fi
6570 }%
6571 \providecommand*{\listslidenam}{List of Slides}%
6572 \def\listofslides{%
6573 \section*{%
6574 \listslidenam
6575 \@mkboth{%
6576 \expandafter\MakeUppercase\listslidenam
6577 }{%
6578 \expandafter\MakeUppercase\listslidenam
6579 }%
6580 }%
6581 \def\l@slide##1##2##3##4{%
6582 \slide@undottedcline{%
6583 \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6584 }{}}%
6585 }%
6586 \let\l@subslide\l@slide
6587 \@startlos
6588 }%
6589 \def\slide@contents{%
6590 \def\l@slide##1##2##3##4{%
6591 \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6592 }%
6593 \let\l@subslide\@gobblefour
6594 \@startlos
6595 }%
6596 \def\Slide@contents{%
6597 \def\l@slide##1##2##3##4{%
6598 \ifcase\lslide@flag
6599 \message{##1 ** \the\c@slidesection}%
6600 \ifnum##1>\c@slidesection
6601 \def\lslide@flag{1}%
6602 {%
6603 \large
6604 \slide@ccline{%
6605 \slidenumberline{$\rightarrow\bullet$}%
6606 {\hyperlink{##4}{##2}}%
6607 }{##3}%
6608 }%
6609 \else
6610 {%
6611 \large
6612 \slide@ccline{%
6613 \slidenumberline{$\surd\;\bullet$}%
6614 {\hyperlink{##4}{##2}}%
6615 }{##3}%
6616 }%

```

```

6617     \fi
6618   \or
6619     \def\lslide@flag{2}%
6620     {%
6621       \large
6622       \slide@cline{%
6623         \slidenumberline{$\bullet$}%
6624         {\hyperlink{##4}{##2}}%
6625       }{##3}%
6626     }%
6627   \or
6628     {%
6629       \large
6630       \slide@cline{%
6631         \slidenumberline{$\bullet$}%
6632         {\hyperlink{##4}{##2}}%
6633       }{##3}%
6634     }%
6635   \fi
6636 }%
6637 \def\l@subslide##1##2##3##4{%
6638   \ifnum\lslide@flag=1 %
6639     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6640   \fi
6641 }%
6642 \def\lslide@flag{0}%
6643 \@startlos
6644 }%
6645 }{}

```

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.)

```

6646 \ifHy@texht
6647   \expandafter\endinput
6648 \fi
6649 \let\real@setref\@setref
6650 \def\@setref#1#2#3{% csname, extract group, refname
6651   \ifx#1\relax
6652     \protect\G@refundefinedtrue
6653     \nfss@text{\reset@font\bfseries ??}%
6654     \@latex@warning{%
6655       Reference ‘#3’ on page \thepage \space undefined%
6656     }%
6657   \else
6658     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6659   \fi
6660 }

```

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

```

6661 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6662   \begingroup
6663     \toks0={\hyper@@link{#5}{#4}}%
6664     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6665   \edef\x{\endgroup
6666     \the\toks0 \the\toks1 }%
6667   }%

```

```

6668 \x
6669 }
6670 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6671 \ifx#1\relax
6672 \protect\G@refundefinedtrue
6673 \nfss@text{\reset@font\bfseries ??}%
6674 \@latex@warning{%
6675 Reference '#3' on page \thepage \space undefined%
6676 }%
6677 \else
6678 \protect\hyper@@link
6679 {\expandafter\@fifthoffive#1}%
6680 {page.\expandafter\@secondoffive#1}%
6681 {\expandafter\@secondoffive#1}%
6682 \fi
6683 }

6684 \end{package}
6685 \check
6686 \checklatex
6687 \checkcommand\def\@setref#1#2#3{%
6688 \ifx#1\relax
6689 \protect\G@refundefinedtrue
6690 \nfss@text{\reset@font\bfseries ??}%
6691 \@latex@warning{%
6692 Reference '#3' on page \thepage \space undefined%
6693 }%
6694 \else
6695 \expandafter#2#1\null
6696 \fi
6697 }
6698 \end{check}
6699 \end{package}

```

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

```

6700 \def\HyRef@StarSetRef#1{%
6701 \begingroup
6702 \Hy@safe@activetrue
6703 \edef\x{#1}%
6704 \@onelevel@sanitize\x
6705 \edef\x{\endgroup
6706 \noexpand\HyRef@@StarSetRef
6707 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6708 }%
6709 \x
6710 }
6711 \def\HyRef@@StarSetRef#1#2#3{%
6712 \ifx#1\@undefined
6713 \let#1\relax
6714 \fi
6715 \real@setref#1#3{#2}%
6716 }
6717 \def\@refstar#1{%
6718 \HyRef@StarSetRef{#1}\@firstoffive
6719 }
6720 \def\@pagerefstar#1{%
6721 \HyRef@StarSetRef{#1}\@secondoffive

```

```

6722 }
6723 \AtBeginDocument{%
6724   \ifpackageloaded{varioref}{%
6725     \def\@Refstar#1{%
6726       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6727     }%
6728     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6729       \MakeUppercase#1%
6730     }%
6731     \DeclareRobustCommand*\Ref}{%
6732       \ifstar\@Refstar\HyRef@Ref
6733     }%
6734     \def\HyRef@Ref#1{%
6735       \hyperref[#{1}]{\Ref*{#1}}%
6736     }%
6737     \def\Vr@f#1{%
6738       \leavevmode\unskip\vref@space
6739       \hyperref[#{1}]{%
6740         \Ref*{#1}%
6741         \let\vref@space\nobreakspace
6742         \@vpageref[\unskip]{#1}%
6743       }%
6744     }%
6745     \def\vr@f#1{%
6746       \leavevmode\unskip\vref@space
6747       \begingroup
6748         \let\T@pageref\@pagerefstar
6749         \hyperref[#{1}]{%
6750           \ref*{#1}%
6751           \vpageref[\unskip]{#1}%
6752         }%
6753       \endgroup
6754     }%
6755   }{%
6756 }
6757 \DeclareRobustCommand*\autopageref}{%
6758   \ifstar{%
6759     \HyRef@autopagerefname\pageref*%
6760   }\HyRef@autopageref
6761 }
6762 \def\HyRef@autopageref#1{%
6763   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6764 }
6765 \def\HyRef@autopagerefname{%
6766   \ifundefined{pageautorefname}{%
6767     \ifundefined{pagename}{%
6768       \Hy@Warning{No autoref name for 'page'}%
6769     }{%
6770       \pagename\nobreakspace
6771     }%
6772   }{%
6773     \pageautorefname\nobreakspace
6774   }%
6775 }
6776 \DeclareRobustCommand*\autoref}{%
6777   \ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6778 }

```

```

6779 \def\HyRef@autoref#1#2{%
6780   \begingroup
6781     \Hy@safe@activetrue
6782     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6783   \endgroup
6784 }
6785 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6786   \HyRef@ShowKeysRef{#2}%
6787   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6788     \edef\HyRef@thisref{%
6789       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6790     }%
6791     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6792     \Hy@safe@activesfalse
6793     #3{%
6794       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6795     }{%
6796       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6797     }{%
6798       \HyRef@currentHtag
6799       \expandafter\@firstoffive#1\@empty\@empty\@empty
6800       \null
6801     }%
6802   \else
6803     \protect\G@refundefinedtrue
6804     \nfss@text{\reset@font\bfseries ??}%
6805     \@latex@warning{%
6806       Reference ‘#2’ on page \thepage\space undefined%
6807     }%
6808   \fi
6809 }
6810 \def\HyRef@testreftype#1.#2\.{%
6811   \@ifundefined{#1autorefname}{%
6812     \@ifundefined{#1name}{%
6813       \HyRef@StripStar#1\*\@nil{#1}%
6814       \@ifundefined{\HyRef@name autorefname}{%
6815         \@ifundefined{\HyRef@name name}{%
6816           \def\HyRef@currentHtag{%
6817             \Hy@Warning{No autoref name for ‘#1’}%
6818           }{%
6819             \edef\HyRef@currentHtag{%
6820               \expandafter\noexpand\csname\HyRef@name name\endcsname
6821               \noexpand~%
6822             }%
6823           }%
6824         }{%
6825           \edef\HyRef@currentHtag{%
6826             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6827             \noexpand~%
6828           }%
6829         }%
6830       }{%
6831         \edef\HyRef@currentHtag{%
6832           \expandafter\noexpand\csname#1name\endcsname
6833           \noexpand~%
6834         }%
6835       }%

```

```

6836 }{%
6837   \edef\HyRef@currentHtag{%
6838     \expandafter\noexpand\csname#1autorefname\endcsname
6839     \noexpand~%
6840   }%
6841 }%
6842 }
6843 \def\HyRef@StripStar#1*\#2\@nil#3{%
6844   \def\HyRef@name{#2}%
6845   \ifx\HyRef@name\HyRef@CaseStar
6846     \def\HyRef@name{#1}%
6847   \else
6848     \def\HyRef@name{#3}%
6849   \fi
6850 }
6851 \def\HyRef@CaseStar{*\\}
6852 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6853 \let\HyRef@ShowKeysRef\@gobble
6854 \def\HyRef@ShowKeysInit{%
6855   \begingroup\expandafter\expandafter\expandafter\endgroup
6856   \expandafter\ifx\csname SK@@label\endcsname\relax
6857   \else
6858     \ifx\SK@ref\@empty
6859     \else
6860       \def\HyRef@ShowKeysRef{%
6861         \SK@\SK@ref
6862       }%
6863     \fi
6864   \fi
6865 }
6866 \@ifpackageloaded{showkeys}{%
6867   \HyRef@ShowKeysInit
6868 }{%
6869   \AtBeginDocument{%
6870     \@ifpackageloaded{showkeys}{%
6871       \HyRef@ShowKeysInit
6872     }{}%
6873   }%
6874 }

```

Defaults for the names that \autoref uses.

```

6875 \providecommand*\AMSautorefname{\equationautorefname}
6876 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6877 \providecommand*\Itemautorefname{\itemautorefname}
6878 \providecommand*\itemautorefname{item}
6879 \providecommand*\equationautorefname{Equation}
6880 \providecommand*\footnoteautorefname{footnote}
6881 \providecommand*\itemautorefname{item}
6882 \providecommand*\figureautorefname{Figure}
6883 \providecommand*\tableautorefname{Table}
6884 \providecommand*\partautorefname{Part}
6885 \providecommand*\appendixautorefname{Appendix}
6886 \providecommand*\chapterautorefname{chapter}
6887 \providecommand*\sectionautorefname{section}

```



```

6888 \providecommand*\subsectionautorefname{subsection}
6889 \providecommand*\subsubsectionautorefname{subsubsection}
6890 \providecommand*\paragraphautorefname{paragraph}
6891 \providecommand*\subparagraphautorefname{subparagraph}
6892 \providecommand*\FancyVerbLineautorefname{line}
6893 \providecommand*\theoremautorefname{Theorem}
6894 \providecommand*\pageautorefname{page}
6895 \end{package}

```

## 46 Configuration files

### 46.1 PS/PDF strings

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

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

6896 \*pdfTEX | dvipdfm | vtex | pdfmarkbase | dviwindo)
6897 \RequirePackage{pdfTEXcmds}[2009/04/10]
6898 \begin{group}\expandafter\expandafter\expandafter\end{group}
6899 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6900 \begin{group}
6901   \catcode'\| = 0 %
6902   \@makeother\| %
6903   \@firstofone{ \end{group}
6904     \def\Hy@pstringdef#1#2{%
6905       \begin{group}
6906         \edef~{|\string~}%
6907         \xdef\Hy@gtemp{#2}%
6908       \end{group}
6909       \let#1\Hy@gtemp
6910       \@onelevel@sanitize#1%
6911       \edef#1{\expandafter\Hy@ExchangeBackslash#1\|@nil}%
6912       \edef#1{\expandafter\Hy@ExchangeLeftParenthesis#1(|@nil}%
6913       \edef#1{\expandafter\Hy@ExchangeRightParenthesis#1)|@nil}%
6914     }%
6915     \def\Hy@ExchangeBackslash#1\#2|@nil{%
6916       #1%
6917       \ifx\#2\| %
6918         \else
6919           \| %
6920           \Hy@ReturnAfterFi{%
6921             \Hy@ExchangeBackslash#2|@nil
6922           }%
6923         \fi
6924       }%
6925     }%
6926     \def\Hy@ExchangeLeftParenthesis#1(#2\|@nil{%
6927       #1%
6928       \ifx\#2\| %
6929         \else
6930           \@backslashchar(%
6931           \Hy@ReturnAfterFi{%

```

```

6932      \Hy@ExchangeLeftParenthesis#2\@nil
6933    }%
6934  \fi
6935}%
6936\def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6937  #1%
6938  \ifx\#2\%
6939  \else
6940    \@backslashchar)%
6941    \Hy@ReturnAfterFi{%
6942    \Hy@ExchangeRightParenthesis#2\@nil
6943  }%
6944  \fi
6945}%
6946\else
6947\def\Hy@pstringdef#1#2{%
6948  \begingroup
6949  \edef~{\string~}%
6950  \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6951  \endgroup
6952  \let#1\Hy@gtemp
6953}%
6954\fi
6955</pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

## 46.2 pdfTeX

```

6956<*pdfTeX>
6957\providecommand*{\XR@ext}{pdf}
6958\Hy@setbreaklinks{true}

```

This driver is for Han The Thanh's T<sub>E</sub>X variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option `pdfversion`.

- pdfT<sub>E</sub>X 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT<sub>E</sub>X 1.30, 2005-08-08: `\pdfminorversion`

```

6959\let\Hy@pdfminorversion\relax
6960\begingroup\expandafter\expandafter\expandafter\endgroup
6961\expandafter\ifx\cename pdfminorversion\endcsname\relax
6962  \begingroup\expandafter\expandafter\expandafter\endgroup
6963  \expandafter\ifx\cename pdfoptionpdfminorversion\endcsname\relax
6964  \else
6965    \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6966  \fi
6967\else
6968  \def\Hy@pdfminorversion{\pdfminorversion}%
6969\fi
6970\@ifundefined{Hy@pdfminorversion}{%
6971  \PackageInfo{hyperref}{%
6972    PDF version is not set, because pdfTeX is too old (<1.10a)%
6973  }%
6974}%
6975\ifHy@ocgcolorlinks
6976  \ifnum\Hy@pdfminorversion<5 %
6977    \setkeys{Hyp}{pdfversion=1.5}%

```

```

6978     \fi
6979 \fi
6980 \ifHy@setpdfversion
6981     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6982     \else
6983         \Hy@pdfminorversion=\Hy@pdfversion\relax
6984     \fi
6985     \PackageInfo{hyperref}{%
6986         \expandafter\string\Hy@pdfminorversion
6987         :=\number\Hy@pdfversion\space
6988     }%
6989 \fi
6990 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6991 }
6992 \Hy@DisableOption{pdfversion}%

6993 \ifHy@ocgcolorlinks
6994     \immediate\pdfobj{%
6995         <<%
6996             /Type/OCG%
6997             /Name(View)%
6998             /Usage<<%
6999                 /Print<<%
7000                 /PrintState/OFF%
7001                 >>%
7002             /View<<%
7003             /ViewState/ON%
7004             >>%
7005         >>%
7006     }%
7007 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
7008 \immediate\pdfobj{%
7009     <<%
7010         /Type/OCG%
7011         /Name(Print)%
7012         /Usage<<%
7013             /Print<<%
7014             /PrintState/ON%
7015             >>%
7016         /View<<%
7017             /ViewState/OFF%
7018             >>%
7019         >>%
7020     >>%
7021 }%
7022 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
7023 \immediate\pdfobj{%
7024     [%
7025         \OBJ@OCG@view\space\OBJ@OCG@print
7026     ]%
7027 }%
7028 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
7029 \pdfcatalog{%
7030     /OCProperties<<%
7031         /OCGs \OBJ@OCGs
7032         /D<<%
7033             /OFF[\OBJ@OCG@print]%

```

```

7035         /AS[%
7036         <<%
7037             /Event/View%
7038             /OCGs \OBJ@OCGs
7039             /Category[/View]%
7040         >>%
7041         <<%
7042             /Event/Print%
7043             /OCGs \OBJ@OCGs
7044             /Category[/Print]%
7045         >>%
7046         <<%
7047             /Event/Export%
7048             /OCGs \OBJ@OCGs
7049             /Category[/Print]%
7050         >>%
7051     ]%
7052 >>%
7053 >>%
7054 }%
7055 \begingroup
7056     \edef\x{\endgroup
7057         \pdfpageresources{%
7058             /Properties<<%
7059                 /OCView \OBJ@OCG@view
7060                 /OCPrint \OBJ@OCG@print
7061             >>%
7062         }%
7063     }%
7064 \x
7065 \AtBeginDocument{%
7066     \def\Hy@colorlink#1{%
7067         \begingroup
7068             \ifHy@ocgcolorlinks
7069                 \def\Hy@ocgcolor{#1}%
7070                 \setbox0=\color@hbox
7071             \else
7072                 \HyColor@UseColor#1%
7073             \fi
7074         }%
7075     \def\Hy@endcolorlink{%
7076         \ifHy@ocgcolorlinks
7077             \color@endbox
7078             \mbox{%
7079                 \pdfliteral page{/OC/OCPrint BDC}%
7080                 \rlap{\copy0}%
7081                 \pdfliteral page{EMC/OC/OCView BDC}%
7082             \begingroup
7083                 \expandafter\HyColor@UseColor\Hy@ocgcolor
7084                 \box0 %
7085             \endgroup
7086             \pdfliteral page{EMC}%
7087         }%
7088     \fi
7089 \endgroup
7090 }%
7091 }%

```

```

7092 \else
7093   \Hy@DisableOption{ocgcolorlinks}%
7094 \fi

```

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

```

7095 \def\setpdflinkmargin#1{\pdflinkmargin#1}
7096 \ifx\pdfstartlink\@undefined% less than version 14
7097   \let\pdfstartlink\pdfannotlink
7098   \let\pdflinkmargin\@tempdima
7099   \let\pdfxform\pdfform
7100   \let\pdflastxform\pdflastform
7101   \let\pdfrefxform\pdfrefform
7102 \else
7103   \pdflinkmargin1pt %
7104 \fi

```

First set up the default linking

```

7105 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

7106 \def\new@pdflink#1{%
7107   \ifHy@verbose
7108     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
7109   \fi
7110   \Hy@SaveLastskip
7111   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7112   \Hy@DestName\Hy@pstringDest\@pdfview
7113   \Hy@RestoreLastskip
7114 }
7115 \let\pdf@endanchor\@empty

```

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

```

7116 \def\Hy@DestName#1#2{%
7117   \pdfdest name{#1}#2\relax
7118 }

```

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.

```

7119 \providecommand*\@pdfborder{0 0 1}
7120 \providecommand*\@pdfborderstyle{}
7121 \def\Hy@undefinedname{UNDEFINED}
7122 \def\find@pdflink#1#2{%
7123   \leavevmode
7124   \protected@edef\Hy@testname{#2}%
7125   \ifx\Hy@testname\@empty
7126     \Hy@Warning{%
7127       Empty destination name,\MessageBreak
7128       using ‘\Hy@undefinedname’%
7129     }%
7130     \let\Hy@testname\Hy@undefinedname
7131   \else
7132     \Hy@pstringdef\Hy@testname{%
7133       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7134     }%
7135   \fi

```

```

7136 \Hy@StartlinkName{%
7137   \ifHy@pdfa /F 4\fi
7138   \Hy@setpdfborder
7139   \ifx\@pdfhighlight\@empty
7140   \else
7141     /H\@pdfhighlight
7142   \fi
7143   \ifx\CurrentBorderColor\relax
7144   \else
7145     /C[\CurrentBorderColor]%
7146   \fi
7147 } \Hy@testname
7148 \expandafter\Hy@colorlink\csname @#1color\endcsname
7149 }
7150 \def\Hy@StartlinkName#1#2{%
7151   \pdfstartlink attr{#1}goto name{#2}\relax
7152 }
7153 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
7154 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
7155 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
7156 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
7157 \def\hyper@linkstart#1#2{%
7158   \@ifundefined{#1bordercolor}{%
7159     \let\CurrentBorderColor\relax
7160   }{%
7161     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7162   }%
7163   \find@pdflink{#1}{#2}%
7164 }
7165 \def\hyper@linkend{\close@pdflink}
7166 \def\hyper@link#1#2#3{%
7167   \@ifundefined{#1bordercolor}{%
7168     \let\CurrentBorderColor\relax
7169   }{%
7170     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
7171   }%
7172   \find@pdflink{#1}{#2}#3%
7173   \close@pdflink
7174 }
7175 \let\CurrentBorderColor\@linkbordercolor
7176 \def\hyper@linkurl#1#2{%
7177   \begingroup
7178   \Hy@pstringdef\Hy@pstringURI{#2}%
7179   \hyper@chars
7180   \leavevmode
7181   \pdfstartlink
7182     attr{%
7183       \Hy@setpdfborder
7184       \ifx\@pdfhighlight\@empty
7185       \else
7186         /H\@pdfhighlight
7187       \fi
7188       \ifx\@urlbordercolor\relax
7189       \else
7190         /C[\@urlbordercolor]%
7191       \fi
7192     }%

```

```

7193     user{%
7194         /Subtype/Link%
7195         \ifHy@pdfa /F 4\fi
7196         /A<<%
7197         /Type/Action%
7198         /S/URI%
7199         /URI(\Hy@pstringURI)%
7200     >>%
7201     }%
7202     \relax
7203     \Hy@colorlink\@urlcolor#1%
7204     \close@pdflink
7205 \endgroup
7206 }
7207 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
7208 \begingroup
7209     \Hy@pstringdef\Hy@pstringF{#2}%
7210     \Hy@pstringdef\Hy@pstringD{#3}%
7211     \leavevmode
7212     \pdfstartlink
7213     attr{%
7214         \Hy@setpdfborder
7215         \ifx\@pdfhighlight\@empty
7216         \else
7217             /H\@pdfhighlight
7218         \fi
7219         \ifx\@filebordercolor\relax
7220         \else
7221             /C[\@filebordercolor]%
7222         \fi
7223     }%
7224     user {%
7225         /Subtype/Link%
7226         \ifHy@pdfa /F 4\fi
7227         /A<<%
7228         /F(\Hy@pstringF)%
7229         /S/GoToR%
7230         \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}

```

```

7231         \ifx\#3\%
7232         /D[0 \@pdfstartview]%
7233         \else
7234         /D(\Hy@pstringD)%
7235         \fi
7236     >>%
7237     }%
7238     \relax

```

```

7239 \Hy@colorlink\@filecolor#1%
7240 \close@pdflink
7241 \endgroup
7242 }
7243 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
7244 \begingroup
7245 \Hy@pstringdef\Hy@pstringF{#1}%
7246 \Hy@pstringdef\Hy@pstringP{#3}%
7247 \leavevmode
7248 \pdfstartlink
7249 attr{%
7250 \Hy@setpdfborder
7251 \ifx\@pdfhighlight\@empty
7252 \else
7253 /H\@pdfhighlight
7254 \fi
7255 \ifx\@runbordercolor\relax
7256 \else
7257 /C[\@runbordercolor]%
7258 \fi
7259 }%
7260 user {%
7261 /Subtype/Link%
7262 \ifHy@pdfa /F 4\fi
7263 /A<<%
7264 /F(\Hy@pstringF)%
7265 /S/Launch%
7266 \Hy@SetNewWindow
7267 \ifx\#3\%
7268 \else
7269 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
7270 \fi
7271 >>%
7272 }%
7273 \relax
7274 \Hy@colorlink\@runcolor#2%
7275 \close@pdflink
7276 \endgroup
7277 }

```

\@pdfproducer

```

7278 \ifx\@pdfproducer\relax
7279 \begingroup\expandafter\expandafter\expandafter\endgroup
7280 \expandafter\ifx\csname luatexversion\endcsname\relax
7281 \def\@pdfproducer{pdfTeX}%
7282 \ifx\@eTeXversion\@undefined
7283 \else
7284 \ifx\@eTeXversion\relax
7285 \else
7286 \ifnum\@eTeXversion>0 %
7287 \def\@pdfproducer{pdfTeX}%
7288 \fi
7289 \fi
7290 \fi
7291 \ifx\pdftexversion\@undefined
7292 \else
7293 \ifnum\pdftexversion<100 %

```



```

7294     \edef\@pdfproducer{%
7295         \@pdfproducer
7296         \the\pdfTeXversion.\pdfTeXrevision
7297     }%
7298 \else
7299     \ifnum\pdfTeXversion<130 %
7300         \edef\@pdfproducer{%
7301             \@pdfproducer-
7302             \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7303             \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
7304             \pdfTeXrevision
7305         }%
7306     \else
7307         \ifnum\pdfTeXversion<140 %
7308             \else
7309                 \def\@pdfproducer{pdfTeX}%
7310             \fi
7311             \edef\@pdfproducer{%
7312                 \@pdfproducer-
7313                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7314                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7315                 \pdfTeXrevision
7316             }%
7317         \fi
7318     \fi
7319 \fi
7320 \else
7321     \begingroup
7322         \count@=\luatexversion
7323         \divide\count@ by 100 %
7324         \edef\x{\the\count@}%
7325         \count@=-\x\relax
7326         \multiply\count@ by 100 %
7327         \advance\count@ by \luatexversion
7328         \edef\x{\endgroup
7329             \def\noexpand\@pdfproducer{%
7330                 LuaTeX-\x.\the\count@.\luatexrevision
7331             }%
7332         }%
7333     \x
7334 \fi
7335 \fi

```

\PDF@SetupDox

```

7336 \def\PDF@SetupDoc{%
7337     \ifx\@pdfpagescrop\@empty
7338     \else
7339         \edef\process@me{%
7340             \pdfpagesattr={%
7341                 /CropBox[\@pdfpagescrop]%
7342                 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
7343             \else
7344                 ^^J\the\pdfpagesattr
7345             \fi
7346         }%
7347     }%
7348     \process@me

```

```

7349 \fi
7350 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7351 \pdfcatalog{%
7352   /PageMode/\@pdfpagemode
7353   \ifx\@baseurl\@empty
7354   \else
7355     /URI<</Base(\Hy@pstringB)>>%
7356   \fi
7357 }%
7358 \ifx\@pdfstartpage\@empty
7359 \else
7360   \ifx\@pdfstartview\@empty
7361   \else
7362     openaction goto page\@pdfstartpage{\@pdfstartview}%
7363   \fi
7364 \fi
7365 \edef\Hy@temp{%
7366   \ifHy@toolbar\else /HideToolbar true\fi
7367   \ifHy@menubar\else /HideMenubar true\fi
7368   \ifHy>windowui\else /HideWindowUI true\fi
7369   \ifHy@fitwindow /FitWindow true\fi
7370   \ifHy@centerwindow /CenterWindow true\fi
7371   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7372   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7373   \Hy@UseNameKey{Direction}\@pdfdirection
7374   \Hy@UseNameKey{ViewArea}\@pdfviewarea
7375   \Hy@UseNameKey{ViewClip}\@pdfviewclip
7376   \Hy@UseNameKey{PrintArea}\@pdfprintarea
7377   \Hy@UseNameKey{PrintClip}\@pdfprintclip
7378   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7379   \Hy@UseNameKey{Duplex}\@pdfduplex
7380   \ifx\@pdfpicktraybypdfsize\@empty
7381   \else
7382     /PickTrayByPDFSize \@pdfpicktraybypdfsize
7383   \fi
7384   \ifx\@pdfprintpagerange\@empty
7385   \else
7386     /PrintPageRange[\@pdfprintpagerange]%
7387   \fi
7388   \ifx\@pdfnumcopies\@empty
7389   \else
7390     /NumCopies \@pdfnumcopies
7391   \fi
7392 }%
7393 \pdfcatalog{%
7394   \ifx\Hy@temp\@empty
7395   \else
7396     /ViewerPreferences<<\Hy@temp>>%
7397   \fi
7398   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7399   \ifx\@pdflang\@empty
7400   \else
7401     /Lang(\@pdflang)%
7402   \fi
7403 }%
7404 }

```

\PDF@FinishDoc

```
7405 \def\PDF@FinishDoc{%
7406   \Hy@UseMaketitleInfos
7407   \pdfinfo{%
7408     /Author(\@pdfauthor)%
7409     /Title(\@pdftitle)%
7410     /Subject(\@pdfsubject)%
7411     /Creator(\@pdfcreator)%
7412     \ifx\@pdfcreationdate\@empty
7413     \else
7414       /CreationDate(\@pdfcreationdate)%
7415     \fi
7416     \ifx\@pdfmoddate\@empty
7417     \else
7418       /ModDate(\@pdfmoddate)%
7419     \fi
7420     \ifx\@pdfproducer\relax
7421     \else
7422       /Producer(\@pdfproducer)%
7423     \fi
7424     /Keywords(\@pdfkeywords)%
7425   }%
7426   \Hy@DisableOption{pdfauthor}%
7427   \Hy@DisableOption{pdftitle}%
7428   \Hy@DisableOption{pdfsubject}%
7429   \Hy@DisableOption{pdfcreator}%
7430   \Hy@DisableOption{pdfcreationdate}%
7431   \Hy@DisableOption{pdfmoddate}%
7432   \Hy@DisableOption{pdfproducer}%
7433   \Hy@DisableOption{pdfkeywords}%
7434 }
```

\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.

```
7435 \def\hyper@pagetransition{%
7436   \ifx\@pdfpagetransition\relax
7437   \else
7438     \expandafter\Hy@RemoveTransPageAttr
7439     \the\pdfpageattr^^J/Trans{}}>>\END
7440     \ifx\@pdfpagetransition\@empty
7441     \else
7442       \edef\@processme{%
7443         \global\pdfpageattr{%
7444           \the\pdfpageattr
7445           ^^J/Trans << /S /\@pdfpagetransition\space >>%
7446         }%
7447       }%
7448       \@processme
7449     \fi
7450   \fi
7451 }
```

\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.

```

7452 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7453   \ifx\#2\%
7454     \global\pdfpageattr{#1}%
7455   \else
7456     \Hy@RemoveTransPageAttr#1#4\END
7457   \fi
7458 }

```

`\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`.

```

7459 \def\hyper@pageduration{%
7460   \ifx\@pdfpageduration\relax
7461   \else
7462     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7463     \ifx\@pdfpageduration\@empty
7464     \else
7465       \edef\@processme{%
7466         \global\pdfpageattr{%
7467           \the\pdfpageattr
7468             ^^J/Dur \@pdfpageduration\space
7469         }%
7470       }%
7471       \@processme
7472     \fi
7473   \fi
7474 }

```

`\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.

```

7475 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7476   \ifx\#2\%
7477     \global\pdfpageattr{#1}%
7478   \else
7479     \Hy@RemoveDurPageAttr#1#4\END
7480   \fi
7481 }

```

`\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).

```

7482 \def\hyper@pagehidden{%
7483   \ifHy@useHidKey
7484     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7485     \ifHy@pdfpagehidden
7486     \edef\@processme{%
7487       \global\pdfpageattr{%
7488         \the\pdfpageattr
7489           ^^J/Hid true % SPACE
7490       }%
7491     }%
7492     \@processme
7493   \fi
7494 \fi
7495 }

```

`\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.

```

7496 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7497   \ifx\#2\%
7498     \global\pdfpageattr{#1}%
7499   \else
7500     \Hy@RemoveHidPageAttr#1#4\END
7501   \fi
7502 }

7503 \g@addto@macro\Hy@EveryPageHook{%
7504   \hyper@pagetransition
7505   \hyper@pageduration
7506   \hyper@pagehidden
7507 }

7508 \AtBeginDocument{%
7509   \ifHy@setpagesize
7510     \expandafter\@firstofone
7511   \else
7512     \expandafter\@gobble
7513   \fi
7514   {%
7515     \@ifclassloaded{seminar}{%
7516       \setlength{\pdfhorigin}{1truein}%
7517       \setlength{\pdfvorigin}{1truein}%
7518       \ifportrait
7519         \ifdim\paperwidth=\z@
7520         \else
7521           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7522         \fi
7523         \ifdim\paperheight=\z@
7524         \else
7525           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7526         \fi
7527       \else
7528         \ifdim\paperheight=\z@
7529         \else
7530           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7531         \fi
7532         \ifdim\paperwidth=\z@
7533         \else
7534           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7535         \fi
7536       \fi
7537     }{%
7538       \@ifundefined{stockwidth}{%
7539         \ifdim\paperwidth=\z@
7540         \else
7541           \setlength{\pdfpagewidth}{\paperwidth}%
7542         \fi
7543         \ifdim\paperheight=\z@
7544         \else
7545           \setlength{\pdfpageheight}{\paperheight}%
7546         \fi
7547       }{%

```

```

7548         \ifdim\stockwidth=\z@
7549         \else
7550             \setlength{\pdfpagewidth}{\stockwidth}%
7551         \fi
7552         \ifdim\stockheight=\z@
7553         \else
7554             \setlength{\pdfpageheight}{\stockheight}%
7555         \fi
7556     }%
7557 }%
7558 }%
7559 \Hy@DisableOption{setpagesize}%
7560 }
7561 \def\Acrobatmenu#1#2{%
7562 \Hy@Acrobatmenu{#1}{#2}{%
7563 \pdfstartlink
7564 attr{%
7565 \Hy@setpdfborder
7566 \ifx\@pdfhighlight\@empty
7567 \else
7568 /H\@pdfhighlight
7569 \fi
7570 \ifx\@menubordercolor\relax
7571 \else
7572 /C[\@menubordercolor]%
7573 \fi
7574 }%
7575 user{%
7576 /Subtype/Link%
7577 \ifHy@pdfa /F 4\fi
7578 /A<<%
7579 /S/Named/N/#1%
7580 >>%
7581 }%
7582 \relax
7583 \Hy@colorlink\@menucolor#2%
7584 \close@pdflink
7585 }%
7586 }

```

#### 46.2.1 Fix for problem with different nesting levels

\AtBeginShipoutFirst adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands \pdfstartlink and \pdfendlink, if a link is broken across the first and second output page.

The problem could be fixed by replacing \AtBeginShipoutFirst, because the box layer is not necessary for pdfTeX—no \specials need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also \AtBeginShipoutFirst could be invoked independently from hyperref.

```

7587 \def\Hy@FixNotFirstPage{%
7588 \gdef\Hy@FixNotFirstPage{%
7589 \setbox\AtBeginShipoutBox=\hbox{%
7590 \copy\AtBeginShipoutBox
7591 }%
7592 }%
7593 }
7594 \AtBeginShipout{\Hy@FixNotFirstPage}

```

### 46.3 hypertext

The Hyper $\TeX$  specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of  $\backslash$ 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  $\TeX$  file — the  $\TeX$  commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name\_string" with the *name\_string* identical to the one in the name command) or as part of a URL (of the form URL#name\_string). Here *href\_string* is a valid URL or local identifier, while name\_string could be any string at all: the only caveat is that ‘”’ characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

7596  $\langle$ *hypertext $\rangle$ 
7597 \providecommand*{\XR@ext}{dvi}
7598 \def\PDF@FinishDoc{}
7599 \def\PDF@SetupDoc{%
7600   \ifx\@baseurl\@empty
7601   \else
7602     \special{html:<base href="\@baseurl">}%
7603   \fi
7604 }
7605 \def\hyper@anchor#1{%
7606   \Hy@SaveLastskip
7607   \begingroup
7608     \let\protect=\string
7609     \hyper@chars
7610     \special{html:<a name=%
7611       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7612   \endgroup
7613   \Hy@activeanchortrue
7614   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7615   \special{html:</a>}%
7616   \Hy@activeanchorfalse

```

```

7617 \Hy@RestoreLastskip
7618 }
7619 \def\hyper@anchorstart#1{%
7620 \Hy@SaveLastskip
7621 \begingroup
7622 \hyper@chars
7623 \special{html:<a name=%
7624 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7625 \endgroup
7626 \Hy@activeanchortrue
7627 }
7628 \def\hyper@anchorend{%
7629 \special{html:</a>}}%
7630 \Hy@activeanchorfalse
7631 \Hy@RestoreLastskip
7632 }
7633 \def\@urltype{url}
7634 \def\hyper@linkstart#1#2{%
7635 \expandafter\Hy@colorlink\csname @#1color\endcsname
7636 \def\Hy@tempa{#1}%
7637 \ifx\Hy@tempa\@urltype
7638 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7639 \else
7640 \begingroup
7641 \hyper@chars
7642 \special{html:<a href=%
7643 \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}}%
7644 \endgroup
7645 \fi
7646 }
7647 \def\hyper@linkend{%
7648 \special{html:</a>}}%
7649 \Hy@endcolorlink
7650 }
7651 \def\hyper@linkfile#1#2#3{%
7652 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7653 }
7654 \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.

```

7655 \leavevmode
7656 \ifHy@raiselinks
7657 \setbox\@tempboxa=\color@hbox #1\color@endbox
7658 \@linkdim\dp\@tempboxa
7659 \lower\@linkdim\hbox{%
7660 \hyper@chars
7661 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7662 }%
7663 \Hy@colorlink\@urlcolor#1%
7664 \@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).

```

7665 \advance\@linkdim by -6.5\p@
7666 \raise\@linkdim\hbox{\special{html:</a>}}%

```



```

7667 \Hy@endcolorlink
7668 \else
7669 \begingroup
7670 \hyper@chars
7671 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7672 \Hy@colorlink\@urlcolor#1%
7673 \special{html:</a>}}%
7674 \Hy@endcolorlink
7675 \endgroup
7676 \fi
7677 }

```

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

```

7678 \def\hyper@link#1#2#3{%
7679 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}}%
7680 }

7681 \def\hyper@image#1#2{%
7682 \begingroup
7683 \hyper@chars
7684 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7685 \endgroup
7686 }
7687 </hypertex>
7688 <*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.

```

7689 \providecommand*\XR@ext}{dvi}
7690 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7691 \def\hyper@anchor#1{%
7692 \Hy@SaveLastskip
7693 \begingroup
7694 \let\protect=\string
7695 \special{mark: #1}%
7696 \endgroup
7697 \Hy@activeanchortrue
7698 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7699 \Hy@activeanchorfalse
7700 \Hy@RestoreLastskip
7701 }
7702 \def\hyper@anchorstart#1{%
7703 \Hy@SaveLastskip
7704 \special{mark: #1}%
7705 \Hy@activeanchortrue
7706 }
7707 \def\hyper@anchorend{%

```

```

7708 \Hy@activeanchorfalse
7709 \Hy@RestoreLastskip
7710 }
7711 \def\hyper@linkstart#1#2{%
7712 \expandafter\Hy@colorlink\csname @#1color\endcsname
7713 \special{button: %
7714 10000000 %
7715 \number\baselineskip\space
7716 #2%
7717 }%
7718 }
7719 \def\hyper@linkend{%
7720 \Hy@endcolorlink
7721 }
7722 \def\hyper@link#1#2#3{%
7723 \setbox\@tempboxa=\color@hbox #3\color@endbox
7724 \leavevmode
7725 \ifHy@raiselinks
7726 \@linkdim\dp\@tempboxa
7727 \lower\@linkdim\hbox{%
7728 \special{button: %
7729 \number\wd\@tempboxa\space
7730 \number\ht\@tempboxa\space
7731 #2%
7732 }%
7733 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7734 \Hy@endcolorlink
7735 }%
7736 \@linkdim\ht\@tempboxa
7737 \advance\@linkdim by -6.5\p@
7738 \raise\@linkdim\hbox{}%
7739 \else
7740 \special{button: %
7741 \number\wd\@tempboxa\space
7742 \number\ht\@tempboxa\space
7743 #2%
7744 }%
7745 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7746 \Hy@endcolorlink
7747 \fi
7748 }
7749 \def\hyper@linkurl#1#2{%
7750 \begingroup
7751 \hyper@chars
7752 \leavevmode
7753 \setbox\@tempboxa=\color@hbox #1\color@endbox
7754 \ifHy@raiselinks
7755 \@linkdim\dp\@tempboxa
7756 \lower\@linkdim\hbox{%
7757 \special{button: %
7758 \number\wd\@tempboxa\space
7759 \number\ht\@tempboxa\space
7760 launch: \wwwbrowser\space
7761 #2%
7762 }%
7763 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7764 }%

```

```

7765 \@linkdim\ht\@tempboxa
7766 \advance\@linkdim by -6.5\p@
7767 \raise\@linkdim\hbox{}}%
7768 \else
7769 \special{button: %
7770 \number\wd\@tempboxa\space
7771 \number\ht\@tempboxa\space
7772 launch: \wwwbrowser\space
7773 #2%
7774 }%
7775 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7776 \fi
7777 \endgroup
7778 }
7779 \def\hyper@linkfile#1#2#3{%
7780 \begingroup
7781 \hyper@chars
7782 \leavevmode
7783 \setbox\@tempboxa=\color@hbox #1\color@endbox
7784 \ifHy@raiselinks
7785 \@linkdim\dp\@tempboxa
7786 \lower\@linkdim\hbox{%
7787 \special{button: %
7788 \number\wd\@tempboxa\space
7789 \number\ht\@tempboxa\space
7790 #3,%
7791 file: #2%
7792 }%
7793 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7794 }%
7795 \@linkdim\ht\@tempboxa
7796 \advance\@linkdim by -6.5\p@
7797 \raise\@linkdim\hbox{}}%
7798 \else
7799 \special{button: %
7800 \number\wd\@tempboxa\space
7801 \number\ht\@tempboxa\space
7802 #3,%
7803 file: #2%
7804 }%
7805 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7806 \fi
7807 \endgroup
7808 }
7809 \ifx\@pdfproducer\relax
7810 \def\@pdfproducer{dviwindo + Distiller}%
7811 \fi
7812 \def\PDF@FinishDoc{%
7813 \Hy@UseMaketitleInfos
7814 \special{PDF: Keywords \@pdfkeywords}%
7815 \special{PDF: Title \@pdftitle}%
7816 \special{PDF: Creator \@pdfcreator}%
7817 \ifx\@pdfcreationdate\@empty
7818 \else
7819 \special{PDF: CreationDate \@pdfcreationdate}%
7820 \fi
7821 \ifx\@pdfmoddate\@empty

```

```

7822 \else
7823   \special{PDF: ModDate \@pdfmoddate}%
7824 \fi
7825 \special{PDF: Author \@pdfauthor}%
7826 \ifx\@pdfproducer\relax
7827 \else
7828   \special{PDF: Producer \@pdfproducer}%
7829 \fi
7830 \special{PDF: Subject \@pdfsubject}%
7831 \Hy@DisableOption{pdfauthor}%
7832 \Hy@DisableOption{pdftitle}%
7833 \Hy@DisableOption{pdfsubject}%
7834 \Hy@DisableOption{pdfcreator}%
7835 \Hy@DisableOption{pdfcreationdate}%
7836 \Hy@DisableOption{pdfmoddate}%
7837 \Hy@DisableOption{pdfproducer}%
7838 \Hy@DisableOption{pdfkeywords}%
7839 }
7840 \def\PDF@SetupDoc{%
7841   \ifx\@baseurl\@empty
7842   \else
7843     \special{PDF: Base \@baseurl}%
7844   \fi
7845   \ifx\@pdfpagescrop\@empty\else
7846     \special{PDF: BBox \@pdfpagescrop}%
7847   \fi
7848   \def\Hy@temp{%
7849     \ifx\@pdfstartpage\@empty
7850     \else
7851       \ifx\@pdfstartview\@empty
7852       \else
7853         \edef\Hy@temp{%
7854           ,Page=\@pdfstartpage
7855           ,View=\@pdfstartview
7856         }%
7857       \fi
7858     \fi
7859   \edef\Hy@temp{%
7860     \noexpand\pdfmark{%
7861       pdfmark=/DOCVIEW,%
7862       PageMode=/\@pdfpagemode
7863     }\Hy@temp
7864   }%
7865 }%
7866 \Hy@temp
7867 \ifx\@pdfpagescrop\@empty
7868 \else
7869   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7870 \fi
7871 \edef\Hy@temp{%
7872   \ifHy@toolbar\else /HideToolbar true\fi
7873   \ifHy@menubar\else /HideMenubar true\fi
7874   \ifHy@windowui\else /HideWindowUI true\fi
7875   \ifHy@fitwindow /FitWindow true\fi
7876   \ifHy@centerwindow /CenterWindow true\fi
7877   \ifHy@displaydoctitle /DisplayDocTitle true\fi
7878   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

7879 \Hy@UseNameKey{Direction}\@pdfdirection
7880 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7881 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7882 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7883 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7884 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7885 \Hy@UseNameKey{Duplex}\@pdfduplex
7886 \ifx\@pdfpicktraybypdfsize\@empty
7887 \else
7888 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7889 \fi
7890 \ifx\@pdfprintpagerange\@empty
7891 \else
7892 /PrintPageRange[\@pdfprintpagerange]%
7893 \fi
7894 \ifx\@pdfnumcopies\@empty
7895 \else
7896 /NumCopies \@pdfnumcopies
7897 \fi
7898 }%
7899 \pdfmark{pdfmark=/PUT,%
7900 Raw={%
7901 \string{Catalog\string}<<%
7902 \ifx\Hy@temp\@empty
7903 \else
7904 /ViewerPreferences<<\Hy@temp>>%
7905 \fi
7906 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7907 \ifx\@pdflang\@empty
7908 \else
7909 /Lang(\@pdflang)%
7910 \fi
7911 >>%
7912 }%
7913 }%
7914 }
7915 </dviwindo>
7916 <*dviPDFm>

```

## 46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7917 \providecommand*{\XR@ext}{pdf}
7918 \Hy@setbreaklinks{true}
7919 \newsavebox{\pdfm@box}
7920 \def\@pdfm@mark#1{\special{pdf:#1}}
7921 \def\@pdfm@dest#1{%
7922 \Hy@SaveLastskip
7923 \beginingroup
7924 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7925 \def\x{XYZ}%
7926 \ifx\x\@pdfview
7927 \def\x{XYZ @xpos @ypos null}%
7928 \else
7929 \def\x{FitH}%
7930 \ifx\x\@pdfview
7931 \def\x{FitH @ypos}%

```

```

7932 \else
7933 \def\x{FitBH}%
7934 \ifx\x\@pdfview
7935 \def\x{FitBH @ypos}%
7936 \else
7937 \def\x{FitV}%
7938 \ifx\x\@pdfview
7939 \def\x{FitV @xpos}%
7940 \else
7941 \def\x{FitBV}%
7942 \ifx\x\@pdfview
7943 \def\x{FitBV @xpos}%
7944 \else
7945 \def\x{Fit}%
7946 \ifx\x\@pdfview
7947 \let\x\@pdfview
7948 \else
7949 \def\x{FitB}%
7950 \ifx\x\@pdfview
7951 \let\x\@pdfview
7952 \else
7953 \def\x{FitR}%
7954 \ifx\x\@pdfview
7955 \Hy@Warning{'pdfview=FitR' is not supported}%
7956 \def\x{XYZ @xpos @ypos null}%
7957 \else
7958 \@onelevel@sanitize\@pdfview
7959 \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7960 \def\x{XYZ @xpos @ypos null}%
7961 \fi
7962 \fi
7963 \fi
7964 \fi
7965 \fi
7966 \fi
7967 \fi
7968 \fi
7969 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7970 \endgroup
7971 \Hy@RestoreLastskip
7972 }
7973 \providecommand*\@pdfview{XYZ}
7974 \providecommand*\@pdfborder{0 0 1}
7975 \providecommand*\@pdfborderstyle{}
7976 \def\hyper@anchor#1{%
7977 \@pdfm@dest{#1}%
7978 }
7979 \def\hyper@anchorstart#1{%
7980 \Hy@activeanchortrue
7981 \@pdfm@dest{#1}%
7982 }
7983 \def\hyper@anchorend{%
7984 \Hy@activeanchorfalse
7985 }
7986 \newcounter{Hy@AnnotLevel}
7987 \ifHy@ocgcolorlinks
7988 \def\OBJ@OCG@view{@OCG@view}%

```

```

7989 \pdfmarkmark{%
7990   obj \OBJ@OCG@view <<%
7991     /Type/OCG%
7992     /Name(View)%
7993     /Usage<<%
7994     /Print<<%
7995     /PrintState/OFF%
7996     >>%
7997     /View<<%
7998     /ViewState/ON%
7999     >>%
8000   >>%
8001 >>%
8002 }%
8003 \pdfmarkmark{close \OBJ@OCG@view}%
8004 \def\OBJ@OCG@print{\OCG@print}%
8005 \pdfmarkmark{%
8006   obj \OBJ@OCG@print <<%
8007     /Type/OCG%
8008     /Name(Print)%
8009     /Usage<<%
8010     /Print<<%
8011     /PrintState/ON%
8012     >>%
8013     /View<<%
8014     /ViewState/OFF%
8015     >>%
8016   >>%
8017 >>%
8018 }%
8019 \pdfmarkmark{close \OBJ@OCG@print}%
8020 \def\OBJ@OCGs{\OCGs}%
8021 \pdfmarkmark{%
8022   obj \OBJ@OCGs [%
8023     \OBJ@OCG@view\space\OBJ@OCG@print
8024   ]%
8025 }%
8026 \pdfmarkmark{close \OBJ@OCGs}%
8027 \pdfmarkmark{%
8028   put @catalog <<%
8029     /OCProperties<<%
8030     /OCGs \OBJ@OCGs
8031     /D<<%
8032     /OFF[\OBJ@OCG@print]%
8033     /AS[%
8034       <<%
8035         /Event/View%
8036         /OCGs \OBJ@OCGs
8037         /Category[/View]%
8038       >>%
8039     <<%
8040     /Event/Print%
8041     /OCGs \OBJ@OCGs
8042     /Category[/Print]%
8043   >>%
8044   <<%
8045     /Event/Export%

```

```

8046          /OCGs \OBJ@OCGs
8047          /Category[/Print]%
8048      >>%
8049  ]%
8050  >>%
8051  >>%
8052  >>%
8053  }%
8054  \AtBeginShipout{%
8055      \setbox\AtBeginShipoutBox=\hbox{%
8056          \copy\AtBeginShipoutBox
8057          \@pdfm@mark{%
8058              put @resources <<%
8059              /Properties<<%
8060              /OCView \OBJ@OCG@view
8061              /OCPrint \OBJ@OCG@print
8062              >>%
8063              >>%
8064          }%
8065      }%
8066  }%
8067  \AtBeginDocument{%
8068      \def\Hy@colorlink#1{%
8069          \begingroup
8070              \ifHy@ocgcolorlinks
8071                  \def\Hy@ocgcolor{#1}%
8072                  \setbox0=\color@hbox
8073              \else
8074                  \HyColor@UseColor#1%
8075              \fi
8076      }%
8077      \def\Hy@endcolorlink{%
8078          \ifHy@ocgcolorlinks
8079              \color@endbox
8080              \mbox{%
8081                  \@pdfm@mark{content /OC/OCPrint BDC}%
8082                  \rlap{\copy0}%
8083                  \@pdfm@mark{content EMC/OC/OCView BDC}%
8084                  \begingroup
8085                      \expandafter\HyColor@UseColor\Hy@ocgcolor
8086                      \box0 %
8087                  \endgroup
8088                  \@pdfm@mark{content EMC}%
8089              }%
8090              \fi
8091          \endgroup
8092      }%
8093  }%
8094  \else
8095      \Hy@DisableOption{ocgcolorlinks}%
8096  \fi
8097  \def\Hy@BeginAnnot#1{%
8098      \stepcounter{Hy@AnnotLevel}%
8099      \ifnum\value{Hy@AnnotLevel}=\@ne
8100          #1%
8101      \fi
8102  }

```



```

8103 \def\Hy@endAnnot{%
8104   \ifnum\value{Hy@AnnotLevel}=\@ne
8105     \Hy@endcolorlink
8106     \@pdfm@mark{eann}%
8107   \fi
8108   \addtocounter{Hy@AnnotLevel}\m@ne
8109 }

8110 \def\Hy@undefinedname{UNDEFINED}
8111 \def\hyper@linkstart#1#2{%
8112   \Hy@BeginAnnot{%
8113     \protected@edef\Hy@testname{#2}%
8114     \ifx\Hy@testname\@empty
8115       \Hy@Warning{%
8116         Empty destination name,\MessageBreak
8117         using '\Hy@undefinedname'%
8118       }%
8119       \let\Hy@testname\Hy@undefinedname
8120     \else
8121       \Hy@pstringdef\Hy@testname{%
8122         \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8123       }%
8124     \fi
8125     \@pdfm@mark{%
8126       bann<<%
8127         /Type/Annot%
8128         /Subtype/Link%
8129         \ifHy@pdfa /F 4\fi
8130         \Hy@setpdfborder
8131         \expandafter\ifx\csname @#1bordercolor\endcsname\relax
8132         \else
8133           /C[\csname @#1bordercolor\endcsname]%
8134         \fi
8135         /A<<%
8136         /S/GoTo%
8137         /D(\Hy@testname)%
8138       >>%
8139     >>%
8140   }%
8141   \expandafter\Hy@colorlink\csname @#1color\endcsname
8142 }%
8143 }

8144 \def\hyper@linkend{\Hy@endAnnot}%
8145 \def\hyper@link#1#2#3{%
8146   \hyper@linkstart{#1}{#2}#3\hyper@linkend
8147 }

8148 \def\hyper@linkfile#1#2#3{%
8149   \leavevmode
8150   \Hy@BeginAnnot{%
8151     \Hy@pstringdef\Hy@pstringF{#2}%
8152     \Hy@pstringdef\Hy@pstringD{#3}%
8153     \@pdfm@mark{%
8154       bann<<%
8155         /Type/Annot%
8156         /Subtype/Link%
8157         \ifHy@pdfa /F 4\fi
8158         \Hy@setpdfborder
8159         \ifx\@filebordercolor\relax

```

```

8160         \else
8161             /C[\@filebordercolor]%
8162         \fi
8163         /A<<%
8164             /S/GoToR%
8165             /F(\Hy@pstringF)%
8166             /D\ifx\#3\[\[O \@pdfstartview]\else(\Hy@pstringD)\fi
8167             \Hy@SetNewWindow
8168         >>%
8169     >>%
8170 }%
8171     \Hy@colorlink\@filecolor
8172 }%
8173 #1%
8174 \Hy@EndAnnot
8175 }
8176 \def\hyper@linkurl#1#2{%
8177     \leavevmode
8178     \Hy@BeginAnnot{%
8179         \Hy@pstringdef\Hy@pstringURI{#2}%
8180         \@pdfm@mark{%
8181             bann<<%
8182                 /Type/Annot%
8183                 /Subtype/Link%
8184                 \ifHy@pdfa /F 4\fi
8185                 \Hy@setpdfborder
8186                 \ifx\@urlbordercolor\relax
8187                     \else
8188                         /C[\@urlbordercolor]%
8189                     \fi
8190                 /A<<%
8191                 /S/URI%
8192                 /URI(\Hy@pstringURI)%
8193             >>%
8194         >>%
8195     }%
8196     \Hy@colorlink\@urlcolor
8197 }%
8198 #1%
8199 \Hy@EndAnnot
8200 }
8201 \def\Acrobatmenu#1#2{%
8202     \Hy@Acrobatmenu{#1}{#2}{%
8203         \Hy@BeginAnnot{%
8204             \@pdfm@mark{%
8205                 bann<<%
8206                     /Type/Annot%
8207                     /Subtype/Link%
8208                     \ifHy@pdfa /F 4\fi
8209                 /A<<%
8210                 /S/Named%
8211                 /N/#1%
8212             >>%
8213             \Hy@setpdfborder
8214             \ifx\@menubordercolor\relax
8215                 \relax
8216                 /C[\@menubordercolor]%

```

```

8217         \fi
8218         >>%
8219     }%
8220     \Hy@colorlink\@menucolor
8221 }%
8222 #2%
8223 \Hy@endAnnot
8224 }%
8225 }
8226 \ifx\@pdfproducer\relax
8227 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

8228 \begingroup\expandafter\expandafter\expandafter\endgroup
8229 \expandafter\ifx\csname XeTeXversion\endcsname\relax
8230 \else
8231 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
8232 \fi
8233 \fi
8234 \def\PDF@FinishDoc{%
8235 \Hy@UseMaketitleInfos
8236 \@pdfm@mark{%
8237     docinfo<<%
8238         /Title(\@pdftitle)%
8239         /Subject(\@pdfsubject)%
8240         /Creator(\@pdfcreator)%
8241         \ifx\@pdfcreationdate\@empty
8242         \else
8243             /CreationDate(\@pdfcreationdate)%
8244         \fi
8245         \ifx\@pdfmoddate\@empty
8246         \else
8247             /ModDate(\@pdfmoddate)%
8248         \fi
8249         /Author(\@pdfauthor)%
8250         \ifx\@pdfproducer\relax
8251         \else
8252             /Producer(\@pdfproducer)%
8253         \fi
8254         /Keywords(\@pdfkeywords)%
8255     >>%
8256 }%
8257 \Hy@DisableOption{pdfauthor}%
8258 \Hy@DisableOption{pdftitle}%
8259 \Hy@DisableOption{pdfsubject}%
8260 \Hy@DisableOption{pdfcreator}%
8261 \Hy@DisableOption{pdfcreationdate}%
8262 \Hy@DisableOption{pdfmoddate}%
8263 \Hy@DisableOption{pdfproducer}%
8264 \Hy@DisableOption{pdfkeywords}%
8265 }

8266 \def\PDF@SetupDoc{%
8267 \edef\Hy@temp{%
8268     \ifHy@toolbar\else /HideToolbar true\fi
8269     \ifHy@menubar\else /HideMenubar true\fi
8270     \ifHy>windowui\else /HideWindowUI true\fi
8271     \ifHy@fitwindow /FitWindow true\fi

```

```

8272 \ifHy@centerwindow /CenterWindow true\fi
8273 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8274 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8275 \Hy@UseNameKey{Direction}\@pdfdirection
8276 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8277 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8278 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8279 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8280 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8281 \Hy@UseNameKey{Duplex}\@pdfduplex
8282 \ifx\@pdfpicktraybypdfsize\@empty
8283 \else
8284 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8285 \fi
8286 \ifx\@pdfprintpagerange\@empty
8287 \else
8288 /PrintPageRange[\@pdfprintpagerange]%
8289 \fi
8290 \ifx\@pdfnumcopies\@empty
8291 \else
8292 /NumCopies \@pdfnumcopies
8293 \fi
8294 }%
8295 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8296 \@pdfm@mark{%
8297 docview<<%
8298 \ifx\@pdfstartpage\@empty
8299 \else
8300 \ifx\@pdfstartview\@empty
8301 \else
8302 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
8303 \fi
8304 \fi
8305 \ifx\@baseurl\@empty
8306 \else
8307 /URI<</Base(\Hy@pstringB)>>%
8308 \fi
8309 /PageMode/\@pdfpagemode
8310 \ifx\Hy@temp\@empty
8311 \else
8312 /ViewerPreferences<<\Hy@temp>>%
8313 \fi
8314 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8315 \ifx\@pdflang\@empty
8316 \else
8317 /Lang(\@pdflang)%
8318 \fi
8319 >>%
8320 }%
8321 \ifx\@pdfpagescrop\@empty
8322 \else
8323 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8324 \fi
8325 }

8326 \AtBeginShipoutFirst{%
8327 \ifHy@setpagesize
8328 \begingroup

```

```

8329 \ifundefined{stockwidth}{%
8330 \ifx\special@paper\@empty
8331 \special{papersize=\the\paperwidth,\the\paperheight}%
8332 \else
8333 \special{papersize=\special@paper}%
8334 \fi
8335 }{%
8336 \ifdim\stockwidth=\z@
8337 \else
8338 \special{papersize=\the\stockwidth,\the\stockheight}%
8339 \fi
8340 }%
8341 \endgroup
8342 \fi
8343 \Hy@DisableOption{setpagesize}%
8344 }
8345 </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.

```

8346 <*vtexhtml>
8347 \providecommand*{\XR@ext}{.htm}
8348 \RequirePackage{vtexhtml}
8349 \newif\if@Localurl
8350 \def\PDF@FinishDoc{}
8351 \def\PDF@SetupDoc{%
8352 \ifx\@baseurl\@empty
8353 \else
8354 \special{!direct <base href="\@baseurl">}%
8355 \fi
8356 }
8357 \def\@urltype{url}
8358 \def\hyper@link#1#2#3{%
8359 \leavevmode
8360 \special{!direct <a href=%
8361 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8362 #3%
8363 \special{!direct </a>}%
8364 }
8365 \def\hyper@linkurl#1#2{%
8366 \begingroup
8367 \hyper@chars
8368 \leavevmode
8369 \MathBSuppress=1\relax
8370 \special{!direct <a href=%
8371 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8372 #1%
8373 \MathBSuppress=0\relax
8374 \special{!direct </a>}%
8375 \endgroup
8376 }
8377 \def\hyper@linkfile#1#2#3{%
8378 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
8379 }
8380 \def\hyper@linkstart#1#2{%

```

```

8381 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8382 \@Localurltrue
8383 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8384 \else
8385 \@Localurlfalse
8386 \begingroup
8387 \hyper@chars
8388 \special{!aref \HyperDestNameFilter{#2}}%
8389 \endgroup
8390 \fi
8391 }
8392 \def\hyper@linkend{%
8393 \if@Localurl
8394 \special{!endaref}%
8395 \else
8396 \special{!direct </a>}%
8397 \fi
8398 }
8399 \def\hyper@anchorstart#1{%
8400 \Hy@SaveLastskip
8401 \begingroup
8402 \hyper@chars
8403 \special{!aname #1}%
8404 \special{!direct <a name=%
8405 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8406 \endgroup
8407 \Hy@activeanchortrue
8408 }
8409 \def\hyper@anchorend{%
8410 \special{!direct </a>}%
8411 \Hy@activeanchorfalse
8412 \Hy@RestoreLastskip
8413 }
8414 \def\hyper@anchor#1{%
8415 \Hy@SaveLastskip
8416 \begingroup
8417 \let\protect=\string
8418 \hyper@chars
8419 \leavevmode
8420 \special{!aname #1}%
8421 \special{!direct <a name=%
8422 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8423 \endgroup
8424 \Hy@activeanchortrue
8425 \bgroup\anchor@spot\egroup
8426 \special{!direct </a>}%
8427 \Hy@activeanchorfalse
8428 \Hy@RestoreLastskip
8429 }
8430 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8431 \def\@endForm{}
8432 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8433 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8434 }
8435 \def\@TextField[#1]#2{% parameters, label
8436 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8437 }

```

```

8438 \def\@CheckBox[#1]#2{% parameters, label
8439 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8440 }
8441 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8442 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8443 }
8444 \def\@PushButton[#1]#2{% parameters, label
8445 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8446 }
8447 \def\@Reset[#1]#2{%
8448 \typeout{Sorry, TeXpider does not yet support FORMs}%
8449 }
8450 \def\@Submit[#1]#2{%
8451 \typeout{Sorry, TeXpider does not yet support FORMs}%
8452 }
8453 \</vtexhtml>
8454 \<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.

```

8455 \ifx\mediaheight\@undefined
8456 \else
8457 \ifx\mediaheight\relax
8458 \else
8459 \ifHy@setpagesize
8460 \providecommand*\VTeXInitMediaSize{%
8461 \@ifundefined{stockwidth}{%
8462 \ifdim\paperheight>0pt %
8463 \setlength\mediaheight\paperheight
8464 \fi
8465 \ifdim\paperheight>0pt %
8466 \setlength\mediawidth\paperwidth
8467 \fi
8468 }{%
8469 \ifdim\stockheight>0pt %
8470 \setlength\mediaheight\stockheight
8471 \fi
8472 \ifdim\stockwidth>0pt %
8473 \setlength\mediawidth\stockwidth
8474 \fi
8475 }%
8476 }%
8477 \AtBeginDocument{\VTeXInitMediaSize}%
8478 \fi
8479 \Hy@DisableOption{setpagesize}%
8480 \fi
8481 \fi

```

Older versions of VTeX require xyz in lower case.

```

8482 \providecommand*\@pdfview{xyz}
8483 \providecommand*\@pdfborder{0 0 1}
8484 \providecommand*\@pdfborderstyle{}
8485 \let\CurrentBorderColor\@linkbordercolor
8486 \def\hyper@anchor#1{%
8487 \Hy@SaveLastskip
8488 \begingroup
8489 \let\protect=\string

```

```

8490 \hyper@chars
8491 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8492 \endgroup
8493 \Hy@activeanchortrue
8494 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8495 \Hy@activeanchorfalse
8496 \Hy@RestoreLastskip
8497 }
8498 \def\hyper@anchorstart#1{%
8499 \Hy@SaveLastskip
8500 \begingroup
8501 \hyper@chars
8502 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8503 \endgroup
8504 \Hy@activeanchortrue
8505 }
8506 \def\hyper@anchorend{%
8507 \Hy@activeanchorfalse
8508 \Hy@RestoreLastskip
8509 }
8510 \def\@urltype{url}
8511 \def\Hy@undefinedname{UNDEFINED}
8512 \def\hyper@linkstart#1#2{%
8513 \Hy@pstringdef\Hy@pstringURI{#2}%
8514 \expandafter\Hy@colorlink\csname @#1color\endcsname
8515 \@ifundefined{#@1bordercolor}{%
8516 \let\CurrentBorderColor\relax
8517 }{%
8518 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8519 }%
8520 \def\Hy@tempa{#1}%
8521 \ifx\Hy@tempa\@urltype
8522 \special{!%
8523 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8524 a=<%
8525 \ifHy@pdfa /F 4\fi
8526 \Hy@setpdfborder
8527 \ifx\CurrentBorderColor\relax
8528 \else
8529 /C [\CurrentBorderColor]%
8530 \fi
8531 >%
8532 }%
8533 \else
8534 \protected@edef\Hy@testname{#2}%
8535 \ifx\Hy@testname\@empty
8536 \Hy@Warning{%
8537 Empty destination name,\MessageBreak
8538 using '\Hy@undefinedname'%
8539 }%
8540 \let\Hy@testname\Hy@undefinedname
8541 \fi
8542 \special{!%
8543 aref \expandafter\HyperDestNameFilter
8544 \expandafter{\Hy@testname};%
8545 a=<%
8546 \ifHy@pdfa /F 4\fi

```



```

8547         \Hy@setpdfborder
8548         \ifx\CurrentBorderColor\relax
8549         \else
8550             /C [\CurrentBorderColor]%
8551         \fi
8552     >%
8553 }%
8554 \fi
8555 }
8556 \def\hyper@linkend{%
8557     \special{!endaref}%
8558     \Hy@endcolorlink
8559 }
8560 \def\hyper@linkfile#1#2#3{%
8561     \leavevmode
8562     \special{!%
8563         aref <%
8564         \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8565         f=#2>#3;%
8566         a=<%
8567             \ifHy@pdfa /F 4\fi
8568             \Hy@setpdfborder
8569             \ifx\@filebordercolor\relax
8570             \else
8571                 /C [\@filebordercolor]%
8572             \fi
8573         >%
8574     }%
8575     \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8576     \special{!endaref}%
8577 }
8578 \def\hyper@linkurl#1#2{%
8579     \begingroup
8580         \Hy@pstringdef\Hy@pstringURI{#2}%
8581         \hyper@chars
8582         \leavevmode
8583         \special{!%
8584             aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8585             a=<%
8586                 \ifHy@pdfa /F 4\fi
8587                 \Hy@setpdfborder
8588                 \ifx\@urlbordercolor\relax
8589                 \else
8590                     /C [\@urlbordercolor]%
8591                 \fi
8592             >%
8593         }%
8594         \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8595         \special{!endaref}%
8596     \endgroup
8597 }
8598 \def\hyper@link#1#2#3{%
8599     \ifundefined{@#1bordercolor}{%
8600         \let\CurrentBorderColor\relax
8601     }{%
8602         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8603     }%

```

```

8604 \leavevmode
8605 \protected@edef\Hy@testname{#2}%
8606 \ifx\Hy@testname\@empty
8607   \Hy@Warning{%
8608     Empty destination name,\MessageBreak
8609     using '\Hy@undefinedname'%
8610   }%
8611   \let\Hy@testname\Hy@undefinedname
8612 \fi
8613 \special{!%
8614   aref \expandafter\HyperDestNameFilter
8615   \expandafter{\Hy@testname};%
8616   a=<%
8617   \ifHy@pdfa /F 4\fi
8618   \Hy@setpdfborder
8619   \ifx\CurrentBorderColor\relax
8620   \else
8621     /C [\CurrentBorderColor]%
8622   \fi
8623   >%
8624 }%
8625 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8626 \special{!endaref}%
8627 }
8628 \def\hyper@image#1#2{%
8629   \hyper@linkurl{#2}{#1}%
8630 }
8631 \def\@hyper@launch run:#1\#2#3{%
8632   \Hy@pstringdef\Hy@pstringF{#1}%
8633   \Hy@pstringdef\Hy@pstringP{#3}%
8634   \leavevmode
8635   \special{!aref %
8636     <u=%
8637       /Type/Action%
8638       /S/Launch%
8639       /F(\Hy@pstringF)%
8640       \Hy@SetNewWindow
8641       \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8642     >;%
8643     a=<%
8644     \ifHy@pdfa /F 4\fi
8645     \Hy@setpdfborder
8646     \ifx\@runbordercolor\relax
8647     \else
8648       /C[\@runbordercolor]%
8649     \fi
8650     >%
8651   }%
8652   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8653   \special{!endaref}%
8654 }
8655 \def\Acrobatmenu#1#2{%
8656   \Hy@Acrobatmenu{#1}{#2}{%
8657     \special{!%
8658       aref <u=/S /Named /N /#1>;%
8659       a=<%
8660       \ifHy@pdfa /F 4\fi

```

```

8661      \Hy@setpdfborder
8662      \ifx\@menubordercolor\relax
8663      \else
8664      /C[\@menubordercolor]%
8665      \fi
8666      >%
8667      }%
8668      \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8669      \special{!endaref}%
8670      }%
8671      }

```

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

The code below makes sense for  $\text{\TeX}$  7.02 or later.

Please never use  $\text{\ifundefined\TeXversion}\{...\}$  globally.

```

8672 \ifnum\Hy@TeXversion<702 %
8673 \else
8674   \def\hyper@pagetransition{%
8675     \ifx\@pdfpagetransition\relax
8676     \else
8677     \ifx\@pdfpagetransition\@empty

```

Standard incantation.

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

```

8678     \else
8679     \hvtex@parse@trans\@pdfpagetransition
8680     \fi
8681   \fi
8682   }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{\TeX}$   $\text{\special}$ . (AVK)

Syntax of  $\text{\TeX}$   $\text{\special}\{!trans <transition\_effect>\}$ :

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

8683   \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8684   \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8685   \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8686   \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8687   \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8688   \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8689   \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```
8690 \def\hvtex@par@dimension{/Dm}%
8691 \def\hvtex@par@direction{/Di}%
8692 \def\hvtex@par@duration{/D}%
8693 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8694 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%
```

Notice that tokens in the input buffer must be space delimited.

```
8695 \def\hvtex@gettoken@#1 #2\@nil{%
8696   \edef\hvtex@token{#1}%
8697   \edef\hvtex@buffer{#2}%
8698 }%
8699 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
8700 \let\hvtex@trans@code\@empty
8701 \let\hvtex@param@dimension\@empty
8702 \let\hvtex@param@direction\@empty
8703 \let\hvtex@param@duration\@empty
8704 \let\hvtex@param@motion\@empty
8705 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
8706 \hvtex@gettoken
8707 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
8708 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8709 \else
8710 \hvtex@gettoken
8711 \fi
8712 \fi
8713 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8714 \hvtex@trans@params
8715 }%
```

Reentrant macro to parse optional parameters.

```
8716 \def\hvtex@trans@params{%
8717 \ifx\hvtex@buffer\@empty
8718 \else
8719 \hvtex@gettoken
8720 \let\hvtex@trans@par\hvtex@token
8721 \ifx\hvtex@buffer\@empty
8722 \else
8723 \hvtex@gettoken
8724 \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.

```
8725 \let\hvtex@param@duration\hvtex@token
8726 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8727 \expandafter\edef\expandafter\hvtex@param@motion
8728 \expandafter{\expandafter\@gobble\hvtex@token}%
8729 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8730      \expandafter\edef\expandafter\hvtex@param@dimension
8731      \expandafter{\expandafter\@gobble\hvtex@token}%
8732      \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).

```
8733      \let\hvtex@param@direction\hvtex@token
8734      \fi\fi\fi\fi
8735      \fi
8736      \fi
8737      \ifx\hvtex@buffer\@empty
8738      \let\next\hvtex@produce@trans
8739      \else
8740      \let\next\hvtex@trans@params
8741      \fi
8742      \next
8743      }%
```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
8744 \def\hvtex@produce@trans{%
8745   \let\vtex@trans@special\@empty
8746   \if S\hvtex@trans@code
8747     \edef\vtex@trans@special{\hvtex@trans@code
8748       \hvtex@param@dimension\hvtex@param@motion}%
8749   \else\if B\hvtex@trans@code
8750     \edef\vtex@trans@special{%
8751       \hvtex@trans@code\hvtex@param@dimension
8752     }%
8753   \else\if X\hvtex@trans@code
8754     \edef\vtex@trans@special{%
8755       \hvtex@trans@code\hvtex@param@motion
8756     }%
8757   \else\if W\hvtex@trans@code
8758     \edef\vtex@trans@special{%
8759       \hvtex@trans@code\hvtex@param@direction
8760     }%
8761   \else\if D\hvtex@trans@code
8762     \let\vtex@trans@special\hvtex@trans@code
8763   \else\if R\hvtex@trans@code
8764     \let\vtex@trans@special\hvtex@trans@code
8765   \else\if G\hvtex@trans@code
8766     \edef\vtex@trans@special{%
8767       \hvtex@trans@code\hvtex@param@direction
8768     }%
8769   \fi\fi\fi\fi\fi\fi\fi
8770   \ifx\vtex@trans@special\@empty
8771   \else
8772     \ifx\hvtex@param@duration\@empty
8773     \else
8774       \setlength{\dimen@}{\hvtex@param@duration\p@}%
```

I'm not guilty of possible overflow.

```
8775     \multiply\dimen@\@m
8776     \edef\vtex@trans@special{%
8777       \vtex@trans@special,\strip@pt\dimen@
8778     }%
```

```

8779      \fi
      And all the mess is just for this.
8780      \special{!trans \vtx@trans@special}%
8781      \fi
8782  }%
8783  \def\hyper@pageduration{%
8784    \ifx\@pdfpageduration\relax
8785      \else
8786        \ifx\@pdfpageduration\@empty
8787          \special{!duration-}%
8788        \else
8789          \special{!duration \@pdfpageduration}%
8790        \fi
8791      \fi
8792  }%
8793  \def\hyper@pagehidden{%
8794    \ifHy@useHidKey
8795      \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8796    \fi
8797  }%
8798  \g@addto@macro\Hy@EveryPageBoxHook{%
8799    \hyper@pagetransition
8800    \hyper@pageduration
8801    \hyper@pagehidden
8802  }%
8803 \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

```

8804 \ifx\@pdfproducer\relax
8805   \def\@pdfproducer{VTeX}%
8806   \ifnum\Hy@VTeXversion>\z@
8807     \count@\VTeXversion
8808     \divide\count@ 100 %
8809     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8810     \multiply\count@ -100 %
8811     \advance\count@\VTeXversion
8812     \edef\@pdfproducer{%
8813       \@pdfproducer
8814       .\ifnum\count@<10 0\fi\the\count@
8815       \ifx\VTeXOS\@undefined\else
8816         \ifnum\VTeXOS>0 %
8817           \ifnum\VTeXOS<6 %
8818             \space(
8819             \ifcase\VTeXOS
8820             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8821             \fi
8822           )%

```

```

8823         \fi
8824     \fi
8825 \fi
8826 ,\space
8827 \ifnum\OpMode=\@ne PDF\else PS\fi
8828 \space backend%
8829 \ifx\gexmode\@undefined\else
8830     \ifnum\gexmode>\z@\space with GeX\fi
8831 \fi
8832 }%
8833 \fi
8834 \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).

```

8835 \def\PDF@SetupDoc{%
8836     \ifx\@pdfpagescrop\@empty
8837     \else
8838         \special{!pdfinfo b=<\@pdfpagescrop>}%
8839     \fi
8840     \ifx\@pdfstartpage\@empty
8841     \else
8842         \ifx\@pdfstartview\@empty
8843         \else
8844             \special{!onopen Page\@pdfstartpage}%
8845         \fi
8846     \fi
8847     \special{!pdfinfo p=</\@pdfpagemode>}%
8848     \ifx\@baseurl\@empty
8849     \else
8850         \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8851     \fi
8852     \special{!pdfinfo v=<<<%
8853         \ifHy@toolbar\else /HideToolbar true\fi
8854         \ifHy@menubar\else /HideMenubar true\fi
8855         \ifHy>windowui\else /HideWindowUI true\fi
8856         \ifHy@fitwindow /FitWindow true\fi
8857         \ifHy@centerwindow /CenterWindow true\fi
8858         \ifHy@displaydoctitle /DisplayDocTitle true\fi
8859         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8860         \Hy@UseNameKey{Direction}\@pdfdirection
8861         \Hy@UseNameKey{ViewArea}\@pdfviewarea
8862         \Hy@UseNameKey{ViewClip}\@pdfviewclip
8863         \Hy@UseNameKey{PrintArea}\@pdfprintarea
8864         \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

8865 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8866 \Hy@UseNameKey{Duplex}\@pdfduplex
8867 \ifx\@pdfpicktraybypdfsize\@empty
8868 \else
8869 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8870 \fi
8871 \ifx\@pdfprintpagerange\@empty
8872 \else
8873 /PrintPageRange[\@pdfprintpagerange]%
8874 \fi
8875 \ifx\@pdfnumcopies\@empty
8876 \else
8877 /NumCopies \@pdfnumcopies
8878 \fi
8879 >>>}%
8880 \ifx\@pdfpagelayout\@empty
8881 \else
8882 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8883 \fi
8884 }%
8885 \def\PDF@FinishDoc{%
8886 \Hy@UseMaketitleInfos
8887 \special{!pdfinfo a=<\@pdfauthor>}%
8888 \special{!pdfinfo t=<\@pdftitle>}%
8889 \special{!pdfinfo s=<\@pdfsubject>}%
8890 \special{!pdfinfo c=<\@pdfcreator>}%
8891 \ifx\@pdfproducer\relax
8892 \else
8893 \special{!pdfinfo r=<\@pdfproducer>}%
8894 \fi
8895 \special{!pdfinfo k=<\@pdfkeywords>}%
8896 \Hy@DisableOption{pdfauthor}%
8897 \Hy@DisableOption{pdftitle}%
8898 \Hy@DisableOption{pdfsubject}%
8899 \Hy@DisableOption{pdfcreator}%
8900 \Hy@DisableOption{pdfcreationdate}%
8901 \Hy@DisableOption{pdfmoddate}%
8902 \Hy@DisableOption{pdfproducer}%
8903 \Hy@DisableOption{pdfkeywords}%
8904 }
8905 \</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.

```

8906 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8907 <package>\providecommand*\Hy@DistillerDestFix{}
8908 <*pdfmark | dviwindo>

```



```

8909 \def\Hy@DistillerDestFix{%
8910   \begingroup
8911     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

8912   \ifnum \@ifundefined{OpMode}{0}{%
8913     \@ifundefined{gexmode}{0}{%
8914       \ifnum\gexmode>0 \OpMode\else 0\fi
8915     }>1 %
8916   \def\x##1{%
8917     \immediate\special{!=##1}%
8918   }%
8919 \fi
8920 \x{%
8921   /product where{%
8922     pop %
8923     product(Distiller)search{%
8924       pop pop pop %
8925       version(.)search{%
8926         exch pop exch pop%
8927         (3011)eq{%
8928           gsave %
8929           newpath 0 0 moveto closepath clip%
8930           /Courier findfont 10 scalefont setfont %
8931           72 72 moveto(.)show %
8932           grestore%
8933         }if%
8934       }{pop}ifelse%
8935     }{pop}ifelse%
8936   }if%
8937 }%
8938 \endgroup
8939 }
8940 </pdfmark | dviwindo>

```

## 46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

\@pdfproducer	for document information
\literalps@out	PostScript output
\headerps@out	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S	start of anchor, link or rect
#1 H.A	end of anchor, argument=baselineskip in pt
#1 H.L	end of link, argument=baselineskip in pt
H.R	end of rect
H.B	raw rect code

```

8941 <*pdfmark>
8942 \Hy@breaklinks@unsupported
8943 \def\hyper@anchor#1{%
8944   \Hy@SaveLastskip
8945   \begingroup
8946     \pdfmark[\anchor@spot]{%

```

```

8947     pdfmark=/DEST,%
8948     linktype=anchor,%
8949     View=/\@pdfview \@pdfviewparams,%
8950     DestAnchor={#1}%
8951 }%
8952 \endgroup
8953 \Hy@RestoreLastskip
8954 }
8955 \@ifundefined{hyper@anchorstart}{\endinput}
8956 \def\hyper@anchorstart#1{%
8957   \Hy@SaveLastskip
8958   \literalps@out{H.S}%
8959   \xdef\hyper@currentanchor{#1}%
8960   \Hy@activeanchortrue
8961 }
8962 \def\hyper@anchorend{%
8963   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8964   \pdfmark{%
8965     pdfmark=/DEST,%
8966     linktype=anchor,%
8967     View=/\@pdfview \@pdfviewparams,%
8968     DestAnchor=\hyper@currentanchor,%
8969   }%
8970   \Hy@activeanchorfalse
8971   \Hy@RestoreLastskip
8972 }
8973 \def\hyper@linkstart#1#2{%
8974   \ifHy@breaklinks
8975   \else
8976     \leavevmode\hbox\bgroup
8977     \fi
8978     \expandafter\Hy@colorlink\csname @#1color\endcsname
8979     \literalps@out{H.S}%
8980     \xdef\hyper@currentanchor{#2}%
8981     \gdef\hyper@currentlinktype{#1}%
8982 }
8983 \def\hyper@linkend{%
8984   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8985   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8986     \let\Hy@tempcolor\relax
8987   }{%
8988     \edef\Hy@tempcolor{%
8989       \csname @\hyper@currentlinktype bordercolor\endcsname
8990     }%
8991   }%
8992   \pdfmark{%
8993     pdfmark=/ANN,%
8994     linktype=link,%
8995     Subtype=/Link,%
8996     PDFANFlags=4,%
8997     Dest=\hyper@currentanchor,%
8998     AcroHighlight=\@pdfhighlight,%
8999     Border=\@pdfborder,%
9000     BorderStyle=\@pdfborderstyle,%
9001     Color=\Hy@tempcolor,%
9002     Raw=H.B%
9003   }%

```

```

9004 \Hy@endcolorlink
9005 \ifHy@breaklinks
9006 \else
9007 \egroup
9008 \fi
9009 }

```

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.

```

9010 \begin{group}
9011 \catcode'P=12 %
9012 \catcode'T=12 %
9013 \lowercase{\endgroup}
9014 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
9015 }
9016 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

9017 \def\hyper@pagetransition{%
9018 \ifx\@pdfpagetransition\relax
9019 \else
9020 \ifx\@pdfpagetransition\@empty
9021 % 1. Does an old entry have to be deleted?
9022 % 2. If 1=yes, how to delete?
9023 \else
9024 \pdfmark{%
9025 pdfmark=/PUT,%
9026 Raw={%
9027 \string{ThisPage\string}%
9028 <</Trans << /S /\@pdfpagetransition\space >> >>%
9029 }%
9030 }%
9031 \fi
9032 \fi
9033 }

```

\hyper@pageduration

```

9034 \def\hyper@pageduration{%
9035 \ifx\@pdfpageduration\relax
9036 \else
9037 \ifx\@pdfpageduration\@empty
9038 % 1. Does an old entry have to be deleted?
9039 % 2. If 1=yes, how to delete?
9040 \else
9041 \pdfmark{%
9042 pdfmark=/PUT,%
9043 Raw={%
9044 \string{ThisPage\string}%
9045 <</Dur \@pdfpageduration>>%
9046 }%
9047 }%
9048 \fi
9049 \fi
9050 }

```

\hyper@pagehidden

```

9051 \def\hyper@pagehidden{%
9052   \ifHy@useHidKey
9053     \pdfmark{%
9054       pdfmark=/PUT,%
9055       Raw={%
9056         \string{ThisPage\string}%
9057         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
9058       }%
9059     }%
9060   \fi
9061 }

9062 \g@addto@macro\Hy@EveryPageBoxHook{%
9063   \hyper@pagetransition
9064   \hyper@pageduration
9065   \hyper@pagehidden
9066 }

9067 \def\hyper@image#1#2{%
9068   \hyper@linkurl{#2}{#1}%
9069 }

9070 \def\Hy@undefinedname{UNDEFINED}
9071 \def\hyper@link#1#2#3{%
9072   \@ifundefined{@#1bordercolor}{%
9073     \let\Hy@tempcolor\relax
9074   }{%
9075     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
9076   }%
9077   \begingroup
9078     \protected@edef\Hy@testname{#2}%
9079     \ifx\Hy@testname\@empty
9080       \Hy@Warning{%
9081         Empty destination name,\MessageBreak
9082         using '\Hy@undefinedname'%
9083       }%
9084       \let\Hy@testname\Hy@undefinedname
9085     \fi
9086     \pdfmark[{#3}]{%
9087       Color=\Hy@tempcolor,%
9088       linktype={#1},%
9089       AcroHighlight=\@pdfhighlight,%
9090       Border=\@pdfborder,%
9091       BorderStyle=\@pdfborderstyle,%
9092       pdfmark=/ANN,%
9093       Subtype=/Link,%
9094       PDFAFlags=4,%
9095       Dest=\Hy@testname
9096     }%
9097   \endgroup
9098 }

9099 \newtoks\pdf@docset
9100 \def\PDF@FinishDoc{%
9101   \Hy@UseMaketitleInfos
9102   \let\Hy@temp\@empty
9103   \ifx\@pdfcreationdate\@empty
9104   \else
9105     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
9106   \fi
9107   \ifx\@pdfmoddate\@empty

```

```

9108 \else
9109 \expandafter\def\expandafter\Hy@temp\expandafter{%
9110 \Hy@temp
9111 ModDate=\@pdfmoddate,%
9112 }%
9113 \fi
9114 \ifx\@pdfproducer\relax
9115 \else
9116 \expandafter\def\expandafter\Hy@temp\expandafter{%
9117 \Hy@temp
9118 Producer=\@pdfproducer,%
9119 }%
9120 \fi
9121 \expandafter
9122 \pdfmark\expandafter{%
9123 \Hy@temp
9124 pdfmark=/DOCINFO,%
9125 Title=\@pdftitle,%
9126 Subject=\@pdfsubject,%
9127 Creator=\@pdfcreator,%
9128 Author=\@pdfauthor,%
9129 Keywords=\@pdfkeywords
9130 }%
9131 \Hy@DisableOption{pdfauthor}%
9132 \Hy@DisableOption{pdftitle}%
9133 \Hy@DisableOption{pdfsubject}%
9134 \Hy@DisableOption{pdfcreator}%
9135 \Hy@DisableOption{pdfcreationdate}%
9136 \Hy@DisableOption{pdfmoddate}%
9137 \Hy@DisableOption{pdfproducer}%
9138 \Hy@DisableOption{pdfkeywords}%
9139 }
9140 \def\PDF@SetupDoc{%
9141 \def\Hy@temp{%
9142 \ifx\@pdfstartpage\@empty
9143 \else
9144 \ifx\@pdfstartview\@empty
9145 \else
9146 \edef\Hy@temp{%
9147 ,Page=\@pdfstartpage
9148 ,View=\@pdfstartview
9149 }%
9150 \fi
9151 \fi
9152 \edef\Hy@temp{%
9153 \noexpand\pdfmark{%
9154 pdfmark=/DOCVIEW,%
9155 PageMode=/\@pdfpagemode
9156 \Hy@temp
9157 }%
9158 }%
9159 \Hy@temp
9160 \ifx\@pdfpagescrop\@empty
9161 \else
9162 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9163 \fi
9164 \edef\Hy@temp{%

```

```

9165 \ifHy@toolbar\else /HideToolbar true\fi
9166 \ifHy@menubar\else /HideMenubar true\fi
9167 \ifHy@windowui\else /HideWindowUI true\fi
9168 \ifHy@fitwindow /FitWindow true\fi
9169 \ifHy@centerwindow /CenterWindow true\fi
9170 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9171 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9172 \Hy@UseNameKey{Direction}\@pdfdirection
9173 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9174 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9175 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9176 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9177 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9178 \Hy@UseNameKey{Duplex}\@pdfduplex
9179 \ifx\@pdfpicktraybypdfsize\@empty
9180 \else
9181 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9182 \fi
9183 \ifx\@pdfprintpagerange\@empty
9184 \else
9185 /PrintPageRange[\@pdfprintpagerange]%
9186 \fi
9187 \ifx\@pdfnumcopies\@empty
9188 \else
9189 /NumCopies \@pdfnumcopies
9190 \fi
9191 }%
9192 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9193 \pdfmark{%
9194 pdfmark=/PUT,%
9195 Raw={%
9196 \string{Catalog\string}<<%
9197 \ifx\Hy@temp\@empty
9198 \else
9199 /ViewerPreferences<<\Hy@temp>>%
9200 \fi
9201 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9202 \ifx\@pdflang\@empty
9203 \else
9204 /Lang(\@pdflang)%
9205 \fi
9206 \ifx\@baseurl\@empty
9207 \else
9208 /URI<</Base(\Hy@pstringB)>>%
9209 \fi
9210 >>%
9211 }%
9212 }%
9213 }
9214 </pdfmark>
9215 <*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.

```

9216 \newif\ifHy@pdfmarkerror
9217 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
9218 \def\pdfmark@[#1]#2{%
9219   \Hy@pdfmarkerrorfalse
9220   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
9221   \@processme
9222   \let\pdf@type\relax
9223   \setkeys{PDF}{#2}%
9224   \ifHy@pdfmarkerror
9225   \else
9226     \ifx\pdf@type\relax
9227       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
9228       \ifx\#1\%
9229         \else
9230           \pdf@rect{#1}%
9231         \fi
9232       \else
9233         \ifx\#1\%
9234           \literalps@out{%
9235             [\the\pdf@toks\space\pdf@type\space pdfmark%
9236             ]%
9237           \else
9238             \@ifundefined{@\pdf@linktype color}{%
9239               \Hy@colorlink\@linkcolor
9240             }{%
9241               \expandafter\Hy@colorlink
9242                 \csname @\pdf@linktype color\endcsname
9243             }%
9244             \pdf@rect{#1}%
9245             \literalps@out{%
9246               [\the\pdf@toks\space\pdf@type\space pdfmark%
9247               ]%
9248             \Hy@endcolorlink
9249           \fi
9250         \fi
9251       \fi
9252 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

9253 \newsavebox{\pdf@box}
9254 \providecommand*{\Hy@setouterhbox}{\sbox}
9255 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
9256 \def\Hy@DEST{/DEST}
9257 \def\pdf@rect#1{%
9258   \leavevmode
9259   \ifHy@breaklinks
9260     \Hy@setouterhbox\pdf@box{#1}%
9261   \else

```

```

9262 \sbox\pdf@box{#1}%
9263 \fi
9264 \dimen@ \ht\pdf@box
9265 \ifdim\dp\pdf@box=\z@
9266 \literalps@out{H.S}%
9267 \else
9268 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
9269 \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...).

```

9270 \ifHy@breaklinks
9271 \expandafter\Hy@breaklinksunhbox
9272 \else
9273 \expandafter\box
9274 \fi
9275 \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

9276 \ifdim\dimen@=\z@
9277 \literalps@out{H.R}%
9278 \else
9279 \raise\dimen@\hbox{\literalps@out{H.R}}%
9280 \fi
9281 \ifx\pdf@type\Hy@DEST
9282 \else
9283 \pdf@addtoksx{H.B}%
9284 \fi
9285 }

```

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.

```

9286 \newtoks\pdf@toks
9287 \newtoks\pdf@defaulttoks
9288 \pdf@defaulttoks={}%
9289 \def\pdf@addtoks#1#2{%
9290 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
9291 \@processme
9292 }
9293 \def\pdf@addtoksx#1{%
9294 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
9295 \@processme
9296 }
9297 \def\PDFdefaults#1{%
9298 \pdf@defaulttoks={#1}%
9299 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

9300 % what is the type of pdfmark?
9301 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
9302 % what is the link type?
9303 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
9304 \def\pdf@linktype{link}
9305 % parameter is a stream of PDF

```



```

9306 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
9307 % parameter is a name
9308 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
9309 % parameter is a array
9310 \define@key{PDF}{Border}{%
9311   \edef\Hy@temp{#1}%
9312   \ifx\Hy@temp\@empty
9313   \else
9314     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
9315   \fi
9316 }
9317 \let\Hy@BorderArrayPatch\@empty
9318 % parameter is a dictionary
9319 \define@key{PDF}{BorderStyle}{%
9320   \edef\Hy@temp{#1}%
9321   \ifx\Hy@temp\@empty
9322   \else
9323     \pdf@addtoks{<<#1>>}{BS}%
9324   \fi
9325 }
9326 % parameter is a array
9327 \define@key{PDF}{Color}{%
9328   \ifx\relax#1\relax
9329   \else
9330     \pdf@addtoks{[#1]}{Color}% hash-ok
9331   \fi
9332 }
9333 % parameter is a string
9334 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9335 % parameter is a integer
9336 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9337 % parameter is a array
9338 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9339 % parameter is a string
9340 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9341 % parameter is a string or file
9342 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9343 % parameter is a destination
9344 \define@key{PDF}{Dest}{%
9345   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9346   \ifx\Hy@pstringDest\@empty
9347     \Hy@pdfmarkerrortrue
9348     \Hy@Warning{Destination with empty name ignored}%
9349   \else
9350     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9351   \fi
9352 }
9353 \define@key{PDF}{DestAnchor}{%
9354   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9355   \ifx\Hy@pstringDest\@empty
9356     \Hy@pdfmarkerrortrue
9357     \Hy@Warning{Destination with empty name ignored}%
9358   \else
9359     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9360   \fi
9361 }
9362 % parameter is a string

```

```

9363 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9364 % parameter is a string
9365 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9366 % parameter is a int
9367 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9368 \define@key{PDF}{PDFAFlags}{%
9369   \ifHy@pdfa
9370     \pdf@addtoks{#1}{F}%
9371   \fi
9372 }
9373 % parameter is a name
9374 \define@key{PDF}{AcroHighlight}{%
9375   \begingroup
9376     \edef\x{#1}%
9377     \expandafter\endgroup\ifx\x\@empty
9378   \else
9379     \pdf@addtoks{#1}{H}%
9380   \fi
9381 }
9382 % parameter is a string
9383 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9384 % parameter is a string
9385 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9386 % parameter is a string
9387 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9388 % parameter is a string
9389 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9390 % parameter is a Boolean
9391 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9392 % parameter is a integer or name
9393 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9394 % parameter is a name
9395 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9396 % parameter is a string
9397 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9398 % parameter is a array
9399 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9400 % parameter is a integer
9401 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9402 % parameter is a name
9403 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9404 % parameter is a string
9405 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9406 % parameter is a string
9407 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9408 % parameter is a string
9409 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9410 % parameter is an array
9411 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9412 % parameter is a string
9413 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9414 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9415 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9416 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9417 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9418 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}

```

```

9419 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9420 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9421 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9422 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9423 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9424 \pdfmarkbase
9425 \pdfmark
9426 \def\Acrobatmenu#1#2{%
9427   \Hy@Acrobatmenu{#1}{#2}{%
9428     \pdfmark[{#2}]{%
9429       linktype=menu,%
9430       pdfmark=/ANN,%
9431       AcroHighlight=\pdfhighlight,%
9432       Border=\pdfborder,%
9433       BorderStyle=\pdfborderstyle,%
9434       Action={<< /Subtype /Named /N /#1 >>},%
9435       Subtype=/Link,%
9436       PDFAFlags=4%
9437     }%
9438   }%
9439 }

```

And now for some useful examples:

```

9440 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9441 \def\PDFNextPage@[#1]#2{%
9442   \pdfmark[{#2}]{%
9443     #1,%
9444     Border=\pdfborder,%
9445     BorderStyle=\pdfborderstyle,%
9446     Color=.2 .1 .5,%
9447     pdfmark=/ANN,%
9448     Subtype=/Link,%
9449     PDFAFlags=4,%
9450     Page=/Next%
9451   }%
9452 }
9453 \def\PDFPreviousPage{%
9454   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9455 }
9456 \def\PDFPreviousPage@[#1]#2{%
9457   \pdfmark[{#2}]{%
9458     #1,%
9459     Border=\pdfborder,%
9460     BorderStyle=\pdfborderstyle,%
9461     Color=.4 .4 .1,%
9462     pdfmark=/ANN,%
9463     Subtype=/Link,%
9464     PDFAFlags=4,%
9465     Page=/Prev%
9466   }%
9467 }
9468 \def\PDFOpen#1{%
9469   \pdfmark{#1,pdfmark=/DOCVIEW}%
9470 }

```

This will only work if you use Distiller 2.1 or higher.

```

9471 \def\hyper@linkurl#1#2{%
9472   \begingroup

```

```

9473 \Hy@pstringdef\Hy@pstringURI{#2}%
9474 \hyper@chars
9475 \leavevmode
9476 \pdfmark[{#1}]{%
9477 pdfmark=/ANN,%
9478 linktype=url,%
9479 AcroHighlight=\@pdfhighlight,%
9480 Border=\@pdfborder,%
9481 BorderStyle=\@pdfborderstyle,%
9482 Color=\@urlbordercolor,%
9483 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9484 Subtype=/Link,%
9485 PDFAFlags=4%
9486 }%
9487 \endgroup
9488 }
9489 \def\hyper@linkfile#1#2#3{%
9490 \begingroup
9491 \Hy@pstringdef\Hy@pstringF{#2}%
9492 \Hy@pstringdef\Hy@pstringD{#3}%
9493 \leavevmode
9494 \pdfmark[{#1}]{%
9495 pdfmark=/ANN,%
9496 Subtype=/Link,%
9497 PDFAFlags=4,%
9498 AcroHighlight=\@pdfhighlight,%
9499 Border=\@pdfborder,%
9500 BorderStyle=\@pdfborderstyle,%
9501 linktype=file,%
9502 Color=\@filebordercolor,%
9503 Action={%
9504 <<%
9505 /S/GoToR%
9506 \Hy@SetNewWindow
9507 /F(\Hy@pstringF)%
9508 /D\ifx\#3\@pdfstartview\else(\Hy@pstringD)cvn\fi
9509 >>%
9510 }%
9511 }%
9512 \endgroup
9513 }
9514 \def\@hyper@launch run:#1\#2#3{%
9515 \begingroup
9516 \Hy@pstringdef\Hy@pstringF{#1}%
9517 \Hy@pstringdef\Hy@pstringP{#3}%
9518 \leavevmode
9519 \pdfmark[{#2}]{%
9520 pdfmark=/ANN,%
9521 Subtype=/Link,%
9522 PDFAFlags=4,%
9523 AcroHighlight=\@pdfhighlight,%
9524 Border=\@pdfborder,%
9525 BorderStyle=\@pdfborderstyle,%
9526 linktype=run,%
9527 Color=\@runbordercolor,%
9528 Action={%
9529 <<%

```

```

9530      /S/Launch%
9531      \Hy@SetNewWindow
9532      /F(\Hy@pstringF)%
9533      \ifx\#3\%
9534      \else
9535          /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9536      \fi
9537      >>%
9538  }%
9539  }%
9540  \endgroup
9541 }
9542 </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.

```

9543 <*dvips>
9544 \providecommand*\XR@ext>{pdf}
9545 \def\Hy@raisedlink{}
9546 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9547 \def\headerps@out#1{\special{! #1}}%
9548 \input{pdfmark.def}%
9549 \ifx\@pdfproducer\relax
9550   \def\@pdfproducer{dvips + Distiller}%
9551 \fi
9552 \providecommand*\@pdfborder{0 0 1}
9553 \providecommand*\@pdfborderstyle{}
9554 \providecommand*\@pdfview{XYZ}
9555 \providecommand*\@pdfviewparams{ H.V}
9556 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9557 \g@addto@macro\Hy@FirstPageHook{%
9558   \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.

```

9559 /DvipsToPDF{72.27 mul Resolution div} def%
9560 /PDFToDvips{72.27 div Resolution mul} def%
9561 /BPToDvips{72 div Resolution mul}def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

9562    /BorderArrayPatch{%
9563        [exch{%
9564            dup dup type/integertype eq exch type/realtype eq or%
9565            {BPToDvips}if%
9566        }forall]%
9567    }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.

```

9568    /HyperBorder {1 PDFToDvips} def%
9569    /H.V {pdf@hoff pdf@voff null} def%
9570    /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

```

9571    /H.S {%
9572        currentpoint %
9573        HyperBorder add /pdf@lly exch def %
9574        dup DvipsToPDF 72 add /pdf@hoff exch def %
9575        HyperBorder sub /pdf@llx exch def%
9576    } 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`

```

9577    /H.L {%
9578        2 sub dup%
9579        /HyperBasePt exch def %
9580        PDFToDvips /HyperBaseDvips exch def %
9581        currentpoint %
9582        HyperBaseDvips sub /pdf@ury exch def%
9583        /pdf@urx exch def%
9584    } def%
9585    /H.A {%
9586        H.L %
9587    % |pdf@voff| = the distance from the top of the page to a point
9588    % |\baselineskip| above the current point in PDF coordinates
9589        currentpoint exch pop %
9590        vsize 72 sub exch DvipsToPDF %
9591        HyperBasePt sub % baseline skip
9592        sub /pdf@voff exch def%
9593    } def%
9594    /H.R {%
9595        currentpoint %
9596        HyperBorder sub /pdf@ury exch def %
9597        HyperBorder add /pdf@urx exch def %
9598    % |pdf@voff| = the distance from the top of the page to the current point, in
9599    % PDF coordinates
9600        currentpoint exch pop vsize 72 sub %
9601        exch DvipsToPDF sub /pdf@voff exch def%
9602    } def%

```

```

9603 }%
9604 }
9605 \AtBeginShipoutFirst{%
9606   \ifHy@setpagesize
9607     \begingroup
9608       \@ifundefined{stockwidth}{%
9609         \ifx\special@paper\@empty
9610           \special{papersize=\the\paperwidth,\the\paperheight}%
9611         \else
9612           \special{papersize=\special@paper}%
9613         \fi
9614       }{%
9615         \ifdim\stockwidth=\z@
9616           \else
9617             \special{papersize=\the\stockwidth,\the\stockheight}%
9618           \fi
9619       }%
9620     \endgroup
9621   \fi
9622   \Hy@DisableOption{setpagesize}%
9623 }
9624 </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.

```

9625 <*vtexpdfmark>
9626 \providecommand*\XR@ext}{pdf}
9627 \def\Hy@raisedlink{}
9628 \def\literalps@out#1{\special{pS:#1}}%
9629 \def\headerps@out#1{\immediate\special{pS:#1}}%
9630 \input{pdfmark.def}%
9631 \ifx\@pdfproducer\relax
9632   \ifnum\OpMode=\@ne
9633     \def\@pdfproducer{VTeX}%
9634   \else
9635     \def\@pdfproducer{VTeX + Distiller}%
9636   \fi
9637 \fi
9638 \providecommand*\@pdfborder{0 0 1}
9639 \providecommand*\@pdfborderstyle{}
9640 \providecommand*\@pdfview{XYZ}
9641 \providecommand*\@pdfviewparams{ H.V}
9642 \g@addto@macro\Hy@FirstPageHook{%
9643   \headerps@out{%
9644     /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.

```

9645   /HyperBorder {1} def%
9646   /H.V {pdf@hoff pdf@voff null} def%
9647   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9648   /H.S {%
9649       currentpoint %
9650       HyperBorder sub%
9651       /pdf@lly exch def %
9652       dup 72 add /pdf@hoff exch def %
9653       HyperBorder sub%
9654       /pdf@llx exch def%
9655   } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9656   /H.L {%
9657       2 sub%
9658       /HyperBasePt exch def %
9659       currentpoint %
9660       HyperBasePt add HyperBorder add%
9661       /pdf@ury exch def %
9662       HyperBorder add%
9663       /pdf@urx exch def%
9664   } def%
9665   /H.A {%
9666       H.L %
9667       currentpoint exch pop %
9668       vsize 72 sub exch %
9669       HyperBasePt add add%
9670       /pdf@voff exch def%
9671   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9672   /H.R {%
9673       currentpoint %
9674       HyperBorder add%
9675       /pdf@ury exch def %
9676       HyperBorder add%
9677       /pdf@urx exch def %
9678       currentpoint exch pop vsize 72 sub add%
9679       /pdf@voff exch def%
9680   } def%
9681 }%
9682 }
9683 </vtxpdfmark>

```

## 46.11 Textures

```

9684 <*textures>
9685 \providecommand*{\XR@ext}{pdf}

```

At the suggestion of Jacques Distler ([distler@golem.ph.utexas.edu](mailto: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](mailto: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.

```
9686 \begingroup
9687   \obeylines %
9688   \gdef\Hy@ps@CR{\noexpand
9689     }%
9690 \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.

```
9691 \def\literalps@out#1{%
9692   \special{postscript 0 0 transform}%
9693   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9694 }%
9695 %
```

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.

```
9696 \def\headerps@out#1{%
9697   \special{%
9698     prepostscript TeXdict begin\Hy@ps@CR
9699       #1\Hy@ps@CR
9700     end%
9701   }%
9702 }%
9703 %
```

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.

```
9704 \g@addto@macro\Hy@FirstPageHook{%
9705   \headerps@out{%
9706     /betterpdfmark {%
9707       systemdict begin %
9708         dup /BP eq%
9709         {cleartomark gsave nulldevice []}%
9710         {dup /EP eq%
9711           {cleartomark cleartomark grestore}%
9712           {cleartomark}%
9713         }ifelse%
9714       }ifelse %
9715     end%
9716   }def\Hy@ps@CR
9717   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9718 }% end of \headerps@out
9719 }% end of \AtBeginShipoutFirst
9720 %
9721 \input{pdfmark.def}%
9722 %
9723 \ifx\@pdfproducer\relax
```

```

9724 \def\@pdfproducer{Textures + Distiller}%
9725 \fi
9726 \providecommand*\@pdfborder{0 0 1}
9727 \providecommand*\@pdfborderstyle{}
9728 \providecommand*\@pdfview{XYZ}
9729 \providecommand*\@pdfviewparams{ H.V}
9730 %

```

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  $\TeX$ .

```

9731 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9732 /vsize {\Hy@pageheight} def%
9733 /DvipsToPDF {} def%
9734 /PDFToDvips {} def%
9735 /BPToDvips {} def%
9736 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9737 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9738 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9739 /H.S {%
9740     currentpoint %
9741     HyperBorder add /pdf@lly exch def %
9742     dup DvipsToPDF 72 add /pdf@hoff exch def %
9743     HyperBorder sub /pdf@llx exch def%
9744 } def\Hy@ps@CR
9745 /H.L {%
9746     2 sub %
9747     PDFToDvips /HyperBase exch def %
9748     currentpoint %
9749     HyperBase sub /pdf@ury exch def%
9750     /pdf@urx exch def%
9751 } def\Hy@ps@CR
9752 /H.A {%
9753     H.L %
9754     currentpoint exch pop %
9755     vsize 72 sub exch DvipsToPDF %
9756     HyperBase sub % baseline skip
9757     sub /pdf@voff exch def%
9758 } def\Hy@ps@CR
9759 /H.R {%
9760     currentpoint %
9761     HyperBorder sub /pdf@ury exch def %
9762     HyperBorder add /pdf@urx exch def %
9763     currentpoint exch pop vsize 72 sub %
9764     exch DvipsToPDF sub /pdf@voff exch def%
9765 } def\Hy@ps@CR
9766 }

9767 \AfterBeginDocument{%
9768     \ifHy@colorlinks
9769         \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9770     \fi
9771 }

```

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.

```

9772 \expandafter\let\expandafter\keepPDF@SetupDoc
9773 \csname PDF@SetupDoc\endcsname
9774 \def\PDF@SetupDoc{%
9775   \ifx\@baseurl\@empty
9776   \else
9777     \special{html:<base href="\@baseurl">}%
9778   \fi
9779   \keepPDF@SetupDoc
9780 }
9781 \def\hyper@anchor#1{%
9782   \Hy@SaveLastskip
9783   \begingroup
9784     \let\protect=\string
9785     \special{html:<a name=%
9786       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9787   \endgroup
9788   \Hy@activeanchortrue
9789   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9790   \special{html:</a>}%
9791   \Hy@activeanchorfalse
9792   \Hy@RestoreLastskip
9793 }
9794 \def\hyper@anchorstart#1{%
9795   \Hy@SaveLastskip
9796   \begingroup
9797     \hyper@chars
9798     \special{html:<a name=%
9799       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9800   \endgroup
9801   \Hy@activeanchortrue
9802 }
9803 \def\hyper@anchorend{%
9804   \special{html:</a>}%
9805   \Hy@activeanchorfalse
9806   \Hy@RestoreLastskip
9807 }
9808 \def\@urlltype{url}
9809 \def\hyper@linkstart#1#2{%
9810   \expandafter\Hy@colorlink\csname @#1color\endcsname
9811   \def\Hy@tempa{#1}%
9812   \ifx\Hy@tempa\@urlltype
9813     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9814   \else
9815     \begingroup
9816       \hyper@chars
9817       \special{html:<a href=%
9818         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9819     \endgroup
9820   \fi
9821 }
9822 \def\hyper@linkend{%
9823   \special{html:</a>}%
9824   \Hy@endcolorlink
9825 }
9826 \def\hyper@linkfile#1#2#3{%

```

```

9827 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9828 }
9829 \def\hyper@linkurl#1#2{%
9830 \leavevmode
9831 \ifHy@raiselinks
9832 \setbox\@tempboxa=\color@hbox #1\color@endbox
9833 \@linkdim\dp\@tempboxa
9834 \lower\@linkdim\hbox{%
9835 \hyper@chars
9836 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9837 }%
9838 \Hy@colorlink\@urlcolor#1%
9839 \@linkdim\ht\@tempboxa
9840 \advance\@linkdim by -6.5\p@
9841 \raise\@linkdim\hbox{\special{html:</a>}}%
9842 \Hy@endcolorlink
9843 \else
9844 \begingroup
9845 \hyper@chars
9846 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9847 \Hy@colorlink\@urlcolor#1%
9848 \special{html:</a>}%
9849 \Hy@endcolorlink
9850 \endgroup
9851 \fi
9852 }

```

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

```

9853 \def\hyper@link#1#2#3{%
9854 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
9855 }
9856 \def\hyper@image#1#2{%
9857 \begingroup
9858 \hyper@chars
9859 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9860 \endgroup
9861 }
9862 </textures>

```

## 46.12 dvipsone

```

9863 % \subsection{dvipsone driver}
9864 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9865 % |\special| commands.
9866 <*dvipsone>
9867 \providecommand*\XR@ext{pdf}
9868 \def\Hy@raisedlink{}
9869 \providecommand*\@pdfborder{0 0 1}
9870 \providecommand*\@pdfborderstyle{}
9871 \def\literalps@out#1{\special{ps:#1}}%
9872 \def\headerps@out#1{\special{headertext=#1}}%
9873 \input{pdfmark.def}%
9874 \ifx\@pdfproducer\relax
9875 \def\@pdfproducer{dvipsone + Distiller}%
9876 \fi
9877 \def\PDF@FinishDoc{%
9878 \Hy@UseMaketitleInfos
9879 \special{PDF: Keywords \@pdfkeywords}%

```

```

9880 \special{PDF: Title \@pdftitle}%
9881 \special{PDF: Creator \@pdfcreator}%
9882 \ifx\@pdfcreationdate\@empty
9883 \else
9884 \special{PDF: CreationDate \@pdfcreationdate}%
9885 \fi
9886 \ifx\@pdfmoddate\@empty
9887 \else
9888 \special{PDF: ModDate \@pdfmoddate}%
9889 \fi
9890 \special{PDF: Author \@pdfauthor}%
9891 \ifx\@pdfproducer\relax
9892 \else
9893 \special{PDF: Producer \@pdfproducer}%
9894 \fi
9895 \special{PDF: Subject \@pdfsubject}%
9896 \Hy@DisableOption{pdfauthor}%
9897 \Hy@DisableOption{pdftitle}%
9898 \Hy@DisableOption{pdfsubject}%
9899 \Hy@DisableOption{pdfcreator}%
9900 \Hy@DisableOption{pdfcreationdate}%
9901 \Hy@DisableOption{pdfmoddate}%
9902 \Hy@DisableOption{pdfproducer}%
9903 \Hy@DisableOption{pdfkeywords}%
9904 }
9905 \def\PDF@SetupDoc{%
9906 \def\Hy@temp{%
9907 \ifx\@pdfstartpage\@empty
9908 \else
9909 \ifx\@pdfstartview\@empty
9910 \else
9911 \edef\Hy@temp{%
9912 ,Page=\@pdfstartpage
9913 ,View=\@pdfstartview
9914 }%
9915 \fi
9916 \fi
9917 \edef\Hy@temp{%
9918 \noexpand\pdfmark{%
9919 pdfmark=/DOCVIEW,%
9920 PageMode=/\@pdfpagemode
9921 \Hy@temp
9922 }%
9923 }%
9924 \Hy@temp
9925 \ifx\@pdfpagescrop\@empty
9926 \else
9927 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9928 \fi
9929 \edef\Hy@temp{%
9930 \ifHy@toolbar\else /HideToolbar true\fi
9931 \ifHy@menubar\else /HideMenubar true\fi
9932 \ifHy@windowui\else /HideWindowUI true\fi
9933 \ifHy@fitwindow /FitWindow true\fi
9934 \ifHy@centerwindow /CenterWindow true\fi
9935 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9936 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

9937 \Hy@UseNameKey{Direction}\@pdfdirection
9938 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9939 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9940 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9941 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9942 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9943 \Hy@UseNameKey{Duplex}\@pdfduplex
9944 \ifx\@pdfpicktraybypdfsize\@empty
9945 \else
9946 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9947 \fi
9948 \ifx\@pdfprintpagerange\@empty
9949 \else
9950 /PrintPageRange[\@pdfprintpagerange]%
9951 \fi
9952 \ifx\@pdfnumcopies\@empty
9953 \else
9954 /NumCopies \@pdfnumcopies
9955 \fi
9956 }%
9957 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9958 \pdfmark{%
9959 pdfmark=/PUT,%
9960 Raw={%
9961 \string{Catalog\string}<<%
9962 \ifx\Hy@temp\@empty
9963 \else
9964 /ViewerPreferences<<\Hy@temp>>%
9965 \fi
9966 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9967 \ifx\@pdflang\@empty
9968 \else
9969 /Lang(\@pdflang)%
9970 \fi
9971 \ifx\@baseurl\@empty
9972 \else
9973 /URI<</Base(\Hy@pstringB)>>%
9974 \fi
9975 >>%
9976 }%
9977 }%
9978 }
9979 \providecommand*\@pdfview{XYZ}
9980 \providecommand*\@pdfviewparams{ %
9981 gsave revscl currentpoint grestore %
9982 72 add exch pop null exch null%
9983 }
9984 \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  $\TeX$ .

```

9985 \g@addto@macro\Hy@FirstPageHook{%
9986 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9987    /DvipsToPDF { 65781 div } def%
9988    /PDFToDvips { 65781 mul } def%
9989    /BPToDvips{65781 mul}def%
9990    /HyperBorder { 1 PDFToDvips } def%
9991    /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.

```

9992    /BorderArrayPatch{%
9993        [exch{%
9994            dup dup type/integertype eq exch type/realtype eq or%
9995            {BPToDvips}if%
9996        }forall]]%
9997    }def%
9998    /H.S {%
9999        currentpoint %
10000    HyperBorder add /pdf@lly exch def %
10001    dup DvipsToPDF 72 add /pdf@hoff exch def %
10002    HyperBorder sub /pdf@llx exch def%
10003    } def%
10004    /H.L {%
10005        2 sub %
10006        PDFToDvips /HyperBase exch def %
10007        currentpoint %
10008        HyperBase sub /pdf@ury exch def%
10009        /pdf@urx exch def%
10010    } def%
10011    /H.A {%
10012        H.L %
10013        currentpoint exch pop %
10014        HyperBase sub % baseline skip
10015        DvipsToPDF /pdf@voff exch def%
10016    } def%
10017    /H.R {%
10018        currentpoint %
10019        HyperBorder sub /pdf@ury exch def %
10020        HyperBorder add /pdf@urx exch def %
10021        currentpoint exch pop DvipsToPDF /pdf@voff exch def%
10022    } def%
10023    }%
10024    }
10025    </dvipsone>

```

## 46.13 TeX4ht

```

10026    <*tex4ht>
10027    \providecommand*{\XR@ext}{html}
10028    \def\Hy@raisedlink{}
10029    \@ifpackageloaded{tex4ht}{%
10030        \typeout{hyperref tex4ht: tex4ht already loaded}%
10031    }{%
10032        \RequirePackage[hx4ht]{tex4ht}%
10033    }
10034    \hyperlinkfileprefix{}
10035    \def\PDF@FinishDoc{}
10036    \def\PDF@SetupDoc{%
10037        \ifx\@baseurl\@empty

```

```

10038 \else
10039 \special{t4ht=<base href="\@baseurl">}%
10040 \fi
10041 }
10042 \def\hyper@anchor#1{%
10043 \Hy@SaveLastskip
10044 \begingroup
10045 \let\protect=\string
10046 \special{t4ht=<a name=%
10047 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10048 \endgroup
10049 \Hy@activeanchortrue
10050 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10051 \special{t4ht=</a>}%
10052 \Hy@activeanchorfalse
10053 \Hy@RestoreLastskip
10054 }
10055 \def\hyper@anchorstart#1{%
10056 \Hy@SaveLastskip
10057 \begingroup
10058 \hyper@chars\special{t4ht=<a name=%
10059 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10060 \endgroup
10061 \Hy@activeanchortrue
10062 }
10063 \def\hyper@anchorend{%
10064 \special{t4ht=</a>}%
10065 \Hy@activeanchorfalse
10066 \Hy@RestoreLastskip
10067 }
10068 \def\@urltype{url}
10069 \def\hyper@linkstart#1#2{%
10070 \expandafter\Hy@colorlink\csname @#1color\endcsname
10071 \def\Hy@tempa{#1}%
10072 \ifx\Hy@tempa\@urltype
10073 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
10074 \else
10075 \begingroup
10076 \hyper@chars
10077 \special{t4ht=<a href=%
10078 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10079 \endgroup
10080 \fi
10081 }
10082 \def\hyper@linkend{%
10083 \special{t4ht=</a>}%
10084 \Hy@endcolorlink
10085 }
10086 \def\hyper@linkfile#1#2#3{%
10087 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10088 }
10089 \def\hyper@linkurl#1#2{%
10090 \leavevmode
10091 \ifHy@raiselinks
10092 \setbox\@tempboxa=\color@hbox #1\color@endbox
10093 \@linkdim\dp\@tempboxa
10094 \lower\@linkdim\hbox{%

```



```

10095     \begingroup
10096     \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
10097     \endgroup
10098   }%
10099   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10100   \@linkdim\ht\@tempboxa
10101   \advance\@linkdim by -6.5\p@
10102   \raise\@linkdim\hbox{\special{t4ht=</a>}}}%
10103 \else
10104   \begingroup
10105   \hyper@chars
10106   \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
10107   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
10108   \special{t4ht=</a>}}%
10109   \endgroup
10110 \fi
10111 }

```

Poor implementation of \hyper@link without considering #1.

```

10112 \def\hyper@link#1#2#3{%
10113   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10114 }
10115 \def\hyper@image#1#2{%
10116   \begingroup
10117   \hyper@chars
10118   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
10119   \endgroup
10120 }
10121 \let\autoref\ref
10122 \ifx \rEfLiNK \UnDef
10123   \def\rEfLiNK #1#2{#2}%
10124 \fi
10125 \def\backref#1{}
10126 </tex4ht>
10127 <*tex4htcfg>
10128 \IfFileExists{\jobname.cfg}{\endinput}{}
10129 \Preamble{html}
10130   \begin{document}%
10131 \EndPreamble
10132 \def\TeX{TeX}
10133 \def\OMEGA{\Omega}
10134 \def\LaTeX{LaTeX}
10135 \def\LaTeXe{\LaTeX2e}
10136 \def\eTeX{e-TeX}
10137 \def\MF{Metafont}
10138 \def\MP{MetaPost}
10139 </tex4htcfg>

```

## 47 Driver-specific form support

### 47.1 pdfmarks

```

10140 <*pdfmark>
10141 \long\def\@Form[#1]{%
10142   \g@addto@macro\Hy@FirstPageHook{%
10143     \headerps@out{%
10144       [%
10145         /_objdef{pdfDocEncoding}%

```

```

10146 /type/dict%
10147 /OBJ pdfmark%
10148 [%
10149 {pdfDocEncoding}%
10150 <<%
10151 /Type/Encoding%
10152 /Differences[%
10153 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
10154 /tilde %
10155 39/quotesingle %
10156 96/grave %
10157 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10158 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10159 /quotedblbase/quotedblleft/quotedblright/quoteleft%
10160 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
10161 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10162 164/currency %
10163 166/brokenbar %
10164 168/dieresis/copyright/ordfeminine %
10165 172/logicalnot/.notdef/registered/macron/degree/plusminus%
10166 /twosuperior/threesuperior/acute/mu %
10167 183/periodcentered/cedilla/onesuperior/ordmasculine %
10168 188/onequarter/onehalf/threequarters %
10169 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10170 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10171 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10172 /Ocircumflex/Otilde/Odieresis/multiply/Slash/Ugrave%
10173 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10174 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10175 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10176 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10177 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
10178 /ucircumflex/udieresis/yacute/thorn/ydieresis%
10179 ]%
10180 >>%
10181 /PUT pdfmark%
10182 [%
10183 /_objdef{ZaDb}%
10184 /type/dict%
10185 /OBJ pdfmark%
10186 [%
10187 {ZaDb}%
10188 <<%
10189 /Type/Font%
10190 /Subtype/Type1%
10191 /Name/ZaDb%
10192 /BaseFont/ZapfDingbats%
10193 >>%
10194 /PUT pdfmark%
10195 [%
10196 /_objdef{Helv}%
10197 /type/dict%
10198 /OBJ pdfmark%
10199 [%
10200 {Helv}%
10201 <<%
10202 /Type/Font%

```

```

10203     /Subtype/Type1%
10204     /Name/Helv%
10205     /BaseFont/Helvetica%
10206     /Encoding{pdfDocEncoding}%
10207   >>%
10208 /PUT pdfmark%
10209 [%
10210   /_objdef{aform}%
10211   /type/dict%
10212 /OBJ pdfmark%
10213 [%
10214   /_objdef{afields}%
10215   /type/array%
10216 /OBJ pdfmark%
10217 {%
10218   [%
10219     /BBox[0 0 100 100]%
10220     /_objdef{Check}%
10221   /BP pdfmark %
10222   1 0 0 setrgbcolor%
10223   /ZapfDingbats 80 selectfont %
10224   20 20 moveto%
10225   (4)show%
10226   [/EP pdfmark%
10227   [%
10228     /BBox[0 0 100 100]%
10229     /_objdef{Cross}%
10230   /BP pdfmark %
10231   1 0 0 setrgbcolor%
10232   /ZapfDingbats 80 selectfont %
10233   20 20 moveto%
10234   (8)show%
10235   [/EP pdfmark%
10236   [%
10237     /BBox[0 0 250 100]%
10238     /_objdef{Submit}%
10239   /BP pdfmark %
10240   0.6 setgray %
10241   0 0 250 100 rectfill %
10242   1 setgray %
10243   2 2 moveto %
10244   2 98 lineto %
10245   248 98 lineto %
10246   246 96 lineto %
10247   4 96 lineto %
10248   4 4 lineto %
10249   fill %
10250   0.34 setgray %
10251   248 98 moveto %
10252   248 2 lineto %
10253   2 2 lineto %
10254   4 4 lineto %
10255   246 4 lineto %
10256   246 96 lineto %
10257   fill%
10258   /Helvetica 76 selectfont %
10259   0 setgray %

```

```

10260 8 22.5 moveto%
10261 (Submit)show%
10262 [/EP pdfmark%
10263 [%
10264 /BBox[0 0 250 100]%
10265 /_objdef{SubmitP}%
10266 /BP pdfmark %
10267 0.6 setgray %
10268 0 0 250 100 rectfill %
10269 0.34 setgray %
10270 2 2 moveto %
10271 2 98 lineto %
10272 248 98 lineto %
10273 246 96 lineto %
10274 4 96 lineto %
10275 4 4 lineto %
10276 fill %
10277 1 setgray %
10278 248 98 moveto %
10279 248 2 lineto %
10280 2 2 lineto %
10281 4 4 lineto %
10282 246 4 lineto %
10283 246 96 lineto %
10284 fill%
10285 /Helvetica 76 selectfont %
10286 0 setgray %
10287 10 20.5 moveto%
10288 (Submit)show%
10289 [/EP pdfmark%
10290 } ?pdfmark%
10291 [%
10292 {aform}%
10293 <<%
10294 /Fields{afields}%
10295 /DR<<%
10296 /Font<<%
10297 /ZaDb{ZaDb}%
10298 /Helv{Helv}%
10299 >>%
10300 >>%
10301 /DA(/Helv 10 Tf 0 g)%
10302 /CO{corder}%
10303 \ifHy@pdfa
10304 \else
10305 /NeedAppearances true%
10306 \fi
10307 >>%
10308 /PUT pdfmark%
10309 [%
10310 {Catalog}%
10311 <<%
10312 /AcroForm{aform}%
10313 >>%
10314 /PUT pdfmark%
10315 [%
10316 /_objdef{corder}%

```

```

10317 /type/array%
10318 /OBJ pdfmark% dps
10319 }}%
10320 \setkeys{Form}{#1}%
10321 }
10322 \def\@endForm{}
10323 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10324 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10325 }
10326 \def\@TextField[#1]#2{% parameters, label
10327 \def\Fld@name{#2}%
10328 \def\Fld@default{}%
10329 \let\Fld@value\@empty
10330 \def\Fld@width{\DefaultWidthofText}%
10331 \def\Fld@height{%
10332 \ifFld@multiline
10333 \DefaultHeightofTextMultiline
10334 \else
10335 \DefaultHeightofText
10336 \fi
10337 }%
10338 \begingroup
10339 \Field@toks={ }%
10340 \expandafter\HyField@SetKeys\expandafter{%
10341 \DefaultOptionsofText,#1%
10342 }%
10343 \HyField@FlagsText
10344 \ifFld@hidden\def\Fld@width{1sp}\fi
10345 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10346 \LayoutTextField{#2}{%
10347 \Hy@escapeform\PDFForm@Text
10348 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10349 pdfmark=/ANN,Raw={\PDFForm@Text}%
10350 }%
10351 }%
10352 \endgroup
10353 }
10354 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10355 \def\Fld@name{#2}%
10356 \let\Fld@default\relax
10357 \let\Fld@value\relax
10358 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10359 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10360 \begingroup
10361 \Fld@menulength=0 %
10362 \@tempdima\z@
10363 \@for\@curropt:=#3\do{%
10364 \expandafter\Fld@checkequals\@curropt==\\%
10365 \Hy@StepCount\Fld@menulength
10366 \settowidth{\@tempdimb}{\@currDisplay}%
10367 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10368 }%
10369 \advance\@tempdima by 15\p@
10370 \Field@toks={ }%
10371 \begingroup
10372 \HyField@SetKeys{#1}%
10373 \edef\x{\endgroup

```

```

10374 \noexpand\expandafter
10375 \noexpand\HyField@SetKeys
10376 \noexpand\expandafter{%
10377 \expandafter\noexpand\csname DefaultOptionsof%
10378 \ifFld@radio
10379 Radio%
10380 \else
10381 \ifFld@combo
10382 \ifFld@popdown
10383 PopdownBox%
10384 \else
10385 ComboBox%
10386 \fi
10387 \else
10388 ListBox%
10389 \fi
10390 \fi
10391 \endcsname
10392 }%
10393 }\x
10394 \HyField@SetKeys{#1}%
10395 \ifFld@hidden\def\Fld@width{1sp}\fi
10396 \ifx\Fld@value\relax
10397 \let\Fld@value\Fld@default
10398 \fi
10399 \LayoutChoiceField{#2}{%
10400 \ifFld@radio
10401 \HyField@FlagsRadioButton
10402 \@@Radio{#3}%
10403 \else
10404 \begingroup
10405 \HyField@FlagsChoice
10406 \ifdim\Fld@width<\@tempdima
10407 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10408 \edef\Fld@width{\the\@tempdima}%
10409 \fi
10410 \ifFld@combo
10411 \else
10412 \@tempdima=\the\Fld@menulength\Fld@charsize
10413 \advance\@tempdima by \Fld@borderwidth bp %
10414 \advance\@tempdima by \Fld@borderwidth bp %
10415 \edef\Fld@height{\the\@tempdima}%
10416 \fi
10417 \@@ListBox{#3}%
10418 \endgroup
10419 \fi
10420 }%
10421 \endgroup
10422 }
10423 \def\@@Radio#1{%
10424 \Fld@listcount=0 %
10425 \@for\@curropt:=#1\do{%
10426 \expandafter\Fld@checkequals\@curropt==\%
10427 \Hy@StepCount\Fld@listcount
10428 \@currDisplay\space
10429 \Hy@escapeform\PDFForm@Radio
10430 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%

```

```

10431     pdfmark=/ANN,%
10432     Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10433 } % deliberate space between radio buttons
10434 }%
10435 }
10436 \newcount\Fld@listcount
10437 \def\@@ListBox#1{%
10438   \HyField@PDFChoices{#1}%
10439   \Hy@escapeform\PDFForm@List
10440   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10441     pdfmark=/ANN,Raw={\PDFForm@List}%
10442   }%
10443 }
10444 \def\@PushButton[#1]#2{% parameters, label
10445   \def\Fld@name{#2}%
10446   \begingroup
10447     \Field@toks={ }%
10448     \expandafter\HyField@SetKeys\expandafter{%
10449       \DefaultOptionsofPushButton,#1%
10450     }%
10451     \ifHy@pdfa
10452       \PackageError{hyperref}{%
10453         PDF/A: Push button with JavaScript is prohibited%
10454       }\@ehc
10455       \LayoutPushButtonField{%
10456         \leavevmode
10457         \MakeButtonField{#2}%
10458       }%
10459     \else
10460       \HyField@FlagsPushButton
10461       \ifFld@hidden\def\Fld@width{1sp}\fi
10462       \LayoutPushButtonField{%
10463         \leavevmode
10464         \Hy@escapeform\PDFForm@Push
10465         \pdfmark[\MakeButtonField{#2}]{%
10466           pdfmark=/ANN,Raw={\PDFForm@Push}%
10467         }%
10468       }%
10469     \fi
10470   \endgroup
10471 }
10472 \def\@Submit[#1]#2{%
10473   \Field@toks={ }%
10474   \def\Fld@width{\DefaultWidthofSubmit}%
10475   \def\Fld@height{\DefaultHeightofSubmit}%
10476   \begingroup
10477     \expandafter\HyField@SetKeys\expandafter{%
10478       \DefaultOptionsofSubmit,#1%
10479     }%
10480     \HyField@FlagsPushButton
10481     \HyField@FlagsSubmit
10482     \ifFld@hidden\def\Fld@width{1sp}\fi
10483     \Hy@escapeform\PDFForm@Submit
10484     \pdfmark[\MakeButtonField{#2}]{%
10485       pdfmark=/ANN,%
10486       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10487     }%

```

```

10488 \endgroup
10489 }
10490 \def\@Reset[#1]#2{%
10491   \Field@toks={ }%
10492   \def\Fld@width{\DefaultWidthofReset}%
10493   \def\Fld@height{\DefaultHeightofReset}%
10494   \begingroup
10495     \expandafter\HyField@SetKeys\expandafter{%
10496       \DefaultOptionsofReset,#1%
10497     }%
10498     \leavevmode
10499     \ifHy@pdfa
10500       \PackageError{hyperref}{%
10501         PDF/A: Reset action is prohibited%
10502       }\@ehc
10503       \MakeButtonField{#2}%
10504     \else
10505       \HyField@FlagsPushButton
10506       \ifFld@hidden\def\Fld@width{1sp}\fi
10507       \Hy@escapeform\PDFForm@Reset
10508       \pdfmark[\MakeButtonField{#2}]{%
10509         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10510       }%
10511     \fi
10512   \endgroup
10513 }%
10514 \def\@CheckBox[#1]#2{% parameters, label
10515   \def\Fld@name{#2}%
10516   \def\Fld@default{0}%
10517   \begingroup
10518     \def\Fld@width{\DefaultWidthofCheckBox}%
10519     \def\Fld@height{\DefaultHeightofCheckBox}%
10520     \Field@toks={ }%
10521     \expandafter\HyField@SetKeys\expandafter{%
10522       \DefaultOptionsofCheckBox,#1%
10523     }%
10524     \HyField@FlagsCheckBox
10525     \ifFld@hidden\def\Fld@width{1sp}\fi
10526     \LayoutCheckField{#2}{%
10527       \Hy@escapeform\PDFForm@Check
10528       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10529         pdfmark=/ANN,Raw={\PDFForm@Check}%
10530       }%
10531     }%
10532   \endgroup
10533 }
10534 \pdfmark>

```

## 47.2 HyperTeX

```

10535 \hypertex>
10536 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10537 \def\@endForm{}
10538 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10539   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10540 }
10541 \def\@TextField[#1]#2{% parameters, label
10542   \typeout{Sorry, HyperTeX does not support FORM text fields}%

```



```

10543 }
10544 \def\@CheckBox[#1]#2{% parameters, label
10545   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10546 }
10547 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10548   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10549 }
10550 \def\@PushButton[#1]#2{% parameters, label
10551   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10552 }
10553 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10554 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10555 \end{hypertex}

```

### 47.3 TeX4ht

```

10556 \*tex4ht
10557 \def\@Form[#1]{%
10558   \setkeys{Form}{#1}%
10559   \HCode{<form action="\Form@action" method="\Form@method">}%
10560 }
10561 \def\@endForm{\HCode{</form>}}
10562 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10563   \typeout{Sorry, TeX4ht does not support gauges}%
10564 }
10565 \def\@TextField[#1]#2{% parameters, label
10566   \let\Hy@reserved@a\@empty
10567   \def\Fld@name{#2}%
10568   \def\Fld@default{}%
10569   \bgroup
10570     \Field@toks={ }%
10571     \setkeys{Field}{#1}%
10572     \HCode{<label for="\Fld@name">#2</label>}%
10573     \ifFld@password
10574       \@@PasswordField
10575     \else
10576       \@@TextField
10577     \fi
10578   \egroup
10579 }
10580 \def\@@PasswordField{%
10581   \HCode{%
10582     <input type="password" %
10583       id="\Fld@name" %
10584       name="\Fld@name" %
10585       \ifFld@hidden type="hidden" \fi
10586       value="\Fld@default" %
10587       \the\Field@toks
10588     >%
10589   }%
10590 }
10591 \def\@@TextField{%
10592   \ifFld@multiline
10593     \HCode{<textarea %
10594       \ifFld@readonly readonly \fi
10595       id="\Fld@name" %
10596       name="\Fld@name" %
10597       \ifFld@hidden type="hidden" \fi

```

```

10598     \the\Field@toks>%
10599   }%
10600   \Fld@default
10601   \HCode{</textarea>}%
10602 \else
10603   \HCode{<input type="text" %
10604     \ifFld@readonly readonly \fi
10605     id="\Fld@name" %
10606     name="\Fld@name" %
10607     \ifFld@hidden type="hidden" \fi
10608     value="\Fld@default" %
10609     \the\Field@toks>%
10610   }%
10611 \fi
10612 }
10613 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10614   \def\Fld@name{#2}%
10615   \def\Fld@default{}%
10616   \let\Hy@reserved@a\relax
10617   \begingroup
10618     \expandafter\Fld@findlength#3\\%
10619     \Field@toks={ }%
10620     \setkeys{Field}{#1}%
10621     #2%
10622     \ifFld@radio
10623       \expandafter\@@Radio#3\\%
10624     \else
10625       \expandafter\@@Menu#3\\%
10626     \fi
10627   \endgroup
10628 }
10629 \def\Fld@findlength#1\\{%
10630   \Fld@menulength=0 %
10631   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10632 }
10633 \def\@@Menu#1\\{%
10634   \HCode{<select size="\the\Fld@menulength" %
10635     name="\Fld@name" %
10636     \the\Field@toks>%
10637   }%
10638   \@for\@curropt:=#1\do{%
10639     \expandafter\Fld@checkequals\@curropt==\\%
10640     \HCode{<option %
10641       \ifx\@curropt\Fld@default selected \fi
10642       value="\@currValue">\@currDisplay</option>%
10643     }%
10644   }%
10645   \HCode{</select>}%
10646 }
10647 \def\@@Radio#1\\{%
10648   \@for\@curropt:=#1\do{%
10649     \expandafter\Fld@checkequals\@curropt==\\%
10650     \HCode{<input type="radio" %
10651       \ifx\@curropt\Fld@default checked \fi
10652       name="\Fld@name" %
10653       value="\@currValue" %
10654       \the\Field@toks>%

```

```

10655     }%
10656     \@currDisplay
10657 }%
10658 }
10659 \def\@PushButton[#1]#2{% parameters, label
10660   \def\Fld@name{#2}%
10661   \bgroup
10662     \Field@toks={ }%
10663     \setkeys{Field}{#1}%
10664     \HCode{<input type="button" %
10665       name="\Fld@name" %
10666       value="#2" %
10667       \the\Field@toks>%
10668     }%
10669     \HCode{</button>}%
10670   \egroup
10671 }
10672 \def\@Submit[#1]#2{%
10673   \HCode{<button type="submit">#2</button>}%
10674 }
10675 \def\@Reset[#1]#2{%
10676   \HCode{<button type="reset">#2</button>}%
10677 }
10678 \def\@CheckBox[#1]#2{% parameters, label
10679   \let\Hy@reserved@a\@empty
10680   \def\Fld@name{#2}%
10681   \def\Fld@default{0}%
10682   \bgroup
10683     \Field@toks={ }%
10684     \setkeys{Field}{#1}%
10685     \HCode{<input type="checkbox" %
10686       \ifFld@checked checked \fi
10687       \ifFld@disabled disabled \fi
10688       \ifFld@readonly readonly \fi
10689       name="\Fld@name" %
10690       \ifFld@hidden type="hidden" \fi
10691       value="\Fld@default" %
10692       \the\Field@toks>%
10693     #2%
10694   }%
10695   \egroup
10696 }
10697 </tex4ht>

```

## 47.4 pdfTeX

```

10698 <*pdfTeX>
10699 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10700   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10701 }
10702 \def\MakeFieldObject#1#2{\sbox0{#1}%
10703   \immediate\pdfxform0 %
10704   \expandafter\edef\csname #2Object\endcsname{%
10705     \the\pdflastxform\space 0 R%
10706   }%
10707   \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10708 }%
10709 \def\HyField@afields{}

```

```

10710 \begingroup\expandafter\expandafter\expandafter\endgroup
10711 \expandafter\ifx\csname pdflastlink\endcsname\relax
10712   \let\HyField@AddToFields\relax
10713   \PackageInfo{hyperref}{%
10714     You need pdfTeX 1.40.0 for setting the /Fields entry.\MessageBreak
10715     Adobe Reader/Acrobat accepts an empty /Field array,\MessageBreak
10716     but other PDF viewers might complain%
10717   }%
10718 \else
10719   \def\HyField@AddToFields{%
10720     \xdef\HyField@afields{%
10721       \ifx\HyField@afields\@empty
10722         \else
10723           \HyField@afields
10724           \space
10725         \fi
10726       \the\pdflastlink\space 0 R%
10727     }%
10728   }%
10729 \fi
10730 \def\@Form[#1]{%
10731   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}}%
10732   \setkeys{Form}{#1}%
10733   \Hy@FormObjects
10734   \ifnum\pdftexversion>13 %
10735     \pdfrefobj\OBJ@pdfdocencoding
10736     \pdfrefobj\OBJ@ZaDb
10737     \pdfrefobj\OBJ@Helv
10738   \fi
10739   \AtEndDocument{%
10740     \immediate\pdfobj{%
10741       <<%
10742         /Fields[\HyField@afields]%
10743         /DR<<%
10744           /Font<<%
10745             /ZaDb \OBJ@ZaDb\space 0 R%
10746             /Helv \OBJ@Helv\space 0 R%
10747           >>%
10748         >>%
10749         /DA(/Helv 10 Tf 0 g)%
10750         \ifHy@pdfa
10751         \else
10752           /NeedAppearances true%
10753         \fi
10754       >>%
10755     }%
10756     \edef\OBJ@acroform{\the\pdflastobj}%
10757     \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10758   }%
10759   \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10760   \begingroup
10761     \fontfamily{pzd}%
10762     \fontencoding{U}%
10763     \fontseries{m}%
10764     \fontshape{n}%
10765     \selectfont

```

```

10766     \char123 %
10767     \endgroup
10768   }{Ding}%
10769   \MakeFieldObject{%
10770     \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10771   }{Submit}%
10772   \MakeFieldObject{%
10773     \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10774   }{SubmitP}%
10775 }
10776 \def\@endForm{}
10777 \def\@TextField[#1]#2{% parameters, label
10778   \def\Fld@name{#2}%
10779   \def\Fld@default{}%
10780   \let\Fld@value\@empty
10781   \def\Fld@width{\DefaultWidthofText}%
10782   \def\Fld@height{%
10783     \ifFld@multiline
10784       \DefaultHeightofTextMultiline
10785     \else
10786       \DefaultHeightofText
10787     \fi
10788   }%
10789   \begingroup
10790     \Field@toks={ }%
10791     \expandafter\HyField@SetKeys\expandafter{%
10792       \DefaultOptionsofText,#1%
10793     }%
10794     \PDFForm@Name
10795     \HyField@FlagsText
10796     \ifFld@hidden\def\Fld@width{1sp}\fi
10797     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10798     \LayoutTextField{#2}{%
10799       \Hy@escapeform\PDFForm@Text
10800       \pdfstartlink user {\PDFForm@Text}\relax
10801       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10802       \HyField@AddToFields
10803     }%
10804   \endgroup
10805 }
10806 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10807   \def\Fld@name{#2}%
10808   \let\Fld@default\relax
10809   \let\Fld@value\relax
10810   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10811   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10812   \begingroup
10813     \Fld@menulength=0 %
10814     \@tempdima\z@
10815     \@for\@curropt:=#3\do{%
10816       \expandafter\Fld@checkequals\@curropt==\%
10817       \Hy@StepCount\Fld@menulength
10818       \settowidth{\@tempdimb}{\@currDisplay}%
10819       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10820     }%
10821     \advance\@tempdima by 15\p@
10822     \Field@toks={ }%

```

```

10823 \beginngroup
10824 \HyField@SetKeys{#1}%
10825 \edef\x{\endgroup
10826 \noexpand\expandafter
10827 \noexpand\HyField@SetKeys
10828 \noexpand\expandafter{%
10829 \expandafter\noexpand\cname DefaultOptionsof%
10830 \ifFld@radio
10831 Radio%
10832 \else
10833 \ifFld@combo
10834 \ifFld@popdown
10835 PopdownBox%
10836 \else
10837 ComboBox%
10838 \fi
10839 \else
10840 ListBox%
10841 \fi
10842 \fi
10843 \endcsname
10844 }%
10845 }\x
10846 \HyField@SetKeys{#1}%
10847 \PDFForm@Name
10848 \ifFld@hidden\def\Fld@width{1sp}\fi
10849 \ifx\Fld@value\relax
10850 \let\Fld@value\Fld@default
10851 \fi
10852 \LayoutChoiceField{#2}{%
10853 \ifFld@radio
10854 \HyField@FlagsRadioButton
10855 \@@Radio{#3}%
10856 \else
10857 \beginngroup
10858 \HyField@FlagsChoice
10859 \ifdim\Fld@width<\@tempdima
10860 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10861 \edef\Fld@width{\the\@tempdima}%
10862 \fi
10863 \ifFld@combo
10864 \else
10865 \@tempdima=\the\Fld@menulength\Fld@charsize
10866 \advance\@tempdima by \Fld@borderwidth bp %
10867 \advance\@tempdima by \Fld@borderwidth bp %
10868 \edef\Fld@height{\the\@tempdima}%
10869 \fi
10870 \@@ListBox{#3}%
10871 \endgroup
10872 \fi
10873 }%
10874 \endgroup
10875 }
10876 \def\@@Radio#1{%
10877 \Fld@listcount=0 %
10878 \@for\@curropt:=#1\do{%
10879 \expandafter\Fld@checkequals\@curropt==\%

```

```

10880 \Hy@StepCount\Fld@listcount
10881 \@currDisplay\space
10882 \leavevmode
10883 \Hy@escapeform\PDFForm@Radio
10884 \pdfstartlink user {%
10885 \PDFForm@Radio
10886 /AP<<%
10887 /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.

```

10888 \/\@currValue\space \DingObject
10889 >>%
10890 >>%
10891 }%
10892 \relax
10893 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10894 \ifnum\Fld@listcount=1 %
10895 \HyField@AddToFields
10896 \fi
10897 \space % deliberate space between radio buttons
10898 }%
10899 }
10900 \newcount\Fld@listcount
10901 \def\@@ListBox#1{%
10902 \HyField@PDFChoices{#1}%
10903 \leavevmode
10904 \Hy@escapeform\PDFForm@List
10905 \pdfstartlink user {\PDFForm@List}\relax
10906 \MakeChoiceField{\Fld@width}{\Fld@height}%
10907 \pdfendlink
10908 \HyField@AddToFields
10909 }
10910 \def\@PushButton[#1]#2{% parameters, label
10911 \def\Fld@name{#2}%
10912 \begingroup
10913 \Field@toks={ }%
10914 \expandafter\HyField@SetKeys\expandafter{%
10915 \DefaultOptionsofPushButton,#1%
10916 }%
10917 \PDFForm@Name
10918 \ifHy@pdfa
10919 \PackageError{hyperref}{%
10920 PDF/A: Push button with JavaScript is prohibited%
10921 }\@ehc
10922 \LayoutPushButtonField{%
10923 \leavevmode
10924 \MakeButtonField{#2}%
10925 }%
10926 \else
10927 \HyField@FlagsPushButton
10928 \ifFld@hidden\def\Fld@width{1sp}\fi
10929 \LayoutPushButtonField{%
10930 \leavevmode
10931 \Hy@escapeform\PDFForm@Push
10932 \pdfstartlink user {\PDFForm@Push}\relax
10933 \MakeButtonField{#2}%

```

```

10934         \pdfendlink
10935         \HyField@AddToFields
10936     }%
10937     \fi
10938 \endgroup
10939 }
10940 \def\@Submit[#1]#2{%
10941     \Field@toks={ }%
10942     \def\Fld@width{\DefaultWidthofSubmit}%
10943     \def\Fld@height{\DefaultHeightofSubmit}%
10944     \begingroup
10945         \expandafter\HyField@SetKeys\expandafter{%
10946             \DefaultOptionsofSubmit,#1%
10947         }%
10948         \HyField@FlagsPushButton
10949         \HyField@FlagsSubmit
10950         \ifFld@hidden\def\Fld@width{1sp}\fi
10951         \leavevmode
10952         \Hy@escapeform\PDFForm@Submit
10953         \pdfstartlink user {%
10954             \PDFForm@Submit
10955             /AP<</N \SubmitObject/D \SubmitPObject>>%
10956         }%
10957         \relax
10958         \MakeButtonField{#2}%
10959         \pdfendlink
10960         \HyField@AddToFields
10961     \endgroup
10962 }
10963 \def\@Reset[#1]#2{%
10964     \Field@toks={ }%
10965     \def\Fld@width{\DefaultWidthofReset}%
10966     \def\Fld@height{\DefaultHeightofReset}%
10967     \begingroup
10968         \expandafter\HyField@SetKeys\expandafter{%
10969             \DefaultOptionsofReset,#1%
10970         }%
10971         \leavevmode
10972         \ifHy@pdfa
10973             \PackageError{hyperref}{%
10974                 PDF/A: Reset action is prohibited%
10975             }\@ehc
10976             \MakeButtonField{#2}%
10977         \else
10978             \HyField@FlagsPushButton
10979             \ifFld@hidden\def\Fld@width{1sp}\fi
10980             \Hy@escapeform\PDFForm@Reset
10981             \pdfstartlink user {\PDFForm@Reset}\relax
10982             \MakeButtonField{#2}%
10983             \pdfendlink
10984             \HyField@AddToFields
10985         \fi
10986     \endgroup
10987 }
10988 \def\@CheckBox[#1]#2{% parameters, label
10989     \def\Fld@name{#2}%
10990     \def\Fld@default{0}%

```



```

10991 \begingroup
10992   \def\Fld@width{\DefaultWidthofCheckBox}%
10993   \def\Fld@height{\DefaultHeightofCheckBox}%
10994   \Field@toks={ }%
10995   \expandafter\HyField@SetKeys\expandafter{%
10996     \DefaultOptionsofCheckBox,#1%
10997   }%
10998   \PDFForm@Name
10999   \HyField@FlagsCheckBox
11000   \ifFld@hidden\def\Fld@width{1sp}\fi
11001   \LayoutCheckField{#2}{%
11002     \Hy@escapeform\PDFForm@Check
11003     \pdfstartlink user {\PDFForm@Check}\relax
11004     \MakeCheckField{\Fld@width}{\Fld@height}%
11005     \pdfendlink
11006     \HyField@AddToFields
11007   }%
11008 \endgroup
11009 }
11010 \def\Hy@FormObjects{%
11011   \pdfobj {%
11012     <<%
11013       /Type/Encoding%
11014       /Differences[%
11015         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
11016         /ring/tilde %
11017         39/quotesingle %
11018         96/grave %
11019         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11020         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11021         /quotedblbase/quotedblleft/quotedblright/quoteleft%
11022         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
11023         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11024         164/currency %
11025         166/brokenbar %
11026         168/dieresis/copyright/ordfeminine %
11027         172/logicalnot/.notdef/registered/macron/degree/plusminus%
11028         /twosuperior/threesuperior/acute/mu %
11029         183/periodcentered/cedilla/onesuperior/ordmasculine %
11030         188/onequarter/onehalf/threequarters %
11031         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11032         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
11033         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
11034         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
11035         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
11036         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
11037         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
11038         /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
11039         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
11040         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
11041       ]%
11042     >>%
11043   }%
11044   \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
11045   \pdfobj{%
11046     <<%
11047     /Type/Font%

```

```

11048      /Subtype/Type1%
11049      /Name/ZaDb%
11050      /BaseFont/ZapfDingbats%
11051      >>%
11052    }%
11053    \xdef\OBJ@ZaDb{\the\pdflastobj}%
11054    \pdfobj{%
11055      <<%
11056        /Type/Font%
11057        /Subtype/Type1%
11058        /Name/Helv%
11059        /BaseFont/Helvetica%
11060        /Encoding \OBJ@pdfdocencoding\space 0 R%
11061      >>%
11062    }%
11063    \xdef\OBJ@Helv{\the\pdflastobj}%
11064    \global\let\Hy@FormObjects\relax
11065  }
11066 </pdftex>

```

## 47.5 dvipdfm

D. P. Story adapted the pdf<sub>T</sub><sub>E</sub>X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

11067 < *dvipdfm>

```

\@Gauge

```

11068 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11069   \typeout{Sorry, dvipdfm does not support FORM gauges}%
11070 }

```

\@Form

```

11071 \def\@Form[#1]{%
11072   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
11073   \setkeys{Form}{#1}%
11074   \Hy@FormObjects
11075   \@pdfm@mark{obj @afields []}%
11076   \@pdfm@mark{obj @corder []}%
11077   \@pdfm@mark{%
11078     obj @aform <<%
11079       /Fields @afields%
11080       /DR<<%
11081       /Font<<%
11082       /ZaDb @OBJZaDb%
11083       /Helv @OBJHelv%
11084     >>%
11085     >>%
11086     /DA(/Helv 10 Tf 0 g)%
11087     /CO @corder%
11088     \ifHy@pdfa
11089     \else
11090       /NeedAppearances true%
11091     \fi
11092   >>%
11093 }%
11094 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
11095 }

```

\@endForm

11096 \def \@endForm{}

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

11097 \def \dvipdfm@setdim{%  
11098 height \the\ht\pdfm@box\space  
11099 width \the\wd\pdfm@box\space  
11100 depth \the\dp\pdfm@box\space  
11101 }

\HyField@AnnotCount

11102 \newcount \HyField@AnnotCount  
11103 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

11104 \def \HyField@AdvanceAnnotCount{%  
11105 \global\advance \HyField@AnnotCount\@ne  
11106 }

\HyField@TheAnnotCount

11107 \def \HyField@TheAnnotCount{%  
11108 \the \HyField@AnnotCount  
11109 }

\@TextField

11110 \def \@TextField[#1]#2{% parameters, label  
11111 \def \Fld@name{#2}%  
11112 \def \Fld@default{ }%  
11113 \let \Fld@value \@empty  
11114 \def \Fld@width{\DefaultWidthofText}%  
11115 \def \Fld@height{%  
11116 \if Fld@multiline  
11117 \DefaultHeightofTextMultiline  
11118 \else  
11119 \DefaultHeightofText  
11120 \fi  
11121 }%  
11122 \begingroup  
11123 \Field@toks={ }%  
11124 \expandafter \HyField@SetKeys \expandafter{%  
11125 \DefaultOptionsofText,#1%  
11126 }%  
11127 \PDFForm@Name  
11128 \HyField@FlagsText  
11129 \if Fld@hidden \def \Fld@width{1sp} \fi  
11130 \ifx \Fld@value \@empty \def \Fld@value{\Fld@default} \fi  
11131 \setbox \pdfm@box=\hbox{%  
11132 \MakeTextField{\Fld@width}{\Fld@height}%  
11133 }%  
11134 \HyField@AdvanceAnnotCount  
11135 \LayoutTextField{#2}{%  
11136 \Hy@escapeform \PDFForm@Text  
11137 \@pdfm@mark{%  
11138 ann @text \HyField@TheAnnotCount \space  
11139 \dvipdfm@setdim << \PDFForm@Text >>%  
11140 }%

```

11141 }%
11142 \unhbox\pdfm@box
11143 \@pdfm@mark{put \@fields \@text\HyField@TheAnnotCount}%
11144 % record in \@fields array
11145 \endgroup
11146 }

\@ChoiceMenu

11147 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11148 \def\Fld@name{#2}%
11149 \let\Fld@default\relax
11150 \let\Fld@value\relax
11151 \def\Fld@width{\DefaultWidthofChoiceMenu}%
11152 \def\Fld@height{\DefaultHeightofChoiceMenu}%
11153 \begingroup
11154 \Fld@menulength=0 %
11155 \@tempdima\z@
11156 \@for\@curropt:=#3\do{%
11157 \expandafter\Fld@checkequals\@curropt==\%
11158 \Hy@StepCount\Fld@menulength
11159 \settowidth{\@tempdimb}{\@currDisplay}%
11160 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
11161 }%
11162 \advance\@tempdima by 15\p@
11163 \Field@toks={ }%
11164 \begingroup
11165 \HyField@SetKeys{#1}%
11166 \edef\x{\endgroup
11167 \noexpand\expandafter
11168 \noexpand\HyField@SetKeys
11169 \noexpand\expandafter{%
11170 \expandafter\noexpand\csname DefaultOptionsof%
11171 \ifFld@radio
11172 Radio%
11173 \else
11174 \ifFld@combo
11175 \ifFld@popdown
11176 PopdownBox%
11177 \else
11178 ComboBox%
11179 \fi
11180 \else
11181 ListBox%
11182 \fi
11183 \fi
11184 \endcsname
11185 }%
11186 }\x
11187 \HyField@SetKeys{#1}%
11188 \PDFForm@Name
11189 \ifFld@hidden\def\Fld@width{1sp}\fi
11190 \ifx\Fld@value\relax
11191 \let\Fld@value\Fld@default
11192 \fi
11193 \LayoutChoiceField{#2}{%
11194 \ifFld@radio
11195 \HyField@FlagsRadioButton

```

```

11196      \@@Radio{#3}%
11197    \else
11198      \begingroup
11199        \HyField@FlagsChoice
11200        \ifdim\Fld@width<\@tempdima
11201          \ifdim\@tempdima<1cm\@tempdima1cm\fi
11202          \edef\Fld@width{\the\@tempdima}%
11203        \fi
11204        \ifFld@combo
11205        \else
11206          \@tempdima=\the\Fld@menulength\Fld@charsize
11207          \advance\@tempdima by \Fld@borderwidth bp %
11208          \advance\@tempdima by \Fld@borderwidth bp %
11209          \edef\Fld@height{\the\@tempdima}%
11210        \fi
11211        \@@ListBox{#3}%
11212      \endgroup
11213    \fi
11214  }%
11215 \endgroup
11216 }

\@@Radio
11217 \def\@@Radio#1{%
11218   \Fld@listcount=0 %
11219   \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
11220   \@for\@curropt:=#1\do{%
11221     \expandafter\Fld@checkequals\@curropt==\%
11222     \Hy@StepCount\Fld@listcount
11223     \@currDisplay\space
11224     \leavevmode
11225     \Hy@escapeform\PDFForm@Radio
11226     \ifnum\Fld@listcount=1 %
11227       \HyField@AdvanceAnnotCount
11228     \fi
11229     \@pdfm@mark{%
11230       ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
11231       \dvi pdfm@setdim
11232       <<%
11233         \PDFForm@Radio
11234         /AP<</N<</\@currValue /null>>>>%
11235       >>%
11236     }%
11237     \unhcopy\pdfm@box\space% deliberate space between radio buttons
11238     \ifnum\Fld@listcount=1 %
11239       \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
11240     \fi
11241   }%
11242 }

\Fld@listcount
11243 \newcount\Fld@listcount

\@@ListBox
11244 \def\@@ListBox#1{%
11245   \HyField@PDFChoices{#1}%
11246   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%

```

```

11247 \leavevmode
11248 \Hy@escapeform\PDFForm@List
11249 \HyField@AdvanceAnnotCount
11250 \@pdfm@mark{%
11251   ann @list\HyField@TheAnnotCount\space
11252   \dvi pdfm@setdim
11253   <<\PDFForm@List>>%
11254 }%
11255 \unhbox\pdfm@box
11256 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
11257 }

```

\@PushButton

```

11258 \def\@PushButton[#1]#2{% parameters, label
11259 \def\Fld@name{#2}%
11260 \begingroup
11261 \Field@toks={ }%
11262 \expandafter\HyField@SetKeys\expandafter{%
11263 \DefaultOptionsofPushButton,#1%
11264 }%
11265 \PDFForm@Name
11266 \ifHy@pdfa
11267 \PackageError{hyperref}{%
11268 PDF/A: Push button with JavaScript is prohibited%
11269 }\@ehc
11270 \LayoutPushButtonField{%
11271 \leavevmode
11272 \MakeButtonField{#2}%
11273 }%
11274 \else
11275 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11276 \HyField@FlagsPushButton
11277 \ifFld@hidden\def\Fld@width{1sp}\fi
11278 \HyField@AdvanceAnnotCount
11279 \LayoutPushButtonField{%
11280 \leavevmode
11281 \Hy@escapeform\PDFForm@Push
11282 \@pdfm@mark{%
11283 ann @push\HyField@TheAnnotCount\space
11284 \dvi pdfm@setdim
11285 <<\PDFForm@Push>>%
11286 }%
11287 }%
11288 \unhbox\pdfm@box
11289 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
11290 \fi
11291 \endgroup
11292 }

```

\@Submit

```

11293 \def\@Submit[#1]#2{%
11294 \Field@toks={ }%
11295 \def\Fld@width{\DefaultWidthofSubmit}%
11296 \def\Fld@height{\DefaultHeightofSubmit}%
11297 \begingroup
11298 \expandafter\HyField@SetKeys\expandafter{%
11299 \DefaultOptionsofSubmit,#1%

```

```

11300 }%
11301 \HyField@FlagsPushButton
11302 \HyField@FlagsSubmit
11303 \ifFld@hidden\def\Fld@width{1sp}\fi
11304 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11305 \leavevmode
11306 \Hy@escapeform\PDFForm@Submit
11307 \HyField@AdvanceAnnotCount
11308 \@pdfm@mark{%
11309   ann @submit\HyField@TheAnnotCount\space
11310   \dvi pdfm@setdim
11311   <<\PDFForm@Submit>>%
11312 }%
11313 \unhbox\pdfm@box%
11314 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
11315 \endgroup
11316 }

```

#### \@Reset

```

11317 \def\@Reset[#1]#2{%
11318   \Field@toks={ }%
11319   \def\Fld@width{\DefaultWidthofReset}%
11320   \def\Fld@height{\DefaultHeightofReset}%
11321   \begingroup
11322     \expandafter\HyField@SetKeys\expandafter{%
11323       \DefaultOptionsofReset,#1%
11324     }%
11325     \leavevmode
11326     \ifHy@pdfa
11327       \PackageError{hyperref}{%
11328         PDF/A: Reset action is prohibited%
11329       }\@ehc
11330       \MakeButtonField{#2}%
11331     \else
11332       \HyField@FlagsPushButton
11333       \ifFld@hidden\def\Fld@width{1sp}\fi
11334       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
11335       \Hy@escapeform\PDFForm@Reset
11336       \HyField@AdvanceAnnotCount
11337       \@pdfm@mark{%
11338         ann @reset\HyField@TheAnnotCount\space
11339         \dvi pdfm@setdim
11340         <<\PDFForm@Reset>>%
11341       }%
11342       \unhbox\pdfm@box
11343       \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11344     \fi
11345   \endgroup
11346 }

```

#### \@CheckBox

```

11347 \def\@CheckBox[#1]#2{% parameters, label
11348   \def\Fld@name{#2}%
11349   \def\Fld@default{0}%
11350   \begingroup
11351     \def\Fld@width{\DefaultWidthofCheckBox}%
11352     \def\Fld@height{\DefaultHeightofCheckBox}%

```

```

11353 \Field@toks={ }%
11354 \expandafter\HyField@SetKeys\expandafter{%
11355 \DefaultOptionsofCheckBox,#1%
11356 }%
11357 \PDFForm@Name
11358 \HyField@FlagsCheckBox
11359 \ifFld@hidden\def\Fld@width{1sp}\fi
11360 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11361 \HyField@AdvanceAnnotCount
11362 \LayoutCheckField{#2}{%
11363 \Hy@escapeform\PDFForm@Check
11364 \@pdfm@mark{%
11365 ann @check\HyField@TheAnnotCount\space
11366 \dvipdfm@setdim
11367 <<\PDFForm@Check>>%
11368 }%
11369 \unhbox\pdfm@box
11370 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11371 }%
11372 \endgroup
11373 }

11374 \def\Hy@FormObjects{%
11375 \@pdfm@mark{obj @OBJpdfdocencoding%
11376 <<%
11377 /Type/Encoding%
11378 /Differences[%
11379 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11380 39/quotesingle %
11381 96/grave %
11382 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11383 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11384 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11385 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11386 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11387 164/currency %
11388 166/brokenbar %
11389 168/dieresis/copyright/ordfeminine %
11390 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11391 /twosuperior/threesuperior/acute/mu %
11392 183/periodcentered/cedilla/onesuperior/ordmasculine %
11393 188/onequarter/onehalf/threequarters %
11394 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11395 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11396 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11397 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11398 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11399 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11400 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11401 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11402 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11403 /thorn/ydieresis%
11404 ]%
11405 >>%
11406 }%
11407 \@pdfm@mark{obj @OBJZaDb%
11408 <<%
11409 /Type/Font%

```



```

11410      /Subtype/Type1%
11411      /Name/ZaDb%
11412      /BaseFont/ZapfDingbats%
11413    >>%
11414  }%
11415  \@pdfm@mark{obj @OBJHelv%
11416    <<%
11417      /Type/Font%
11418      /Subtype/Type1%
11419      /Name/Helv%
11420      /BaseFont/Helvetica%
11421      /Encoding @OBJpdfdocencoding%
11422    >>%
11423  }%
11424  \global\let\Hy@FormObjects\relax
11425 }
11426 </dvipdfm>

```

## 47.6 Common forms part

```

11427 <*pdfmform>

```

\Hy@escapestring

```

11428 \begingroup\expandafter\expandafter\expandafter\endgroup
11429 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11430   \let\Hy@escapestring\@firstofone
11431   \def\Hy@escapeform#1{%
11432     \ifHy@escapeform
11433       \def\Hy@escapestring##1{%
11434         \noexpand\Hy@escapestring{\noexpand##1}%
11435       }%
11436       \edef\Hy@temp{#1}%
11437       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{\}\@nil
11438       \def\Hy@escapestring##1{%
11439         \@ifundefined{Hy@esc@\string##1}{%
11440           ##1%
11441           \ThisShouldNotHappen
11442         }{%
11443           \csname Hy@esc@\string##1\endcsname
11444         }%
11445       }%
11446     \else
11447       \let\Hy@escapestring\@firstofone
11448     \fi
11449   }%
11450   \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11451     \ifx\#3\%
11452     \else
11453       \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11454       \Hy@ReturnAfterFi{%
11455         \Hy@@escapeform#3\@nil
11456       }%
11457     \fi
11458   }%
11459 \else
11460   \def\Hy@escapeform#1{%
11461     \ifHy@escapeform

```

```

11462     \let\Hy@escapestring\pdfescapestring
11463     \else
11464     \let\Hy@escapestring\@firstofone
11465     \fi
11466 }%
11467 \Hy@escapeform{}}%
11468 \fi

\PDFForm@Name

11469 \def\PDFForm@Name{%
11470   \begingroup
11471   \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11472     \ifHy@unicode
11473       \Hy@unicodedefalse
11474     \fi
11475   \fi
11476   \pdfstringdef\Hy@gtemp\Fld@name
11477 \endgroup
11478 \let\Fld@name\Hy@gtemp
11479 }

\PDFForm@Check

11480 \def\PDFForm@Check{%
11481   /Subtype/Widget%
11482   \Fld@annotflags
11483   /T(\Fld@name)%
11484   /FT/Btn%
11485   \Fld@flags
11486   /Q \Fld@align
11487   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11488   /MK<<%
11489     \ifnum\Fld@rotation=\z@
11490     \else
11491       /R \Fld@rotation
11492     \fi
11493     \ifx\Fld@bordercolor\relax
11494     \else
11495       /BC[\Fld@bordercolor]%
11496     \fi
11497     \ifx\Fld@bcolor\relax
11498     \else
11499       /BG[\Fld@bcolor]%
11500     \fi
11501     /CA(\Hy@escapestring{\Fld@cbsymbol})%
11502   >>%
11503   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11504     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11505   /H/P%
11506   \ifFld@checked /V/Yes\else /V/Off\fi
11507 }

\PDFForm@Push

11508 \ifHy@pdfa
11509 \else
11510   \def\PDFForm@Push{%
11511     /Subtype/Widget%
11512     \Fld@annotflags

```

```

11513 /T(\Fld@name)%
11514 /FT/Btn%
11515 \Fld@flags
11516 /H/P%
11517 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11518 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11519 \ifx\Fld@bordercolor\relax\else 1\fi
11520 \space
11521 \else
11522 /MK<<%
11523 \ifnum\Fld@rotation=\z@
11524 \else
11525 /R \Fld@rotation
11526 \fi
11527 \ifx\Fld@bordercolor\relax
11528 \else
11529 /BC[\Fld@bordercolor]%
11530 \fi
11531 >>%
11532 \fi
11533 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
11534 }%
11535 \fi

```

\Fld@additionalactions

```

11536 \def\Fld@@additionalactions{%
K input (keystroke) format
11537 \ifx\Fld@keystroke@code\@empty
11538 \else
11539 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11540 \fi
F display format
11541 \ifx\Fld@format@code\@empty
11542 \else
11543 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11544 \fi
V validation
11545 \ifx\Fld@validate@code\@empty
11546 \else
11547 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11548 \fi
C calculation
11549 \ifx\Fld@calculate@code\@empty
11550 \else
11551 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11552 \fi
Fo receiving the input focus
11553 \ifx\Fld@onfocus@code\@empty
11554 \else
11555 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11556 \fi
Bl loosing the input focus (blurred)
11557 \ifx\Fld@onblur@code\@empty
11558 \else

```

```

11559     /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11560   \fi

D pressing the mouse button (down)

11561   \ifx\Fld@onmousedown@code\@empty
11562   \else
11563     /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11564   \fi

U releasing the mouse button (up)

11565   \ifx\Fld@onmouseup@code\@empty
11566   \else
11567     /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11568   \fi

E cursor enters the annotation's active area.

11569   \ifx\Fld@onenter@code\@empty
11570   \else
11571     /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11572   \fi

X cursor exits the annotation's active area.

11573   \ifx\Fld@onexit@code\@empty
11574   \else
11575     /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11576   \fi
11577 }
11578 \def\Fld@additionalactions{%
11579   \if-\Fld@@additionalactions-%
11580   \else
11581     \ifHy@pdfa
11582     \else
11583       /AA<<\Fld@@additionalactions>>%
11584     \fi
11585   \fi
11586 }

```

\PDFForm@List

```

11587 \def\PDFForm@List{%
11588   /Subtype/Widget%
11589   \Fld@annotflags
11590   /T(\Fld@name)%
11591   /FT/Ch%
11592   \Fld@flags
11593   /Q \Fld@align
11594   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11595   \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11596     \ifx\Fld@bordercolor\relax\else 1\fi
11597     \ifx\Fld@bcolor\relax   \else 1\fi
11598     \space
11599   \else
11600     /MK<<%
11601     \ifnum\Fld@rotation=\z@
11602     \else
11603       /R \Fld@rotation
11604     \fi
11605     \ifx\Fld@bordercolor\relax
11606     \else
11607       /BC[\Fld@bordercolor]%

```

```

11608     \fi
11609     \ifx\Fld@bcolor\relax
11610     \else
11611         /BG[\Fld@bcolor]%
11612     \fi
11613     >>%
11614 \fi
11615 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11616     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11617 \Fld@choices
11618 \Fld@additionalactions
11619 }

```

#### \PDFForm@Radio

```

11620 \def\PDFForm@Radio{%
11621 /Subtype/Widget%
11622 \Fld@annotflags
11623 /T(\Fld@name)%
11624 /FT/Btn%
11625 \Fld@flags
11626 /H/P%
11627 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11628 /MK<<%
11629     \ifnum\Fld@rotation=\z@
11630     \else
11631         /R \Fld@rotation
11632     \fi
11633     \ifx\Fld@bordercolor\relax
11634     \else
11635         /BC[\Fld@bordercolor]%
11636     \fi
11637     \ifx\Fld@bcolor\relax
11638     \else
11639         /BG[\Fld@bcolor]%
11640     \fi
11641     /CA(\Fld@radiosymbol)%
11642 >>%
11643 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11644     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11645 \ifx\@currValue\Fld@default
11646     /V/\Fld@default
11647 \else
11648     /V/Off%
11649 \fi
11650 \Fld@additionalactions
11651 }

```

#### \PDFForm@Text

```

11652 \def\PDFForm@Text{%
11653 /Subtype/Widget%
11654 \Fld@annotflags
11655 /T(\Fld@name)%
11656 /FT/Tx%
11657 \Fld@flags
11658 /Q \Fld@align
11659 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11660 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

11661         \ifx\Fld@bordercolor\relax\else 1\fi
11662         \ifx\Fld@bcolor\relax      \else 1\fi
11663         \space
11664     \else
11665         /MK<<%
11666         \ifnum\Fld@rotation=\z@
11667         \else
11668             /R \Fld@rotation
11669         \fi
11670         \ifx\Fld@bordercolor\relax
11671         \else
11672             /BC[\Fld@bordercolor]%
11673         \fi
11674         \ifx\Fld@bcolor\relax
11675         \else
11676             /BG[\Fld@bcolor]%
11677         \fi
11678         >>%
11679     \fi
11680 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11681     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11682 /DV(\Hy@escapestring{\Fld@default})%
11683 /V(\Hy@escapestring{\Fld@value})%
11684 \Fld@additionalactions
11685 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11686 }

```

\PDFForm@Submit

```

11687 \def\PDFForm@Submit{%
11688     /Subtype/Widget%
11689     \Fld@annotflags
11690     /T(\Fld@name)%
11691     /FT/Btn%
11692     \Fld@flags
11693     /H/P%
11694     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11695     \ifcase0\ifnum\Fld@rotation=\z@    \else 1\fi
11696         \ifx\Fld@bordercolor\relax\else 1\fi
11697         \space
11698     \else
11699         /MK<<%
11700         \ifnum\Fld@rotation=\z@
11701         \else
11702             /R \Fld@rotation
11703         \fi
11704         \ifx\Fld@bordercolor\relax
11705         \else
11706             /BC[\Fld@bordercolor]%
11707         \fi
11708         >>%
11709     \fi
11710 /A<<%
11711     /S/SubmitForm%
11712     /F<<%
11713         /FS/URL%
11714         /F(\Hy@escapestring{\Form@action})%
11715     >>%

```

```

11716     \Fld@submitflags
11717   >>%
11718 }

\PDFForm@Reset

11719 \ifHy@pdfa
11720 \else
11721   \def\PDFForm@Reset{%
11722     /Subtype/Widget%
11723     \Fld@annotflags
11724     /T(\Fld@name)%
11725     /FT/Btn%
11726     \Fld@flags
11727     /H/P%
11728     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11729     \ifcase0\ifnum\Fld@rotation=\z@   \else 1\fi
11730         \ifx\Fld@bordercolor\relax\else 1\fi
11731         \space
11732     \else
11733       /MK<<%
11734         \ifnum\Fld@rotation=\z@
11735         \else
11736           /R \Fld@rotation
11737         \fi
11738         \ifx\Fld@bordercolor\relax
11739         \else
11740           /BC[\Fld@bordercolor]%
11741         \fi
11742       /CA (Clear)
11743       /AC (Done)
11744       >>%
11745     \fi
11746     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11747     /A<</S/ResetForm>>%
11748   }%
11749 \fi

11750 </pdfform>
11751 <*package>

```

## 48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  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`

```

11752 \def\phantomsection{%
11753   \Hy@GlobalStepCount\Hy@linkcounter
11754   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11755   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11756 }
11757 </package>

```

## 48.1 Bookmarks

11758 `<*outlines>`

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on  $\varepsilon$ -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -TeX's implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```
11759 \def\Hy@writebookmark#1#2#3#4#5{%
11760   % section number, text, label, level, file
11761   \ifx\WriteBookmarks\relax%
11762   \else
11763     \ifnum#4>\Hy@bookmarksdepth\relax
11764     \else
11765       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
11766       \fi
11767   \fi
11768 }
11769 \def\Hy@currentbookmarklevel{0}
11770 \def\Hy@numberline#1{#1 }
11771 \def\@@writetorep#1#2#3#4#5{%
11772   \begingroup
11773     \edef\Hy@tempa{#5}%
11774     \ifx\Hy@tempa\Hy@bookmarkstype
11775       \edef\Hy@level{#4}%
11776       \ifx\Hy@levelcheck Y%
11777         \@tempcnta\Hy@level\relax
11778         \advance\@tempcnta by -1 %
11779         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11780           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11781           \advance\@tempcnta by 1 %
11782           \Hy@Warning{%
11783             Difference (\the\@tempcnta) between bookmark levels is %
11784             greater \MessageBreak than one, level fixed%
11785           }%
11786           \@tempcnta\Hy@currentbookmarklevel
11787           \advance\@tempcnta by 1 %
11788           \edef\Hy@level{\the\@tempcnta}%
11789         \fi
11790       \else
11791         \global\let\Hy@levelcheck Y%
11792       \fi
11793       \global\let\Hy@currentbookmarklevel\Hy@level
11794       \@tempcnta\Hy@level\relax
11795       \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11796       \advance\@tempcnta by -1 %
11797       \edef\Hy@tempa{#3}%
```



```

11798 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11799 \ifx\Hy@tempa\Hy@tempb
11800 \Hy@Warning{%
11801     The anchor of a bookmark and its parent's must not%
11802     \MessageBreak be the same. Added a new anchor%
11803 }%
11804 \phantomsection
11805 \fi
11806 \ifHy@bookmarksnumbered
11807 \let\numberline\Hy@numberline
11808 \let\partnumberline\Hy@numberline
11809 \let\chapternumberline\Hy@numberline
11810 \else
11811 \let\numberline\@gobble
11812 \let\partnumberline\@gobble
11813 \let\chapternumberline\@gobble
11814 \fi
11815 \pdfstringdef\Hy@tempa{#2}%
11816 \if@filesw
11817 \stepcounter{bookmark@seq@number}%
11818 \protected@write\@outlinefile{}{%
11819     \protect\BOOKMARK
11820     [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11821     {\Hy@tempa}{\Hy@tempb}%
11822     \@percentchar\space\thebookmark@seq@number
11823 }%
11824 \fi
11825 \fi
11826 \endgroup
11827 }
11828 \newcounter{bookmark@seq@number}

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains ].

```

11829 \newcommand{\currentpdfbookmark}{%
11830 \pdfbookmark[\Hy@currentbookmarklevel]%
11831 }
11832 \newcommand{\subpdfbookmark}{%
11833 \@tempcnta\Hy@currentbookmarklevel
11834 \Hy@StepCount\@tempcnta
11835 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11836 }
11837 \newcommand{\belowpdfbookmark}[2]{%
11838 \@tempcnta\Hy@currentbookmarklevel
11839 \Hy@StepCount\@tempcnta
11840 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11841 \advance\@tempcnta by -1 %
11842 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11843 }

```

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.

```

11844 \renewcommand\pdfbookmark[3][0]{%
11845 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
11846 \hyper@anchorstart{#3.#1}\hyper@anchorend
11847 }
11848 \def\BOOKMARK{\@ifnextchar [\@BOOKMARK]{\@@BOOKMARK[1] [-]}}

```

```
11849 \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.

#### 48.1.1 Rerun warning

\Hy@OutlineRerunCheck

```
11850 \def\Hy@OutlineRerunCheck{%
11851   \begingroup
11852     \xdef\Hy@OutlineCheckSumBefore{%
11853       \@ifundefined{pdf@filemdfivesum}{-}{%
11854         \pdf@filemdfivesum{\jobname.out}%
11855       }%
11856       :%
11857       \@ifundefined{pdf@filesize}{-}{%
11858         \pdf@filesize{\jobname.out}%
11859       }%
11860     }%
11861   \endgroup
11862   \AtEndDocument{%
11863     \clearpage
11864     \if@filesw
11865       \immediate\write\@mainaux{%
11866         \string\csname\space Hy@OutlineCheckEnd\string\endcsname
11867       }%
11868     \fi
11869   }%
11870 }
11871 \AtBeginDocument{%
11872   \def\Hy@OutlineCheckEnd{%
11873     \begingroup
11874       \immediate\closeout\@outlinefile
11875       \edef\Hy@OutlineCheckSumAfter{%
11876         \@ifundefined{pdf@filemdfivesum}{-}{%
11877           \pdf@filemdfivesum{\jobname.out}%
11878         }%
11879         :%
11880         \@ifundefined{pdf@filesize}{-}{%
11881           \pdf@filesize{\jobname.out}%
11882         }%
11883       }%
11884       \ifx\Hy@OutlineCheckSumBefore\Hy@OutlineCheckSumAfter
11885       \else
11886         \Hy@WarningNoLine{%
11887           Rerun to get outlines right\MessageBreak
11888           or use package ‘bookmark’%
11889         }%
11890       \fi
11891     \endgroup
11892   }%
11893 }
```

#### 48.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by 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.

```
11894 \*vtex)
```

```
11895 \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.

```
11896 \begingroup
11897 \catcode'\'=12 %
11898 \ifnum\Hy@VTeXversion<650 %
11899 \catcode'\=12 %
11900 \gdef\hv@pdf@char#1#2#3{%
11901 \char
11902 \ifcase'#1#2#3 %
11903 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11904 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11905 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11906 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11907 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11908 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11909 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11910 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11911 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11912 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11913 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11914 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11915 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11916 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11917 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11918 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11919 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11920 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11921 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11922 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11923 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11924 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11925 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11926 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11927 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11928 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11929 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11930 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11931 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11932 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11933 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11934 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11935 \fi
11936 }%
11937 \else
11938 \gdef\hv@pdf@char{\char'}%
11939 \fi
11940 \endgroup
```

\@@BOOKMARK

```
11941 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11942 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
```

```

11943 \edef\@mycount{\the\@serial@counter}%
11944 \Hy@StepCount\@serial@counter
11945 \edef\@parcount{%
11946   \expandafter\ifx\csname @count@#5\endcsname\relax
11947     0%
11948   \else
11949     \csname @count@#5\endcsname
11950   \fi
11951 }%
11952 \immediate\special{%
11953   !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11954   s=\ifx#2-c\else o\fi,t=#4%
11955 }%
11956 }%

```

# \ReadBookmarks

```

11957 \def\ReadBookmarks{%
11958   \begingroup
11959     \def\O{\hv@pdf@char 0}%
11960     \def\1{\hv@pdf@char 1}%
11961     \def\2{\hv@pdf@char 2}%
11962     \def\3{\hv@pdf@char 3}%
11963     \def\({}%
11964     \def\)}%
11965     \def\do##1{%
11966       \ifnum\the\catcode'##1=\active
11967         \@makeother##1%
11968       \fi
11969     }%
11970     \dospecials
11971     \InputIfFileExists{\jobname.out}{-}{-}%
11972   \endgroup
11973   \ifx\WriteBookmarks\relax
11974   \else
11975     \if@filesw
11976       \newwrite\@outlinefile
11977       \Hy@OutlineRerunCheck
11978       \immediate\openout\@outlinefile=\jobname.out\relax
11979       \ifHy@typexml
11980         \immediate\write\@outlinefile{<relaxxml>\relax}%
11981       \fi
11982     \fi
11983   \fi
11984 }

11985 </vtex>
11986 <!*vtex>
11987 \def\ReadBookmarks{%
11988   \begingroup
11989     \escapechar='\\%
11990     \let\escapechar\@gobble %
11991     \def\@@BOOKMARK[##1][##2]###3###4###5{\calc@bm@number{##5}}%
11992     \InputIfFileExists{\jobname.out}{-}{-}%
11993     \ifx\WriteBookmarks\relax
11994       \global\let\WriteBookmarks\relax
11995     \fi
11996     \def\@@BOOKMARK[##1][##2]###3###4###5{%

```

```

11997         \def\Hy@temp{##4}%
11998 <*pdftex>
11999         \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12000         \Hy@OutlineName{}\Hy@pstringName{%
12001             ##2\check@bm@number{##3}%
12002         }{%
12003             \expandafter\strip@prefix\meaning\Hy@temp
12004         }%
12005 </pdftex>
12006 <*pdfmark>
12007         \pdfmark{%
12008             pdfmark=/OUT,%
12009             Count={##2\check@bm@number{##3}},%
12010             Dest={##3},%
12011             Title=\expandafter\strip@prefix\meaning\Hy@temp
12012         }%
12013 </pdfmark>
12014 <*dvipdfm>
12015         \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
12016         \@pdfm@mark{%
12017             outline \ifHy@DvipdfmxOutlineOpen
12018                 [%
12019                 \ifnum##21>\z@
12020                 \else
12021                 -%
12022                 \fi
12023                 ] %
12024                 \fi
12025                 ##1<<%
12026                 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
12027                 /A<<%
12028                 /S/GoTo%
12029                 /D(\Hy@pstringName)%
12030                 >>%
12031                 >>%
12032             }%
12033 </dvipdfm>
12034     }%
12035     {%
12036         \def\WriteBookmarks{0}%
12037         \InputIfFileExists{\jobname.out}{-}{-}%
12038     }%
12039     {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
12040     \ifx\WriteBookmarks\relax
12041     \else
12042         \if@filesw
12043             \newwrite\@outlinefile
12044             \Hy@OutlineRerunCheck
12045             \immediate\openout\@outlinefile=\jobname.out\relax
12046             \ifHy@typexml
12047                 \immediate\write\@outlinefile{<relaxxml>\relax}%
12048             \fi
12049             \fi
12050         \fi
12051     \endgroup
12052 }
12053 <*pdftex>

```

```

12054 \def\Hy@OutlineName#1#2#3#4{%
12055   \pdfoutline goto name{#2}count#3{#4}%
12056 }
12057 </pdfTex>
12058 \def\check@bm@number#1{%
12059   \expandafter\ifx\csname B_#1\endcsname\relax
12060     0%
12061   \else
12062     \csname B_#1\endcsname
12063   \fi
12064 }
12065 \def\calc@bm@number#1{%
12066   \@tempcnta=\check@bm@number{#1}\relax
12067   \advance\@tempcnta by 1 %
12068   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
12069 }
12070 </!vtex>

12071 \ifHy@implicit
12072 \else
12073   \expandafter\endinput
12074 \fi

12075 </outlines>
12076 <*outlines | hypertex>

12077 \let\H@old@ssect\@ssect
12078 \def\@ssect#1#2#3#4#5{%
12079   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
12080   \phantomsection
12081 }
12082 \let\H@old@schapter\@schapter
12083 \def\@schapter#1{%
12084   \H@old@schapter{#1}%
12085   \begingroup
12086     \let\mkboth\@gobbletwo
12087     \Hy@GlobalStepCount\Hy@linkcounter
12088     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12089     \Hy@raisedlink{%
12090       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12091     }%
12092   \endgroup
12093 }

```

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:

```

12094 \@ifundefined{chapter}{-}{%
12095   \let\Hy@org@chapter\@chapter
12096   \def\@chapter{%
12097     \def\Hy@next{%
12098       \Hy@GlobalStepCount\Hy@linkcounter
12099       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12100       \Hy@raisedlink{%
12101         \hyper@anchorstart{\@currentHref}\hyper@anchorend
12102       }%
12103     }%
12104     \ifnum\c@secnumdepth>\m@ne
12105       \@ifundefined{if@mainmatter}%

```

```

12106     \iftrue{\csname if@mainmatter\endcsname}%
12107     \let\Hy@next\relax
12108     \fi
12109     \fi
12110     \Hy@next
12111     \Hy@org@chapter
12112 }%
12113 }

12114 \let\H@old@part\@part
12115 \begingroup\expandafter\expandafter\expandafter\endgroup
12116 \expandafter\ifx\csname chapter\endcsname\relax
12117   \let\Hy@secnum@part\z@
12118 \else
12119   \let\Hy@secnum@part\m@ne
12120 \fi
12121 \def\@part{%
12122   \ifnum\Hy@secnum@part>\c@secnumdepth
12123     \phantomsection
12124   \fi
12125   \H@old@part
12126 }

12127 \let\H@old@spart\@spart
12128 \def\@spart#1{%
12129   \H@old@spart{#1}%
12130   \Hy@GlobalStepCount\Hy@linkcounter
12131   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
12132   \Hy@raisedlink{%
12133     \hyper@anchorstart{\@currentHref}\hyper@anchorend
12134   }%
12135 }

12136 \let\H@old@sect\@sect
12137 \def\@sect#1#2#3#4#5#6[#7]#8{%
12138   \ifnum #2>\c@secnumdepth
12139     \Hy@GlobalStepCount\Hy@linkcounter
12140     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
12141   \fi
12142   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
12143   \ifnum #2>\c@secnumdepth
12144     \Hy@raisedlink{%
12145       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12146     }%
12147   \fi
12148 }

12149 </outlines | hypertext>
12150 <*outlines>

12151 \expandafter\def\csname Parent-4\endcsname{}
12152 \expandafter\def\csname Parent-3\endcsname{}
12153 \expandafter\def\csname Parent-2\endcsname{}
12154 \expandafter\def\csname Parent-1\endcsname{}
12155 \expandafter\def\csname Parent0\endcsname{}
12156 \expandafter\def\csname Parent1\endcsname{}
12157 \expandafter\def\csname Parent2\endcsname{}
12158 \expandafter\def\csname Parent3\endcsname{}
12159 \expandafter\def\csname Parent4\endcsname{}

12160 </outlines>

```

## 49 Compatibility with koma-script classes

12161  $\langle$ \*outlines | hypertex $\rangle$

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.

```
12162 \def\Hy@tempa{%
12163   \def\@addchap[##1]##2{%
12164     \typeout{##2}%
12165     \if@twoside
12166       \mkboth{##1}{}%
12167     \else
12168       \mkboth{}{##1}%
12169     \fi
12170     \addtocontents{lof}{\protect\addvspace{10\p@}}%
12171     \addtocontents{lot}{\protect\addvspace{10\p@}}%
12172     \Hy@GlobalStepCount\Hy@linkcounter
12173     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
12174     \Hy@raisedlink{%
12175       \hyper@anchorstart{\@currentHref}\hyper@anchorend
12176     }%
12177     \if@twocolumn
12178       \topnewpage[\@makeschapterhead{##2}]%
12179     \else
12180       \@makeschapterhead{##2}%
12181       \@afterheading
12182     \fi
12183     \addcontentsline{toc}{chapter}{##1}%
12184   }%
12185 }
12186 \@ifclassloaded{scrbook}{%
12187   \@ifclasslater{scrbook}{2001/01/01}{%
12188     \let\Hy@tempa\@empty
12189   }{}%
12190 }{%
12191   \@ifclassloaded{scrreprt}{%
12192     \@ifclasslater{scrreprt}{2001/01/01}{%
12193       \let\Hy@tempa\@empty
12194     }{}%
12195   }{%
12196     \let\Hy@tempa\@empty
12197   }%
12198 }%
12199 \Hy@tempa
12200  $\rangle$ outlines | hypertex $\rangle$ 
```

## 50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

### 50.1 PD1 encoding

```
12201  $\langle$ *pdlenc $\rangle$ 
12202 \DeclareFontEncoding{PD1}{}{}
```

Accents

```
12203 \DeclareTextAccent{\'}{PD1}{\textasciigrave}
```



12204 \DeclareTextAccent{\'}{PD1}{\textacute}  
12205 \DeclareTextAccent{\^}{PD1}{\textasciicircum}  
12206 \DeclareTextAccent{\~}{PD1}{\texttilde}  
12207 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}  
12208 \DeclareTextAccent{\r}{PD1}{\textring}  
12209 \DeclareTextAccent{\v}{PD1}{\textasciicaron}  
12210 \DeclareTextAccent{\.}{PD1}{\textdotaccent}  
12211 \DeclareTextAccent{\c}{PD1}{\textcedilla}  
12212 \DeclareTextAccent{\=}{PD1}{\textasciimacron}  
12213 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}  
12214 \DeclareTextAccent{\d}{PD1}{\textdotbelow}  
12215 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textasciigrave}  
12216 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}  
12217 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}  
12218 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}  
12219 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}  
12220 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}  
12221 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}  
12222 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}  
12223 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}  
12224 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}  
12225 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}  
12226 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}  
12227 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}  
12228 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}  
12229 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}  
12230 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}  
12231 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}  
12232 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}  
12233 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}  
12234 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}  
12235 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}  
12236 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}  
12237 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}  
12238 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}  
12239 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}  
12240 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}  
12241 \DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

Special white space escape characters not for use in bookmarks but for other PDF strings.

12242 % U+0009 (CHARACTER TABULATION)  
12243 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009  
12244 % U+000A (LINE FEED)  
12245 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A  
12246 % U+000D (CARRIAGE RETURN)  
12247 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names

12248 % U+02D8 BREVE; breve  
12249 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8  
12250 % U+02C7 CARON; caron  
12251 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7  
12252 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex  
12253 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6  
12254 % U+02D9 DOT ABOVE; dotaccent  
12255 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9  
12256 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
12257 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD  
12258 % U+02DB OGONEK; ogonek

12259 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB  
12260 % U+02DA RING ABOVE; ring  
12261 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA  
12262 % U+02DC SMALL TILDE; ilde, \*tilde  
12263 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC  
\040: U+0020 SPACE; \*space, spacehackarabic  
\041: U+0021 EXCLAMATION MARK; exclam  
12264 % U+0022 QUOTATION MARK; quotedbl  
12265 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022  
12266 % U+0023 NUMBER SIGN; numbersign  
12267 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023  
12268 % U+0024 DOLLAR SIGN; dollar  
12269 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
12270 % U+0025 PERCENT SIGN; percent  
12271 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
12272 % U+0026 AMPERSAND; ampersand  
12273 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
\047: U+0027 APOSTROPHE; quotesingle  
  
12274 % U+0028 LEFT PARENTHESIS; parenleft  
12275 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028  
12276 % U+0029 RIGHT PARENTHESIS; parenright  
12277 \DeclareTextCommand{\textparenright}{PD1}{\string\)%}% \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  
12278 % U+002E FULL STOP; period  
12279 \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  
12280 % U+003C LESS-THAN SIGN; less  
12281 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
\075: U+003D EQUALS SIGN; equal  
12282 % U+003E GREATER-THAN SIGN; greater  
12283 \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  
12284 % U+005C REVERSE SOLIDUS; backslash  
12285 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
\135: U+005D RIGHT SQUARE BRACKET; bracketright  
12286 % U+005E CIRCUMFLEX ACCENT; asciicircum  
12287 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
12288 % U+005F LOW LINE; underscore  
12289 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F

```

12290 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
12291 % U+0060 GRAVE ACCENT; grave
12292 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
\141: U+0061 LATIN SMALL LETTER A; a
...
\150: U+0068 LATIN SMALL LETTER H; h
12293 % U+0069 LATIN SMALL LETTER I; i
12294 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
\152: U+006A LATIN SMALL LETTER J; j
...
\172: U+007A LATIN SMALL LETTER Z; z
12295 % U+007B LEFT CURLY BRACKET; braceleft
12296 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
12297 % U+007C VERTICAL LINE; *bar, verticalbar
12298 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
12299 % U+007D RIGHT CURLY BRACKET; braceright
12300 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
12301 % U+007E TILDE; asciitilde
12302 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
Slot \177 (0x7F) is undefined in PDFDocEncoding.
12303 % U+2022 BULLET; bullet
12304 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
12305 % U+2020 DAGGER; dagger
12306 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
12307 % U+2021 DOUBLE DAGGER; daggerdbl
12308 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
12309 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
12310 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
12311 % U+2014 EM DASH; emdash
12312 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
12313 % U+2013 EN DASH; endash
12314 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
12315 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
12316 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
12317 % U+2044 FRACTION SLASH; fraction
12318 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
12319 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft
12320 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
12321 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright
12322 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
12323 % U+2212 MINUS SIGN; minus
12324 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
12325 % U+2030 PER MILLE SIGN; perthousand
12326 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
12327 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
12328 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
12329 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
12330 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
12331 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
12332 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
12333 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
12334 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
12335 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
12336 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
12337 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
12338 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A

```

12339 % U+2122 TRADE MARK SIGN; trademark  
12340 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
12341 % U+FB01 LATIN SMALL LIGATURE FI; fi  
12342 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
12343 % U+FB02 LATIN SMALL LIGATURE FL; fl  
12344 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
12345 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
12346 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
12347 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
12348 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
12349 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
12350 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
12351 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
12352 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
12353 \DeclareTextCommand{\IJ}{PD1}{\230}  
12354 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
12355 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
12356 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
12357 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
12358 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
12359 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
12360 % U+0153 LATIN SMALL LIGATURE OE; oe  
12361 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
12362 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
12363 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
12364 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
12365 \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.  
12366 % U+20AC EURO SIGN; \*Euro, euro  
12367 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
12368 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
12369 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
12370 % U+00A2 CENT SIGN; cent  
12371 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
12372 % U+00A3 POUND SIGN; sterling  
12373 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
12374 % U+00A4 CURRENCY SIGN; currency  
12375 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
12376 % U+00A5 YEN SIGN; yen  
12377 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
12378 % U+00A6 BROKEN BAR; brokenbar  
12379 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
12380 % U+00A7 SECTION SIGN; section  
12381 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
12382 % U+00A8 DIAERESIS; dieresis  
12383 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
12384 % U+00A9 COPYRIGHT SIGN; copyright  
12385 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
12386 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
12387 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
12388 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
12389 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
12390 % U+00AC NOT SIGN; logicalnot  
12391 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
12392 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.

12393 % U+00AE REGISTERED SIGN; registered  
12394 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
12395 % U+00AF MACRON; \*macron, overscore  
12396 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
12397 % U+00B0 DEGREE SIGN; degree  
12398 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
12399 % U+00B1 PLUS-MINUS SIGN; plusminus  
12400 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
12401 % U+00B2 SUPERSCRIPIT TWO; twosuperior  
12402 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}% U+00B2  
12403 % U+00B3 SUPERSCRIPIT THREE; threesuperior  
12404 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}% U+00B3  
12405 % U+00B4 ACUTE ACCENT; acute  
12406 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
12407 % U+00B5 MICRO SIGN; mu, mu1  
12408 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
12409 % U+00B6 PILCROW SIGN; paragraph  
12410 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
12411 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
12412 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
12413 % U+00B8 CEDILLA; cedilla  
12414 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
12415 % U+00B9 SUPERSCRIPIT ONE; onesuperior  
12416 \DeclareTextCommand{\textonesuperior}{PD1}{\271}% U+00B9  
12417 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
12418 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
12419 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
12420 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
12421 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
12422 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
12423 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
12424 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
12425 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
12426 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
12427 % U+00BF INVERTED QUESTION MARK; questiondown  
12428 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
12429 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12430 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
12431 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12432 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
12433 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12434 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
12435 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12436 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
12437 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12438 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
12439 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12440 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
12441 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12442 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
12443 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12444 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
12445 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12446 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
12447 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12448 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
12449 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex

12450 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312}% U+00CA  
12451 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12452 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
12453 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12454 \DeclareTextCompositeCommand{\'}{PD1}{I}{\314}% U+00CC  
12455 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12456 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
12457 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12458 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316}% U+00CE  
12459 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12460 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
12461 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12462 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
12463 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
12464 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12465 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
12466 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12467 \DeclareTextCompositeCommand{\'}{PD1}{O}{\322}% U+00D2  
12468 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12469 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
12470 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12471 \DeclareTextCompositeCommand{\`}{PD1}{O}{\324}% U+00D4  
12472 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12473 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
12474 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12475 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
12476 % U+00D7 MULTIPLICATION SIGN; multiply  
12477 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
12478 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12479 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
12480 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12481 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
12482 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12483 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
12484 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12485 \DeclareTextCompositeCommand{\`}{PD1}{U}{\333}% U+00DB  
12486 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12487 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
12488 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12489 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
12490 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12491 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
12492 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12493 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
12494 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12495 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
12496 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12497 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
12498 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12499 \DeclareTextCompositeCommand{\`}{PD1}{a}{\342}% U+00E2  
12500 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12501 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
12502 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12503 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
12504 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12505 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
12506 % U+00E6 LATIN SMALL LETTER AE; ae

12507 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
12508 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12509 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
12510 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12511 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
12512 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12513 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
12514 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12515 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
12516 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12517 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
12518 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12519 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12520 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
12521 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12522 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12523 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
12524 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12525 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12526 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
12527 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12528 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12529 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
12530 % U+00F0 LATIN SMALL LETTER ETH; eth  
12531 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
12532 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12533 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
12534 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12535 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2  
12536 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12537 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
12538 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12539 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
12540 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
12541 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
12542 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
12543 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
12544 % U+00F7 DIVISION SIGN; divide  
12545 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
12546 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
12547 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
12548 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
12549 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9  
12550 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
12551 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
12552 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
12553 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
12554 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
12555 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
12556 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
12557 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
12558 % U+00FE LATIN SMALL LETTER THORN; thorn  
12559 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
12560 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
12561 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
12562 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

Glyphs that consist of several characters.

```

12563 \DeclareTextCommand{\SS}{PD1}{SS}
12564 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}
Aliases (german.sty)
12565 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
12566 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
12567 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12568 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12569 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12570 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12571 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12572 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}
Aliases (math names)
12573 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12574 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12575 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12576 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12577 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12578 \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;
12579 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
12580 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
12581 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
12582 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
12583 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
12584 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
12585 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
12586 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
12587 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
12588 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
12589 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
12590 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
12591 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
12592 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
12593 </pdlenc>

```

## 50.2 PU encoding

```

12594 <*puenc>
12595 \DeclareFontEncoding{PU}{-}{-}

```

### 50.2.1 NFSS2 accents

```

12596 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
12597 \DeclareTextCommand{\'}{PU}[1]{\#1\83\000}% U+0300
12598 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
12599 \DeclareTextCommand{\'}{PU}[1]{\#1\83\001}% U+0301
12600 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
12601 \DeclareTextCommand{\^}{PU}[1]{\#1\83\002}% U+0302
12602 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
12603 \DeclareTextCommand{\~}{PU}[1]{\#1\83\003}% U+0303
12604 % U+0304 COMBINING MACRON; macroncmb
12605 \DeclareTextCommand{\=}{PU}[1]{\#1\83\004}% U+0304
12606 % U+0306 COMBINING BREVE; brevecmb
12607 \DeclareTextCommand{\u}{PU}[1]{\#1\83\006}% U+0306
12608 \DeclareTextCommand{\U}{PU}[1]{\#1\83\006}% U+0306
12609 % U+0307 COMBINING DOT ABOVE; dotaccentcmb

```



```

12610 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
12611 % U+0308 COMBINING DIAERESIS; dieresiscmb
12612 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
12613 % U+030A COMBINING RING ABOVE; ringcmb
12614 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
12615 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
12616 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
12617 % U+030C COMBINING CARON; caroncmb
12618 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
12619 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravescmb
12620 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
12621 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
12622 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
12623 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
12624 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
12625 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
12626 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
12627 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
12628 % U+0327 COMBINING CEDILLA; cedillacmb
12629 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
12630 % U+0328 COMBINING OGONEK; ogonekcmb
12631 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
12632 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
12633 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
12634 % U+20DD COMBINING ENCLOSING CIRCLE
12635 \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.

```

12636 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}
12637 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12638 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}
12639 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12640 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
12641 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12642 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
12643 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12644 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12645 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
12646 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
12647 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
12648 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
12649 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
12650 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
12651 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
12652 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
12653 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
12654 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
12655 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}
12656 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
12657 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}
12658 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
12659 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
12660 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}
12661 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
12662 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
12663 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
12664 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}

```

```

12665 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
12666 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
12667 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
12668 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
12669 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
12670 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
12671 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
12672 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
12673 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}

```

Accents for capitals (see encoding TS1)

```

12674 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
12675 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
12676 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
12677 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
12678 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
12679 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
12680 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\#{#1}}
12681 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
12682 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
12683 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
12684 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
12685 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
12686 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}
12687 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
12688 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

## 50.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

12689 % U+0009 (CHARACTER TABULATION)
12690 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
12691 % U+000A (LINE FEED)
12692 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
12693 % U+000D (CARRIAGE RETURN)
12694 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

12695 % U+0022 QUOTATION MARK; quotedbl
12696 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
12697 % U+0023 NUMBER SIGN; numbersign
12698 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
12699 % U+0024 DOLLAR SIGN; dollar
12700 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
12701 % U+0025 PERCENT SIGN; percent
12702 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
12703 % U+0026 AMPERSAND; ampersand
12704 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
12705 % U+0027 APOSTROPHE; quotesingle
12706 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
12707 % U+0028 LEFT PARENTHESIS; parenleft
12708 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
12709 % U+0029 RIGHT PARENTHESIS; parenright
12710 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
12711 % U+002A ASTERISK; asterisk
12712 \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  
 12713 % U+003C LESS-THAN SIGN; less  
 12714 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 12715 % U+003E GREATER-THAN SIGN; greater  
 12716 \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  
 12717 % U+005C REVERSE SOLIDUS; backslash  
 12718 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 12719 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 12720 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 12721 % U+005F LOW LINE; underscore  
 12722 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 12723 % U+0060 GRAVE ACCENT; grave  
 12724 \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  
 12725 % U+0069 LATIN SMALL LETTER I; i  
 12726 \DeclareTextCompositeCommand{\.}{PU}{\i}{i} % \80\151 U+0069  
 12727 \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  
 12728 % U+007B LEFT CURLY BRACKET; braceleft  
 12729 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 12730 % U+007C VERTICAL LINE; \*bar, verticalbar  
 12731 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 12732 % U+007D RIGHT CURLY BRACKET; braceright  
 12733 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 12734 % U+007E TILDE; asciitilde  
 12735 \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  
 12736 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 12737 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 12738 % U+00A2 CENT SIGN; cent

12739 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 12740 % U+00A3 POUND SIGN; sterling  
 12741 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 12742 % U+00A4 CURRENCY SIGN; currency  
 12743 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 12744 % U+00A5 YEN SIGN; yen  
 12745 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 12746 % U+00A6 BROKEN BAR; brokenbar  
 12747 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 12748 % U+00A7 SECTION SIGN; section  
 12749 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 12750 % U+00A8 DIAERESIS; dieresis  
 12751 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 12752 % U+00A9 COPYRIGHT SIGN; copyright  
 12753 \DeclareTextCommand{\textcopyright}{PU}{\80\251}% U+00A9  
 12754 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 12755 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 12756 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 12757 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 12758 % U+00AC NOT SIGN; logicalnot  
 12759 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 12760 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
 12761 % U+00AE REGISTERED SIGN; registered  
 12762 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 12763 % U+00AF MACRON; \*macron, overscore  
 12764 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 12765 % U+00B0 DEGREE SIGN; degree  
 12766 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 12767 % U+00B1 PLUS-MINUS SIGN; plusminus  
 12768 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 12769 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 12770 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}% U+00B2  
 12771 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 12772 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}% U+00B3  
 12773 % U+00B4 ACUTE ACCENT; acute  
 12774 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 12775 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
 12776 % U+00B5 MICRO SIGN; mu, mu1  
 12777 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 12778 % U+00B6 PILCROW SIGN; paragraph  
 12779 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 12780 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 12781 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 12782 % U+00B8 CEDILLA; cedilla  
 12783 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 12784 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 12785 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}% U+00B9  
 12786 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 12787 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 12788 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
 12789 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 12790 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 12791 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 12792 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 12793 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 12794 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters

12795 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
12796 % U+00BF INVERTED QUESTION MARK; questiondown  
12797 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
12798 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
12799 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
12800 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
12801 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
12802 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
12803 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
12804 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
12805 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
12806 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
12807 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
12808 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
12809 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
12810 % U+00C6 LATIN CAPITAL LETTER AE; AE  
12811 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
12812 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
12813 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
12814 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
12815 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
12816 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
12817 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
12818 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
12819 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
12820 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
12821 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
12822 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
12823 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
12824 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
12825 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
12826 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
12827 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
12828 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
12829 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
12830 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
12831 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
12832 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
12833 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
12834 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
12835 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
12836 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
12837 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
12838 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
12839 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
12840 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
12841 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
12842 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
12843 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
12844 % U+00D7 MULTIPLICATION SIGN; multiply  
12845 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
12846 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
12847 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
12848 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
12849 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
12850 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
12851 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA

12852 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
12853 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\333}% U+00DB  
12854 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
12855 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
12856 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
12857 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
12858 % U+00DE LATIN CAPITAL LETTER THORN; Thorn  
12859 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
12860 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
12861 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
12862 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
12863 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
12864 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
12865 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
12866 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
12867 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\342}% U+00E2  
12868 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
12869 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
12870 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
12871 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
12872 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
12873 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
12874 % U+00E6 LATIN SMALL LETTER AE; ae  
12875 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
12876 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
12877 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
12878 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
12879 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
12880 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
12881 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
12882 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
12883 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\352}% U+00EA  
12884 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
12885 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
12886 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
12887 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
12888 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
12889 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
12890 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12891 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
12892 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
12893 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356}% U+00EE  
12894 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356}% U+00EE  
12895 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
12896 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
12897 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
12898 % U+00F0 LATIN SMALL LETTER ETH; eth  
12899 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
12900 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
12901 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
12902 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
12903 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
12904 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
12905 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
12906 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
12907 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\364}% U+00F4  
12908 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde

12909 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 12910 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 12911 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 12912 % U+00F7 DIVISION SIGN; divide  
 12913 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 12914 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 12915 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 12916 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 12917 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 12918 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 12919 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 12920 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 12921 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 12922 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 12923 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 12924 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 12925 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 12926 % U+00FE LATIN SMALL LETTER THORN; thorn  
 12927 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 12928 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 12929 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 50.2.4 Latin Extended-A: U+0080 to U+017F

12930 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 12931 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 12932 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 12933 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 12934 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 12935 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 12936 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 12937 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 12938 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 12939 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 12940 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 12941 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 12942 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 12943 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 12944 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 12945 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 12946 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 12947 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 12948 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 12949 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 12950 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
 12951 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
 12952 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
 12953 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
 12954 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
 12955 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
 12956 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
 12957 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
 12958 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
 12959 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
 12960 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
 12961 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
 12962 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash

12963 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
12964 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron  
12965 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
12966 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
12967 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
12968 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
12969 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
12970 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
12971 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
12972 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
12973 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
12974 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
12975 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
12976 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
12977 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
12978 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
12979 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
12980 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
12981 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
12982 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
12983 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
12984 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
12985 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
12986 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
12987 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
12988 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
12989 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
12990 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
12991 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
12992 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
12993 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
12994 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent  
12995 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
12996 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
12997 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
12998 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
12999 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
13000 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
13001 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
13002 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
13003 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
13004 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
13005 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
13006 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
13007 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
13008 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar  
13009 \DeclareTextCommand{\texthslash}{PU}{\81\047}% U+0127  
13010 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
13011 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
13012 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
13013 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13014 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
13015 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
13016 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
13017 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
13018 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
13019 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B



13020 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
 13021 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
 13022 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
 13023 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 13024 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
 13025 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
 13026 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
 13027 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
 13028 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 13029 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
 13030 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
 13031 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
 13032 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
 13033 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
 13034 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
 13035 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
 13036 % U+0133 LATIN SMALL LIGATURE IJ; ij  
 13037 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
 13038 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex  
 13039 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134  
 13040 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex  
 13041 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 13042 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135  
 13043 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent  
 13044 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136  
 13045 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent  
 13046 \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`.

13047 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic  
 13048 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138  
 13049 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute  
 13050 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139  
 13051 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 13052 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 13053 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent  
 13054 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 13055 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 13056 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 13057 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 13058 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 13059 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 13060 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the `\.` accent is reused instead of making a separate accent macro `\textmiddledot`.

13061 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent  
 13062 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
 13063 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 13064 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 13065 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 13066 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 13067 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 13068 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 13069 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 13070 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143

13071 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
13072 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
13073 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent  
13074 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
13075 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
13076 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
13077 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
13078 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
13079 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
13080 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
13081 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn  
13082 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
13083 % U+014A LATIN CAPITAL LETTER ENG; Eng  
13084 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
13085 % U+014B LATIN SMALL LETTER ENG; eng  
13086 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
13087 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
13088 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
13089 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
13090 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
13091 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
13092 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
13093 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
13094 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
13095 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut  
13096 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
13097 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut  
13098 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
13099 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
13100 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
13101 % U+0153 LATIN SMALL LIGATURE OE; oe  
13102 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
13103 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
13104 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
13105 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
13106 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
13107 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
13108 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
13109 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
13110 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
13111 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
13112 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
13113 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
13114 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
13115 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
13116 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
13117 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
13118 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
13119 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
13120 \DeclareTextCompositeCommand{\`}{PU}{S}{\81\134}% U+015C  
13121 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
13122 \DeclareTextCompositeCommand{\`}{PU}{s}{\81\135}% U+015D  
13123 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
13124 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
13125 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
13126 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
13127 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron

13128 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
13129 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
13130 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
13131 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
13132 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
13133 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
13134 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
13135 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
13136 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
13137 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
13138 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
13139 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
13140 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
13141 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
13142 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
13143 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
13144 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
13145 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
13146 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
13147 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
13148 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
13149 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
13150 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
13151 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
13152 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
13153 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
13154 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
13155 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
13156 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
13157 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
13158 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
13159 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
13160 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
13161 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
13162 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
13163 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
13164 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
13165 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
13166 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
13167 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
13168 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
13169 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
13170 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
13171 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
13172 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
13173 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
13174 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
13175 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
13176 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
13177 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
13178 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
13179 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
13180 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
13181 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
13182 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
13183 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
13184 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C

13185 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 13186 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 13187 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 13188 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 13189 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 13190 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

## 50.2.5 Latin Extended-B: U+0180 to U+024F

13191 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
 13192 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
 13193 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 13194 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 13195 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 13196 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 13197 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 13198 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 13199 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 13200 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 13201 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\320}% U+01D0  
 13202 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 13203 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 13204 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 13205 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 13206 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 13207 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 13208 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 13209 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 13210 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 13211 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 13212 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 13213 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 13214 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 13215 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 13216 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 13217 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 13218 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 13219 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 13220 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 13221 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 13222 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 13223 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 13224 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 13225 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
 13226 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
 13227 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 13228 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
 13229 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
 13230 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
 13231 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
 13232 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
 13233 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
 13234 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
 13235 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
 13236 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
 13237 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
 13238 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
 13239 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute

13240 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
 13241 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE; \*Oslashacute, Ostrokeacut  
 13242 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
 13243 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE; \*oslashacute, ostrokeacute  
 13244 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
 13245 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
 13246 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
 13247 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
 13248 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
 13249 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
 13250 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
 13251 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
 13252 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 13253 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 13254 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 13255 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 13256 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 13257 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 13258 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 13259 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 13260 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 13261 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 13262 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 13263 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 13264 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 13265 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 13266 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 13267 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 13268 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 13269 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 13270 % U+021E LATIN CAPITAL LETTER H WITH CARON  
 13271 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 13272 % U+021F LATIN SMALL LETTER H WITH CARON  
 13273 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 13274 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 13275 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 13276 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 13277 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 13278 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 13279 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 13280 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 13281 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 13282 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 13283 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 13284 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 13285 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 13286 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 13287 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 13288 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 13289 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 13290 % U+0237 LATIN SMALL LETTER DOTLESS J  
 13291 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237

## 50.2.6 Spacing Modifier Letters: U+02B0 to U+02FF

13292 % U+02C7 CARON; caron  
 13293 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 13294 % U+02D8 BREVE; breve

13295 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 13296 % U+02D9 DOT ABOVE; dotaccent  
 13297 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 13298 % U+02DA RING ABOVE; ring  
 13299 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 13300 % U+02DB OGONEK; ogonek  
 13301 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 13302 % U+02DC SMALL TILDE; ilde, \*tilde  
 13303 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 13304 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 13305 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 13306 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 13307 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 13308 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 13309 % U+02F7 MODIFIER LETTER LOW TILDE  
 13310 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7

### 50.2.7 Combining Diacritical Marks: U+0300 to U+036F

13311 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 13312 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 13313 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 13314 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 13315 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
 13316 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 13317 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 13318 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 13319 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 13320 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 50.2.8 Greek and Coptic: U+0370 to U+03FF

13321 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 13322 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 13323 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 13324 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 13325 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos  
 13326 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 13327 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 13328 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 13329 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 13330 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 13331 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 13332 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 13333 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 13334 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 13335 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 13336 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 13337 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 13338 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 13339 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS; iotadiesisistonos  
 13340 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390  
 13341 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
 13342 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
 13343 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
 13344 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
 13345 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma  
 13346 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393  
 13347 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta

13348 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394  
13349 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
13350 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395  
13351 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
13352 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
13353 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
13354 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
13355 % U+0398 GREEK CAPITAL LETTER THETA; Theta  
13356 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398  
13357 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
13358 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
13359 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
13360 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
13361 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda  
13362 \DeclareTextCommand{\textLambda}{PU}{\83\233}% U+039B  
13363 % U+039C GREEK CAPITAL LETTER MU; Mu  
13364 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
13365 % U+039D GREEK CAPITAL LETTER NU; Nu  
13366 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
13367 % U+039E GREEK CAPITAL LETTER XI; Xi  
13368 \DeclareTextCommand{\textXi}{PU}{\83\236}% U+039E  
13369 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron  
13370 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
13371 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
13372 \DeclareTextCommand{\textPi}{PU}{\83\240}% U+03A0  
13373 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
13374 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
13375 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma  
13376 \DeclareTextCommand{\textSigma}{PU}{\83\243}% U+03A3  
13377 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
13378 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
13379 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon  
13380 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}% U+03A5  
13381 % U+03A6 GREEK CAPITAL LETTER PHI; Phi  
13382 \DeclareTextCommand{\textPhi}{PU}{\83\246}% U+03A6  
13383 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
13384 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
13385 % U+03A8 GREEK CAPITAL LETTER PSI; Psi  
13386 \DeclareTextCommand{\textPsi}{PU}{\83\250}% U+03A8  
13387 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega  
13388 \DeclareTextCommand{\textOmega}{PU}{\83\251}% U+03A9  
13389 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
13390 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
13391 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA  
13392 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
13393 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB  
13394 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
13395 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}% U+03AC  
13396 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilononos  
13397 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD  
13398 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos  
13399 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE  
13400 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos  
13401 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF  
13402 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA AND TONOS; upsilondieresis  
13403 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0  
13404 % U+03B1 GREEK SMALL LETTER ALPHA; alpha

13405 \DeclareTextCommand{\textalpha}{PU}{\83\261}% U+03B1  
13406 % U+03B2 GREEK SMALL LETTER BETA; beta  
13407 \DeclareTextCommand{\textbeta}{PU}{\83\262}% U+03B2  
13408 % U+03B3 GREEK SMALL LETTER GAMMA; gamma  
13409 \DeclareTextCommand{\textgamma}{PU}{\83\263}% U+03B3  
13410 % U+03B4 GREEK SMALL LETTER DELTA; delta  
13411 \DeclareTextCommand{\textdelta}{PU}{\83\264}% U+03B4  
13412 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon  
13413 \DeclareTextCommand{\textepsilon}{PU}{\83\265}% U+03B5  
13414 % U+03B6 GREEK SMALL LETTER ZETA; zeta  
13415 \DeclareTextCommand{\textzeta}{PU}{\83\266}% U+03B6  
13416 % U+03B7 GREEK SMALL LETTER ETA; eta  
13417 \DeclareTextCommand{\texteta}{PU}{\83\267}% U+03B7  
13418 % U+03B8 GREEK SMALL LETTER THETA; theta  
13419 \DeclareTextCommand{\texttheta}{PU}{\83\270}% U+03B8  
13420 % U+03B9 GREEK SMALL LETTER IOTA; iota  
13421 \DeclareTextCommand{\textiota}{PU}{\83\271}% U+03B9  
13422 % U+03BA GREEK SMALL LETTER KAPPA; kappa  
13423 \DeclareTextCommand{\textkappa}{PU}{\83\272}% U+03BA  
13424 % U+03BB GREEK SMALL LETTER LAMDA; lambda  
13425 \DeclareTextCommand{\textlambda}{PU}{\83\273}% U+03BB  
13426 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu  
13427 \DeclareTextCommand{\textmugreek}{PU}{\83\274}% U+03BC  
13428 % U+03BD GREEK SMALL LETTER NU; nu  
13429 \DeclareTextCommand{\textnu}{PU}{\83\275}% U+03BD  
13430 % U+03BE GREEK SMALL LETTER XI; xi  
13431 \DeclareTextCommand{\textxi}{PU}{\83\276}% U+03BE  
13432 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
13433 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
13434 % U+03C0 GREEK SMALL LETTER PI; pi  
13435 \DeclareTextCommand{\textpi}{PU}{\83\300}% U+03C0  
13436 % U+03C1 GREEK SMALL LETTER RHO; rho  
13437 \DeclareTextCommand{\textrho}{PU}{\83\301}% U+03C1  
13438 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
13439 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}% U+03C2  
13440 % U+03C3 GREEK SMALL LETTER SIGMA; sigma  
13441 \DeclareTextCommand{\textsigma}{PU}{\83\303}% U+03C3  
13442 % U+03C4 GREEK SMALL LETTER TAU; tau  
13443 \DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4  
13444 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon  
13445 \DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5  
13446 % U+03C6 GREEK SMALL LETTER PHI; phi  
13447 \DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6  
13448 % U+03C7 GREEK SMALL LETTER CHI; chi  
13449 \DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7  
13450 % U+03C8 GREEK SMALL LETTER PSI; psi  
13451 \DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8  
13452 % U+03C9 GREEK SMALL LETTER OMEGA; omega  
13453 \DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9  
13454 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
13455 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA  
13456 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis  
13457 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB  
13458 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
13459 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC  
13460 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
13461 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD



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13462 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
13463 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
13464 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
13465 % U+03DA GREEK LETTER STIGMA; Stigmagreek
13466 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
13467 % U+03DB GREEK SMALL LETTER STIGMA
13468 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
13469 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
13470 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
13471 % U+03DD GREEK SMALL LETTER DIGAMMA
13472 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
13473 % U+03DE GREEK LETTER KOPPA; Koppagreek
13474 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
13475 % U+03DF GREEK SMALL LETTER KOPPA
13476 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
13477 % U+03E0 GREEK LETTER SAMPI; Sampigreek
13478 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
13479 % U+03E1 GREEK SMALL LETTER SAMPI
13480 \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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13481 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
13482 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
13483 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
13484 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
13485 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% ???
13486 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
13487 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
13488 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
13489 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
13490 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
13491 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
13492 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
13493 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
13494 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I; Icyrillic, *afii10055
13495 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
13496 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
13497 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
13498 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
13499 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
13500 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
13501 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
13502 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
13503 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
13504 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
13505 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
13506 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
13507 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
13508 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
13509 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
13510 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
13511 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
13512 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
13513 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
13514 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145

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13515 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
13516 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
13517 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
13518 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
13519 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
13520 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
13521 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
13522 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
13523 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
13524 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
13525 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
13526 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
13527 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
13528 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
13529 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
13530 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
13531 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
13532 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
13533 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
13534 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
13535 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
13536 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
13537 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
13538 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
13539 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
13540 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
13541 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
13542 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
13543 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
13544 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
13545 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
13546 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
13547 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
13548 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
13549 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
13550 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
13551 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
13552 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
13553 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
13554 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
13555 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
13556 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
13557 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
13558 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
13559 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
13560 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
13561 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
13562 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
13563 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
13564 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
13565 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
13566 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
13567 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
13568 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
13569 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN; Hardsigncyrillic, \*afii10044  
13570 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
13571 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045

13572 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
13573 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN; Softsigncyrillic, \*afii10046  
13574 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
13575 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
13576 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
13577 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
13578 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
13579 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
13580 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
13581 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
13582 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
13583 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
13584 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
13585 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
13586 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
13587 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
13588 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
13589 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
13590 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
13591 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
13592 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
13593 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
13594 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
13595 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
13596 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
13597 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
13598 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
13599 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
13600 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
13601 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
13602 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
13603 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
13604 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
13605 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
13606 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
13607 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
13608 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
13609 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
13610 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
13611 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
13612 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
13613 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
13614 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
13615 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
13616 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
13617 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
13618 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
13619 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
13620 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
13621 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
13622 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
13623 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
13624 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
13625 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
13626 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
13627 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
13628 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic

13629 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
13630 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
13631 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
13632 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
13633 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
13634 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
13635 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
13636 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
13637 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
13638 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
13639 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
13640 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
13641 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
13642 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
13643 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E  
13644 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
13645 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F  
13646 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
13647 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
13648 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
13649 \DeclareTextCommand{\cyrIo}{PU}{\84\121}% U+0451  
13650 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
13651 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
13652 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
13653 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
13654 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
13655 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
13656 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
13657 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
13658 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
13659 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I; \*afii10103, icyrillic  
13660 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
13661 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
13662 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
13663 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
13664 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
13665 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
13666 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
13667 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459  
13668 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
13669 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
13670 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
13671 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
13672 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
13673 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
13674 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
13675 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
13676 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
13677 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
13678 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
13679 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
13680 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
13681 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
13682 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
13683 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
13684 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
13685 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146

13686 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
13687 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
13688 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
13689 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
13690 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
13691 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
13692 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
13693 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic  
13694 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
13695 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic  
13696 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
13697 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittleiotifiedcyrillic  
13698 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
13699 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleiotifiedcyrillic  
13700 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
13701 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
13702 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
13703 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
13704 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
13705 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotifiedcyrillic  
13706 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
13707 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotifiedcyrillic  
13708 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
13709 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
13710 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
13711 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
13712 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
13713 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
13714 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
13715 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
13716 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
13717 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
13718 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
13719 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
13720 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
13721 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
13722 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
13723 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
13724 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
13725 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; Izhitsadblgravecyrillic  
13726 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
13727 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE GRAVE ACCENT; izhitsadblgravecyrillic  
13728 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
13729 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
13730 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
13731 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
13732 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
13733 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
13734 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
13735 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
13736 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
13737 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
13738 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
13739 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
13740 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
13741 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
13742 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E

13743 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 13744 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 13745 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 13746 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 13747 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 13748 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 13749 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 13750 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 13751 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 13752 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 13753 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 13754 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 13755 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 13756 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 13757 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 13758 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 13759 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 13760 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 13761 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 13762 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 13763 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, \*afii10050  
 13764 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 13765 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
 13766 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 13767 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic  
 13768 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 13769 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 13770 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 13771 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK; Ghemiddlehookcyrillic  
 13772 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 13773 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK; ghemiddlehookcyrillic  
 13774 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 13775 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER; Zhedescendercyrillic  
 13776 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 13777 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER; zhedescendercyrillic  
 13778 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 13779 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
 13780 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 13781 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 13782 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
 13783 \DeclareTextCommand{\cyrzds}{PU}{\84\231}% U+0499  
 13784 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 13785 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
 13786 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 13787 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
 13788 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B

13789 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE; Kaverticalstrokecyrillic  
13790 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
13791 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE; kaverticalstrokecyrillic  
13792 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
13793 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
13794 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
13795 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
13796 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
13797 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
13798 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
13799 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
13800 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
13801 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
13802 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
13803 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
13804 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
13805 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
13806 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
13807 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
13808 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
13809 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
13810 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
13811 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
13812 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
13813 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
13814 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
13815 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
13816 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
13817 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
13818 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
13819 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
13820 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
13821 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
13822 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
13823 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
13824 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
13825 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
13826 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
13827 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
13828 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
13829 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
13830 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
13831 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
13832 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
13833 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic  
13834 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
13835 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic  
13836 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
13837 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
13838 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
13839 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
13840 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
13841 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
13842 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
13843 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER; Chedescendercyrillic  
13844 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
13845 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic

13846 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
 13847 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE; Cheverticalstrokecyrillic  
 13848 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
 13849 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE; cheverticalstrokecyrillic  
 13850 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
 13851 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
 13852 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
 13853 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
 13854 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
 13855 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
 13856 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
 13857 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
 13858 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
 13859 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
 13860 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
 13861 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
 13862 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
 13863 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
 13864 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
 13865 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
 13866 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
 13867 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
 13868 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
 13869 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
 13870 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
 13871 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
 13872 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
 13873 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
 13874 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
 13875 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
 13876 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
 13877 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
 13878 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6  
 13879 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
 13880 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
 13881 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
 13882 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 13883 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic  
 13884 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 13885 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
 13886 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 13887 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 13888 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 13889 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 13890 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 13891 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
 13892 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 13893 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
 13894 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 13895 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
 13896 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2  
 13897 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 13898 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3  
 13899 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 13900 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 13901 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic



13902 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
13903 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
13904 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
13905 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
13906 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
13907 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
13908 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
13909 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
13910 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
13911 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS; Schwadieresiscyrillic  
13912 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
13913 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS; schwadieresiscyrillic  
13914 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB  
13915 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
13916 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC  
13917 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
13918 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
13919 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
13920 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
13921 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
13922 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
13923 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
13924 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
13925 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
13926 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
13927 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
13928 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2  
13929 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
13930 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3  
13931 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
13932 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
13933 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
13934 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
13935 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
13936 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
13937 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
13938 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
13939 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
13940 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
13941 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
13942 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
13943 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS; Obarreddieresiscyrillic  
13944 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
13945 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS; obarreddieresiscyrillic  
13946 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
13947 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
13948 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
13949 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
13950 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
13951 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
13952 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE  
13953 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
13954 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF  
13955 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
13956 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
13957 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
13958 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1

13959 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
 13960 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2  
 13961 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
 13962 \DeclareTextCompositeCommand{\h}{PU}{\cyru}{\84\363}% U+04F3  
 13963 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
 13964 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4  
 13965 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
 13966 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5  
 13967 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 13968 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 13969 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 13970 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
 13971 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
 13972 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8  
 13973 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
 13974 \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  
 13975 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 13976 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 13977 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 13978 \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

13979 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 13980 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 50.2.11 Latin Extended Additional: U+1E00 to U+1EFF

13981 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 13982 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 13983 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 13984 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 13985 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 13986 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
 13987 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
 13988 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
 13989 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
 13990 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
 13991 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
 13992 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
 13993 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
 13994 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
 13995 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
 13996 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
 13997 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
 13998 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
 13999 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
 14000 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
 14001 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
 14002 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
 14003 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
 14004 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
 14005 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron

14006 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
14007 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
14008 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
14009 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
14010 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
14011 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
14012 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
14013 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
14014 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
14015 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
14016 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
14017 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
14018 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
14019 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
14020 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
14021 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
14022 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
14023 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
14024 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
14025 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
14026 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
14027 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
14028 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
14029 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
14030 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
14031 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
14032 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
14033 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
14034 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
14035 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
14036 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
14037 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
14038 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
14039 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
14040 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
14041 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
14042 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
14043 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
14044 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
14045 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
14046 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
14047 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
14048 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
14049 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
14050 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
14051 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
14052 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
14053 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
14054 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
14055 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
14056 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
14057 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
14058 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
14059 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
14060 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
14061 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
14062 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E

14063 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
14064 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
14065 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
14066 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
14067 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
14068 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
14069 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
14070 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
14071 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
14072 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
14073 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
14074 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
14075 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
14076 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
14077 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
14078 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
14079 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
14080 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
14081 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
14082 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
14083 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
14084 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
14085 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
14086 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
14087 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
14088 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
14089 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
14090 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
14091 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
14092 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
14093 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
14094 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
14095 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
14096 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
14097 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
14098 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
14099 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
14100 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
14101 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
14102 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
14103 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
14104 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
14105 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
14106 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
14107 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
14108 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
14109 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
14110 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
14111 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
14112 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
14113 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
14114 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
14115 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
14116 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
14117 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
14118 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
14119 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring

14120 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
 14121 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
 14122 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B  
 14123 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
 14124 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 14125 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
 14126 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
 14127 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 14128 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
 14129 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 14130 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
 14131 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 14132 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 14133 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 14134 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

## 50.2.12 General Punctuation: U+2000 to U+206F

14135 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 14136 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 14137 % U+2013 EN DASH; endash  
 14138 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 14139 % U+2014 EM DASH; emdash  
 14140 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 14141 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 14142 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 14143 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 14144 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 14145 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 14146 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 14147 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 14148 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 14149 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 14150 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 14151 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 14152 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 14153 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 14154 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 14155 % U+2020 DAGGER; dagger  
 14156 \DeclareTextCommand{\textdagger}{PU}{\9040\040}% U+2020  
 14157 % U+2021 DOUBLE DAGGER; daggerdbl  
 14158 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 14159 % U+2022 BULLET; bullet  
 14160 \DeclareTextCommand{\textbullet}{PU}{\9040\042}% U+2022  
 14161 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14162 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 14163 % U+2030 PER MILLE SIGN; perthousand  
 14164 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 14165 % U+2031 PER TEN THOUSAND SIGN  
 14166 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 14167 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilsinglleft  
 14168 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 14169 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilsinglright  
 14170 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 14171 % U+203B REFERENCE MARK; referencemark  
 14172 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 14173 % U+203D INTERROBANG  
 14174 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D

14175 % U+2044 FRACTION SLASH; fraction  
 14176 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 14177 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 14178 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 14179 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 14180 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 14181 % U+2052 COMMERCIAL MINUS SIGN  
 14182 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052

### 50.2.13 Superscripts and Subscripts: U+2070 to U+209F

14183 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 14184 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}% U+2070  
 14185 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 14186 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}% U+2074  
 14187 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 14188 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}% U+2075  
 14189 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 14190 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}% U+2076  
 14191 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 14192 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}% U+2077  
 14193 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 14194 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}% U+2078  
 14195 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 14196 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}% U+2079  
 14197 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 14198 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}% U+207A  
 14199 % U+207B SUPERSCRIPT MINUS  
 14200 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}  
 14201 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 14202 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}  
 14203 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 14204 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}  
 14205 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 14206 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}  
 14207 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 14208 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}  
 14209 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 14210 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}% U+2080  
 14211 % U+2081 SUBSCRIPT ONE; oneinferior  
 14212 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}% U+2081  
 14213 % U+2082 SUBSCRIPT TWO; twoinferior  
 14214 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}% U+2082  
 14215 % U+2083 SUBSCRIPT THREE; threeinferior  
 14216 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}% U+2083  
 14217 % U+2084 SUBSCRIPT FOUR; fourinferior  
 14218 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}% U+2084  
 14219 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 14220 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}% U+2085  
 14221 % U+2086 SUBSCRIPT SIX; sixinferior  
 14222 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}% U+2086  
 14223 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 14224 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}% U+2087  
 14225 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 14226 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}% U+2088  
 14227 % U+2089 SUBSCRIPT NINE; nineinferior  
 14228 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}% U+2089  
 14229 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior

14230 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}% U+208D  
 14231 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 14232 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}% U+208E

#### 50.2.14 Currency Symbols: U+20A0 to U+20CF

14233 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 14234 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 14235 % U+20A4 LIRA SIGN; afii08941, \*lira  
 14236 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 14237 % U+20A6 NAIRA SIGN  
 14238 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 14239 % U+20A7 PESETA SIGN; peseta  
 14240 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 14241 % U+20A9 WON SIGN; won  
 14242 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 14243 % U+20AB DONG SIGN; dong  
 14244 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 14245 % U+20AC EURO SIGN; \*Euro, euro  
 14246 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 14247 % U+20B1 PESO SIGN  
 14248 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 14249 % U+20B2 GUARANI SIGN  
 14250 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

#### 50.2.15 Letterlike Symbols: U+2100 to U+214F

14251 % U+2103 DEGREE CELSIUS; centigrade  
 14252 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 14253 % U+2116 NUMERO SIGN; \*afii61352, numero  
 14254 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 14255 % U+2117 SOUND RECORDING COPYRIGHT  
 14256 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 14257 % U+211E PRESCRIPTION TAKE; prescription  
 14258 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 14259 % U+2120 SERVICE MARK  
 14260 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 14261 % U+2122 TRADE MARK SIGN; trademark  
 14262 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 14263 % U+2126 OHM SIGN; Ohm, Omega  
 14264 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 14265 % U+2127 INVERTED OHM SIGN  
 14266 \DeclareTextCommand{\textmho}{PU}{\9041\047}% U+2127  
 14267 % U+212B ANGSTROM SIGN; angstrom  
 14268 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 14269 % U+212E ESTIMATED SYMBOL; estimated  
 14270 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 14271 % U+2135 ALEF SYMBOL; aleph  
 14272 \DeclareTextCommand{\textaleph}{PU}{\9041\065}% U+2135

#### 50.2.16 Arrows: U+2190 to U+21FF

14273 % U+2190 LEFTWARDS ARROW; arrowleft  
 14274 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}% U+2190  
 14275 % U+2191 UPWARDS ARROW; arrowup  
 14276 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}% U+2191  
 14277 % U+2192 RIGHTWARDS ARROW; arrowright  
 14278 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}% U+2192  
 14279 % U+2193 DOWNWARDS ARROW; arrowdown  
 14280 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}% U+2193

### 50.2.17 Mathematical Operators: U+2200 to U+22FF

14281 % U+2212 MINUS SIGN; minus  
14282 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212  
14283 % U+221A SQUARE ROOT; radical  
14284 \DeclareTextCommand{\textsurd}{PU}{\9042\032}% U+221A

### 50.2.18 Miscellaneous Technical: U+2300 to U+23FF

14285 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft  
14286 \DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329  
14287 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright  
14288 \DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A

### 50.2.19 Control Pictures: U+2400 to U+243F

14289 % U+2422 BLANK SYMBOL  
14290 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
14291 % U+2423 OPEN BOX; blank  
14292 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 50.2.20 Enclosed Alphanumerics: U+2460 to U+24FF

14293 % U+2460 CIRCLED DIGIT ONE; onecircle  
14294 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
14295 % U+2461 CIRCLED DIGIT TWO; twocircle  
14296 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
14297 % U+2462 CIRCLED DIGIT THREE; threecircle  
14298 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
14299 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
14300 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
14301 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
14302 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
14303 % U+2465 CIRCLED DIGIT SIX; sixcircle  
14304 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
14305 % U+2466 CIRCLED DIGIT SEVEN; sevencircle  
14306 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
14307 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
14308 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
14309 % U+2468 CIRCLED DIGIT NINE; ninecircle  
14310 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
14311 % U+2469 CIRCLED NUMBER TEN; tencircle  
14312 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
14313 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
14314 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
14315 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
14316 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
14317 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
14318 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
14319 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
14320 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
14321 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
14322 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
14323 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
14324 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
14325 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
14326 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
14327 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
14328 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
14329 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
14330 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472



14331 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 14332 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 14333 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 14334 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 14335 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 14336 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 14337 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 14338 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 14339 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 14340 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 14341 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 14342 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 14343 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 14344 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 14345 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 14346 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 14347 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 14348 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 14349 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 14350 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 14351 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 14352 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 14353 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 14354 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 14355 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 14356 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 14357 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 14358 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 14359 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 14360 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 14361 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 14362 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 14363 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 14364 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 14365 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 14366 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 14367 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 14368 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 14369 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 14370 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 14371 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 14372 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 14373 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 14374 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 14375 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 14376 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 14377 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 14378 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 14379 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 14380 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 14381 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 14382 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 14383 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 14384 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 14385 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 14386 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 14387 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle

14388 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
14389 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
14390 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
14391 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
14392 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
14393 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
14394 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
14395 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
14396 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
14397 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
14398 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
14399 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
14400 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
14401 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
14402 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
14403 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
14404 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
14405 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
14406 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
14407 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
14408 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
14409 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
14410 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
14411 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
14412 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
14413 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
14414 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
14415 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
14416 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
14417 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
14418 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
14419 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
14420 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
14421 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
14422 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
14423 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
14424 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
14425 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
14426 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
14427 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
14428 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
14429 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
14430 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
14431 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
14432 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
14433 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
14434 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
14435 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
14436 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
14437 % U+24EA CIRCLED DIGIT ZERO  
14438 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 50.2.21 Box Drawing: U+2500 to U+257F

14439 % U+25E6 WHITE BULLET; \*openbullet, whitebullet  
14440 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}% U+25E6  
14441 % U+25EF LARGE CIRCLE; largecircle  
14442 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}% U+25EF

### 50.2.22 Miscellaneous Symbols: U+2600 to U+26FF

```
14443 % U+266A EIGHTH NOTE; musicalnote
14444 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
14445 % U+26AD MARRIAGE SYMBOL
14446 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
14447 % U+26AE DIVORCE SYMBOL
14448 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
```

### 50.2.23 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

```
14449 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
14450 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}% U+27E6
14451 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
14452 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}% U+27E7
```

### 50.2.24 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```
14453 % U+FB01 LATIN SMALL LIGATURE FI; fi
14454 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
14455 % U+FB02 LATIN SMALL LIGATURE FL; fl
14456 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02
```

### 50.2.25 Miscellaneous

```
14457 \DeclareTextCommand{\SS}{PU}{SS}
```

### 50.2.26 Aliases

Aliases (german.sty)

```
14458 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
14459 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
14460 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
14461 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
14462 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
14463 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
14464 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
14465 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
14466 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
14467 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
14468 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
14469 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
14470 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}
14471 </puenc>
```

## 50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
14472 <*puvnenc>
14473 \DeclareTextCommand{\abreve}{PU}{\81\003}
14474 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
14475 \DeclareTextCommand{\dj}{PU}{\81\021}
14476 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
14477 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
14478 \DeclareTextCommand{\ohorn}{PU}{\81\241}
14479 \DeclareTextCommand{\uhorn}{PU}{\81\260}
14480 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
14481 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
```

14482 \DeclareTextCommand{\DJ}{PU}{\81\020}  
14483 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}  
14484 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}  
14485 \DeclareTextCommand{\OHORN}{PU}{\81\240}  
14486 \DeclareTextCommand{\UHORN}{PU}{\81\257}  
  
14487 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}  
14488 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}  
14489 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}  
14490 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}  
14491 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}  
14492 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}  
14493 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}  
14494 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}  
14495 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}  
14496 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}  
14497 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}  
14498 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}  
14499 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}  
14500 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}  
14501 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}  
14502 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}  
14503 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}  
14504 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}  
14505 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}  
14506 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}  
14507 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}  
14508 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}  
14509 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}  
14510 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}  
14511 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}  
14512 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}  
14513 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}  
14514 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}  
14515 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}  
14516 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}  
14517 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}  
14518 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}  
14519 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}  
14520 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}  
14521 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}  
14522 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}  
14523 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}  
14524 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}  
14525 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}  
14526 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}  
14527 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}  
14528 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}  
14529 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}  
14530 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}  
14531 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}  
14532 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}  
14533 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}  
14534 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}  
14535 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}  
14536 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}  
14537 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}  
14538 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}

14539 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}  
14540 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}  
14541 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}  
14542 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}  
14543 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}  
14544 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}  
14545 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}  
14546 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}  
14547 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}  
14548 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}  
14549 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}  
14550 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}  
14551 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}  
14552 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}  
14553 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}  
14554 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}  
14555 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}  
14556 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}  
14557 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}  
14558 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}  
14559 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}  
14560 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}  
14561 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}  
14562 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}  
14563 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}  
14564 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}  
14565 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}  
14566 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}  
14567 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}  
14568 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}  
14569 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}  
14570 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}  
14571 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}  
14572 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}  
14573 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}  
14574 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}  
14575 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}  
14576 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}  
14577 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}  
14578 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}  
14579 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}  
14580 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}  
14581 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}  
14582 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}  
14583 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}  
14584 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}  
14585 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}  
14586 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}  
14587 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}  
14588 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}  
14589 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}  
14590 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}  
14591 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}  
14592 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}  
14593 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}  
14594 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}  
14595 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}

```

14596 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
14597 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
14598 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}
14599 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}
14600 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}
14601 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}
14602 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
14603 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
14604 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
14605 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
14606 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
14607 </p>

```

## 50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

14608 <*puarenc>
14609 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
14610 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
14611 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
14612 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
14613 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH
14614 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA
14615 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
14616 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
14617 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
14618 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
14619 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
14620 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
14621 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
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14624 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
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14626 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
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14629 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
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14644 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKURA
14645 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
14646 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
14647 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN

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14648 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
14649 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
14650 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
14651 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
14652 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
14653 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

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## Farsi

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14654 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
14655 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
14656 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
14657 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
14658 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
14659 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

14660 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
14661 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

14662 \puarenc

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14663 \*check
14664 \typeout{}
14665 \begin{document}
14666 \end{document}
14667 \check

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2981, 2986, 2987, 2995,  
4958, 4961, 5506, 5507,  
7519, 7523, 7528, 7532,  
7543, 7548, 7552, 8336,  
8830, 9014, 9265, 9276,  
10362, 10814, 11103,  
11489, 11518, 11523,  
11601, 11629, 11660,  
11685, 11695, 11700,  
11734, 12019, 12117

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